The Honorable Board of Supervisors
October 24, 2017
Willowbrook TOD Specific Plan
ATTACHMENT 5

Final Environmental Impact Report

WILLOWBROOK TRANSIT ORIENTED DISTRICT SPECIFIC PLAN

Final Environmental Impact Report
State Clearinghouse Number 2015101106

Prepared for
County of Los Angeles
Department of Regional Planning

July 2017

ESA

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Preface

This Final Environmental Impact Report (Final EIR) for the Willowbrook Transit Oriented District (TOD) Specific Plan is a revision of the Draft EIR based on comments received during the public review period as well as a few minor spelling corrections and revisions to convert the Draft EIR to a Final EIR. The revisions are identified in Section 7.4, Errata, of Chapter 7, Response to Comments. The Draft EIR was circulated for public review and comment beginning on May 12, 2017 and ending on June 26, 2017.

In accordance with Section 15088 of the California Environmental Quality Act (CEQA), the County of Los Angeles, as the lead agency, has evaluated the comments received on the Draft EIR for the Willowbrook TOD Specific Plan project and has prepared written responses to the comments received. The comments on the Draft EIR, a list of agencies, persons and organizations who commented on the Draft EIR, and responses to the comments provided in Chapter 7, Response to Comments, are provided in the Final EIR. All revisions have been incorporated into the text of the Final EIR. The revisions provided in this Final EIR are shown using an underline for additional text and a ~~strikeout~~ for deleted text that was originally in the Draft EIR.

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EXECUTIVE SUMMARY

ES.1 Introduction

This Executive Summary provides a brief summary of the Willowbrook Transit Oriented District (TOD) Specific Plan Project Final ~~Draft~~ Environmental Impact Report (EIR). This summary outlines the project description, the potential impacts of the proposed Specific Plan, and proposed alternatives to the proposed Specific Plan. This summary also provides a summary table of all potential impacts and mitigation measures identified in this EIR.

ES.2 Project Location

The Specific Plan area is approximately 312 acres and is located within the northwestern portion of the Willowbrook community. The Specific Plan area generally encompasses parcels located south of Imperial Highway, north of East 122nd Street, east of Compton Avenue, and west of South Mona Boulevard. The Specific Plan contains a range of land uses, including: residential, retail, office, educational, institutional facilities, and service facilities. Some of the key land uses that are located within the Specific Plan area include: MLK Medical Center, Charles R. Drew University of Medicine and Science (CDU), Kenneth Hahn Plaza, Willowbrook Library, and Martin Luther King, Jr. (MLK) Center for Public Health. The Specific Plan area also includes the Willowbrook/Rosa Parks Station, which is located at the intersection of the I-105 and South Wilmington Avenue.

ES.3 Project Description

The Los Angeles County General Plan was updated in 2015 with a major focus on TOD as a priority throughout the County. The General Plan Land Use Element specifically calls for implementation of a TOD plan for the Willowbrook/Rosa Parks Station. The proposed Willowbrook TOD Specific Plan has been prepared pursuant to General Plan Implementation Program LU-2 Transit Oriented District Program, in order to 1) increase walking, bicycling, and transit ridership and reduce vehicle miles traveled (VMTs); 2) facilitate compact, mixed use development; 3) increase economic activity; 4) facilitate the public investment of infrastructure improvements; and 5) streamline the environmental review process for future infill development projects.

In addition to the General Plan Land Use Element, the Los Angeles County Housing Element Program 6: Transit Oriented Districts Program provides for transit oriented districts within 0.5 mile radius from Metro stations, and specifically requires creation of a transit-oriented district for

Willowbrook that would encourage urban infill development on vacant or underutilized sites; promote and encourage transit-oriented development along major transportation corridors; encourage mixed use development to facilitate the linkage between housing and employment opportunities; and promote increased residential density in appropriately designated areas.

Consistent with these General Plan policies and programs, the County of Los Angeles prepared this~~e~~ Final ~~Draft~~ Willowbrook TOD Specific Plan to implement TOD development and rezone some of the land within the Specific Plan area to include mixed uses, increase housing densities, provide for additional neighborhood-serving retail uses, improve access to transit, and improve bicycle and pedestrian facilities and other public realm facilities, such as street furniture and signage.

The Specific Plan is a County-initiated, Los Angeles County Metropolitan Transit Authority (Metro) grant-funded project that is being proposed pursuant to the County General Plan to enhance the transit oriented development pattern, promote active transportation, reduce vehicle miles traveled, and improve the public realm in the Willowbrook area. In addition, the proposed Specific Plan is intended to streamline the approval process for future development projects that are consistent with the Specific Plan.

The proposed Specific Plan would amend General Plan Land Use designations of several individual parcels to provide consistency with the General Plan policy direction for mixed use parcels along transportation corridors. In addition, the proposed Specific Plan would facilitate transit oriented development by establishing a new Specific Plan zone for the project area. Within the Specific Plan zone, new designations for land uses would be implemented. In addition, as discussed in more detail below under Proposed Circulation System Improvements, minor changes/improvements to the existing street system would be implemented to improve access, circulation, and walkability between the major land uses within the Specific Plan area, such as the Martin Luther King. Jr. (MLK) Medical Center, CDU, Kenneth Hahn Plaza, Willowbrook Library, MLK Center for Public Health, and the Willowbrook/Rosa Parks Station. Key access corridors to the Specific Plan area would continue to be Willowbrook Avenue, Compton Avenue, South Mona Avenue, Wilmington Avenue, East 117th Street, East 118th Street, East 119th Street, and East 120th Street. Streetscape improvements, such as landscaping and street furniture are also provided for in the proposed Specific Plan, all of which is described in Section 2, Project Description.

The proposed Specific Plan would also establish sustainable design guidelines and performance standards for features, such as scale and mass, building orientation, building articulation and detailing, circulation, parking, and exterior lighting. The new zoning designations would allow for infill and redevelopment TOD opportunities that can serve as catalyst to revitalizing the area.

ES.4 Project Objectives

Section 15124(b) of the CEQA Guidelines states that the project description shall contain "a statement of the objectives sought by the proposed project." Section 15124(b) further states that "the statement of objectives should include the underlying purpose of the project."

The project objectives are to:

- Provide a transit-oriented development near the Willowbrook/Rosa Parks Station.
- Improve bicycle and pedestrian mobility and safety as well as access to the Willowbrook/Rosa Parks Station.
- Preserve and enhance Willowbrook's economic base and character.
- Provide additional housing for Willowbrook's varied income groups.
- Revitalize the health care services at Martin Luther King, Jr. (MLK) Medical Center.
- Revitalize the services at Charles R. Drew University of Medicine and Science (CDU).
- Preserve the character of the existing residential neighborhoods.
- Create an attractive environment for pedestrians, bicyclists, Metro riders, and local transit users through streetscape improvements.

ES.5 Alternatives

In accordance with CEQA Guidelines Section 15126.6, this Final EIR contains a comparative impact assessment of alternatives to the project. The primary purpose of Chapter 4, Alternatives is to provide decision makers and the public with a reasonable range of feasible project alternatives that could attain most of the basic project objectives, but would avoid or substantially lessen any of the significant effects of the project.

CEQA Guidelines Section 15126.6 states:

> *Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project.*

Analysis of four alternatives to the project is guided by the following considerations set forth under CEQA Guidelines Section 15126.6:

- An EIR need not consider every conceivable alternative to a project;
- An EIR should identify alternatives that were considered by the lead agency, but rejected as infeasible during the scoping process;
- Reasons for rejecting alternative include:
  - Failure to meet most of the basic project objectives;
  - Infeasibility; or
  - Inability to avoid significant effects.

Alternatives to a project must be considered even if they would impede, to some degree, the attainment of project objectives or be more costly (CEQA Guidelines Section 15126.6(b)). However, the range of alternatives addressed in an EIR need not be exhaustive, and is governed by a "rule of reason," which requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. Of the alternatives considered, the EIR need examine in detail only those that the lead agency determines could feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project.

A brief description of the alternatives evaluated in this EIR is provided below. These alternatives include a no project alternative which is required by CEQA Guidelines Section 15126.6(e). This no project alternative is Alternative 1, No Project/Development in Accordance with Existing Zoning. Three additional alternatives, Alternative 2, Modified Land Use along 119th Street; Alternative 3, Reduced MLK Tier 2 Development Set Forth in MLK Medical Center Campus EIR; and, Alternative 4, Construct All Physical Traffic Measures Set Forth in MLK Medical Center Campus EIR are also evaluated and compared to the proposed project.

Alternative 1: No Project/ Development in Accordance with Existing Zoning:

The No Project/Development in Accordance with Existing Zoning would result in the development of the project area up to 80 percent of the development allowed under existing zoning. The recent updates as part of the General Plan Update/Zoning Consistency Program rezoned portions of Specific Plan Area to the Mixed Use Zone which allows for a significantly higher residential density and a commercial mixed-use component. This rezoning was applied to County-owned properties with the understanding that implementation would be refined through a TOD Specific Plan. As new development on the rezoned parcels is subject to County authorization and contingent on the full complement of TOD Specific Plan components, it is unlikely that the potential 1,106 residential units and 2,174,344 square feet of non-residential uses afforded solely through the rezoning along would be realized in the foreseeable future. However, for the purpose of this alternatives analysis, development in accordance with existing zoning is compared to the potential effects of implementing the proposed Specific Plan.

Alternative 2: Modified Land Use along 119th Street

Development under this alternative would result in the implementation of Mixed Use 1 zoning on the south side of E. 119th Street between S. Wilmington Avenue to W. Willowbrook Avenue. The proposed Specific Plan includes 19 single-family residential units along the south side of E. 119th Street. Under this alternative, the parcels with 19 single-family residential units would be rezoned to permit 66 multiple family residential units and 49,555 square feet of non-residential uses. This alternative would include all other land uses under the proposed Specific Plan. Therefore, development under this alternative would result in net increases of 1,999 residential units and 2,715,591 square feet of non-residential uses within the Specific Plan area. In comparison to the proposed Specific Plan, this alternative would result in 47 more residential units and 49,555 square feet of more non-residential uses.

Alternative 3: Reduced MLK Tier 2 Development Set Forth in MLK Medical Center Campus EIR

This reduced development alternative includes the same land uses as the proposed project, except for the MLK Hospital Center. This alternative includes a 50 percent reduction in non-residential square footage compared to the uses approved as part of the Tier 2 development set forth in the MLK Medical Center Campus EIR. This alternative includes the development of 832,348 square feet of MLK Hospital uses compared to the 1,248,522 square feet of MLK Hospital uses currently proposed as part of the Specific Plan. Therefore, development under this alternative would result in net increases of 1,952 residential units and 2,249,862 square feet of non-residential uses. In comparison to the proposed Specific Plan, this alternative would result in the same number of residential units and 416,174 square feet of fewer non-residential uses.

Alternative 4: Construct All Physical Traffic Measures Set Forth in MLK Medical Center Campus EIR

This alternative includes the implementation of all the physical traffic improvements proposed as mitigation measures as set forth on the MLK Medical Center Campus EIR. Not all of these improvements were included in the proposed Specific Plan improvements because roadway widenings were considered generally not feasible due to the lack of available right-of-way because of existing buildings or lack of control over adjacent right-of-way, or because of inconsistency with Specific Plan goals and objectives; lane re-stripings were considered to be feasible if they would not result in inadequate lane widths; and signal/phasing changes were considered to be feasible as long as they would improve and not worsen intersection operations or potentially cause other problems and/or impacts elsewhere. The improvements that are part of this alternative that are not included in the proposed Specific Plan include the following:

- **I-105 / Imperial Highway:** Provide a third northbound, left-turn lane by widening off-ramp by 10 feet for approximately 150 to 200 feet.
- **Wilmington Avenue / I-105 Eastbound Ramps, County of Los Angeles / California Department of Transportation:** Provide an additional eastbound lane by widening (reducing the raised median on the ramp) the off-ramp. The eastbound approach shall have a left-turn lane, shared left-right turn lane, and a separate right-turn lane. The sidewalks on both sides of Wilmington Avenue (as noted above) shall be reduced by 2 feet and the Wilmington Avenue roadway shall be widened by 2 feet on both sides (a total of 4 feet) from the south leg of this intersection. Provide an additional northbound left-turn lane by widening (reducing the medians).
- **Wilmington Avenue / 118th Street, County of Los Angeles:** Widen Wilmington Avenue roadway by 2 feet on both sides and re-stripe to provide two through lanes, a shared through right-turn lane and dual left-turn lanes along the southbound approach. Restripe the westbound approach to provide a separate right-turn lane and a shared left through lane. Northbound approach shall have the same lane geometry as existing conditions.

- **Wilmington Avenue / 120th Street–119th Street, County of Los Angeles:** Widen Wilmington Avenue roadway by 2 feet on both sides and restripe the southbound approach to provide a separate right-turn lane, three through lanes, and a left-turn lane.

  Re-stripe northbound approach to provide a shared through-right turn lane, two through lanes, and a left-turn lane. Remove median adjacent to northbound approach to facilitate three southbound receiving lanes. Restrict parking along Wilmington Avenue roadway during morning and evening peak periods along the eastside of Wilmington between 120th Street and Martin Luther King, Jr. (MLK) Community Hospital Driveway entrance.

  Widen 120th Street west of Wilmington Avenue for 250 feet, on the south side by 2 feet, and re-stripe the eastbound approach to provide a separate right-turn lane, dual left-turn lanes, and a through lane. The westbound approach of 119th Street would have the same lane geometry as existing conditions.

- **Wilmington Avenue / Martin Luther King, Jr. Community Hospital Entrance–120th Street, County of Los Angeles:** Re-stripe southbound approach to provide a separate right-turn lane, two through lanes, and a left-turn lane. Provide three northbound receiving lanes an restrict on-street curb parking along the eastside of Wilmington Avenue between MLK Community Hospital Driveway and 120th Street and 120th Street and 119th Street during morning and evening peak hours. Remove the median within the hospital entrance and re-stripe the driveway to provide dual left-turn lanes, a through lane, and a separate right-turn lane along the eastbound approach. Re-stripe to provide one receiving lane.

ES.6 Environmental Impacts and Mitigation Measures

The potential environmental impacts of the project are summarized in **Table ES-1** below. This table lists impacts and mitigation measures in three major categories: significant impacts that would remain significant even with mitigation, significant impacts that could be mitigated to a level of less than significant, and impacts that would not be significant. For each significant impact, the table includes a summary of the mitigation measure(s) and an indication of whether the impact would be mitigated to less than significant.

TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE WILLOWBROOK TOD SPECIFIC PLAN

Impact	Mitigation Measure	Significance after Mitigation
Aesthetics		
Scenic Vista		
Project-specific Impact 3.1-1: The project would not have a substantial adverse effect on a scenic vista.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.1-1: The project would result in less than cumulatively considerable impacts on scenic vistas or scenic resources.	No mitigation measures are required.	Less than Significant Impact
Light and Glare		
Project-specific Impact 3.1-2: The proposed project would not create a new source of substantial light or glare that could adversely affect day or nighttime views of the area.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.1-2: The proposed project would result in less than cumulatively considerable impacts resulting from light and glare.	No mitigation measures are required.	Less than Significant Impact
Air Quality		
Air Quality Plan		
Project-specific Impact 3.2-1: The proposed project would conflict with and obstruct implementation of the applicable air quality plan.	**AIR-1:** The County shall ensure that project approvals within the Specific Plan area require that all onsite construction vehicles and equipment with horsepower greater than 50 shall meet, at a minimum, USEPA Tier IV interim engine certification requirements. If Tier IV interim equipment is not available, the contractor may apply other available technologies available for construction equipment such that it would achieve a comparable reduction in NOx and PM emissions comparable to that of Tier IV construction equipment. Where alternatives to USEPA Tier IV are utilized, the contractor shall be required to show evidence to the County that these alternative technologies would achieve comparable emissions reductions. Certifications or alternative reduction strategies shall be required prior to receiving a construction permit. In addition, contractors shall limit heavy-duty construction equipment idling time to ~~5~~ 3 minutes, limit non-heavy-duty	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
	construction equipment idling time to 5 minutes, maintain construction equipment in good operating condition, use construction equipment that uses low-polluting fuels to the extent available and feasible (i.e. compressed natural gas, liquid petroleum gas, and unleaded gasoline). **AIR-2**: The County shall ensure that project approvals within the Specific Plan area require that all active construction areas shall be watered at least four times daily to reduce fugitive dust emissions from grading, excavation, and other ground preparation. Watering shall be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water shall be used whenever possible. **AIR-3:** Reduction or elimination of fireplaces within residential development such that there are no fireplaces within 95 percent of all new/redeveloped single family residential development or 100 percent of all multifamily residential development (new and redeveloped) within the Specific Plan area. Compliance would be ensured through County review prior to the issuance of a building permit. **AIR-4:** All commercial development will use low-VOC architectural coating such that interior coatings do not exceed 10 grams per liter (g/l) of VOC content and exterior coatings do not exceed 100 g/l. This measure is to be made a condition of approval for continued upkeep of the property. **AIR-5:** All commercial developments will use low-VOC cleaning supplies. This measure is to be made a condition of approval for continued upkeep of the property. ~~**AIR-6: All new development shall have electrical outlets associated with the outside of the buildings such that all landscaping equipment could be electrically operated.**~~ **AIR-6 ~~7~~:** All new development shall comply with the Title 24 requirements in effect at the time of construction and shall, at a minimum, exceed 2013 Title 24 energy efficiency standards by 15 percent.	
Cumulative Impact 3.2-1: The proposed project would conflict with and obstruct implementation of the applicable air quality plan. Therefore, the project would be cumulatively considerable.	Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ is required.	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
Air Quality Standards/Violations		
Project-specific Impact 3.2-2: The proposed project would violate regional air quality standards during construction activities and contribute substantially to an existing or projected air quality violation.	Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ is required.	Significant and Unavoidable Impact
Cumulative Impact 3.2-2: The proposed project would result in cumulatively considerable impacts related to regional air quality standards.	Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ is required.	Significant and Unavoidable Impact
Criteria Pollutant		
Project-specific Impact 3.2-3: The project would result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).	Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ is required.	Significant and Unavoidable Impact
Cumulative Impact 3.2-3: The project would result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).	Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ is required.	Significant and Unavoidable Impact
Sensitive Receptors		
Project-specific Impact 3.2-4: The project would expose sensitive receptors to substantial pollutant concentrations, including increased levels of TACs.	**AIR-7 ~~8~~:** The County shall ensure that project approvals within the Specific Plan area require that any sensitive uses proposed to be located within 300 feet of the Metro tracks and within 500 feet of freeways shall be equipped with a filtered air supply system to maintain units under positive pressure when windows are closed. The ventilation system, whether a central HVAC (heating, ventilation and air conditioning) or a unit-by-unit filtration system, shall include high-efficiency filters meeting minimum efficiency reporting value (MERV) 13, per American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2 (equivalent to approximately ASHRAE Standard 52.1 Dust Spot 85%). The efficiency rating of the filtration system shall be determined based on a health risk assessment conducted for the proposed development, such that cancer and non-cancer risks are reduced to a 10 in one million	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
	increase in cancer risk, and less than 1 for non-cancer risk, unless thresholds are superseded by more current SCAQMD threshold. Air intake systems for HVAC shall be placed based on exposure modeling to minimize roadway air pollution sources. The ventilation system shall be designed by an engineer certified by ASHRAE, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. Disclosure to the occupants (buyers and renters) shall be required regarding the proximity of Metro tracks (within a 300-foot radius) and freeways (within a 500-foot radius), the occurrence of diesel emissions form Metro trains and freeways heavy truck traffic), and the potential increased cancer and non-cancer risks associated with the development location.	
Cumulative Impact 3.2-4: The project would contribute to potential significant cumulative impacts to sensitive receptors that would be cumulatively considerable.	Implementation of Mitigation Measure AIR-7 ~~8~~ is required.	Less than Significant Impact
Cultural Resources		
Historical Resources		
Project-specific Impact 3.3-1: The proposed project could cause a substantial adverse change in the significance of a historical resource as defined in Sec tion15064.5.	**CUL-1:** Impacts to four significant historical resources that are eligible for listing and located within the MLK Subarea (Multi-Service Ambulatory Care Center (MACC), Augustus F. Hawkins Comprehensive Medical Health Center, Interns and Physicians Building, and Dr. H. Claude Hudson Auditorium) and the integrity of the Martin Luther King, Jr. Medical Center Campus Historic District (a fifth historic resource that is eligible for listing) shall be reduced to below the level of significance through utilization of the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines of Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings for any proposed alterations, including all site work, structural upgrades, architectural, and mechanical systems improvements and repairs. The work shall conform to the standards and guidelines for "rehabilitation." Conformance with the Secretary of the Interior's Standards shall be monitored by an architectural historian or historic architect who meets the Secretary of the Interior's Professional Qualification Standards. Completion of this	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
	mitigation measure shall be monitored and enforced by the County of Los Angeles. **CUL-2:** Impacts resulting from demolition or substantial alteration of significant historical resources not in conformance with the Secretary of the Interior's Standards shall be reduced to the maximum extent feasible through archival documentation of as-found condition. Prior to the initiation of construction activities, the County of Los Angeles shall ensure that documentation of the Martin Luther King, Jr. Medical Center Campus Historic District, Multi-Service Ambulatory Care Center (MACC), Augustus F. Hawkins Comprehensive Medical Health Center, Interns and Physicians Building, and/or Dr. H. Claude Hudson Auditorium is completed in accordance with Historic American Buildings Survey (HABS) requirements for donated material. The documentation shall be in the form of a Historic American Building Survey and shall comply with the Secretary of the Interior's Standards for Architectural and Engineering Documentation. The documentation shall include large-format photographic recordation, detailed historic narrative report, measured architectural drawings, and compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards for History and/or Architectural History. The original archival-quality documentation shall be offered as donated material to Historic American Building Survey for inclusion in the Library of Congress. Archival copies of the documentation also would be available at the Martin Luther King, Jr. Medical Center campus and maintained by the County of Los Angeles. **CUL-3:** Impacts resulting from the loss of integrity of the Martin Luther King, Jr. Medical Center Campus Historic District such that its significance is materially impaired will be reduced to the maximum extent feasible through the development of a retrospective exhibit detailing the history of the Martin Luther King, Jr. Medical Center Campus Historic District, its significance, and its important details and features. The retrospective exhibit shall be in the form of a physical exhibit installed on the Martin Luther King, Jr. Medical Center Campus, which is located either within a building or on a freestanding kiosk or comparable structure	

Impact	Mitigation Measure	Significance after Mitigation
	or installation on the property. The exhibit shall commemorate the historic appearance of the district and provide the public with sufficient information to understand its historic significance. The exhibit shall be prepared by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards for History and/or Architectural History. The exhibit shall be completed within a period of no more than two years from the date of completion of the portion of the project that would result in the loss of integrity of the historical resources eligible for listing. **CUL 4:** Demolition of structures that meet the eligibility requirements for the CRHR and/or the County of Los Angeles Register shall be avoided. If demolition of a portion of an eligible structure cannot be feasibly aoudad as determined by the County of Los Angeles, the alterations of a structure eligible as a historical resource shall be accomplished in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. To ensure compliance with this measure, the County shall determine the need for a historic resources evaluation of a structure if a structures is proposed for demolition or alteration and is or will be 50 years or older prior to project construction, or if a structure is proposed for demolition or alteration that affect the eligibility of a historic resource in the immediate surroundings of a structure proposed for demolition or alteration.	
Cumulative Impact 3.3-1: The project would have the potential to result in a cumulatively considerable contribution to adverse changes in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.5.	Implementation of Mitigation Measures CUL-1 through CUL-4 is required.	Significant and Unavoidable Impact
Archaeological Resource		
Project-specific Impact 3.3-2: The proposed project could cause a substantial adverse change in the significance of an archaeological resource	**CUL-5:** Avoidance, preservation or data recovery shall occur for archaeological resources that could be affected by ground disturbing activities and are found to be	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
	significant resources. To ensure that developments in accordance with the Specific Plan do not result in significant impacts to pre-historic or historic archaeological resources, the following shall be implemented. Individual development projects or other ground disturbing activities such as installation of utilities, shall be subject to a Phase I cultural resources inventory on a project-specific basis prior to the County's approval of project plans. The study shall be carried out by a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology. The cultural resources inventory would consist of: a cultural resources records search to be conducted at the South Central Coastal Information Center; a Sacred Lands File Search by the Native American Heritage Commission (NAHC) and with interested Native Americans identified by the NAHC; a pedestrian archaeological survey where deemed appropriate by the archaeologist; and recordation of all identified archaeological resources on California Department of Parks and Recreation 523 forms. If potentially significant cultural resources are encountered during the survey, the County shall require that the resources are evaluated for their eligibility for listing in the California Register of Historical Resources and for significance as a historical resource or unique archaeological resource per CEQA Guidelines Section 15064.5. Recommendations shall be made for treatment of these resources if found to be significant. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means of mitigation to avoid impacts to significant cultural resources, including prehistoric and historic archaeological sites, locations of importance to Native Americans, human remains, historical buildings, structures and landscapes. Methods of avoidance may include, but shall not be limited to, project re-route or re-design, project cancellation, or identification of protection measures such as capping or fencing. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures, which may include data recovery or other appropriate measures, in	

Impact	Mitigation Measure	Significance after Mitigation
	consultation with the County, and local Native American representatives expressing interest. During project-level construction, should prehistoric or historic subsurface cultural resources be discovered, all activity in the vicinity of the find shall stop and a qualified archaeologist will be contacted to assess the significance of the find according to CEQA Guidelines Section 15064.5. If any find is determined to be significant, the archaeologist shall determine, in consultation with the County, and local Native American groups expressing interest, appropriate avoidance measures or other appropriate mitigation. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant cultural resources. Methods of avoidance may include, but shall not be limited to, project re-route or re-design, project cancellation, or identification of protection measures such as capping or fencing. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. All significant cultural materials recovered will be, as necessary and at the discretion of the consulting archaeologist and in consultation with local Native American groups expressing interest, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.	
Cumulative Impact 3.3-2: The project would have the potential to result in a cumulatively considerable contribution to adverse changes in the significance of an archaeological resource, as defined in CEQA Guidelines Section 15064.5.	Implementation of Mitigation Measure CUL-5 is required.	Less than Significant Impact
Paleontological Resources		
Project-specific Impact 3.3-3: Implementation of the project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	**CUL-6:** The project applicant shall retain a qualified paleontologist (in accordance with the Society of Vertebrate Paleontologists) to monitor all ground-disturbing activities in native soils or sediments beginning at five feet below ground surface and deeper. If the paleontologist, upon observing initial earthwork, determines there is low potential for discovery, no further action shall be required	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
	and the paleontologist shall submit a memo to the County confirming findings of low potential. If the qualified paleontologist, upon observing initial earthwork, determines there is a moderate to high potential for discovery, a qualified paleontologist or paleontological monitor (retained by the County) shall monitor all mass grading and excavation activities. Monitoring will be conducted in areas of grading or excavation in undisturbed formation sediments, as well as where over-excavation of surficial alluvial sediments will encounter these formations in the subsurface. Paleontological monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediment that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined on exposure and examination by qualified paleontological personnel to have low potential to contain fossil resources. Should any paleontological resources (i.e., fossils) be uncovered during project construction activities, all work within a 100-foot radius of the discovery site shall be halted or diverted to other areas on the site and the County shall be immediately notified. The qualified paleontologist shall evaluate the finds and recommend appropriate next steps to ensure that the resource is not substantially adversely impacted, including but not limited to avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further, ground disturbance shall not resume within a 100-foot radius of the discovery site until an agreement has been reached between the project applicant, the qualified paleontologist, and the County as to the appropriate preservation or mitigation measures to ensure that the resource is not substantially adversely impacted. Any recovered paleontological specimens shall be identified to the lowest taxonomic level possible and prepared for permanent preservation. Screen-washing of	

Impact	Mitigation Measure	Significance after Mitigation
	sediments to recover small invertebrates and vertebrates shall occur if necessary. Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage shall occur at an institutional repository approved by the County. The paleontological program shall include a written repository agreement prior to the initiation of mitigation activities. A final monitoring and mitigation report of findings and significance shall be prepared, including lists of all fossils recovered and necessary maps and graphics to accurately record their original location. The report, when submitted to an accepted by the County, shall signify satisfactory completion of the project program to mitigation impacts to any potential nonrenewable paleontological resources (i.e., fossils) that might have been lost or otherwise adversely affected without such a program in place.	
Cumulative Impact 3.3-3: The project would have the potential to result in a cumulatively considerable contribution to adverse changes in the significance of a unique paleontological resource or site or unique geologic feature.	Implementation of Mitigation Measure CUL-6 is required.	Less than Significant
Human Remains		
Project-specific Impact 3.3-4: Implementation of the project could disturb human remains, including those interred outside of formal cemeteries.	**CUL-7:** If human remains are encountered, the County or its contractor shall halt work in the vicinity (within 100 feet) of the find and contact the Los Angeles County Coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. If the County Coroner determines that the remains are Native American, the NAHC will be notified in accordance with Health and Safety Code Section 7050.5, subdivision (c), and PRC Section 5097.98. The NAHC will designate an MLD for the remains per PRC Section 5097.98. Until the landowner has conferred with the MLD, County shall ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials.	Less than Significant

Impact	Mitigation Measure	Significance after Mitigation
Cumulative Impact 3.3-4: The project could result in a cumulatively considerable contribution to disturbance of human remains, including those interred outside of formal cemeteries.	Implementation of Mitigation Measure CUL-7 is required.	Less than Significant impact
Tribal Cultural Resources		
Project Specific Impact 3.3.5: Implementation of the project could cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074.	Implementation of Mitigation Measures CUL-5 and CUL-7 is required.	Less than Significant Impact
Cumulative Impact 3.3.5: Implementation of the project could result in a cumulatively considerable contribution to substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074.	Implementation of Mitigation Measures CUL-5 and CUL-7 is required.	Less than Significant Impact
Geology and Soils		
Strong Seismic Ground Shaking		
Project-specific Impact 3.4-1: The proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	No mitigation measures are required.	Less than Significant impact
Cumulative Impact 3.4-1: The project would not result in a cumulatively considerable contribution to the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	No mitigation measures are required.	Less than Significant impact
Liquefaction and Lateral Spreading		
Project-specific Impact 3.4-3: The proposed project would not result in substantial soil erosion or the loss of topsoil.	No mitigation measures are required	Less than Significant impact
Cumulative Impact 3.4-3: The project would not result in a cumulatively considerable contribution to substantial soil erosion or the loss of topsoil.	No mitigation measures are required.	Less than Significant impact
Soil Erosion or Topsoil Loss		
Project-specific Impact 3.4-4: The proposed project could be located on a geologic unit or soil that is currently	No mitigation measures are required.	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
unstable, or that would become unstable as a result of the project, and would not potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.		
Cumulative Impact 3.4-4: The project would not result in a cumulatively considerable contribution to exposure of people or structures to unstable geologic units or soils.	No mitigation measures are required.	Less than Significant Impact
Greenhouse Gas Emissions		
Greenhouse Gas Emissions		
Project-specific Impact 3.5-1: The proposed project would generate GHG emissions, either directly or indirectly, and would have a significant impact on the environment.	Implementation of Mitigation Measures AIR-1 through AIR-5 ~~6~~ is required.	Significant and Unavoidable Impact
Cumulative Impact 3.5-1: The project would result in a cumulatively considerable contribution to the generation of GHG emissions that would have a significant impact on the environment.	Implementation of Mitigation Measures AIR-1 through AIR-5 ~~6~~ is required.	Significant and Unavoidable Impact
Conflict with Plan, Policy, or Regulation that Reduces Greenhouse Gas Emissions		
Project-specific Impact 3.5-2: The proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.5-1: The project would not result in a cumulatively considerable contribution to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.	No mitigation measures are required.	Less than Significant Impact
Hazards and Hazardous Materials		
Accident Conditions		
Project-specific Impact 3.6-1: Implementation of the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	No mitigation measures are required.	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
Cumulative Impact 3.6-1: The project would not result in a cumulatively considerable contribution by creating a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	No mitigation measures are required.	Less than Significant Impact
Schools		
Project-specific Impact 3.6-2: Implementation of the project could not result in the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.6-2: The project would not result in a cumulatively considerable contribution related to the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	No mitigation measures are required.	Less than Significant Impact
Hazardous Materials Site Listing		
Project-specific Impact 3.6-3: The project area includes individual sites that are included on a list of hazardous materials sites compile pursuant to Government Code Section 65962.5; however, the project would not create a significant hazard to the public or the environment.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.6-3: The project would not result in a cumulatively considerable contribution related to hazardous materials impacts to the public or the environment.	No mitigation measures are required.	Less than Significant Impact
Hydrology and Water Quality		
Water Quality Standards/Waste Discharge Requirements		
Project-specific Impact 3.7-1: The proposed project would not violate water quality standards or waste discharge requirements.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.7-1: The proposed Specific Plan's contribution to cumulative impacts associated with a violation of water quality standards or waste discharge requirements would be less than cumulatively considerable.	No mitigation measures are required.	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
Groundwater Supply and Recharge		
Project-specific Impact 3.7-2: The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.7-2: The proposed project would result in less than significant impacts on the Central Groundwater Basin and the recharge capabilities of the basin, and the project's contribution to impacts on the Central Groundwater Basin is less than cumulatively considerable.	No mitigation measures are required.	Less than Significant Impact
Erosion/Siltation		
Project-specific Impact 3.7-3: The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.7-3: The proposed project would result in a less than cumulatively considerable impact related to erosion and siltation.	No mitigation measures are required.	Less than Significant Impact
Stormwater Drainage Capacity		
Project-specific Impact 3.7-4: The proposed project would create or contribute runoff water which would not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.7-4: The project's contribution to cumulative impacts on the capacities of existing and planned storm drains and on stormwater related to polluted runoff would be less than cumulatively considerable.	No mitigation measures are required.	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
Surface Water and Groundwater Quality		
Project-specific Impact 3.7-5: The proposed project would generate construction and post-construction runoff but would not violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.7-5: The proposed project's contribution to cumulative impacts associated with compliance with NPDES permits and surface and groundwater quality would be less than cumulatively considerable.	No mitigation measures are required.	Less than Significant Impact
Degrade Water Quality		
Project-specific Impact 3.7-6: The proposed project would not degrade water quality.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.7-6: The proposed project's contribution to cumulative water quality impacts would be less than cumulatively considerable.	No mitigation measures are required.	Less than Significant Impact
Land Use and Planning		
Divide an Established Community		
Project-specific Impact 3.8-1: The project would not physically divide an established community.	No mitigation measures are required.	No Impact
Cumulative Impact 3.8-1: The implementation of the proposed project would not contribute to cumulative impacts associated with physically dividing an established community.	No mitigation measures are required.	No Impact
Conflict with Applicable Plans, Policies, or Regulations		
Project-specific Impact 3.8-2: The proposed project would be consistent with the applicable County plans for the subject property including, but not limited to, the General Plan, specific plans, local coastal plans, area plans, and community/neighborhood plans.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.8-2: The implementation of the proposed project would not contribute to cumulative impacts associated with consistency to existing general plans and policies.	No mitigation measures are required.	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
Conflict with County Zoning Ordinance		
Project-specific Impact 3.8-3: The proposed project would be consistent with the County zoning ordinance as applicable to the subject property.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.8-3: The implementation of the proposed project would not contribute to cumulative impacts associated with consistency to the County zoning ordinance.	No mitigation measures are required.	Less than Significant Impact
Visual Character		
Project-specific Impact 3.8-4: The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character or other features.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.8-4: The project's contribution to the cumulative impact related to the visual character or quality of the area would be less than cumulatively considerable.	No mitigation measures are required.	Less than Significant Impact
Noise and Vibration		
Exceedance of Established Noise Standards		
Project-specific Impact 3.9-1: Implementation of the project could expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	**Mitigation Measure NOI-1:** Prior to the issuance of building permits, exterior areas of proposed single family and multiple family residential uses that are projected to be exposed to existing with project roadway noise levels and cumulative with project roadway noise levels exceeding the County's exterior noise standards (i.e., 60 dBA CNEL for single family residential and 65 dBA CNEL for multiple family residential) shall include noise attenuation features including, but not limited to, setbacks, soundwalls, glass noise barriers, and landscaping so that exterior areas meet the County's exterior noise standards. To ensure that the County's exterior noise standards are met, the project applicant shall demonstrate compliance through the preparation of an acoustical evaluation. **Mitigation Measure NOI-2**: Prior to the issuance of building permits, proposed residential developments adjacent to the Blue line and Union Pacific rail line that are exposed to rail noise of greater than 60 dBA CNEL for	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
	single family residential uses and 65 dBA CNEL for exterior areas of multiple family residential uses shall include noise attenuation features including, but not limited to, setbacks, soundwalls, glass noise barriers, and landscaping so that exterior areas meet the County's exterior noise standards. To ensure that the County's exterior noise standards are met, the project applicant shall demonstrate compliance through the preparation of an acoustical evaluation.	
Cumulative Impact 3.9-1: The project would have cumulatively considerable impacts on the exposure of persons to or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Implementation of Mitigation Measures NOI-1 and NOI-2 is required.	Less than Significant Impact
Exposure to Vibration Levels		
Project-specific Impact 3.9-2: Implementation of the project could expose persons to, or generate, excessive ground-borne vibration or ground-borne noise levels.	**Mitigation Measure NOI-3:** Prior to approval of a grading permit or building permit, construction equipment shall be prohibited within 50 feet of occupied residential structures. If construction equipment is required to be within 50 feet of occupied residential structures, the project applicant shall demonstrate that the human annoyance threshold of 78 VdB (0.032 in/sec PPV) and structural damage thresholds of 0.2 in/sec PPV for non-engineered timber and masonry buildings and 0.12 in/sec PPV for historic-age buildings that are extremely susceptible to vibration damage is achieved. Demonstration of compliance shall be provided through the preparation of a vibration analysis. **Mitigation Measure NOI-4:** Prior to the issuance of a building permit for a residential development within 100 feet of the rail tracks, the project applicant shall demonstrate that nighttime vibration level at the proposed residential uses shall not exceed the 72 VdB (0.016 in/sec PPV) threshold for human annoyance.	Less than Significant Impact
Cumulative Impact 3.9-2: The proposed project could have cumulatively considerable impacts on persons and structures from ground-borne vibration or ground-borne noise levels.	Implementation of Mitigation Measure NOI-3 is required.	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
Permanent Increase in Ambient Noise Levels		
Project-specific Impact 3.9-3: Implementation of the project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.9-3: The project would result in a less than cumulatively considerable contribution to a permanent increase in ambient noise levels in the project vicinity above existing levels.	No mitigation measures are required.	Less than Significant Impact
Temporary Increase in Ambient Noise Levels		
Project-specific Impact 3.9-4: Implementation of the project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.9-4: The project would not have a cumulatively considerable temporary or periodic increase in ambient noise levels in the project vicinity above existing levels.	No mitigation measures are required.	Less than Significant Impact
Population and Housing		
Induce Population Growth		
Project-specific Impact 3.10-1: The proposed project would not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or infrastructure).	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.10-1: The proposed project would result in a less than cumulatively considerable contribution to cumulative impacts regarding population.	No mitigation measures are required.	Less than Significant Impact
Public Services and Recreation		
Fire Protection Services		
Project-specific Impact 3.11-1: The proposed project would not result in substantial adverse physical impacts associated with the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts.	No mitigation measures are required.	No Impact

Impact	Mitigation Measure	Significance after Mitigation
Cumulative Impact 3.11-1: The proposed project would have no impact and no contribution to cumulative physical impacts associated with the provision of, or the need for, fire protection facilities, the construction of which could cause environmental impacts.	No mitigation measures are required.	No Impact
Police Protection Services		
Project-specific Impact 3.11-2: The proposed project would not result in substantial adverse physical impacts associated with the need for new or physically altered sheriff facilities, the construction of which could cause significant environmental impacts.	No mitigation measures are required.	No Impact
Cumulative Impact 3.11-2: The proposed project would have no impact and no contribution to cumulative physical impacts associated with the provision of, or the need for, sheriff facilities, the construction of which could cause environmental impacts.	No mitigation measures are required.	No Impact
Schools		
Project-specific Impact 3.11-3: The proposed project would not result in substantial adverse physical impacts associated with the need for new or expanded school facilities, the construction of which could cause significant environmental impacts.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.11-3: The proposed project would have less than significant impacts and less that cumulatively considerable contribution to cumulative physical impacts associated with the provision of, or the need for public schools, the construction of which could cause environmental impacts.	No mitigation measures are required.	Less than Significant Impact
Parks		
Project-specific Impact 3.11-4: The proposed project would not result in substantial adverse physical impacts associated with the need for new or physically altered parks and recreation facilities, the construction of which could cause significant environmental impacts.	No mitigation measures are required.	No Impact
Cumulative Impact 3.11-4: The proposed project would not contribute to cumulative environmental impacts to parks and recreational facilities.	No mitigation measures are required.	No Impact

Impact	Mitigation Measure	Significance after Mitigation
Library Facilities		
Project-specific Impact 3.11-5: The proposed project would not result in the need for new or physically altered library facilities, the construction of which could result in significant environmental impacts.	No mitigation measures are required.	No Impact
Cumulative Impact 3.11-5: The proposed project would have no impact and no contribution to cumulative physical impacts associated with the provision of, or the need for, new or physically altered library facilities, the construction of which could cause environmental impacts.	No mitigation measures are required.	No Impact
Other Public Facilities		
Project-specific Impact 3.11-6: The proposed project would not result in the need for new or physically altered other public facilities, the construction of which could cause significant environmental impacts.	No mitigation measures are required.	No Impact
Cumulative Impact 3.11-6: The proposed project would have no impact and no contribution to cumulative physical impacts associated with the provision of, or the need for, new or physically altered other public facilities, the construction of which could cause environmental impacts.	No mitigation measures are required.	No Impact
Increase Use of Recreational Facilities		
Project-specific Impact 3.11-7: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that a substantial physical deterioration of the facility would occur or be accelerated.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.11-7: The proposed project would result in less than significant impacts related to physical deterioration of existing parks and recreational facilities, the proposed project's contribution to cumulative impacts would be less than cumulatively considerable.	No mitigation measures are required.	Less than Significant Impact
Recreational Facilities Physical Effect on the Environment		
Project-specific Impact 3.11-8: The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	No mitigation measures are required.	No Impact

Impact	Mitigation Measure	Significance after Mitigation
Cumulative Impact 3.11-8: The proposed project would have no impact and no contribution to cumulative physical impacts associated with the provision of, or the need for, construction or expansion of recreational facilities, the construction of which could cause environmental impacts.	No mitigation measures are required.	No Impact
Transportation and Traffic		
Traffic Increase		
Project-specific Impact 3.12-1: The proposed project could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. The project would have an effect on intersections, freeway segments and off-ramps within jurisdictions of the County of Los Angeles, City of Compton, City of Lynwood, City of Los Angeles and Caltrans.		Please see *Section 3.12, Transportation and Traffic* of this EIR for a detailed discussion of the following significance determinations.
Intersections		
County of Los Angeles		
Avalon Blvd & El Segundo Blvd (#3): There is a significant impact in the PM peak hour at this location.	**TRAF-1:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the northbound approach to add a right turn lane prior to an individual project exceeding the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. This can be accomplished by narrowing the median to 3 feet. This would need to occur all the way to an alley located approximately 100 feet south of the intersection. The bus stop at this approach would continue to be located at the same location; however,	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
	buses would be allowed to go straight through the intersection. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. In addition, the County of Los Angeles shall ensure the restriping of the southbound approach to provide a separate right turn lane by narrowing the median to 2 feet prior to an individual project exceeding the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane.	
Central Ave & El Segundo Blvd (#10): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-2:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the southbound approach to provide a separate right-turn lane and restriping the northbound approach by reducing the median to 2 feet before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify both approaches from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. Buses would be allowed to go through the intersection from the right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. In addition, the County of Los Angeles shall ensure the restriping of the westbound approach to provide a separate right turn lane by narrowing the median to 2 feet prior to an individual project exceeding the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane.	Less than Significant Impact
Central Ave & Rosecrans Ave (#11): There is a significant impact in the AM Peak hour at this location.	**TRAF-3:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the westbound approach to provide a separate right-turn lane by narrowing the median to 2 feet before an individual	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
	project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. Buses would be allowed to go through the intersection from the right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	
Compton Ave & Imperial Hwy (#17): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-4:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the westbound approach to provide a separate right-turn lane before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Significant and Unavoidable Impact
Wilmington Ave & I-105 e/b Ramps (#27): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-5:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure that an additional eastbound lane will be installed by widening (reducing the raised median on the ramp) the off-ramp before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a left-turn lane and a right-turn lane to a left-turn lane, shared left-right turn lane and a separate right-turn lane. In addition, the County of Los Angeles shall ensure that an additional northbound left-turn lane is provided by reducing the median width. This improvement would modify the approach from a left-turn lane and three through lanes to dual left-turn lanes and three through lanes. These were mitigation measures in the Martin Luther King Jr. Medical Campus EIR.	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
Wilmington Ave & 118th St (#28): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-6:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the eastbound approach of 118th Street to provide a separate right-turn lane before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the eastbound approach from a shared left-through-right lane to a shared left-through lane and a right turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Significant and Unavoidable Impact
Wilmington Ave & 120th St (East) (#30): There is a significant impact in the PM peak hour at this location.	**TRAF-7:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure that 120th Street west of Wilmington Avenue (the driveway to the Martin Luther King Jr. Medical Campus) is widened for 250 feet, on the south side by 2 feet and the eastbound approach is restriped to provide dual left-turn lanes before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a left-through lane and a right-turn lane to dual left-turn lanes, a through lane, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Less than Significant Impact
Wilmington Ave & El Segundo Blvd (#32): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-8:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the eastbound and westbound approaches to add separate right-turn lanes before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would allow buses to go through the intersection from the right-turn lanes. This improvement would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
Imperial Hwy & I-105 w/b Ramps (#36): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-9:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure that a third northbound left-turn lane is provided by widening the off-ramp by 10 feet for approximately 150 feet to 200 feet before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a left-turn lane, a left-through lane, and a right-turn lane to dual left-turn lanes, a left-through lane, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Significant and Unavoidable Impact
Alameda St & 103rd St (#43): There is a significant impact in the PM peak hour at this location.	**TRAF-10:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the eastbound approach for a separate left-turn lane before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a shared left/right lane to a left-turn lane and a shared left/right lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Less than Significant Impact
Alameda St & Imperial Hwy (#45): There is a significant impact in the AM peak hour at this location.	**TRAF-11:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the southbound approach for dual right-turn lanes before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a left-turn lane, two through lanes, and a right-turn lane to dual left-turn lanes, two through lanes, and a separate right-right lane. This is a modification of the mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Less than Significant Impact
Alameda St & El Segundo Blvd (#46): There is a significant impact in the AM peak hour at this location.	**TRAF-12:** Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the northbound and southbound approaches to provide separate right-turn lanes before an individual project	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
	exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	
City of Compton		
Wilmington Ave & Greenleaf Blvd (#62): There is a significant impact in both the AM and PM peak hours at this location. Because the existing curb-to-curb roadway width does not allow for additional improvements at this intersection, additional right-of-way is necessary to improve the intersection so that the project does not exceed the City of Compton's significant impact criteria.	**TRAF-13:** Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
Compton Ave & El Segundo Blvd (#21): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-14:** Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the eastbound and westbound approaches to provide separate right-turn lanes by narrowing the medians to 2 feet. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism. Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the AM	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
	peak hour level of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	
Wilmington Ave & Rosecrans Ave (#33): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-15:** Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound approach to provide a separate right-turn lane by narrowing the median to 2 feet. This improvement would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection. Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the AM and PM peak hours level of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
Wilmington Ave & W Compton Blvd (#58): There is no significant impact in the AM peak hours, but there is a significant impact in the PM peak hours at this location.	**TRAF-16:** Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if the City of Compton has established a proportionate share	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
	funding mechanism for the improvement at this intersection.	
Wilmington Ave & Alondra Blvd (#61): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-17:** Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the westbound approach to provide a separate right-turn lane by narrowing the median to 3 feet. This improvement would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection. Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the PM peak hour level of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
Wilmington Ave & Walnut St (#63): There is no significant impact in the AM peak hours, but a significant impact in the PM peak hours at this location.	**TRAF-18:** Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping and modifying the eastbound approach from a left-turn lane, a through lane, and a right-turn lane to left-turn lane, a through lane, and a through-right lane. It requires converting Walnut Street east of the intersection from one lane eastbound to two-lanes eastbound for a minimum of 400 feet providing an 11-foot lane and a 12-foot curb lane prior to merging back to one lane, and prohibiting on-street parking for the same distance. The proportionate share funding shall be determined through	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
	the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection	
City of Lynwood		
Imperial Hwy & State St (#54): There is no significant impact in the AM peak hours, but a significant impact in the PM peak hours at this location.	**TRAF-19:** Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound and southbound approaches to provide separate right-turn lanes. This improvement would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. These improvements require removal of two on-street parking spaces on each approach. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Lynwood. The proportionate share funding shall be provided by the project applicant if the City of Lynwood has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
City of Los Angeles		
Avalon Blvd & Imperial Hwy (#1): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-20:** Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
Avalon Blvd & 120th Street (#2): There is a significant impact in the PM peak hour at this location.	**TRAF-21:** Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
	County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.	
Central Ave & Imperial Hwy (#6): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-22:** Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
Central Ave & I-105 WB Ramps (#7): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-23:** Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the westbound approach from a left-turn lane, a through-left lane, and right-turn lane, to a left-turn lane, a through-right lane, and a right-turn lane. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism.	Significant and Unavoidable Impact
Central Ave & 120th St (#9): There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-24:** Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound approach to provide a separate right-turn lane. This improvement would modify the approach from a left-turn, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a separate right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. The proportionate share funding of the restriping improvement	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
	to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection. Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the AM and PM peak hours' level of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.	
Wilmington Ave & 112th St (#25): There is a significant impact on the stop-controlled approach of this unsignalized intersection in both the AM and PM peak hours at this location.	**TRAF-25:** Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of installation of a new traffic signal at this location because the signal warrant analysis indicated that a traffic signal would be warranted. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
Freeway Segment		
I-110 southbound between 135th St & Rosecrans Ave: There is a significant impact in both the AM and PM peak hours at this location.	**TRAF-26:** Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
	EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~	
Cumulative-specific Impact 3.12-1: The project would have a cumulatively considerable impact on an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.		Please see *Section 3.12, Transportation and Traffic* of this EIR for a detailed discussion of the following significance determinations.
Intersections		
County of Los Angeles		
The project would result in significant impacts at 16 intersections within the County of Los Angeles.	Implementation of Mitigation Measures TRAF-1 through TRAF-12 is required.	Significant and Unavoidable Impact
City of Compton		
The project would result in significant impacts at 9 intersections within the City of Compton.	Implementation of Mitigation Measures TRAF-13 through TRAF-18 is required.	Significant and Unavoidable Impact
Willowbrook Ave & Rosecrans Ave (#42): There is no significant impact in the AM peak hour, but a significant impact in the PM peak hour at this location.	**TRAF-27:** Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
	peak hour levels of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	
Central Ave & Compton Blvd (#57): There is no significant impact in the AM peak hour, but a significant impact in the PM peak hour at this location.	**TRAF-28:** Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound approach to provide a separate right-turn lane by narrowing the median to 2 feet. This would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This improvement requires removal of five on-street parking spots on the northbound approach. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
Central Ave & Alondra Blvd (#60): There is no significant impact in the AM peak hour, but a significant impact in the PM peak hour at this location.	**TRAF-29:** Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound and southbound approaches to provide a separate right-turn lane by narrowing the median to 2 feet. This would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
<u>Lynwood</u> The project would result in a significant impact at one intersection (Imperial Highway & State Street) within the City of Lynwood.	Implementation of Mitigation Measure TRAF-19 is required.	Significant and Unavoidable Impact
<u>City of Los Angeles</u>		

Impact	Mitigation Measure	Significance after Mitigation
The project would result in a significant impact at 6 intersections within the City of Los Angeles.	Implementation of Mitigation Measures TRAF-20 through TRAF-25 is required.	Significant and Unavoidable Impact
Freeway Segments		
I-105 westbound between Avalon Blvd and Central Ave: There is a significant impact in the PM peak hour at this location.	**TRAF-30:** Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~	Significant and Unavoidable Impact
I-105 westbound between Compton Ave and Wilmington Ave: There is a significant impact in the PM peak hour at this location.	**TRAF-31:** Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
	project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~	
I-105 westbound between State St & Long Beach Blvd: There is a significant impact in the AM and PM peak hours at this location.	**TRAF-32:** Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~	Significant and Unavoidable Impact
Off-ramps		
I-105 WB off-ramp at Imperial Highway: The proposed project would result in a significant impact at for the PM Peak hour.	Implementation of Mitigation Measure TRAF-9 is required.	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
110 SB off-ramp at El Segundo Blvd: There is a significant impact in the AM and PM peak hours at this location.	**TRAF-33:** Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this off-ramp through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
Congestion Management Plan		
Project and Cumulative Impact 3.12-2: The proposed project could conflict with an applicable congestion management program (CMP), including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.		
CMP Arterial Monitoring Locations		
The project would result in less than significant traffic impacts at the four Arterial CMP monitoring intersections.	No mitigation measures are required.	Less than Significant Impact
CMP Mainline Freeway Monitoring Stations		
I-105 eastbound (West of I-710, East of Harris Ave): There is a significant impact in the PM peak hour at this location.	**TRAF-34:** Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact

Impact	Mitigation Measure	Significance after Mitigation
I-105 westbound (West of I-710, East of Harris Ave): There is a significant impact in the AM and PM peak hours at this location.	**TRAF-35:** Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
I-105 eastbound (East of Bellflower Blvd. West of I-605): There is a significant impact in the PM peak hour at this location.	**TRAF-36:** Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
I-105 westbound (East of Bellflower Blvd. West of I-605): There is a significant impact in the AM and PM peak hours at this location.	**TRAF-37:** Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.	Significant and Unavoidable Impact
CMP Transit		
The project would result in a less than significant impact on transit services.	No mitigation measures are required.	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
Utilities		
Wastewater Treatment Requirements		
Project-specific Impact 3.13-1: The proposed project would not exceed wastewater treatment requirements of the Los Angeles Regional Water Quality Control Board.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.13-2: The Specific Plan would result in a less than cumulatively considerable impact to wastewater treatment requirements of the LARWQCB.	No mitigation measures are required.	Less than Significant Impact
Water or Wastewater Treatment Facilities		
Project-specific Impact 3.13-2: The proposed project would not create water system or wastewater treatment capacity problems or result in the construction of new water or wastewater treatment facilities that would cause significant environmental effects; however, the proposed project would create wastewater system capacity problems that would result in the need for new or expanded wastewater facilities, the construction of which could cause significant environmental effects.	**USS-1:** Prior to the issuance of a building permit, the individual project applicants shall submit a sewer study that confirms that the existing trunk sewers have adequate capacity to accommodate the projected wastewater flow from the proposed individual project as well as cumulative projects. If the projected wastewater flow exceeds the existing sewer capacity, the sewer trunk(s) shall be upgraded to accommodate the projected wastewater. Construction activities shall use best management practices to reduce (1) noise levels and limit construction in accordance with the County Code, (2) air quality and greenhouse gas emissions in accordance with the thresholds identified by the South Coast Air Quality Management District (see Section 3.2, Air Quality and Section 3.5, Greenhouse Gas Emissions in this EIR) and (3) traffic safety issues through the implementation of a traffic control plan that includes features such as signage, land closures, flaggers, detours and notifications to surrounding property owners.	Less than Significant Impact
Cumulative Impact 3.13-2: The proposed project's contribution to the less than significant cumulative impacts associated with water system and wastewater treatment facilities would be less than cumulatively considerable; however, the proposed project could result in a cumulatively considerable contribution to construction effects associated with wastewater facilities.	Implementation of Mitigation Measure USS-1 is required.	Less than Significant Impact
Stormwater Drainage Facilities		
Project-specific Impact 3.13-3: The proposed project would not create drainage capacity problems, or result in	No mitigation measures are required.	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.		
Cumulative Impact 3.13-3: The project's contribution to cumulative impacts related to stormwater drainage capacity would be less than cumulatively considerable.	No mitigation measures are required.	Less than Significant Impact
Water Supplies		
Project-specific Impact 3.13-4: The proposed project would have sufficient water supplies available to serve the project demands from existing entitlements and resources, and would not require new or expanded entitlements.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.13-4: The proposed project would result in less than cumulatively considerable impacts to water supply	No mitigation measures are required.	Less than Significant Impact
Energy Facilities		
Project-specific Impact 3.13-5: The proposed project would not create energy utility system capacity problems, or result in the construction of new energy facilities or expansion of existing facilities, or would it require or result in the new or expanded entitlements.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.13-5: The project's contribution to cumulative impacts related to the energy infrastructure system and entitlements would be less than cumulatively considerable.	No mitigation measures are required.	Less than Significant Impact
Landfill Capacity		
Project-specific Impact 3.13-6: The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.13-6: The project's contribution to cumulative impacts on the capacities of the landfill facilities would be less than cumulatively considerable.	No mitigation measures are required.	Less than Significant Impact

Impact	Mitigation Measure	Significance after Mitigation
Compliance with Solid Waste Regulations and Statutes		
Project-specific Impact 3.13-7: The proposed project would comply with federal, state, and local statutes and regulations related to solid waste.	No mitigation measures are required.	Less than Significant Impact
Cumulative Impact 3.13-7: The project would not contribute to cumulative impacts associate with compliance with solid waste statutes and regulations.	No mitigation measures are required.	Less than Significant Impact

CHAPTER 1
Introduction

This Final ~~Draft~~ Environmental Impact Report (EIR) has been prepared by the County of Los Angeles, California (County), pursuant to the applicable provisions of the California Environmental Quality Act (CEQA) and its implementing guidelines, known as the *CEQA Guidelines* (California Code of Regulations, Title 14, Chapter 3, Sections 15000-15387). The County of Los Angeles is the Lead Agency for this EIR (State Clearinghouse Number 2015101106), which examines the potential physical impacts to the environment as a result of the proposed Willowbrook Transit Oriented District (TOD) Specific Plan (the proposed project) of an approximately 312-acre area that encompasses a portion of the unincorporated community of Willowbrook in proximity to the Willowbrook/Rosa Parks Station (the Specific Plan area). Please refer to Chapter 2, *Project Description* for a more detailed discussion of the Specific Plan area and its location.

This Final ~~Draft~~ EIR evaluates impacts that could result from implementation of the proposed Specific Plan as compared to existing conditions. CEQA requires that before a decision can be made to approve a project with potentially significant environmental impacts, an EIR must be prepared that fully describes the environmental impacts of the project and identifies feasible mitigation for significant impacts. The EIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental consequences of a proposed project, to recommend mitigation measures to lessen or eliminate adverse impacts, and to examine feasible alternatives to the project. The information contained in this EIR is to be reviewed and considered by the governing agency prior to the ultimate decision to approve, disapprove, or modify the proposed project.

This EIR is a Program EIR prepared in accordance with *CEQA Guidelines* Section 15168. It is a Program EIR because this EIR evaluates a series of future actions that could occur with the implementation of the proposed Specific Plan. A Program EIR is appropriate because these future actions are characterized as one large project related by geography and the future actions are logical parts in the chain of contemplated actions.

1.1 Purpose of an EIR

In accordance with *CEQA Guidelines* Section 15121(a), the purpose of an EIR is to serve as an informational document that will generally inform public agency decision makers and the public of the significant environmental effects of a project, and possible ways to minimize those significant effects. *CEQA Guidelines* Section 15151 contains the following standards for EIR adequacy:

> *An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.*

The purpose of this EIR is to provide an objective, full-disclosure document to inform agency decision makers and the general public of the direct and indirect environmental impacts of the proposed Specific Plan project, and related actions. This EIR is prepared in conformance with Section 15161 of the *CEQA Guidelines*, and the primary purpose of this EIR is to:

- Identify and evaluate potential environmental consequences of the proposed project.
- Assess cumulative impacts of the project in conjunction with related past, present, and reasonably foreseeable future projects within the area.
- Indicate the manner in which those environmental consequences can be mitigated or avoided.
- Define and analyze alternatives that have the potential to reduce or eliminate potentially significant impacts associated with the proposed project or non-clustered scenario.
- Identify impacts, if any, which even with the implementation of mitigation measures would be unavoidable and adverse.
- Provide documentation supporting these determinations.

In addition, an EIR must also identify and evaluate a reasonable range of alternatives to the project that have the potential to mitigate or avoid the project's potential significant environmental effects while feasibly accomplishing most of the project's basic objectives. Therefore, the purpose of an EIR (or any environmental document required under CEQA) is to focus the discussion on the project's potential effects on the environment.

The purpose of this EIR for the proposed Specific Plan is also to provide for streamlining of later environmental review of subsequent site-specific development projects undertaken pursuant to the Specific Plan. As described in Section 15175 of the *CEQA Guidelines,* plan level EIRs may form the basis for later decision making and may streamline the later environmental review of projects or approvals included within the project, plan or program. EIRs can be prepared for: (1) a project that consists of smaller individual projects that will be carried out in phases; (2) a general plan, general plan update, general plan element, general plan amendment, or specific plan; and/or (3) projects that will be carried out or approved pursuant to a development agreement. The proposed project includes, among other things, plans for infill development, a general plan amendment, a specific plan, and anticipates future infill development projects that may require a development agreement. Thus, CEQA requires, and this EIR includes an evaluation of cumulative impacts, growth inducing impacts, and irreversible significant effects on the environment of subsequent projects to the greatest extent feasible.

1.2 Project Overview

The Specific Plan is a County-initiated, Los Angeles County Metropolitan Transit Authority (Metro) grant-funded project that is being proposed pursuant to the County General Plan to enhance the transit oriented development pattern, promote active transportation, reduce vehicle miles traveled, and improve the public realm in the Willowbrook area. In addition, the proposed Specific Plan is intended to streamline the approval process for future development projects that are consistent with the Specific Plan.

The proposed Specific Plan would amend General Plan Land Use designations of several individual parcels to provide consistency with the General Plan policy direction for mixed use parcels along transportation corridors. In addition, the proposed Specific Plan would facilitate transit oriented development by establishing a new Specific Plan zone for the project area. Within the Specific Plan zone, new designations for land uses would be implemented. In addition, as discussed in more detail below under Proposed Circulation System Improvements, minor changes/improvements to the existing street system would be implemented to improve access, circulation, and walkability between the major land uses within the Specific Plan area, such as the Martin Luther King, Jr. (MLK) Medical Center, Charles R. Drew University of Medicine and Science (CDU), Kenneth Hahn Plaza, Willowbrook Library, Martin Luther King, Jr. (MLK) Center for Public Health, and the Willowbrook/Rosa Parks Station. Key access corridors to the Specific Plan area would continue to be Willowbrook Avenue, Compton Avenue, South Mona Avenue, Wilmington Avenue, East 117th Street, East 118th Street, East 119th Street, and East 120th Street. Streetscape improvements, such as landscaping and street furniture are also provided for in the proposed Specific Plan, all of which is described below.

The proposed Specific Plan would also establish sustainable design guidelines and performance standards for features, such as scale and mass, building orientation, building articulation and detailing, circulation, parking, and exterior lighting. The new zoning designations would allow for infill and redevelopment TOD opportunities that can serve as catalyst to revitalizing the area.

1.3 The CEQA EIR Process

In accordance with *CEQA Guidelines* Section15082, on October 30, 2015, the County of Los Angeles issued a Notice of Preparation (NOP) and Initial Study, which was sent to the State Clearinghouse, Office of Planning and Research, responsible agencies, and other interested parties. The NOP and Initial Study circulated for approximately thirty days, until November 30, 2015. The NOP requested those agencies with regulatory authority over any aspect of the proposed project to review the issues that would be addressed within the EIR and to identify any additional relevant environmental issues that should be addressed.

Comment letters were received by the County from five agencies in response to the NOP. The NOP and responses to the NOP are included in this Final ~~Draft~~ EIR as Appendix A. A general summary of the areas of concern raised in these letters is provided in **Table 1-1.**

TABLE 1-1
TOPICS RAISED IN RESPONSE TO THE NOP

Comment/Date	Summary of Comment	Location of Discussion
State Agencies		
Department of Transportation (Caltrans) District 7 November 30, 2015	The comment letter states that a formal scoping meeting is necessary to discuss the preparation of the traffic analysis, potential traffic impacts, and proposed mitigation on the state facilities. The comment also expresses concern that the traffic generated by the project, along with cumulative traffic may exceed the capacity of off-ramps and backups onto the mainline freeway could occur, and states that an off-ramp queuing analysis should be conducted for the proposed project. The comment encourages the Lead Agency to work with neighboring developing cities such as the City of Los Angeles, City of Lynwood, and the City of Compton, to resolve cumulative significant traffic impacts on the state facilities, including potential impacts to freeway I-105, I-110, and I-710 and on/off ramps. The comment also provides contact information for further review of the Draft EIR.	EIR Section 3.13, Transportation and Traffic
Regional Agencies		
South Coast Air Quality Management District (SCAQMD) November 6, 2015	The comment requests the Draft EIR, including all Draft EIR appendices and technical documents regarding air quality and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files be sent to SCAQMD for review. The comment recommends the Lead Agency use the CEQA Air Quality Handbook (1993) and CalEEMod land use emissions software to complete the air quality analysis for the proposed project. The comment also states that the Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. The comment requests the Lead Agency quantify criteria pollutant emissions and compare the results to the recommended regional significance thresholds in the CEQA Air Quality Handbook. A health risk assessment is required in the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles. The comment also includes several resources to assist the Lead Agency develop mitigation measures in the even the proposed project generates significant adverse air impacts.	EIR Section 3.2, *Air Quality*
Los Angeles County Metropolitan Transportation Authority December 1, 2015	The comment states there are several Metro bus and light rail lines that operate within the Specific Plan area. Metro has standard language that relates to construction activity adjacent to bus transit facilities and recommends the Specific Plan include language that informs future development activity within the Specific Plan area of Metro's notification procedures of considerations for projects located in close proximity to a Metro facility. Similarly, the comment recommends the Specific Plan include policy language or guidance in that clearly denotes development within 100 feet of a Metro facility would require Metro review and approval and compliance with Metro's Development Guidelines. The comment also includes a list of comments regarding improvements planned for the Willowbrook/Rosa Parks Station.	EIR Section 3.13, Transportation and Traffic

Comment/Date	Summary of Comment	Location of Discussion
Southern California Association of Governments (SCAG) December 1, 2015	The comment states that SCAG is the designated Regional Transportation Agency under state law and is responsible for preparation of the Regional Transportation Plan (RTP) and the Sustainable Communities Strategy (SCS). The comment reviews regionally significant projects for their consistency with the adopted RTP/SCS. The comment lists goals included in the 2012 RTP/SCS that are pertinent to the proposed project and encourages the use of a side-by-side comparison of SCAG goals with discussion of the consistency, non-consistency, and non-applicability of the policy and supportive analysis in a table in the Specific Plan. The comment recommends review of the SCAG 2012 RTP/SCS Final Program EIR Mitigation Measures for guidance as appropriate.	EIR Section 3.8, Land Use and Planning
Local Agencies		
City of Lynwood (Public Works Department) November 30, 2015	The comment states the City would like to continue operating this City's Feeder bus line to the Willowbrook/Rosa Parks Station without interruption or amending its current route. The comment also expresses concern about the increased traffic volume on several local streets, including Imperial Highway, Mona Boulevard, Industry Way and Lynwood Road, and the potential impacts on vehicular and pedestrian operations. The comment also expresses concern regarding an increase of air quality emissions to the City and the increased demand for public services within the City as a result of the increase in visitors, residents, and employees.	EIR Section 3.2, *Air Quality* EIR Section 3.11, *Public Services* EIR Section 3.13, *Transportation and Traffic*

In addition, a public scoping meeting was held on November 21, 2015, from 10:00 am to 12:00 pm at the MLK H. Claude Hudson Auditorium, MLK Medical Center, 12021 S. Wilmington Avenue, Los Angeles, CA, 90059. The intent of the scoping meeting was to solicit written comments regarding which environmental issues should be evaluated in the EIR. A summary of the scoping meeting and comments received at the scoping meeting are included in **Appendix A** and **Table 1-2**.

TABLE 1-2
COMMENTS RAISED AT THE SCOPING MEETING

Summary of Comment	Location of Discussion
The commenter stated concern regarding the visual impact of moving bus stops.	EIR Section 3.1, Aesthetics
Commenters state their concern regarding whether the new housing developments will be affordable for existing residents.	EIR Section 3.10, Population and Housing
Commenters state there is a need in the community for a homeless shelter or housing locally.	EIR Section 3.10, Population and Housing
The commenter stated there needs to be a new stop/traffic light implemented at 19th Street and Mona Boulevard for pedestrian safety.	EIR Section 3.13, Transportation and Traffic
Commenters state they would like to see short-term community improvements including fixing streets and potholes.	EIR Section 3.13, Transportation and Traffic

1.4 Public Review of the Draft EIR

The Draft EIR was ~~will be~~ circulated for review and comment by the public and other interested parties, agencies and organizations for 45 days in accordance with Section 15087 and Section 15105 of the *CEQA Guidelines*. During the 45-day review period, the Draft EIR was ~~will be~~ available for public review at the project's website: http://planning.lacounty.gov/willowbrook/TOD or the following locations:

Willowbrook Library
11838 Wilmington Ave
Los Angeles, CA 90059

Interested parties ~~may~~ provided written comments on the Draft EIR. Written comments were ~~should be~~ addressed to:

Anita Gutierrez, AICP
Supervising Regional Planner
Department of Regional Planning
County of Los Angeles
320 W. Temple Street
Los Angeles, California 90012
Email: Willowbrook@planning.lacounty.gov

Upon completion of the 45-day review period, written responses to all comments on the environmental issues discussed in the Draft EIR were ~~will be~~ prepared and incorporated into this ~~a~~ Final EIR. Furthermore, written responses to comments received from any state agencies will be made available to those agencies at least ten (10) days prior to the public hearing at which the Certification of this~~e~~ Final EIR will be considered. These comments, and their responses, have been ~~will be~~ included in the Final EIR for consideration by the County, as well as other Responsible Agencies under CEQA. This~~e~~ Final EIR ~~may~~ also contain corrections and additions to the Draft EIR and other information relevant to the environmental issues associated with the project. This~~e~~ Final EIR will be available for public review prior to its certification by the County.

1.5 Organization of this Final ~~Draft~~ EIR

This~~e~~ Final ~~Draft~~ EIR is organized into the following chapters. To help the reader locate information of particular interest, a brief summary of the contents of each chapter of this~~e~~ Final ~~Draft~~ EIR is provided below.

- **Executive Summary:** This chapter provides a brief summary of the Specific Plan area, the proposed project, and alternatives. The Summary culminates with Table ES-1, *Summary of Environmental Impacts and Mitigation Measures*. This table lists each identified environmental impact, proposed mitigation measure (if any), and the level of significance after implementation of each mitigation measure. The level of significance after implementation of the proposed mitigation measure(s) will be less than significant, or significant and unavoidable.
- **Chapter 1 – Introduction:** This chapter provides an overview of the Project, the purpose and use of this~~e~~ Final ~~Draft~~ EIR, the scope of this Final ~~Draft~~ EIR, a summary of the legal authority for this Final ~~Draft~~ EIR, a summary of the environmental review process for this~~e~~ Final EIR, and the general format of the document.
- **Chapter 2 – Project Description:** This chapter provides a detailed description of the Project. The description also includes the project goals and objectives.
- **Chapter 3 – Environmental Setting, Impacts, and Mitigation Measures:** This chapter provides a discussion of the setting (existing conditions) including existing regulations, the environmental impacts including potential cumulative impacts that could result from the proposed project, and the mitigation measures that would reduce or eliminate the adverse impacts identified. Impacts that cannot be mitigated to less than significant are identified as significant and unavoidable. Adopted regulations with which the project would be required to comply that serve to reduce potential adverse effects are discussed where appropriate.
- **Chapter 4 – Alternatives:** This chapter describes and analyzes a reasonable range of alternatives to the project. The CEQA-mandated No Project Alternative is included along with alternatives that would reduce one or more significant effects of the proposed Project.
- **Chapter 5 – CEQA Statutory Sections:** This chapter provides a discussion of various CEQA-mandated considerations including a summary of significant and unavoidable impacts, growth-inducing impacts, and significant irreversible changes.
- **Chapter 6 – Report Preparation:** This chapter lists authors of this~~e~~ Final ~~Draft~~ EIR and County staff that assisted with the preparation and review of this document.

CHAPTER 2
Project Description

2.1 Introduction

The Los Angeles County General Plan was updated in 2015 with a major focus on Transit Oriented Districts (TOD) as a priority throughout the County. The General Plan Land Use Element specifically calls for implementation of a TOD plan for the Willowbrook/Rosa Parks Station (County of Los Angeles). The proposed Willowbrook Transit Oriented District (TOD) Specific Plan has been prepared pursuant to General Plan Implementation Program LU-2 Transit Oriented District Program, in order to (1) increase walking, bicycling, and transit ridership and reduce vehicle miles traveled (VMTs); (2) facilitate compact, mixed use development; (3) increase economic activity; (4) facilitate the public investment of infrastructure improvements; and (5) streamline the environmental review process for future infill development projects (County of Los Angeles, 2015).

In addition to the General Plan Land Use Element, the Los Angeles County Housing Element Program 6: Transit Oriented Districts Program provides for transit oriented districts within 0.5 mile radius from Metro stations, and specifically requires creation of a transit-oriented district for Willowbrook that would encourage urban infill development on vacant or underutilized sites; promote and encourage transit-oriented development along major transportation corridors; encourage mixed use development to facilitate the linkage between housing and employment opportunities; and promote increased residential density in appropriately designated areas.

Consistent with these General Plan policies and programs, the County of Los Angeles has prepared the Willowbrook TOD Specific Plan to implement TOD development and rezone some of the land within the Specific Plan area to include commercial and residential mixed uses, increase housing densities, provide for additional neighborhood-serving retail uses, improve access to transit, and improve bicycle and pedestrian facilities and other public realm facilities, such as street furniture and signage.

This chapter provides a detailed description of the proposed project, including the project location, the existing characteristics of the Specific Plan area, the objectives of the Specific Plan, the actions proposed by the Specific Plan, and the required discretionary approvals.

2.2 Project Location and Existing Characteristics

Willowbrook Community

The unincorporated community of Willowbrook encompasses approximately 3.8 square miles (2,410 acres) and is located approximately 10 miles south of downtown Los Angeles. The community is bounded by the cities of Los Angeles to the north, Hawthorne to the west, Lynwood to the east, Gardena to the southwest, and Compton to the southeast. Interstate 110 (I-110) defines the community's western boundary and the Interstate 105 (I-105) is the northern boundary. **Figure 2-1**, Regional Location, shows the Willowbrook Community and the Proposed Specific Plan project's regional location. Existing land uses within the Willowbrook Specific Plan area include: commercial, low and medium density residential, open space, Kenneth Hahn Plaza, Martin Luther King, Jr. (MLK) Medical Center, and Charles R. Drew University of Medicine and Science (CDU).

Specific Plan Area

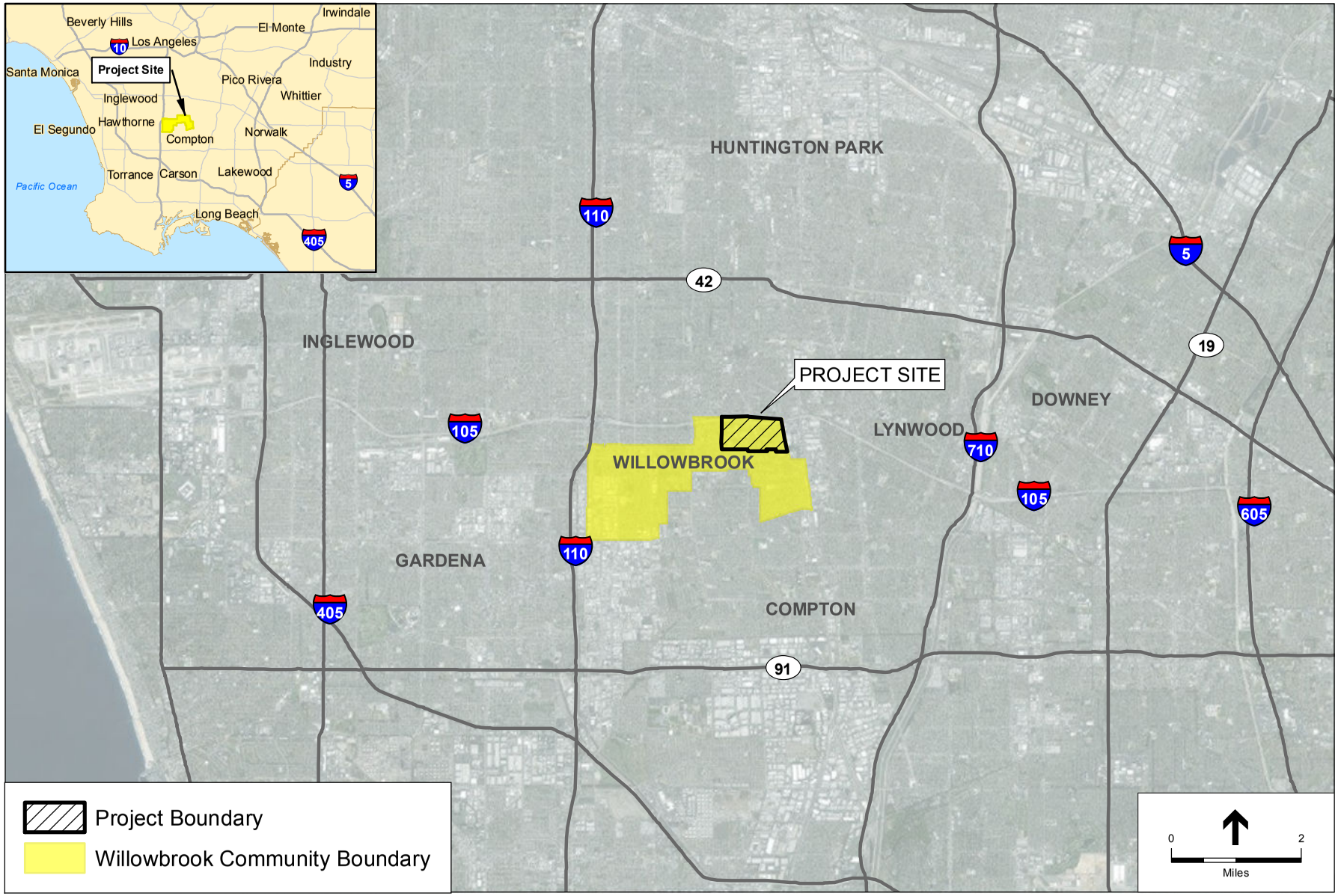
The Specific Plan area is approximately 312 acres and is located within the northwestern portion of the Willowbrook community. As shown in **Figure 2-2**, Project Location, the Specific Plan area generally encompasses parcels located south of Imperial Highway, north of East 122nd Street, east of Compton Avenue, and west of South Mona Boulevard. The Specific Plan contains a range of land uses, including: residential, retail, office, educational, institutional facilities, and service facilities. Some of the key non-residential land uses that are located within the Specific Plan area include: MLK Medical Center, CDU, Kenneth Hahn Plaza, Willowbrook Library, and Martin Luther King, Jr. (MLK) Center for Public Health.

The Specific Plan area also includes the Willowbrook/Rosa Parks Station, which is located at the intersection of the I-105 and South Willowbrook Avenue West. The station is a multimodal transit facility that serves both the Metro Blue and Green light rail lines, along with six Metro bus routes, and local buses and shuttles that connect with the wider Metro rail and bus network throughout the region. Currently, the station has the fourth highest volume of ridership in the Metro rail system with approximately 30,000 daily transit riders (Metro, 2015).

Existing Characteristics of Specific Plan Area

For planning purposes, the Specific Plan divided the project area into seven subareas as shown in **Figure 2-3**, Specific Plan Subareas. A general description of the existing characteristics of each subarea is provided below.

Martin Luther King Jr. (MLK) Medical Center and Associated Facilities Subarea. The MLK Medical Subarea is bounded by Wilmington Avenue to the east, East 120th Street to the north, Compton Avenue to the west, and 127th Street to the south. The Martin Luther King, Jr. (MLK) Community Hospital, MLK Center for Public Health, and the Multi-Service Ambulatory Care Center are located within the campus.



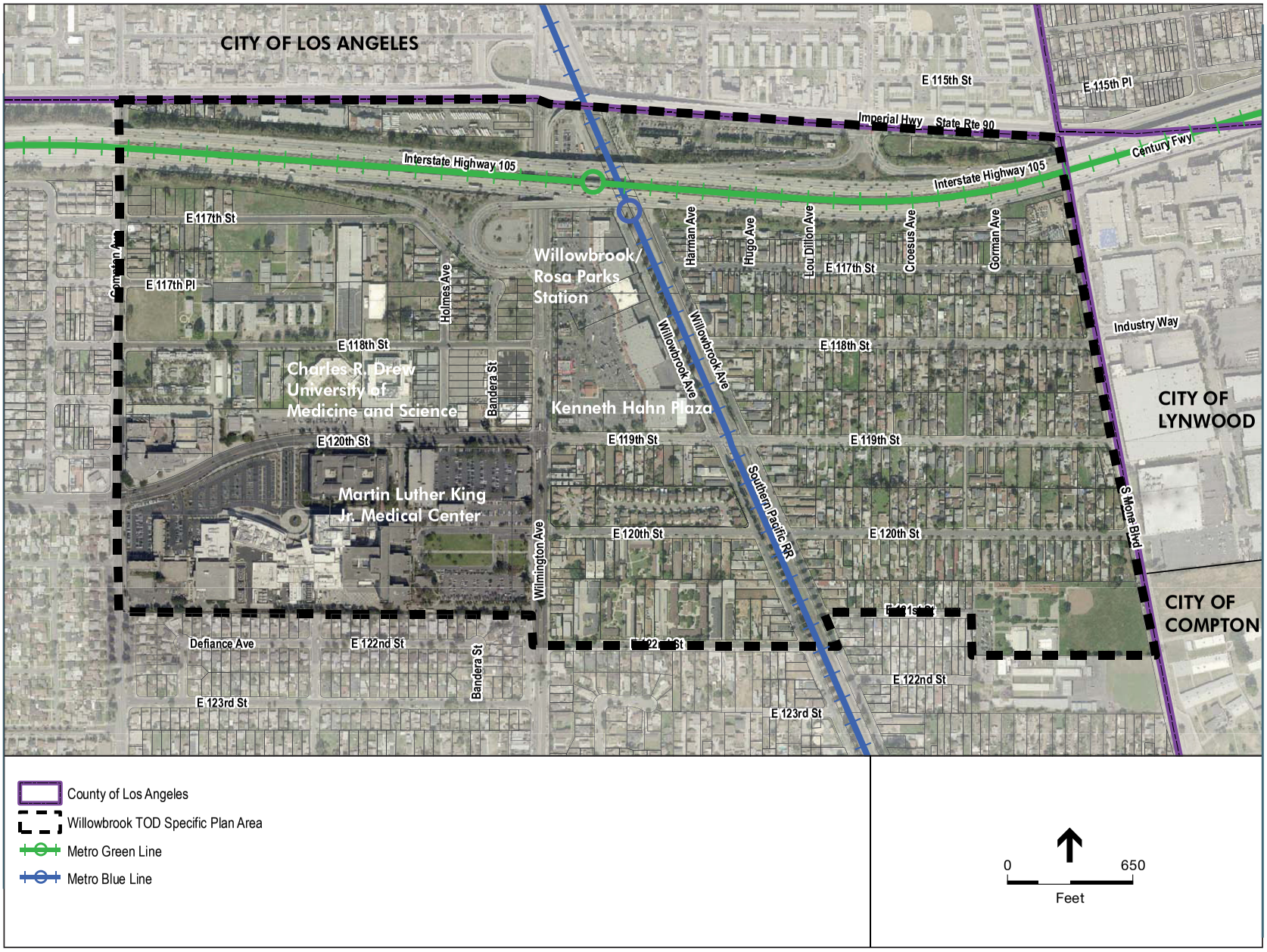
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SOURCE: ESRI

Willowbrook TOD Specific Plan. 130631

Figure 2-1

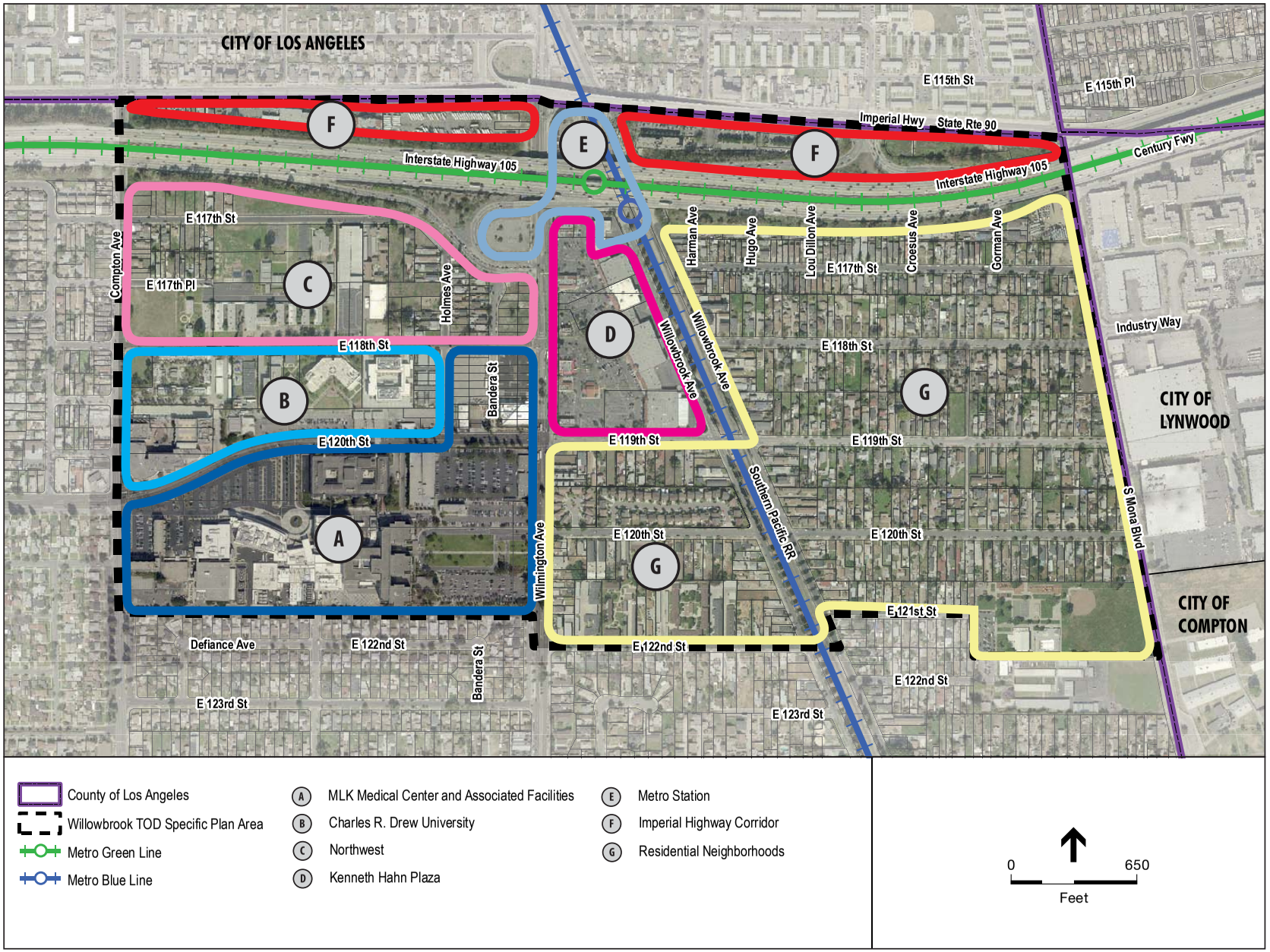
Regional Location



SOURCE: Willowbrook TOD Specific Plan

Willowbrook TOD Specific Plan . 130631

Figure 2-2
Project Location



SOURCE: Willowbrook TOD Specific Plan

Figure 2-3

Specific Plan Subareas

Charles R. Drew University of Medicine and Science Subarea. Immediately north of the MLK Medical Center, is CDU and the King Drew Magnet High School, which are bounded by Holmes Avenue to the east, Compton Avenue to the west, 120th Street to the south and 118th Street to the north. Other land uses located within this area include multi-family residences on East 118th Street, and several surface parking lots that serve CDU and the County facilities are located along East 120th Street.

Northwest Subarea. The Northwest Subarea encompasses a variety of uses, including educational, retail, residential and institutional. Several vacant lots, owned by the Los Angeles Community Development Corporation, are located along East 117th Street. A large vacant site on the northeast corner of East 118th Street and Compton Avenue is owned by the Compton Unified School District. The educational uses include Lincoln-Drew Elementary School and the Barack Obama Charter Elementary School, which are both located north of East 118th Street and part of the Compton Unified School District. Other uses in this subarea include parking facilities, retail, and residential units that include single family dwellings, duplexes, and multifamily structures.

Kenneth Hahn Plaza Subarea. This subarea consists of the Kenneth Hahn Plaza, which is a retail shopping center. The Plaza also includes the Willowbrook Library (soon to be relocated to a site on Wilmington Avenue and Bandera Street, north of E. 118th Street) and a Los Angeles County Sheriff substation. This subarea is located south of the Willowbrook/Rosa Parks Station, and bound by Wilmington Avenue to the west, 119th Street to the south and Willowbrook Avenue to the east.

Metro Station Subarea. This subarea consists of the Willowbrook/Rosa Parks Station, and the immediately adjacent areas that are used for the Metro facility. The Willowbrook/ Rosa Parks Station is a multimodal transit facility that serves both the Metro Blue and Green light rail lines, along with six Metro bus routes, and local buses and shuttles that connect with the wider Metro rail and bus network throughout the region. The Green Line is located in the median of the I-105 and the Blue Line is at grade, one level below. The station is located adjacent to Kenneth Hahn Plaza, but access from the plaza is blocked by a fence and access from the station to the residential neighborhoods to the east of the rail line is limited.

Imperial Highway Corridor Subarea. The parcels within the Imperial Highway Corridor Subarea are in between Imperial Highway and the I-105, and include uses such as, auto repair, retail, residential, Metro facilities, and underutilized or vacant lots.

Residential Neighborhoods Subarea. The Residential Neighborhoods Subarea includes a mix of single-family and multi-family units. The residential parcel configurations vary widely; in a majority of the residential blocks, parcels are 90 feet wide and over 200 feet deep. However, some of the parcels are as narrow as 30 feet wide and 100 feet deep. In addition, many of the larger parcels have two (or more) units constructed on them.

2.3 Project Characteristics

Overview

The Specific Plan is a County-initiated, Los Angeles County Metropolitan Transit Authority (Metro) grant-funded project that is being proposed pursuant to the County General Plan to enhance the transit oriented development pattern, promote active transportation, reduce vehicle miles traveled, and improve the public realm in the Willowbrook area. In addition, the proposed Specific Plan is intended to streamline the approval process for future development projects that are consistent with the Plan.

The proposed Specific Plan would amend General Plan Land Use designations of several individual parcels to provide consistency with the General Plan policy direction for mixed use parcels along transportation corridors. In addition, the proposed Specific Plan would facilitate transit oriented development by establishing a new Specific Plan zone for the project area. Within the Specific Plan zone, new designations for land uses would be implemented. In addition, as discussed in more detail below under Proposed Circulation System Improvements, minor changes/improvements to the existing street system would be implemented to improve access, circulation, and walkability between the major land uses within the Specific Plan area, such as the MLK Medical Center, CDU, Kenneth Hahn Plaza, Willowbrook Library, MLK Center for Public Health, and the Willowbrook/Rosa Parks Station. Key access corridors to the Specific Plan area would continue to be Willowbrook Avenue, Compton Avenue, South Mona Avenue, Wilmington Avenue, East 117th Street, East 118th Street, East 119th Street, and East 120th Street. Streetscape improvements, such as landscaping and street furniture are also provided for in the proposed Specific Plan, all of which is described below.

The proposed Specific Plan would also establish sustainable design guidelines and performance standards for features, such as scale and mass, building orientation, building articulation and detailing, circulation, parking, and exterior lighting. The new zoning designations would allow for infill and redevelopment TOD opportunities that can serve as catalyst to revitalizing the area.

Proposed General Plan Land Use Amendments

The proposed project includes General Plan Land Use amendments to approximately 40.3 acres of land within the Specific Plan area to provide consistency with the General Plan policy direction. **Table 2-1** summarizes the proposed changes to General Plan Land Uses, which are shown in **Figure 2-4**, Proposed General Plan Amendments.

TABLE 2-1
SUMMARY OF PROPOSED GENERAL PLAN LAND USE AMENDMENTS

Acres	Location on Figure 2-3	Existing General Plan Land Use	Proposed General Plan Land Use
17.93	P to MU	Public and Semi-Public	Mixed Use
3.62	H9 to H18	H9 - Residential (9 dwelling units per acre)	H18 - Residential (18 dwelling units per acre)
8.32	H18 to MU	H18 - Residential (18 dwelling units per acre)	Mixed Use
3.49	H18 to P	H18 - Residential (18 dwelling units per acre)	Public and Semi-Public
1.44	H30 to MU	H30 - Residential (30 dwelling units per acre)	Mixed Use
1.59	H30 to P	H30 - Residential (30 dwelling units per acre)	Public and Semi-Public
1.07	LI to H18	IL - Light Industrial	H18 - Residential (18 dwelling units per acre)
37.46	**TOTAL**		

SOURCE: Arroyo Group, 2016

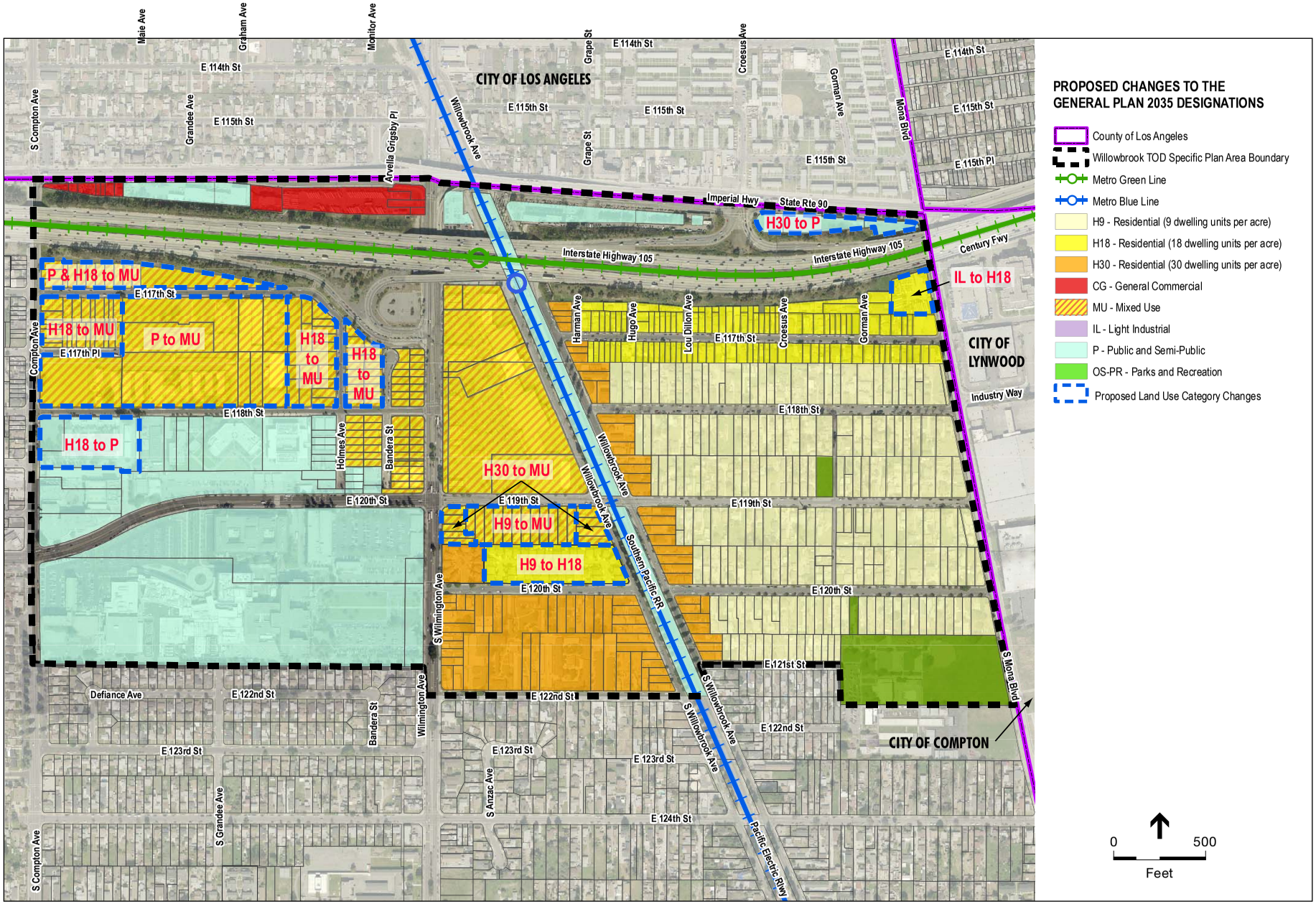
Proposed Specific Plan Zoning

The Specific Plan proposes to rezone land uses of specific parcels within the project area with the intent of introducing a transit-oriented development pattern to the area. This would provide development that is located within walking distance of Metro station and would be a mix of residential, employment, retail, educational, medical, and complementing public uses, which are shown in **Figure 2-5**, Proposed Specific Plan Zoning.

The Specific Plan would allow existing development and uses within the Specific Plan area to continue until such time that new development is proposed. The Specific Plan would require all new land use and development within the Specific Plan area to conform to the Specific Plan zoning designations, which include:

Mixed-Use 1 (MU-1): The MU-1 zone is intended to provide commercial and residential development, with an emphasis on neighborhood serving retail, restaurant and service uses. The area is appropriate for a retail and residential mixed use center, with a neighborhood plaza or community gathering space and pedestrian connection to the Willowbrook/Rosa Parks Station.

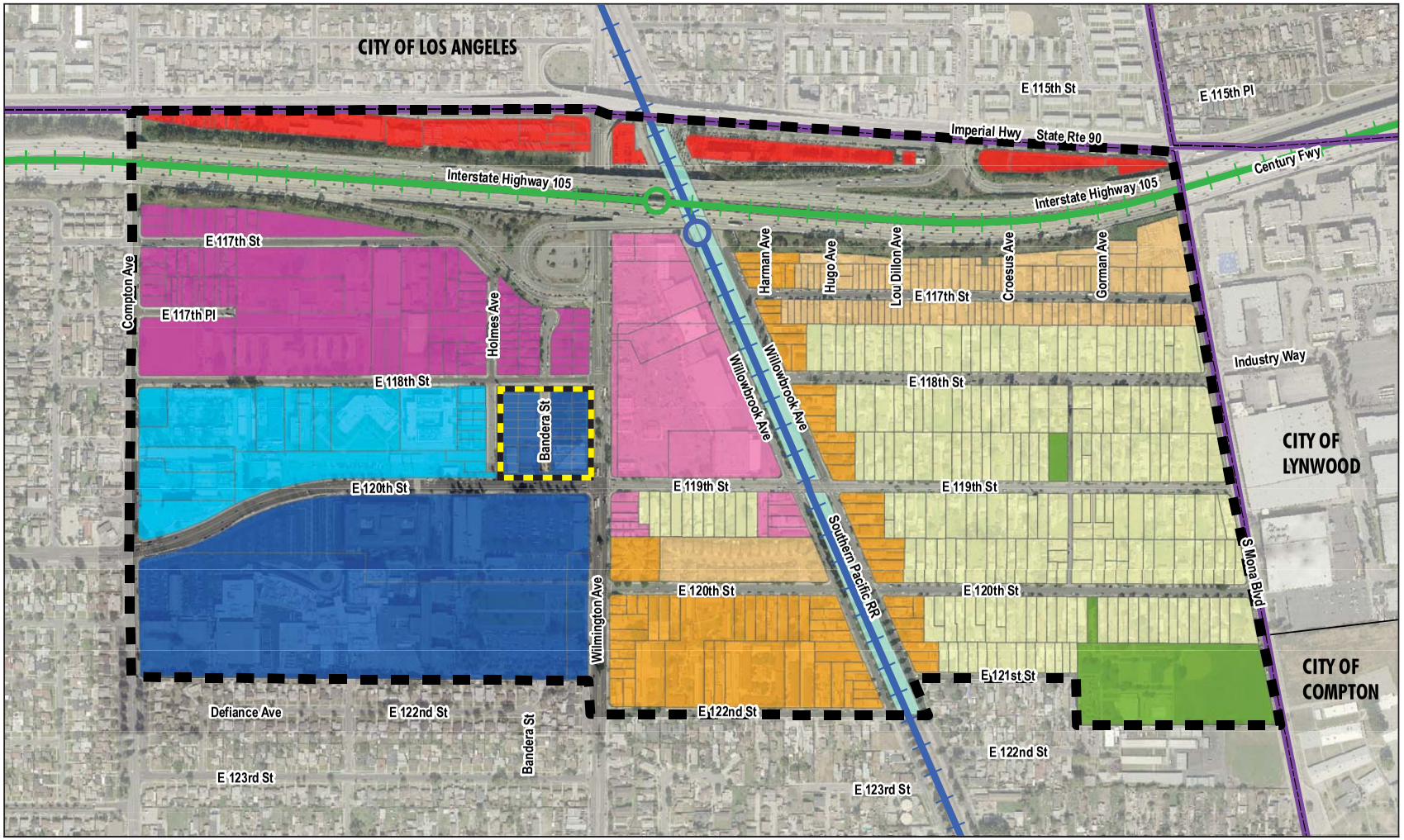
Mixed-Use 2 (MU-2): The MU-2 zone is intended to provide commercial and residential development, with an emphasis on employment generating uses and residential infill development, such as an office or business park and residential mixed use developments, with an open space components and pedestrian connection to the Willowbrook/Rosa Parks Station, MLK Medical Campus, and CDU.



SOURCE: County of Los Angeles, Dept. of Regional Planning General Plan Update, The Arroyo Group, 2014

Figure 2-4

Proposed General Plan Amendments



SOURCE: Willowbrook TOD Specific Plan

Figure 2-5
Proposed Specific Plan Zoning

MLK Medical: The MLK Medical zone is intended to meet the needs of the MLK Medical Center by providing for medical, clinic, medical office, and associated supportive uses such as retail, residential, and parking and expand pedestrian linkages between nearby uses and the Willowbrook/Rosa Parks Station. The TOD Plan within this area would provide development standards (such as setbacks, heights, open space, landscaping, circulation, fencing, etc.) for new uses within the MLK Medical area.

MLK Medical Overlay: The MLK Medical Overlay applies to the two blocks bounded by Wilmington Avenue, East 120th Street, Holmes Street and East 118th Street. The properties within this Overlay are suitable for more intensive uses than the base zone because of the proximity to the Willowbrook/Rosa Parks Station. This Overlay retains the existing medical and public service uses while permitting additional medical and new residential development on the under-utilized surface parking lots that are located within these two blocks.

Drew Educational: The Drew Educational zone within the Specific Plan is planned to meet the needs of the CDU and King Drew Magnet High School. The intent is to create a medical university campus for CDU by maintaining and promoting educational and associated support uses, while maintaining sensitivity to surrounding development and other uses in the area.

Imperial Commercial: The Imperial Commercial zone is intended to meet the commerce and service needs of the residents and businesses, by providing for infill commercial, retail, office, and light manufacturing uses on the parcels between Imperial Highway and the I-105 Freeway.

Willowbrook Residential 1: The Willowbrook Residential 1 zone provides for detached single-family dwelling units at a development density of up to nine units per acre.

Willowbrook Residential 2: The Willowbrook Residential 2 zone provides for medium density residential uses provided in single-family and two-family residences. This zone would allow up to 18 units per acre and living suites as an accessory use.

Willowbrook Residential 3: The Willowbrook Residential 3 zone provides for high density multi-family residences, such as apartments or condominiums at a density of up to 30 units per acre.

Proposed Specific Plan Zone Changes

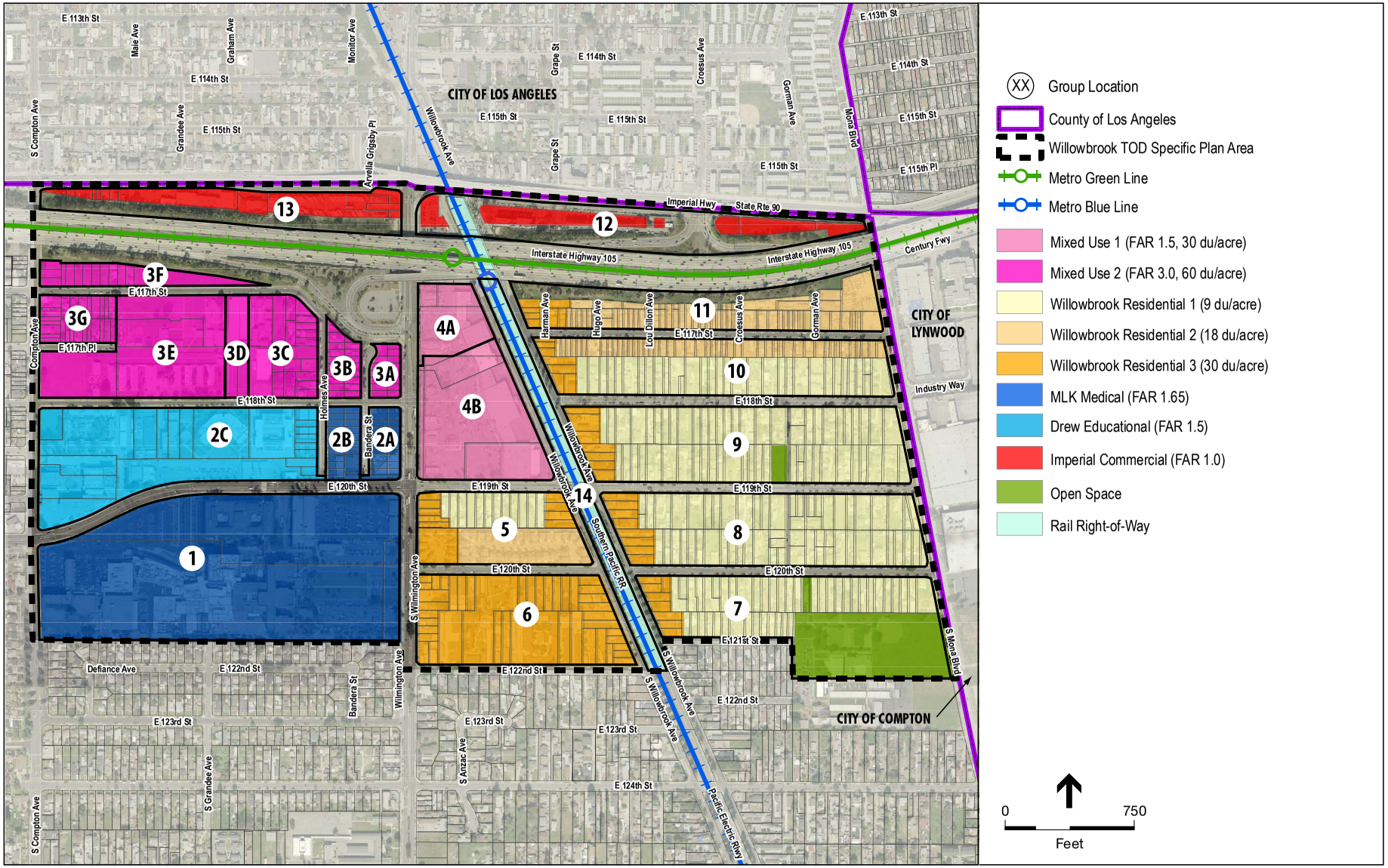
Table 2-2 provides a summary of the proposed zone changes with the implementation of the proposed Specific Plan. The Group Locations are provided in **Figure 2-6**, Proposed Specific Plan Group Locations. As shown in Table 2-2, the total area requiring zone changes is 221.12 acres.

TABLE 2-2
WILLOWBROOK TOD SPECIFIC PLAN AREA PROPOSED ZONE CHANGES

Subarea and Group Location	Acres	Existing Zoning	Proposed Specific Plan Zoning
A	38.28	C-2	MLK Medical
(1,2A,2B)	0.67	C-2	MLK Medical Overlay
	3.05	MXD	MLK Medical Overlay
B	12.43	C-2	Drew Educational
(2C)	6.07	R-2	Drew Educational
C	0.41	C-2	Mixed Use 2
(3A,3B,3C,3D,3E,3F)	1.22	MXD	Mixed Use 2
	25.85	R-2	Mixed Use 2
D	14.57	MXD	Mixed Use 1
(4A,4B)			
E	----	----	---
F	3.8	NO ZONING	Imperial Commercial
(12,13)	3.11	C-2	Imperial Commercial
	2.05	C-2/C-3	Imperial Commercial
	0.51	C-3	Imperial Commercial
	1.04	C-3/R-3	Imperial Commercial
	1.59	R-3	Imperial Commercial
G	8.18	R-1	Open Space
(5,6,7,8,9,10,11)	54	R-1	Willowbrook Residential 1
	14.73	R-2	Willowbrook Residential 2
	21.13	R-3	Willowbrook Residential 3
	1.44	R-3	Willowbrook Residential 1
	0.37	R-3	Willowbrook Residential 2
	1.07	M-1	
Rail ROW	5.56	R-3	Rail ROW
Total	**221.12**		

NOTES:
R-1 - Single Family Residence
R-2 - Two-Family Residence
R-3 - Limited Multiple Residence
C-2 - Neighborhood Business
C-3 - Unlimited Commercial
MXD - Mixed Use Development
M-1 - Light Manufacturing

SOURCE: Arroyo Group, 2016.



SOURCE: Willowbrook TOD Specific Plan

Figure 2-6
Proposed Specific Plan Group Locations

Buildout of the Proposed Specific Plan

There are a number of underutilized properties within the Specific Plan area. Additionally, MLK and CDU have planned expansions of their facilities. The proposed Specific Plan provides for implementation of transit-oriented opportunities for infill and redevelopment to serve as catalyst to revitalize the area. **Table 2-3** provides a summary of existing development, proposed demolition, proposed new development and proposed development buildout by residential and non-residential uses. The non-residential uses are separated into Institutional, Public and Commercial/Office uses. Table 2-3 references Group Locations which are provided in Figure 2-6. As shown in Table 2-3, the proposed new development includes 2,104 residential uses, 378,288 square feet of institutional uses, 1,485,693 square feet of public uses, and 1,180,818 square feet of commercial/office uses. Of the 968 existing residential units, 152 residential units are proposed to be demolished. With a total of 2,104 residential units proposed to be constructed, the buildout of the Specific Plan area would include 2,920 residential units. Table 2-3 also identifies that there are 1,910,523 square feet of existing non-residential uses of which 378,764 square feet of non-residential uses is proposed to be demolished. With a total of 3,044,799 square feet of non-residential uses proposed to be constructed, the buildout of the proposed Specific Plan area would include 4,576,558 square feet of non-residential uses.

TABLE 2-3
EXISTING DEVELOPMENT, PROPOSED DEMOLITION, PROPOSED NEW DEVELOPMENT AND PROPOSED DEVELOPMENT BUILDOUT

Group Location	Existing Development				Proposed Demolition				Proposed New Development				Proposed Development Buildout			
	Residential[a] (units)	Institutional[b] (sf)	Public[c] (sf)	Commercial/ Office[d] (sf)	Residential[a] (units)	Institutional[b] (sf)	Public[c] (sf)	Commercial/ Office[d] (sf)	Residential[a] (units)	Institutional[b] (sf)	Public[c] (sf)	Commercial/ Office[d] (sf)	Residential[a] (units)	Institutional[b] (sf)	Public[c] (sf)	Commercial/ Office[d] (sf)
1	0	0	890,891	0	0	0	0	0	100	0	1,248,522	0	100	0	2,139,413	0
2A	0	0	33,000	0	0	0	0	0	105	0	381	0	105	0	33,381	0
2B	0	0	5,960	0	0	0	0	0	117	0	31,003	0	117	0	36,963	0
2C	49	180,603	297,239	0	49	62,747	24,570	0	119	382,465	0	0	119	500,321	272,669	0
3A	0	0	0	0	0	0	0	0	105	0	0	8,939	105	0	0	8,939
3B	19	0	0	0	19	0	0	0	83	0	0	56,865	83	0	0	56,865
3C	30	0	16,816	0	30	0	16,816	0	255	0	0	173,065	255	0	0	173,065
3D	0	150,000	0	0	0	0	0	0	0	201,610	0	0	0	351,610	0	0
3E	0	0	86,684	0	0	0	86,684	0	553	0	86,684	288,749	553	0	86,684	288,749
3F	4	0	0	0	4	0	0	0	145	0	0	98,494	145	0	0	98,494
3G	24	0	0	3,359	24	0	0	3,359	134	0	0	91,373	134	0	0	91,373
4A	0	0	0	49,447	0	0	0	44,749	48	0	0	36,063	48	0	0	40,761
4B	0	0	0	139,839	0	0	0	139,839	264	0	0	179,355	264	0	0	179,355
5	83	0	0	1,900	26	0	0	0	36	0	0	26,428	93	0	0	28,328
6	272	0	0	0	0	0	0	0	6	0	0	0	278	0	0	0
7	70	0	16,728	0	0	0	0	0	0	0	0	0	70	0	16,728	0
8	99	0	0	0	0	0	0	0	3	0	0	0	102	0	0	0
9	116	0	0	0	0	0	0	0	4	0	0	0	120	0	0	0
10	129	0	0	2,112	0	0	0	0	3	0	0	0	132	0	0	2,112
11	67	0	0	0	0	0	0	0	24	0	0	0	91	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	55,281		0	0	55,281
13	6	0	35,945	0	0	0	0	0	0	0	0	79,522	6	0	35,945	79,522
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	968	**330,603**	**1,383,263**	**196,657**	**152**	**62,747**	**128,070**	**187,947**	**2,104**	**584,075**	**1,366,590**	**1,094,134**	**2,920**	**851,931**	**2,621,783**	**1,102,844**
Total	**1,910,523**				**378,764**				**3,044,799**				**4,576,558**			

NOTES:
Units - Dwelling Units
sf - Square Feet

[a] Includes all single family and multiple family residences
[b] Includes CDU uses
[c] Includes hospital, school, well/reservoir, open space
[d] Includes retail, commercial, office, church

SOURCE: Arroyo Group 2016

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A comparison of the existing development with buildout development is provided in **Table 2-4** below. As shown in Table 2-4, the net new development proposed within the Specific Plan area is 1,952 residential units and 2,666,035 square feet of non-residential units.

TABLE 2-4
PROPOSED NET NEW DEVELOPMENT GENERATED FROM BUILDOUT OF THE PROPOSED WILLOWBROOK TOD SPECIFIC PLAN

	Residential			Non-Residential Uses			
	Single-Family (Units)	Multiple-Family (Units)	Total (Units)	Institutional (sf)	Public (sf)	Commercial/ Office (sf)	Total (sf)
Buildout of Proposed Specific Plan	587	2,333	2,920	655,523	2,731,507	1,189,528	4,576,558
Existing Development	364	604	968	339,982	1,373,884	196,657	1,910,523
Net New Development	**223**	**1729**	**1952**	**315,541**	**1,357,623**	**992,871**	**2,666,035**

SOURCE: The Arroyo Group, 2016.

Proposed Circulation System Improvements

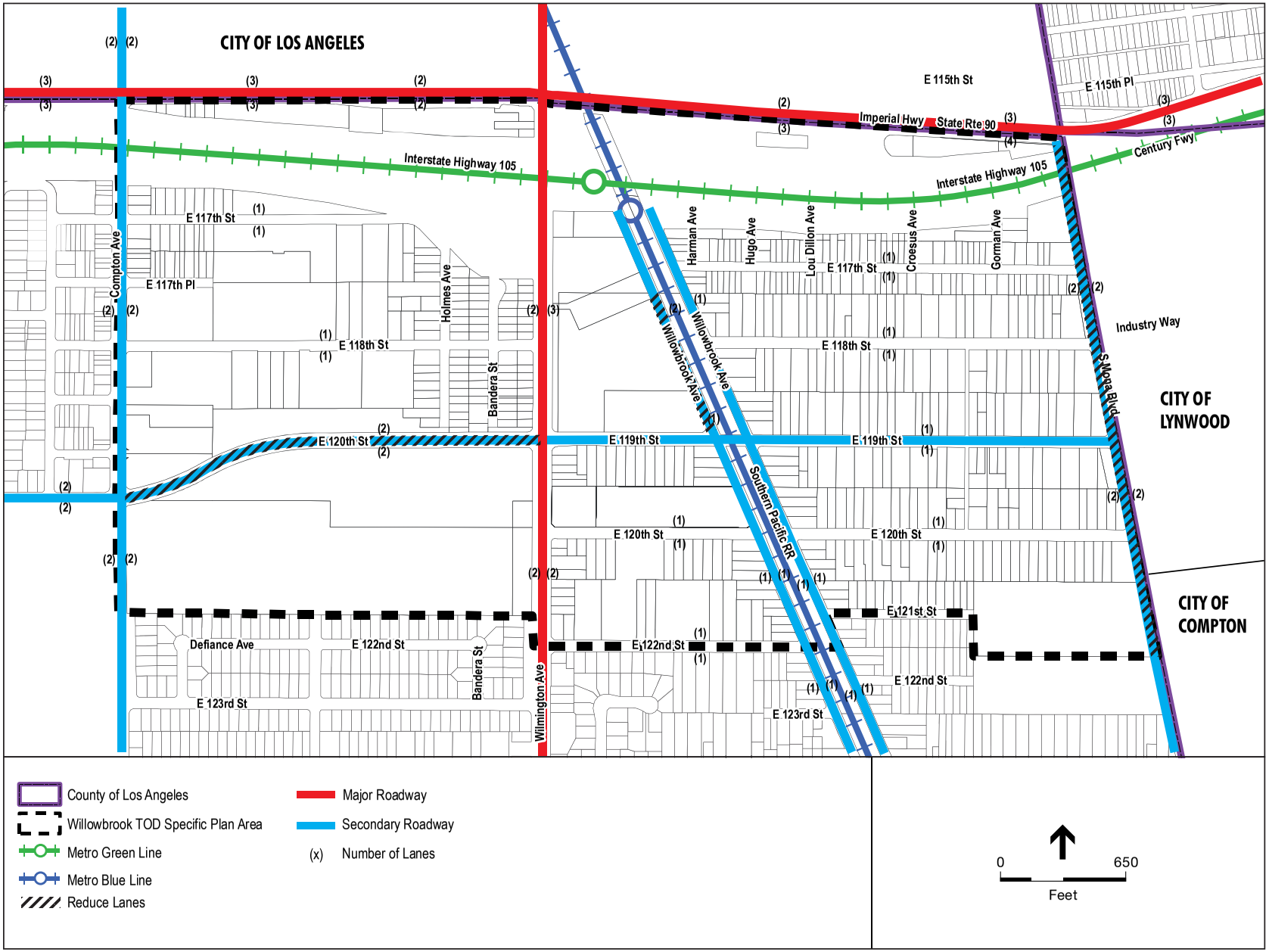
As described above, the Los Angeles County General Plan was updated in 2015 with a major focus on transit oriented development and encouragement of non-vehicular transportation. The proposed Specific Plan was developed to implement the County's General Plan and General Plan Implementation Program LU-2 Transit Oriented District Program, which states that implementation of the TOD Program should support active transportation and discourage automobile use.

The proposed Specific Plan would provide bicycle and pedestrian facilities within the Specific Plan area, as well as implement minor changes/improvements to the existing street system to enhance access to transit, multi-modal mobility, and walkability between the area's major land uses.

Roadways

The proposed Specific Plan includes a circulation system for all modes of transportation. Although the existing street systems have been previously oriented to serving the automobile, the proposed roadway system is proposed to provide a network of complete streets that are for the safe and efficient circulation of transit, bicycles, and pedestrians as well as automobiles.

The proposed Specific Plan includes retaining the majority of the roadway network's current configuration. There are some changes/improvements that are proposed to improve access, circulation and walkability. The street enhancements shown in **Figure 2-7**, Existing Street Network and Proposed Roadway Improvements, are intended to improve circulation for bicycles and pedestrians in the Specific Plan area.



SOURCE: Willowbrook TOD Specific Plan

Figure 2-7
Existing Street Network and
Proposed Roadway Improvements

120th Street: The portion of 120th Street between Compton Avenue and Wilmington Avenue is proposed to be reduced from four lanes to three lanes, with a bicycle lane in each direction. This improvement is part of the Willowbrook Area Access Improvement project.

The portion of 120th Street west of Wilmington Avenue to Compton Avenue (fronting MLK Medical Center) is proposed to be renamed because its current alignment aligns with 119th Street and cause confusion.

Mona Boulevard: Mona Boulevard from the I-105 Freeway to 122nd Street is proposed to be converted from a four lane street to a three lane street with a continuous two-way left turn lane in the center, and a Class I bicycle path is proposed to be installed on the west side of the street.

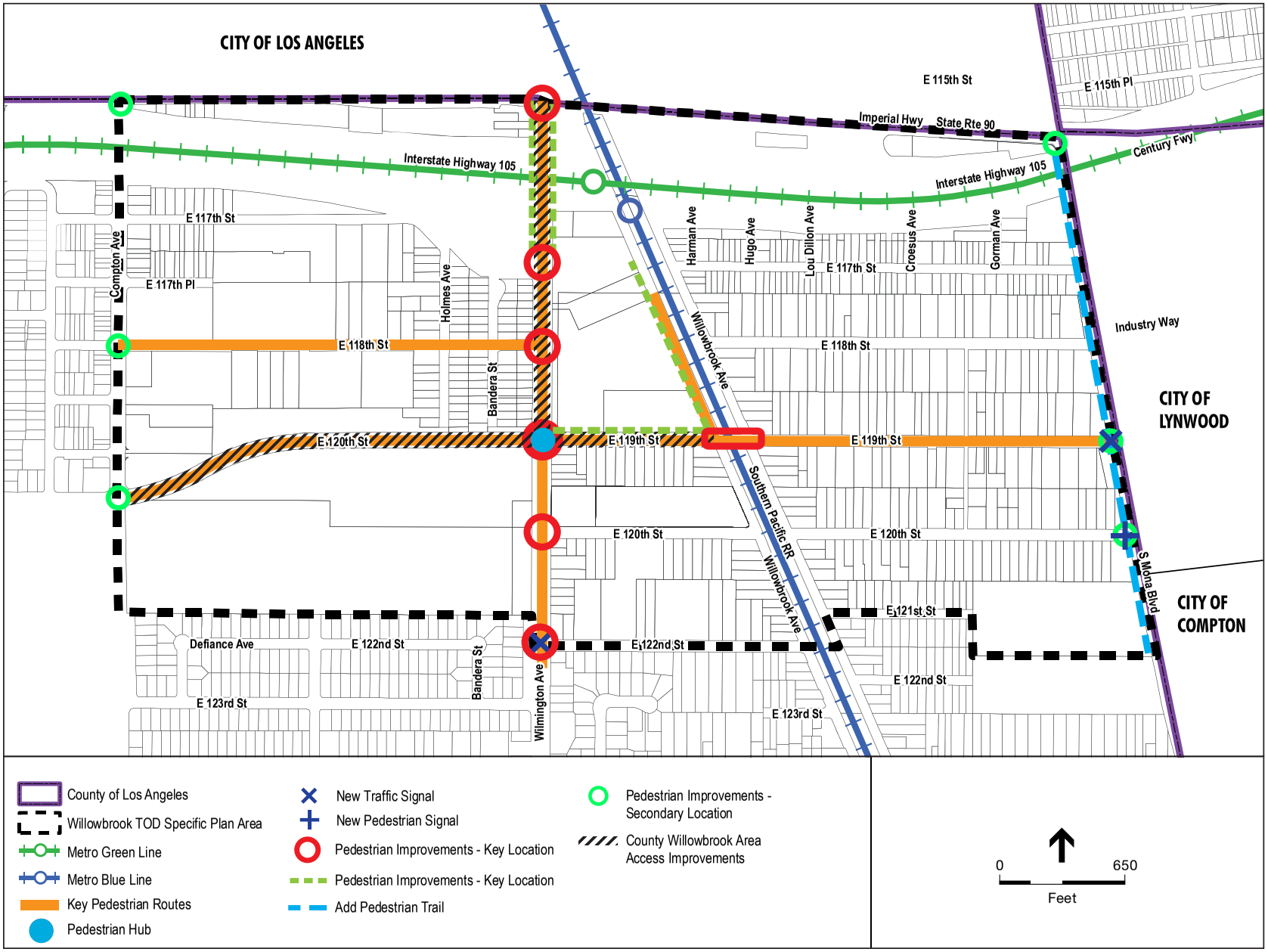
Willowbrook Avenue: The portion of Willowbrook Avenue West between the Willowbrook/ Rosa Parks Station and 119th Street is proposed to be reduced from two lanes southbound to one lane southbound, and a Class I bicycle path is proposed to be installed on the west side of the street.

Pedestrian Circulation

The proposed Specific Plan includes improvements to the existing pedestrian circulation as shown in **Figure 2-8**, Proposed Pedestrian Improvements. The key routes within the Specific Plan are located along Wilmington Avenue and 120th/119th Street. Additional key elements of the pedestrian system are 118th Street between Compton Avenue and Wilmington Avenue, Willowbrook Avenue West between 119th Street and Willowbrook/Rosa Parks Station, and Mona Street.

Sidewalks. Sidewalks exist on most streets within the Specific Plan area; however, some are narrow or substandard in quality. The Specific Plan includes improvements to sidewalks as new development occurs. Specific sidewalk improvements that are part of the Specific Plan include: (1) add a sidewalk to the currently unpaved west side of Willowbrook Avenue West between the Willowbrook/Rosa Parks Station and 119th Street, (2) widen sidewalks and improve existing street lighting on Wilmington Avenue between I-105 Freeway off-ramps and Imperial Highway, and (3) provide pedestrian improvements on the north side of 119th Street between Wilmington Avenue and Willowbrook Avenue.

Pedestrian Trail. The proposed Specific Plan includes the addition of a pedestrian trail along the west side of Mona Boulevard between Imperial Highway and 122nd Street.



SOURCE: Willowbrook TOD Specific Plan

Figure 2-8
Proposed Pedestrian Improvements

Pedestrian Oriented Intersections. The proposed Specific Plan includes the implementation of a number of pedestrian oriented intersection improvements that are shown in Figure 2-8. These include adding the following: high visibility markings at intersections; passive pedestrian detection and pedestrian push buttons for crosswalks at traffic signals at intersections; countdown pedestrian signals and audio signals to crosswalks at intersections; advance stop lines to intersection approaches; sidewalk bulb-outs and extensions, or reducing curb returns on intersection corners; and median nose/crossing islands. These improvements would facilitate pedestrian circulation by reducing the width of roadway for pedestrians to cross, providing additional sidewalk space, and making pedestrian crossings more visible to both pedestrians and motorists. The locations for proposed improvements include the following intersections:

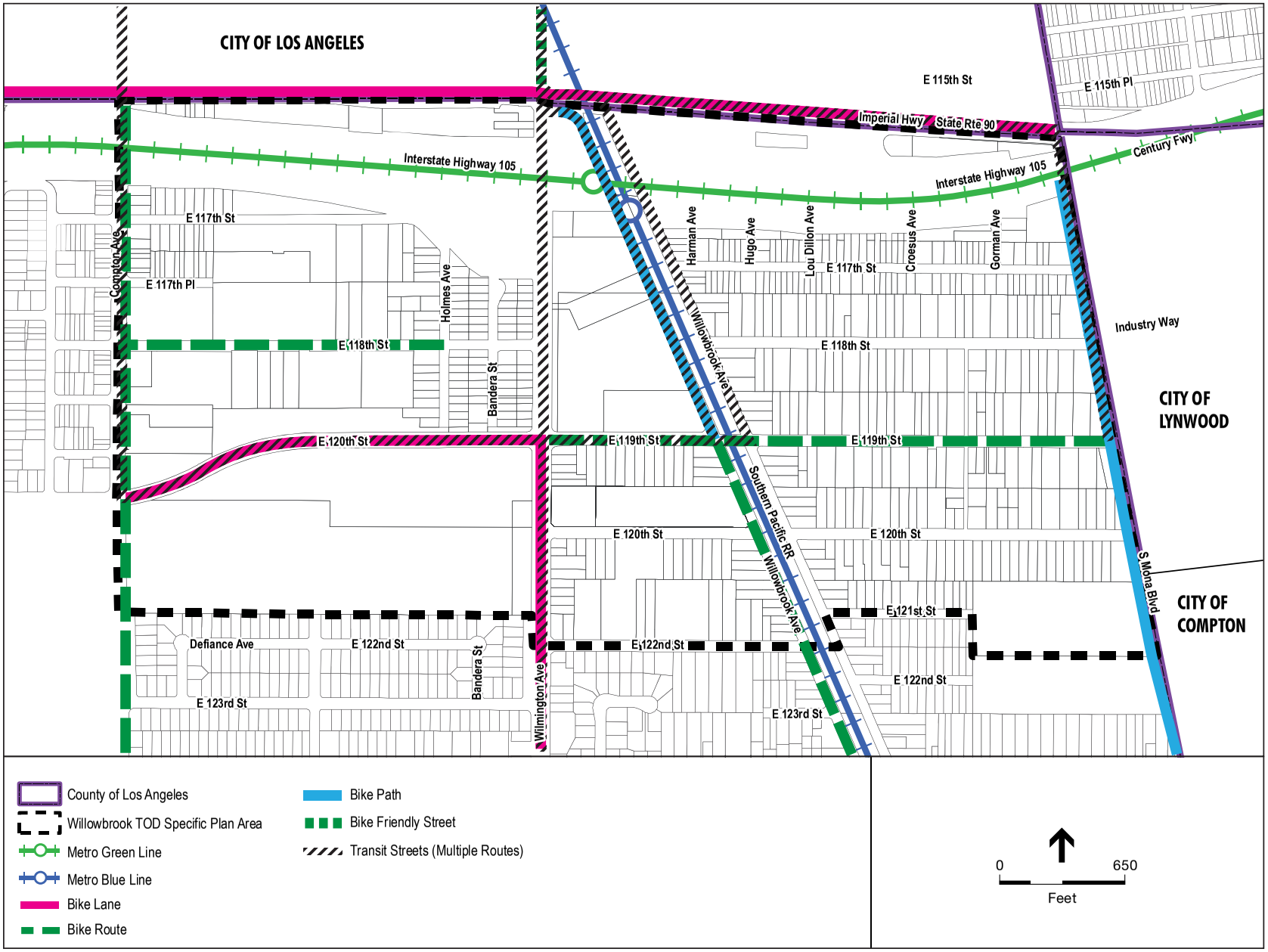
- Wilmington Avenue and Imperial Highway
- Wilmington Avenue and I-105 East Ramps
- Wilmington Avenue and 118th Street
- Wilmington Avenue and 120th/119th Streets
- Wilmington Avenue and 120th Street
- Wilmington Avenue and 122nd Street
- Willowbrook Avenue West and 119th Street
- Willowbrook Avenue East and 119th Street
- Mona Avenue and Imperial Highway
- Mona Avenue and 119th Street
- Mona Avenue and 120th Street
- Compton Avenue and Imperial Highway
- Compton Avenue and 118th Street
- Compton Avenue and 120th Street

Bicycle Circulation

The proposed Specific Plan includes a comprehensive bicycle network, which is shown in **Figure 2-9**, Proposed Bicycle and Transit Network, includes a combination of Class I, Class II, Class III and Class IV facilities to connect the various land uses and neighborhoods to the Willowbrook/Rosa Parks Station safely and efficiently.

Class I bicycle paths, which consists of an exclusive bicycle facility separated from roadways and traffic, are proposed to be provided on Willowbrook Avenue West between 119th Street and Imperial Highway to provide access to the Willowbrook/Rosa Parks Station, and on Mona Avenue (west side) between Imperial Highway and 119th Street. These could also be Class IV Cycle Track facilities.

Class II bicycle lanes, which consist of a designated striped lane that provides for one-way travel and is generally delineated with special striping and signage, would be implemented on 120th Street between Compton Avenue and Wilmington Avenue, on Wilmington Avenue between 124th Street and 120th Street, and on Imperial Highway between Compton Avenue and Mona Avenue.



SOURCE: Willowbrook TOD Specific Plan

Willowbrook TOD Specific Plan . 130631

Figure 2-9

Proposed Bicycle and Transit Network

Class III bicycle routes are roadways that are shared by bicycles and automobiles. Signs are posted which indicate the road also serves as a bike route, but no special lane for bicycles is striped. There may however be painted bicycle symbols on the roadways surface (known as sharrows) to indicate to motorists that bicycles also use the street. The proposed Specific Plan would implement Class III bicycle routes on Compton Avenue, Willowbrook Avenue West south of 119th Street, 119th Street between Wilmington Avenue and Mona Avenue, and on 118th between Compton Avenue and Holmes Avenue within the Specific Plan area.

The proposed Specific Plan would provide opportunity for Metro and individual land uses to develop bicycle parking and a bicycle stations at the Kenneth Hahn Plaza, MLK Medical Center, CDU Campus, and in the Northwest Subarea. Bicycle stations include repair facilities and small bicycle shops, bicycle share program facilities and, secure bicycle parking.

Transit Circulation

The key transit streets within the Specific Plan area include Compton Avenue, Wilmington Avenue, Mona Boulevard, Imperial Highway and east/west Willowbrook Avenue as depicted on Figure 2-9. Shuttle routes are currently provided within the Specific Plan area. The proposed Specific Plan includes a potential for additional shuttle routes to serve new development in the Northwest Quadrant and connect the land uses to the Willowbrook/Rosa Parks Station.

Status of Mitigation Measures from the MLK Medical Center Campus EIR

As described above, in 2011, the County of Los Angeles certified the MLK EIR that evaluated redevelopment of the MLK Medical Center through implementation of a campus-wide Master Plan that includes two Tiers. Development within Tier I was completed in 2015/16 and is a part of the existing setting. Analysis of the impacts that would result from development of Tier II improvements at the MLK Medical Center, which includes development of medical and other offices, commercial, retail, recreation, and multi-family residential, along with updated mitigation measures for these impacts is included in this document (County of Los Angeles, 2010). Thus, the environmental analyses and mitigation measures contained in this Willowbrook TOD Specific Plan EIR will replace those of the earlier MLK EIR.

Since certification of the MLK EIR, the Los Angeles County General Plan has been adopted, which includes policies to encourage use of transit, pedestrian, and bicycle circulation to accommodate growth in a sustainable manner by reduction of VMTs. Additionally, General Plan Implementation Program LU-2 Transit Oriented District Program states that the TOD Program should support active transportation and discourage automobile use. Thus, following the directives of the County General Plan, several traffic-related mitigation measures included in the MLK EIR that call for additional roadway capacity and would facilitate vehicular use at the expense of pedestrian and bicycle use, are inconsistent with the recently adopted General Plan, and are not carried forward in this EIR. Instead, the transit, pedestrian, and bicycle oriented facilities described above would be developed to provide for balanced multi-modal circulation consistent with the County's current General Plan. The roadway expansion mitigation measures contained in the previous MLK EIR that would not be implemented include:

MLK EIR Measure Traffic-2: In order to address the Tier II project impacts, the County of Los Angeles shall complete the following improvements:

- **Compton Avenue / Imperial Highway, County of Los Angeles / City of Los Angeles**: Restripe westbound approach to provide a separate right-turn lane.
- **I-105 / Imperial Highway:** Provide a third northbound, left-turn lane by widening off-ramp by 10 feet for approximately 150 to 200 feet.
- **Central Avenue / 120th Street:** Re-stripe northbound approach to provide a separate right-turn lane. Also, widen the east leg by 3 feet on each curbside (i.e., reduce sidewalk along 120th Street east of Central Avenue by 3 feet for approximately 120 feet and re-stripe westbound 120th Street approach to provide a left-turn, two through lanes and a separate right-turn lane.
- **Wilmington Avenue / I-105 Eastbound Ramps, County of Los Angeles / California Department of Transportation:** Provide an additional eastbound lane by widening (reducing the raised median on the ramp) the off-ramp. The eastbound approach shall have a left-turn lane, shared left-right turn lane, and a separate right-turn lane. The sidewalks on both sides of Wilmington Avenue (as noted above) shall be reduced by 2 feet and the Wilmington Avenue roadway shall be widened by 2 feet on both sides (a total of 4 feet) from the south leg of this intersection. Provide an additional northbound left-turn lane by widening (reducing the medians).
- **Wilmington Avenue / 118th Street, County of Los Angeles:** Widen Wilmington Avenue roadway by 2 feet on both sides and re-stripe to provide two through lanes, a shared through right-turn lane and dual left-turn lanes along the southbound approach. Restripe the westbound approach to provide a separate right-turn lane and a shared left through lane. Northbound approach shall have the same lane geometry as existing conditions. Under cumulative conditions, widen 118th Street roadway by 4 feet and re- stripe to provide a separate right-turn lane and shared left-through lane along the eastbound approach.
- **Wilmington Avenue / 120th Street–119th Street, County of Los Angeles:** Widen Wilmington Avenue roadway by 2 feet on both sides and restripe the southbound approach to provide a separate right-turn lane, three through lanes, and a left-turn lane.

  Re-stripe northbound approach to provide a shared through-right turn lane, two through lanes, and a left-turn lane. Remove median adjacent to northbound approach to facilitate three southbound receiving lanes. Restrict parking along Wilmington Avenue roadway during morning and evening peak periods along the eastside of Wilmington between 120th Street and Martin Luther King, Jr. Hospital Driveway entrance.

  Widen 120th Street west of Wilmington Avenue for 250 feet, on the south side by 2 feet, and re-stripe the eastbound approach to provide a separate right-turn lane, dual left-turn lanes, and a through lane. The westbound approach of 119th Street would have the same lane geometry as existing conditions.

- **Wilmington Avenue / Martin Luther King, Jr. Hospital Entrance–120th Street, County of Los Angeles:** Re-stripe southbound approach to provide a separate right-turn lane, two through lanes, and a left-turn lane. Provide three northbound receiving lanes and restrict on-street curb parking along the eastside of Wilmington Avenue between Martin Luther King, Jr. Hospital Driveway and 120th Street and 120th Street and 119th Street during morning and evening peak hours. Remove the median within the hospital entrance and re-stripe the driveway to provide dual left-turn lanes, a through lane, and a separate right-turn lane along the eastbound approach. Re-stripe to provide one receiving lane.

The appropriate conceptual signing and striping plans shall be submitted to the County of Los Angeles Department of Public Works, Traffic and Lighting Division for review and approval during the planning phase.

MLK EIR Measure Traffic-3: In order to address the Tier II cumulative projects impacts, using County of Los Angeles traffic study guidelines, the following mitigation measures shall be implemented to alleviate the cumulative significant impacts:

- **Avalon Boulevard / El Segundo Boulevard, County of Los Angeles:** Widen northbound approach by 2 feet and re-stripe the approach to provide a left turn lane, two through lanes, and a separate right-turn lane (10 feet, 10 feet, 10 feet, 12 feet). The approach could be widened by narrowing the 5-foot-wide median to a 3-foot-wide median, or by reducing the 12-foot-wide sidewalk to a 10-foot-wide sidewalk. This widening would need to occur all the way to an alley located approximately 100 feet south of the intersection. The bus stop at this approach would continue to be located at the same location; however, buses would be allowed to go straight through the intersection.
- **Alameda Street / El Segundo Boulevard, County of Los Angeles / Compton:** Re-stripe northbound/southbound approaches and provide a southbound right-turn lane. The lanes along the north leg shall be re-striped to provide 13-foot and 11-foot receiving lanes; 10-foot, 11-foot, 10-foot, and 12-foot approach lanes for southbound left-turn lane, southbound through lanes, and southbound right-turn lanes, respectively. The lanes along the south leg would have a 13-foot shared right through-way, 11-foot through lane, 10-foot left-turn lane, 12-foot receiving lane, and a 20-foot receiving lane. Remove two on-street parking spaces along the southbound approach during peak hours.
- **Alameda Street / 103rd Street, County of Los Angeles / Lynwood:** Re-stripe eastbound approach to provide a 10-foot, left-turn lane and a 12-foot, left-right shared lane. The receiving lane would be re-striped for 18.5 feet.
- **Central Avenue / Rosecrans Avenue, County of Los Angeles / Compton:** Re-stripe westbound approach to provide a separate right-turn lane. Allow buses to go through the intersection from the right-turn lane.
- **Central Avenue / El Segundo Boulevard, County of Los Angeles / Compton:** Re-stripe southbound approach to provide a separate right-turn lane. Widen

northbound approach by reducing median by 1 foot to 2 foot. Provide re-striping to show a separate northbound right-turn lane. Allow buses to go through the intersection from the right turn lane.

- **Alameda Street / Imperial Highway, County of Los Angeles / City of Lynwood:** Re-stripe southbound approach to provide the following roadway geometry: two left-turn lanes, two through lanes, and one right-turn lane.

The appropriate conceptual signing and striping plans shall be submitted to the County of Los Angeles Department of Public Works, Traffic and Lighting Division for review and approval during the planning phase.

MLK EIR Measure Traffic-4: Along the southbound approach of Alameda Street, the County of Los Angeles shall provide two left-turn lanes, two through lanes and one right-turn lane instead of one left-turn lane, two through lanes and a separate right-turn lane (i.e., add a second left turn lane). In addition, the County of Los Angeles shall provide the required signal hardware and supporting software to facilitate a right-turn arrow signal indication for southbound right-turn overlap with eastbound-westbound left-turns at the intersection.

Proposed Streetscape Improvements

The Specific Plan includes streetscape improvements that provide for street trees, street lights, street furniture, wayfinding, and landscaped open space. Public art and water features would be installed in areas to interpret and draw attention to the history or culture of the area.

Street Furniture. The proposed Specific Plan would provide a consistent palette of street furniture, trash receptacles, and bicycle racks along pedestrian circulation routes and in setback areas, paseos, plazas, and courtyards to provide amenities and help to unify the character of the Specific Plan area.

Wayfinding. The Specific Plan would provide a cohesive wayfinding signage system throughout the Specific Plan area to guide people to locations that include: the Willowbrook/Rosa Parks Station, MLK Medical Center, CDU, Kenneth Hahn Plaza, and public parking facilities. The wayfinding signs would have a consistent design with a coordinated color palette that creates a unique theme that is easily recognizable.

Street Lighting. The Specific Plan would provide for street lighting in the Specific Plan area. The selected light fixtures would adhere to guidelines set forth by the Dark Sky Association and the County of Los Angeles to protect the area's view of stars.

Proposed Water System Improvements

The Specific Plan proposes improvements to the existing water system to accommodate build out of the proposed Specific Plan. Most of the existing water pipelines in the Specific Plan area are eight-inches in diameter and above, and have the capacity to accommodate the increase in water demand/load at build out of the proposed Specific Plan (JMC^2, 2015). However, several lines that

are smaller than eight-inches would need to be improved to accommodate build out of the proposed Specific Plan. Proposed water system improvements include:

- Replace existing four-inch water line on 118th Street with an eight-inch line.
- Replace existing six-inch water line in the alley between Holmes Avenue and Bandera Street with an eight-inch line.
- Upgrade existing four-inch water line on 117th Street from Compton Avenue to Holmes Avenue and the existing four-inch water line in 117th Place with eight-inch lines.
- Upgrade existing six and four-inch water lines in 119th Street to eight-inch lines from Willowbrook Avenue to Mona Boulevard.
- Replace existing six and four-inch water lines in 118th Street with eight-inch lines from Willowbrook Avenue to Mona Boulevard.

Proposed Sustainable Design Guidelines

The proposed Specific Plan includes the Sustainable Design Guidelines identified below.

Site Design and Passive Solar Design

- Buildings should be sited and designed to maximize the use of sunlight and shade for energy savings, and respect the solar access of adjacent buildings.
- Buildings should be clustered for shade, and incorporate protective courtyards, recessed windows and doors, and insulated walls.
- To reduce energy use, the east and west walls of buildings should be shaded with evergreen trees to reduce summer heat gain. South walls should be shaded with deciduous trees.
- Walkways and plazas should be designed to collect stormwater, where feasible.

Water Efficiency

- To reduce water use and maintenance costs, the majority of plant materials should be drought tolerant and require relatively low maintenance.

Building Design

- The provision of a green roof should strongly be considered to reduce solar gain and to reduce the quantity of water entering the storm drain system.
- Solar panels on roofs should be considered to capture solar energy for internal use of the project.
- Arcades, covered walkways, trellises and passages should be incorporated to provide sheltered areas for pedestrian circulation, as well as to shade the buildings to reduce energy usage.

Environmental Performance Standards for Mixed-Use Zones

To ensure that residential uses are not adversely impacted by adjacent commercial uses, including but not limited to traffic, noise, light, and safety impacts, the proposed Specific Plan includes the following environmental performance standards for new development within the Specific Plan area, which are intended to reduce potential impacts of increased development.

1. **Hours of operation.** The hours of operation for commercial uses shall be no earlier than 6:00 am and no later than 11:00 pm daily, unless modified by a conditional use permit.
2. **Loading.** Loading, unloading and all maintenance activities shall be conducted within the hours of operation noted above, and in such a fashion so as to prevent annoyance to adjacent residents and tenants.
3. **Noise.** Noise generated by activities on the premises shall be controlled in such a manner so as not to create a nuisance or hazard on any adjacent property, in accordance with the Noise Ordinance in Title 12 (Environmental Protection) of the County Code. Residential units shall be constructed and designed to reduce the noise, particularly when located proximate to the rail lines. Proper design may include, but shall not be limited to, building orientation, double windows, wall and ceiling insulation and orientation of vents. Common walls between residential and non-residential uses shall be constructed to minimize the transmission of noise and vibration.
4. **Light and Glare.** All outdoor lighting associated with non-residential uses adjacent to or within the immediate vicinity of residential uses shall be designated with fixtures and poles that illuminate commercial uses, while minimizing light trespass into residential areas. An unacceptable level of light trespass shall be 0.8 foot-candles or greater when the light trespass falls onto an adjoining residentially-zoned lot, or open space zoned lot.
5. **Operating Activities Prohibited.** The following operating activities shall be prohibited in commercial uses located within mixed use developments:
   - Storage or shipping of flammable liquids or hazardous materials beyond that normally associated with a residential use; and
   - Welding, machining, or open flame work.
6. **Graffiti.** To encourage the maintenance of exterior walls free from graffiti that would impact pedestrian views, all structures, walls, and fences open to public view shall remain free of graffiti. In the event of such graffiti occurring, the property owner, tenant, or their agent shall remove or cover said graffiti within 72 hours, weather permitting. Paint utilized in covering such graffiti shall be a color that matches, as closely as possible, the color of the adjacent surfaces.
7. **Security.** The residential units shall be designed to ensure the security of residents through the provision of separate and secured entrances and exits that are directly accessible to secured parking areas. Where residential units are in the same structure as a commercial use, access to residential units shall be from a secured area located on the first floor at the ground level. Non-residential and residential uses located on the same floor shall not have common entrance hallways or common balconies.

2.4 Project Objectives

The project objectives are to:

- Provide a transit-oriented development near the Willowbrook/Rosa Parks Station.
- Improve bicycle and pedestrian mobility and safety as well as access to the Willowbrook/Rosa Parks Station.
- Preserve and enhance Willowbrook's economic base and character.
- Provide additional housing for Willowbrook's varied income groups.
- Revitalize the health care services at Martin Luther King, Jr. (MLK) Medical Center.
- Revitalize the services at Charles R. Drew University of Medicine and Science (CDU).
- Preserve the character of the existing residential neighborhoods.
- Create an attractive environment for pedestrians, bicyclists, Metro riders, and local transit users through streetscape improvements.

2.5 Specific Plan Goals and Policies

The Specific Plan includes Goals and Policies that serve as guidelines for decision making, which include the following:

Goal 1: Preserve and enhance the character of the Willowbrook community.

Policy 1.1: Where appropriate, preserve the character of the residential neighborhoods.

Policy 1.2: Provide a mix of land uses in the Mixed Use Zones to accommodate employment, retail, and residential uses, as well as local-serving amenities.

Policy 1.3: Preserve existing neighborhood-serving retail at Kenneth Hahn Plaza.

Policy 1.4: Improve compliance with County zoning and building codes on private property by expanding code enforcement by various County Departments.

Policy 1.5: Facilitate the expansion of the MLK Medical Center and Charles R. Drew University of Medicine and Science (CDU) campus that is compatible and sensitive to the surrounding neighborhoods.

Policy 1.6: Coordinate with CDU to integrate the planned growth of the University's campus with the surrounding community, including creating pedestrian linkages and open space connections with other area institutions and the Willowbrook/Rosa Parks Station.

Policy 1.7: Implement the concepts and ideas contained in the MLK Medical Center Campus Master Plan & the Willowbrook MLK Wellness Community Vision by encouraging well-designed and continuous pedestrian paths and

connections between the Willowbrook/Rosa Parks Station and the employment, campus, retailing, and residential areas.

Goal 2: Improve the Willowbrook/Rosa Parks Station and its environs.

Policy 2.1: Coordinate with Metro to enhance pedestrian and bicycle connections from the Willowbrook/Rosa Parks Station to the surrounding community.

Policy 2.2: Coordinate with Metro to enhance safety and circulation between the various transit modes at the Willowbrook/Rosa Parks Station to encourage transit use.

Policy 2.3: Work with Metro and Kenneth Hahn Plaza to create better connections and access to the surrounding employment, campus, retail, and residential areas.

Goal 3: Encourage transit oriented development.

Policy 3.1: Provide a variety of housing choices within walking distance of the Willowbrook/Rosa Parks Station.

Policy 3.2: Implement mixed use zoning in targeted areas to promote employment-generating uses proximate to housing and the Willowbrook/Rosa Parks Station.

Policy 3.3: Incentivize lot consolidation where appropriate to facilitate the development of cohesive projects in Mixed Use Zones.

Goal 4: Provide affordable housing opportunities.

Policy 4.1: Preserve existing stock of affordable housing.

Policy 4.2: Promote housing affordability through diversification of housing choices (ownership, rental, single-family, multi-family) for varied income groups.

Goal 5: Promote active transportation and reduce vehicle miles traveled.

Policy 5.1: Provide a multi -modal transportation system of complete streets.

Policy 5.2: Enhance access to transit and the Willowbrook/Rosa Parks Station.

Policy 5.3: Provide a connected pedestrian and bicycle network that links together Willowbrook/Rosa Parks Station, Kenneth Hahn Plaza, new mixed use areas, CDU campus, MLK Medical Center campus and residential neighborhoods,

Policy 5.4: Facilitate mixed use development that maximizes pedestrian connectivity and minimizes the need for vehicle travel.

Goal 6: Improve quality of life for existing residents with improvements to the public realm.

Policy 6.1: Enhance the public realm with street trees, street furniture, bicycle lanes, sidewalks and pedestrian paths.

Policy 6.2: Provide a consistent canopy of shade trees throughout the Specific Plan area to enhance pedestrian comfort.

Policy 6.3: Provide pedestrian-scaled lighting to improve safety and enhance pedestrian environment.

Policy 6.4: Encourage outdoor dining and seating areas and other pedestrian-friendly uses in mixed-use areas.

Policy 6.5: Explore joint use agreements with schools to better utilize existing and future open space resources.

Policy 6.6: Encourage new development to provide public open space as a community benefit. Consider providing incentives to developers for such provisions.

Policy 6.7: Consider building pocket parks and community gardens on County-owned vacant lots.

Goal 7: Improve economic vitality and employment opportunities.

Policy 7.1: Create economic opportunities for the Willowbrook community by fostering a complementary variety of employment, retail, residential, and institutional uses.

Policy 7.2: Build on the Willowbrook community's economic base as a "healthcare cluster" by working with appropriate partners to provide workforce development opportunities for local residents.

Policy 7.3: Facilitate public-private partnerships to share responsibility for implementing this Specific Plan and achieving its goals.

Policy 7.4: Encourage a mix of national brand and local merchant businesses.

Policy 7.5: Efficiently manage the supply and demand of parking to accommodate customer, commuter, and resident parking, and encourage the use of shared parking where possible.

2.6 Reviews and Approvals

To be approved and implemented, the Specific Plan project requires approval of the following actions by the County of Los Angeles:

- Adoption of the proposed Willowbrook TOD Specific Plan;
- Change of Zone for the Specific Plan area to "Specific Plan;"
- Amendments to the County of Los Angeles General Plan to change land use of parcels for General Plan Policy consistency;
- Amendment to the Zoning Code to incorporate the zoning provisions of the proposed Specific Plan (Chapter 3, Specific Plan Zones) into Title 22 of the County's Code (Zoning Ordinance) and Zoning Map.

This EIR may be used by various governmental decision-makers for discretionary permits and actions that are necessary or may be requested in connection with implementation of future development projects pursuant to the proposed Specific Plan. The state or local agencies that may rely upon the information contained in this EIR when considering approval of permits may include, but are not limited to, the following:

- South Coast Air Quality Management District (point source emissions permits)
- California Regional Water Quality Control Board (National Pollutant Discharge Elimination System [NPDES] permit)
- State Water Resources Control Board (General Construction Activity Stormwater Permit)
- California Department of Toxic Substance Control (provide clearance for school expansions/developments)
- Caltrans (improvements to intersections within Caltrans rights-of-way)
- Metro (approval of development within Metro's jurisdiction).

2.7 References

JMC^2, 2015. *Infrastructure Study for the Willowbrook TOD Specific Plan*. Prepared by John M. Cruikshank Consultants, Inc. May 18, 2015.

Metro, 2015. *Willowbrook/Rosa Parks Station Improvement Project Initial Study/Documented Categorical Exclusion*. May 8, 2015. Available at: http://media.metro.net/projects_studies/crenshaw/blueline_willowbrookrosapark.pdf, accessed on November 28, 2016.

County of Los Angeles. 2010. *Martin Luther King, Jr. Medical Center Campus Redevelopment Draft Environmental Impact Report*. August 31, 2010. Available at: http://ridley-thomas.lacounty.gov/PDFs/Issues/MLK%20Draft%20EIR%20Appendices.pdf, accessed on November 28, 2016.

County of Los Angeles. 2015. *Los Angeles County General Plan*. October. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf; accessed on July 20, 2016.

County of Los Angeles. 2017. *Willowbrook Transit Oriented District Specific Plan*. May.

The Arroyo Group. 2016. *Calculations of Proposed Land Uses*.

CHAPTER 3
Environmental Setting, Impacts and Mitigation Measures

This Final ~~Draft~~ Program EIR (PEIR) has been prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.), the *CEQA Guidelines* (California Code of Regulations, Title 14, Section 15000 et seq.), and the County of Los Angeles Environmental Document Reporting Procedures and Guidelines. This Final ~~Draft~~ PEIR evaluates the potential environmental impacts associated with the construction and operation of future development that is in accordance with the Willowbrook Transit Oriented District Specific Plan (Specific Plan). This Final ~~Draft~~ PEIR is intended to serve as an informational document for the public agency decision-makers and the public regarding the proposed project.

3.0 Scope of the Environmental Impact Analysis

In accordance with Section 15126 of the *CEQA Guidelines*, Chapter 3 provides an analysis of the direct and indirect, project and cumulative, environmental effects of future development that complies with the proposed Specific Plan with respect to existing conditions at the time the Notice of Preparation (NOP) was published (**Appendix A**). The determination of whether an impact is significant has been made based on the physical conditions established at the time the NOP was published (*CEQA Guidelines*, Section 15125(a)). The proposed Specific Plan is evaluated in this PEIR at a programmatic level, in accordance with *CEQA Guidelines*, Section 15168. As previously stated in Chapter 1, the PEIR analysis is not intended to focus on the site-specific construction and operation details of each future development within the Specific Plan area. Rather, this PEIR serves as a first-tier environmental document that focuses on the effects of implementing the overall Specific Plan to provide a comprehensive document that addresses environmental concerns of the overall effects of buildout of the proposed Specific Plan.

The following environmental resources are assessed in this chapter in accordance with Appendix G of the *CEQA Guidelines* and the County of Los Angeles Environmental Checklist Form*:*

- Aesthetics
- Air Quality
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials

- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Population and Housing
- Public Services and Recreation
- Transportation and Traffic
- Utilities

Approach to Environmental Analysis

Sections 3.1 through 3.13 of this PEIR contain discussions of the environmental setting, regulatory framework, and potential impacts related to construction and operation of future development that is in accordance with the proposed Specific Plan. The environmental evaluation includes a project analysis and a cumulative analysis. If potential significant impacts are identified, feasible mitigation measures are recommended. The analysis also includes a level of impact after the implementation of mitigation measures.

The project analysis evaluates the demolition of 152 residential dwelling units and 378,764 non-residential square feet as well as the construction of 1,952 residential dwelling units and 2,666,035 square feet of non-residential. The analysis also includes takes into account the various design features that are included within the proposed Specific Plan. A detailed discussion of the design features is included in Chapter 2, Project Description.

The cumulative analysis was prepared in accordance with Section 15130 of the State CEQA Guidelines that requires an EIR to discuss cumulative impacts of a project when the incremental effects of a project are cumulatively considerable. Cumulative impacts are defined as an impact that is created as a result of the combination of the project evaluated in this PEIR together with other projects causing related impacts. Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. According to Section 15130(b) of the CEQA Guidelines, elements considered necessary to provide an adequate discussion of cumulative impacts of a project include either:

> *(1) list of past, present, and probable future projects producing related or cumulative impacts; or*
>
> *(2) a summary of projection contained in an adopted General Plan or related planning document which is designed to evaluate regional or area-wide conditions.*

The cumulative analysis discussed in this PEIR is provided within each technical section in Section 3. The geographic context for the cumulative analysis is specified for each environmental issue addressed in each section. Unless otherwise identified in the environmental issue addressed in this Chapter, a summary of projections contained in the Southern California Association of

Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities (RTP/SCS) was used to assess potential environmental effects. These projections provide the anticipated planned population, housing and employment growth in the region. **Table 3-1** includes the projections for the cities in the vicinity of the Willowbrook Community, the unincorporated areas of Los Angeles County and the entire Los Angeles County.

TABLE 3-1
CUMULATIVE NET INCREMENTAL 2035 GROWTH PROJECTIONS FOR THE VICINITY OF THE WILLOWBROOK TOD SPECIFIC PLAN AREA

Jurisdiction	Population (Persons)[1]	Housing (Units)[1]	Employment (Jobs)[1]
Los Angeles County	1,106,612	332,282	387,200
Unincorporated Los Angeles County	324,843	89,686	74,791
City of Compton	2,957	739	2,300
City of Lynwood	4,764	1,232	1,396
City of Los Angeles	627,489	299,657	388,289
City of Gardena	7,639	2,957	3,779
City of Carson	13,061	4,518	9,200

[1] Derived from the 2016-2040 SCAG RTP/SCS based on a linear growth projection between 2012 and 2040.

SOURCE: SCAG, 2016, 2016-2040 SCAG RTP/SCS, Available at: http://scagrtpscs.net/Documents/2016/draft/d2016RTPSCS_DemographicsGrowthForecast.pdf.

The cumulative analysis included an evaluation of the combined effect of the proposed project along with future growth in accordance with the projections provided in Table 3-1. In addition, if the combined cumulative effect is significant then a discussion of the project's contribution to the significant cumulative effect is provided. If the project's contribution is determined to be less than cumulatively considerable then the project would have a less than significant cumulative impact. Although not required, the cumulative analysis also evaluated the project's contribution to a less than significant cumulative effect. This determination consistently found that the project's contribution to a less than significant cumulative effect would be less than cumulatively considerable.

The analysis in this Chapter also includes the recommendation of mitigation measures to be implemented by the proposed project if potential environmental effects were identified as significant under the project-specific analysis or if the project's contribution to significant cumulative effects were determined to be cumulatively considerable under the cumulative analysis.

A discussion of the level of impact after the implementation of mitigation measures is provided in the Significance Determination. If a project-specific impact or a project's contribution to a cumulative impact did not require mitigation measures, then a statement of the level of impact (i.e., No impact or Less than significant impact) is provided.

Organization of Environmental Issue Area

Implementation of the proposed Specific Plan will result in demolition, construction and operational activities. The potential environmental issues associated with each environmental analysis that is addressed in Chapter 3 contain the following components.

Environmental Setting

This section identifies and describes the existing physical environmental conditions of the Specific Plan area and vicinity associated with each of the impact sections. According to Section 15125(a) of the *CEQA Guidelines*, an EIR must include a description of the existing physical environmental conditions in the vicinity of the proposed project to provide the "baseline condition" against which project-related impacts are compared. Normally, the baseline condition is the physical condition that exists when the NOP is published. The NOP for the proposed program was published in October 2015, which is considered the baseline for the analysis contained in this PEIR.

Regulatory Framework

The Regulatory Framework provides an understanding of the regulatory environment that exists prior to the implementation of the project. The regulatory framework that was used in this PEIR included federal, state, regional, and local regulations and policies applicable to the Specific Plan area.

Impacts and Mitigation Measures

This section describes environmental changes to the existing physical conditions that may occur if the proposed project is implemented, and evaluates these changes with respect to the significance criteria. This section also includes a project impact analysis and a cumulative impact analysis. Mitigation measures are identified, if determined feasible, for significant project impacts and cumulative impacts where the project's contribution was determined to be cumulatively considerable. The mitigation measures are those measures that could avoid, minimize, or reduce an environmental impact. This section also includes a significance determination after mitigation that describes the level of impact significance remaining after mitigation measures are implemented.

Significance Criteria

Significance criteria have been developed for each environmental resource in accordance with Appendix G of the *CEQA Guidelines* and the County of Los Angeles Environmental Document Reporting Procedures and Guidelines. The criteria are defined at the beginning of each impact analysis section. Impacts are categorized as follows:

- **Significant:** mitigation measures, if feasible, shall be recommended to reduce potential impacts;
- **Less than Significant:** mitigation measures are not required under CEQA but may be recommended; or
- **No Impact**. mitigation measures are not required

References

Sources relied upon for each environmental topic analyzed in this document are provided at the end of each section.

3.1 Aesthetics

Introduction

This section is focused on aesthetic and visual resources related to scenic vistas, scenic resources within a state scenic highway corridor, and light and glare that are within or visible from the Specific Plan area and the potential of the proposed project to impact those resources. Resources related to character or quality of the site and its surroundings are discussed in Section 3.8, Land Use and Planning.

This EIR recognizes that the assessment of whether aesthetic changes from existing conditions that would result from implementation of the proposed Specific Plan would be comparatively better (substantially improved) or worse (substantially degraded) is largely subjective. Therefore, the following analysis is focused on the factual manner in which the proposed Specific Plan could change existing visual elements, rather than analyzing aesthetic values.

3.1.1 Environmental Setting

Regional Aesthetic Elements

The unincorporated community of Willowbrook is located in the Gateway Cities region of southeast Los Angeles County, and approximately 10 miles south of downtown Los Angeles. The community is within an urban and developed area and bounded by the Cities of Hawthorne to the west, Lynwood to the east, Gardena to the southwest, and Compton southeast. Interstate 110 (I-110) generally defines the community's western boundary and Imperial Highway generally defines the northern boundary. The regional urban environment is developed with commercial, industrial, residential uses at various densities, and public facilities, including transportation. The region is generally flat with major topographic features in the far distance.

Community Aesthetic Elements and Views

A viewshed is a geographic area composed of landforms, water surfaces, coastlines, open spaces, hiking trails, vegetation, cultural elements, and/or manmade structures that are seen from one or more viewpoints and that has inherent scenic qualities and/or aesthetic value as determined by those who view it. The Specific Plan area is relatively flat, urban, and developed. The area is developed with institutional uses and public facilities, highway and rail transit corridors, commercial, industrial, and a variety of residential uses.

The community is generally laid out in a grid system of streets, and has a relatively flat topography with elevations that range from approximately 86 to 88 feet above mean sea level. The streets provide the only long-range views, which are of other urban developed areas. In addition, street views include parked and moving vehicles, which are consistent with the urban land uses and character of the community. Overall, views within and surrounding the Specific Plan area consist of urban development, both residential and commercial, streets, and associated parking areas, views of I-105 freeway and the Metro lines that can also be seen from the northern portion of the Specific Plan area. There are no designated or otherwise identified scenic

views or vistas within, from, or of the Willowbrook community (County of Los Angeles, 2015). In addition, there are no designated or eligible state scenic highway within or adjacent to the Specific Plan area (Caltrans, 2016).

Light and Glare

Nighttime lighting associated with the existing urban development is present within the Specific Plan area and in the surrounding area and includes street lights, building façade lighting, interior illumination from windows, parking lot lighting and illumination from vehicle headlights. Sensitive receptors relative to lighting and glare include residents living in the Specific Plan area, and motorists and pedestrians passing through the Specific Plan area on the streets. Because of the urban nature of the Specific Plan area and associated nighttime lighting that currently exists in the Los Angeles area, the views of stars and the nighttime sky are limited.

Glare is defined as the sensation produced by any brightness within the visual field that is sufficiently greater than the luminance to which the eyes are adapted to cause annoyance, discomfort, or loss of vision, and can emanate from many different sources, some of which include direct sunlight, sunlight reflecting from cars or buildings, and bright outdoor or indoor lighting. Glare in the Specific Plan area is generated by building and vehicle windows reflecting light. However, there are no buildings, structures, or facilities in the Specific Plan area that presently generate substantial glare since most of the buildings are constructed of non-reflective materials and are not surfaced with substantial number of adjacent windows. In addition, surface parking lots in the area are not substantially large and are separated by buildings, walkways, landscaping and other non-reflective surfaces, such that, the source of glare from sunlight or exterior light reflecting from car windshields is limited.

3.1.2 Regulatory Setting

State

Scenic Highway Program

Established in 1963, California's Scenic Highway Program is administered by Caltrans and is designed to preserve and protect scenic highway corridors from changes that would diminish their aesthetic value. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. The city or county in which the highway is located must adopt a Corridor Protection Program that consists of ordinances, zoning and/or planning policies that would preserve the scenic quality of the corridor, or they must document such regulations that already exist in various portions of local codes. A highway may also be listed as "eligible" for designation as a scenic highway before.

Local

General Plan Conservation and Natural Resources Element

The Conservation and Natural Resources Element of the County's 2035 General Plan guides the long-term conservation of scenic resources. The following policy is relevant to the proposed project.

Policy 13.3: Reduce light trespass, light pollution and other threats to scenic resources.

Los Angeles County Code Section 22.44.1270 Exterior Lighting

Section 22.44.1270 establishes light performance standards for development within the County, including standards related to acceptable power of lighting, types of lighting, height of lighting support structures, lighting shielding, sign lighting, and hours of operation (County of Los Angeles, 2015a).

3.1.3 Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines and the County of Los Angeles Environmental Checklist Form, the project could have a significant impact related to aesthetics if it would:

- Have a substantial adverse effect on a scenic vista (see Impact 3.1-1, below).
- Be visible from or obstruct views from a regional riding or hiking trail (see Section 5.1.1 in Chapter 5.0, Other CEQA Considerations).
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway (see Section 5.1.1 in Chapter 5.0, Other CEQA Considerations).
- Substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character or other features (see Impact 3.8-4 in Section 3.8, Land Use and Planning).
- Create a new source of substantial shadows, light, or glare which would adversely affect day or nighttime views in the area (see Impact 3.1-2, below).

3.1.4 Methodology

The significance determination for the aesthetics analysis related to scenic vistas is based on consideration of whether any scenic vistas exist within or near the Specific Plan area; and if a scenic vista exists, whether it can be viewed from public areas within or near by the Specific Plan area; and the potential for implementation of the Specific Plan to hinder views of a scenic vista or result in degradation to a scenic vista.

In regard to lighting, this analysis evaluates the change in illumination level as a result of implementation of the proposed Specific Plan and the extent to which project lighting would increase nighttime lighting on sensitive uses. Lighting impacts would be considered significant if

they increase lighting on sensitive uses (i.e., residences or public open spaces) for a substantial portion of the nighttime.

Glare is evaluated by the extent to which implementation of the proposed Specific Plan would increase glare on sensitive uses. Glare impacts would be considered significant if substantial glare from the project affects daily operations of surrounding uses as well as motorists on roadways for a substantial portion of the day.

3.1.5 Impact Analysis

Scenic Vista

Impact 3.1-1: The proposed project would not have a substantial adverse effect on a scenic vista.

Project-Specific

A scenic vista is usually a view of a valued visual resource, such as waterways, the ocean, hills, valleys, or mountains. Willowbrook is a completely urbanized community with a relatively flat topography and, as a result, views are generally of adjacent urban development and associated landscaping. Views include Mona Park, the Willowbrook/Rosa Parks Station, landscaping, multi-family housing, and other elements of urban life. The *Los Angeles County 2035 General Plan* and the Caltrans Scenic Highway Mapping System does not identify or designate scenic vistas or viewsheds in Willowbrook (Caltrans, 2016).

The proposed project would result in redevelopment and infill development within the existing developed urban environment. The views along roadway corridors would continue to be of a developed and urban landscape. Due to the relatively flat terrain and the existing structural development throughout the project site, no identified or designated scenic views or vistas exist; thus none would be impacted by redevelopment and infill development within the Specific Plan area. As a result, implementation of the proposed Specific Plan would not result in impacts to a scenic vista.

Cumulative

The cumulative aesthetics study area for the proposed Specific Plan is the viewshed (locations that can view the Specific Plan areas and locations that can be viewed from within the Specific Plan area) that the Specific Plan lies within. As described above, there are no existing scenic vistas within or nearby the Specific Plan area. Thus, a scenic vista resource does not exist, and cumulative development in the project vicinity would result in no impact on a scenic vista. Because the project would not result in an impact to a scenic vista, the proposed project would not have a cumulatively considerable impact related to a scenic vista.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

No impact.

Cumulative

No impact.

Light and Glare

Impact 3.1-2: The proposed project would not create a new source of substantial light or glare that could adversely affect day or nighttime views of the area.

Project-Specific

Implementation of the proposed Specific Plan would increase overall nighttime lighting because it would result in additional development and a greater intensity and density of land uses that currently exist. New lighting would accompany all new development, and involve exterior lighting for streetlights, parking lots, signs, walkways, and interior lighting, which could be visible through windows to the outside, and could potentially increase ambient or "spillover" light. In addition, residential uses, considered light-sensitive receptors, are located throughout the Specific Plan area, and would be increased with implementation of the project.

Likewise, because the project includes increased density, the project has the potential to create substantially more daytime glare than currently exists within the Specific Plan area. If not properly designed, sunlight reflecting from windows and large vehicular parking areas could create a substantial increase in glare, and increased exterior lighting would have the potential to increase glare, as well.

Due to the urbanized nature of the Specific Plan area, a substantial amount of ambient nighttime light currently exists that limits views of stars and the nighttime sky. Streetlights, headlights, and exterior lighting within the Specific Plan area provide a significant amount of existing ambient light. Thus, the increase in light that would occur from implementation of the Specific Plan would not significantly impact nighttime views of the sky (ability to see the stars) because such views are already limited in an urban setting.

In addition, light emanating from new uses would be required to be either low scaled lighting or shielded to focus lighting and prevent lighting from spilling onto adjacent sensitive uses, such as residential. The requirements of Section 22.44.1270, Exterior Lighting, of the County Code related to lighting and shielding would limit the potential of increased lighting on sensitive uses. These regulations state that lighting shall be the minimum necessary in order to achieve the purpose of the light and that all lights shall be directed, oriented and shielded to prevent light

from shining onto adjacent properties, onto public rights-of-way, and into driveway areas in a manner that would obstruct motorists' vision.

Furthermore, the proposed Specific Plan includes Performance Standards to ensure that sensitive uses are not adversely impacted by adjacent development. The Light and Glare Performance Standard states that all outdoor lighting shall be designated to minimize light trespass; that existing residential uses should be buffered from light and glare effects from new development; and that site, parking lot and building security lighting shall not impact surrounding properties.

In regard to glare, implementation of the Specific Plan would also not result in a substantial increase in daytime glare. The land uses that would be developed within the Specific Plan would be typical institutional, commercial, residential, and mixed use structures. Typically, these structures would be designed with non-reflective textured surfaces on building exteriors (such as stucco, brick, stone, wood). Windows that are included as part of the design of the building exteriors would be required to be in compliance with Section 22.44.1320 (Construction Colors, Materials, and Design) of the County Code that requires windows to be comprised of non-glare/non-reflective glass (County of Los Angeles, 2015b). In addition, the Performance Standards included in the proposed Specific Plan require that new development preclude generation of direct glare by ensuring that no surfaces reflect direct glare onto adjoining property, streets, or skyward.

Because compliance with the County Code and the Specific Plan Performance Standards would be checked by the County through the development plan check process, impacts related to increased sources of light and glare would be less than significant.

Cumulative

The cumulative study area for light and glare for the proposed Specific Plan is the lighting viewshed (locations that can receive light or glare from the Specific Plan area and locations that generate light and glare that can be viewed from within the Specific Plan area) that the Specific Plan lies within. The Specific Plan area is urban and developed, and currently produces light from various urban sources, such as roadways, lighted parking lots, commercial and residential exterior lighting, within the Specific Plan area and its vicinity.

Future growth in the project vicinity is anticipated to be similar in character and intensity as existing development and proposed land uses under the Specific Plan. As growth occurs, lighting throughout the project vicinity would gradually increase. In addition, cumulative development could incrementally contribute to cumulative daytime glare and reflective impacts. However, the County's regulations (County Code Section 22.44.1270 Exterior Lighting and Section 22.44.1320 Construction Colors, Materials, and Design) provide light and glare performance standards for development within the County of Los Angeles. As described previously, these regulations state that lighting shall be the minimum necessary in order to achieve the purpose of the light and that all lights shall be directed, oriented and shielded to prevent light from shining onto adjacent properties, onto public rights-of-way, and into driveway areas in a manner that would obstruct motorists' vision. In addition, windows that are included as part of the design of

the building exteriors are required to be in compliance with Section 22.44.1320 (Construction Colors, Materials, and Design) of the County Code that requires windows to be comprised of non-glare/non-reflective glass. With implementation of this existing County Code regulation, future cumulative development within the areas adjacent to the project site and within the County's jurisdiction would result in a less than significant cumulative light and glare impacts.

The project site is also directly adjacent to existing developments that are located within the City of Lynwood (i.e., east of Mona Boulevard) and the City of Los Angeles (north of Imperial Highway). Both of these cities have lighting standards to reduce substantial light illuminating adjacent properties or streets. Therefore, cumulative lighting impacts would be less than significant and the project's contribution to cumulative lighting impacts would be less than cumulatively considerable.

Based on a review of the City of Los Angeles and City of Lynwood municipal codes, neither of these cities contains glare standards to reduce substantial glare emanating from structures. Therefore, it is possible that significant cumulative glare impacts could occur adjacent to the project site from future development. However, since the project would be required to comply with existing County of Los Angeles regulations, the project would result in less than cumulatively considerable glare impacts.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

3.1.6 References

California Department of Transportation (Caltrans). 2016. *California Scenic Highway Mapping System*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_Highways, accessed on September 21, 2016.

County of Los Angeles. 2015. *Los Angeles County General Plan Conservation and Natural Resources Element*. County. October 2015. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed on October 4, 2016.

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County of Los Angeles. 2016b. *Los Angeles County Code Section 22.44.1320, Construction Colors, Materials, and Design*, Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances, accessed on September 21, 2016.

3.2 Air Quality

Introduction

This section evaluates the potential for air quality impacts to result from the implementation of proposed Specific Plan. This includes the potential for developments occurring in the Specific Plan area to result in impacts associated with ambient air quality and the exposure of people, especially sensitive individuals, to unhealthful pollutant concentrations. Specifically, this section analyzes pollutant emissions that would be generated by the construction and operation of the proposed Specific Plan. Mitigation measures intended to reduce impacts to air quality are proposed, where appropriate, to avoid or reduce the potential for significant air quality impacts of the proposed Specific Plan.

The Specific Plan area is located within the unincorporated community of Willowbrook in the County of Los Angeles. Therefore, data used to prepare this analysis were obtained from the Air Quality Element of the County's General Plan, and the South Coast Air Quality Management District (SCAQMD), and by modeling existing and future air pollutant emissions from the construction and operation of the potential development with the implementation of the Specific Plan. Traffic information contained in the *Willowbrook TOD Specific Plan, EIR Traffic Study (The Mobility Group 2017)* (**Appendix D**) was used to prepare the vehicle traffic air emissions modeling of the proposed Specific Plan.

3.2.1 Environmental Setting

Climate and Meteorology

Air quality is affected by both the rate and location of pollutant emissions and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality. The Specific Plan area is located within the South Coast Air Basin (SCAB), an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, in addition to the San Gorgonio Pass area in Riverside County. The SCAB is a coastal plain with connecting broad valleys and low hills, and its terrain and geographical location determine its distinctive climate. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild Mediterranean climate tempered by cool sea breezes with light average wind speeds. The usually mild pattern of the climate is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the SCAB, making it an area of high pollution potential. This condition is generally attributed to the large amount of pollutant emissions, light winds, and shallow vertical atmospheric mixing. Vertical dispersion of air

pollutants in the SCAB is hampered by the presence of persistent temperature inversions. High-pressure systems, such as the semi-permanent high-pressure zone in which the SCAB is located, are characterized by an upper layer of dry air that warms as it descends, restricting mobility in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of smog.

Most of the annual rainfall in the SCAB occurs from November through April. The dominant daily wind pattern is a daytime sea breeze and a nighttime land breeze, except when winter storms or northeasterly Santa Ana winds flow from the mountains and deserts north of the SCAB to the ocean. The transport of ocean air across the SCAB in an easterly direction over the mountains moves air quality pollutants out of the SCAB. However, when westerly winds are stagnant or inversions occur, pollutants become trapped within the SCAB, resulting in higher levels of pollutants.

Sources of air emissions can be categorized as either stationary or mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at an identified fixed location, and are usually associated with construction, manufacturing, and industry.

The Willowbrook community contains single-family residential neighborhoods, which contains a mix of commercial and nearby industrial development strategically located near the I-105 freeway. The primary source of air pollutants in the vicinity of the Specific Plan area are from mobile sources (e.g., motor vehicles and trucks that traverse the local roadway network and diesel operated freight and Metro trains). Additional emission sources stem from residential, commercial, and industrial land uses and include landscaping and lawn care equipment, water heaters, painting activities, and landfills. Residential land uses also produce emissions from consumer products, such as lighter fluid and hair spray. Additional indirect emissions result from electricity generation to provide electricity to the existing uses.

Ambient Air Quality Standards

Regulation of air pollution is achieved through both federal and state ambient air quality standards and emission limits for individual sources of air pollutants. As required by the federal Clean Air Act (CAA), the U.S. Environmental Protection Agency (USEPA) has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria.

To protect human health and the environment, the USEPA has set “primary” and “secondary” maximum ambient limits for each of the criteria pollutants. Primary standards were set to protect human health, particularly sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions such as asthma and emphysema. Secondary standards

were set to protect the natural environment and prevent damage to animals, crops, vegetation, and buildings.

The NAAQS establish the level for an air pollutant above which detrimental effects to public health or welfare may result. The NAAQS are defined as the maximum acceptable concentrations that, depending on the pollutant, may not be equaled or exceeded more than once per year or in some cases as a percentile of observations. California has generally adopted more stringent ambient air quality standards for the criteria air pollutants, i.e., California Ambient Air Quality Standards (CAAQS) and has adopted air quality standards for some pollutants for which there is no corresponding national standard, such as sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The NAAQS and CAAQS for the criteria pollutants along with a summary of each of their physical properties, associated health effects, and sources are presented in **Table 3.2-1**.

TABLE 3.2-1
AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone (O_3)	1 hour	0.09 ppm	No National Standard	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when ROG and NO_X react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial/industrial mobile equipment.
	8 hours	0.07 ppm	0.070 ppm		
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	0.100 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Arithmetic Mean	0.030 ppm	0.053 ppm		
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	75 ppb	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	No State Standard	0.50 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Arithmetic Mean	No State Standard	0.03 ppm		
Respirable Particulate Matter (PM10)	24 hours	50 µg/m^3	150 µg/m^3	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Arithmetic Mean	20 µg/m^3	No National Standard		
Fine Particulate Matter (PM2.5)	24 hours	No State Standard	35 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_X, sulfur oxides, and organics.
	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3		

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Lead (Pb)	30 Day Average	1.5 µg/m^3	No National Standard	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction (in severe cases).	Present source: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	No State Standard	1.5 µg/m^3		
	Rolling 3-Month Average	No State Standard	0.15 µg/m^3		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)	Geothermal power plants, petroleum production and refining
Sulfates (SO_4)	24 hour	25 µg/m^3	No National Standard	Decrease in ventilatory functions; aggravation of asthmatic symptoms; aggravation of cardio-pulmonary disease; vegetation damage; degradation of visibility; property damage.	Industrial processes.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism.	See $PM_{2.5}$.

NOTE: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter.

SOURCE: CARB, 2016

Criteria Air Pollutants

Ozone

Ozone, the main component of photochemical smog, is primarily a summer and fall pollution problem. Ozone is not emitted directly into the air, but is formed through a complex series of chemical reactions involving other compounds that are directly emitted. These directly emitted pollutants (also known as ozone precursors) include reactive organic gases (ROGs) or volatile organic compounds (VOCs), and oxides of nitrogen (NOx). While both ROGs and VOCs refer to compounds of carbon, ROG is a term used by CARB and is identified based on a list of carbon compounds that exempts carbon compounds determined by CARB to be nonreactive. VOC is a term used by the USEPA and is identified based on USEPA's separate list of exempted compounds it identifies as having negligible photochemical reactivity. The time period required for ozone formation allows the reacting compounds to spread over a large area, producing regional pollution problems. Ozone concentrations are the cumulative result of regional development patterns rather than the result of a few significant emission sources.

Once ozone is formed it remains in the atmosphere for one or two days. Ozone is then eliminated through reaction with chemicals on the leaves of plants, attachment to water droplets as they fall to earth ("rainout"), or absorption by water molecules in clouds that later fall to earth with rain ("washout").

Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. In addition to causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

CO, a colorless and odorless gas, is a relatively non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicles. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia. CO measurements and modeling were important in the early 1980s when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, lower emissions from new vehicles, and improvements in fuels.

Nitrogen Dioxide

NO_2 is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NOx, which are reported as equivalent NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

Sulfur Dioxide

SO_2 is a colorless, extremely irritating gas or liquid that enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfur trioxide (SO_3). Collectively, these pollutants are referred to as sulfur oxides (SOx).

Major sources of SO_2 include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of SO_2 aggravate lung diseases, especially bronchitis. This compound also constricts the breathing passages, especially in people with asthma and people involved in moderate to heavy exercise. SO_2 potentially causes wheezing, shortness of breath, and coughing. Long-term SO_2 exposure has been associated with increased risk of mortality from respiratory or cardiovascular disease.

Particulate Matter

PM_{10} and $PM_{2.5}$ consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively (a micron is one-millionth of a meter). PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis and respiratory illnesses in children. Recent mortality studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Particulate matter can also damage materials and reduce visibility. One common source of $PM_{2.5}$ is diesel exhaust emissions.

PM_{10} consists of particulate matter emitted directly into the air (e.g., fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires, and natural windblown dust) and particulate matter formed in the atmosphere by condensation and/or transformation of SO_2 and ROG. Traffic generates particulate matter that settles onto roadways and parking lots. PM_{10} and $PM_{2.5}$ are also emitted by burning wood in residential wood stoves and fireplaces and open agricultural burning. $PM_{2.5}$ can also be formed through secondary processes such as airborne reactions with certain pollutant precursors, including ROGs, ammonia (NH_3), NOx, and SOx.

Lead

Lead is a metal found naturally in the environment and present in some manufactured products. There are a variety of activities that can contribute to lead emissions, which are grouped into two general categories, stationary and mobile sources. On-road mobile sources include light-duty automobiles; light-, medium-, and heavy-duty trucks; and motorcycles.
Emissions of lead have dropped substantially over the past 40 years. The reduction before 1990 is largely due to the phase-out of lead as an anti-knock agent in gasoline for on-road automobiles. Substantial emission reductions have also been achieved due to enhanced controls in the metals processing industry. In the SCAB, atmospheric lead is generated almost entirely by the combustion of leaded gasoline and contributes less than one percent of the material collected as total suspended particulates. However, lead has been well below regulatory thresholds for decades.

Among its numerous uses and sources, lead can be found in paint, water pipes, solder in plumbing systems, and in soils around buildings and structures painted with lead-based paint. Because of its toxic properties, lead is regulated as a hazardous material. Inspection, testing, and removal (abatement) of lead-containing building materials must be performed by state-certified contractors who are required to comply with applicable health and safety and hazardous materials regulations. Buildings that have been constructed prior to 1978 and that contain lead-based paints could require abatement prior to construction activities for the proposed project. Lead and asbestos impacts are addressed in Section 3.6 Hazards and Hazardous Materials.

Toxic Air Contaminants

Concentrations of toxic air contaminants (TACs), also known as hazardous air pollutants (HAPs), are also used as indicators of ambient air quality conditions. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

According to *The California Almanac of Emissions and Air Quality* (CARB, 2009), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the

composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.
Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a particulate matter exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

In addition to diesel PM emissions, demolition of buildings and structures may potentially generate asbestos and lead emissions. Typically, if buildings or structures to be demolished were constructed before 1980, there is a potential that insulation materials may contain asbestos, and painted surfaces may contain lead. Disturbance of asbestos materials during demolition creates the potential that asbestos fibers would become airborne and create a health hazard for inhalation and ingestion. Appropriate asbestos and lead abatement measures are performed on identified asbestos materials before demolition of buildings.

Odorous Emissions

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). Offensive odors are unpleasant and can lead to public distress generating citizen complaints to local governments. Although unpleasant, offensive odors rarely cause physical harm. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source, wind speed, direction, and the sensitivity of receptors.

Air Quality of the Specific Plan Area

SCAQMD maintains a network of air quality monitoring stations located throughout the SCAB and has divided the SCAB into air quality monitoring areas. The Specific Plan area is located in Source Receptor Area (SRA) 12 (South Central Los Angeles County) with the Compton Station as closest air quality monitoring station to the Specific Plan area, located at 700 North Bullis Road in the City of Compton (approximately 1.9 miles southeast of the Specific Plan area boundary). The Compton monitoring station monitors ozone (O_3), CO, NO_2, PM_{10} and $PM_{2.5}$. The most recent data available from the Compton monitoring station is provided in **Table 3.2-2** and encompasses the years 2011 through 2015. PM_{10} data is not monitored at the Compton Station; the next nearest monitoring station, North Long Beach, monitors PM_{10}, provided in Table 3.2-2. In addition, Table 3.2-2 also compares the pollutant monitoring data to the state and national standards (i.e., NAAQS and CAAQS).

TABLE 3.2-2
RECENT ANNUAL AIR QUALITY MONITORING DATA NEAREST THE PROJECT SITE

Pollutant	Standard[a]	Monitoring Data by Year				
		2011	2012	2013	2014	2015
O_3						
Highest 1 Hour Average (ppm)[b]		0.082	0.086	0.090	0.094	0.091
Days over State Standard	0.070	0	0	0	0	0
Days over National Standard	None	-	-	-	-	-
Highest 8 Hour Average (ppm)[b]		0.065	0.070	0.080	0.081	0.072
Days over State Standard	0.070	0	1	1	0	0
Days over National Standard	0.070	0	0	1	4	1
CO						
Highest 1 Hour Average (ppm)[b]		4.67	3.96	-	-	-
Days over State Standard	20	0	0	0	0	0
Days over National Standard	35	0	0	0	0	0
NO_2						
Highest 1 Hour Average (ppm)[b]		75.4	79.3	69.8	68.2	73.6
Days over State Standard		0	0	0	0	0
Annual Average		18	17	17	-	16
PM_{10}						
Highest 24 Hour Average – State/National ($\mu g/m^3$)[b,d]		43	45	37	-	-
Estimated days over State Standard[c]	50	0	0	-	-	-
Estimated days over National Standard[c]	150	0	0	-	-	-
State Annual Average[d]	20	24.1	23.2	-	-	-
National Annual Average[d]	--	24.2	23.2	23.2	-	-
$PM_{2.5}$						
Highest 24 Hour Average – National ($\mu g/m^3$) [b]		35.3	51.2	52.1	35.8	41.3
Estimated days over National Standard [c]	65/35 [e]	0.0	3.3	3.1	-	9.0
State Annual Average [d]	12	12.9	11.6	11.9	-	11.7
National Annual Average [d]	15					

[a] Generally, state standards are not to be exceeded and federal standards are not to be exceeded more than once per year.

[b] ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

[c] PM-10 and PM-2.5 are not measured every day of the year. "Number of samples" refers to the number of days in a given year during which PM-10 and PM-2.5 were measured at the Azusa station.

[d] State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods.

[e] USEPA lowered the 24 hour PM-2.5 standard from 65 $\mu g/m^3$to 35 $\mu g/m^3$. Though the current standard is 35$\mu g/m^3$, the estimated days over the national standard refers to days above the 65 $\mu g/m^3$standard.

NA = Not Available.

SOURCE: CARB 2011 - 2015.

Regional Attainment Status

Both CARB and USEPA use area air quality monitoring data to designate areas (e.g., air basins) according to their respective federal and California attainment status of NAAQS and CAAQS for criteria air pollutants. The purpose of these attainment designations is to identify the areas with air quality problems, and thereby, initiate planning efforts for improvement and attainment. The three basic attainment designations are nonattainment, attainment, and unclassified. Unclassified is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. Degrees of nonattainment (e.g., extreme, moderate, marginal, and basic) are also provided for some criteria pollutants (e.g., ozone –extreme nonattainment). In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing towards and nearing attainment. Attainment areas, that had previously been designated nonattainment, are designated as maintenance areas, in order to ensure continued attainment of the NAAQS or CAAQS. The current federal and California attainment status for the SCAB is provided in **Table 3.2-3**.

TABLE 3.2-3
SOUTH COAST AIR BASIN ATTAINMENT STATUS

Pollutant	CAAQS	NAAQS
Ozone (1-hour standard)	Extreme Nonattainment	(None – No NAAQS)
Ozone (8-hour standard)	Nonattainment	Extreme Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Attainment	Nonattainment

SOURCE: CARB, 2015; USEPA, 2017.

Existing Health Risk in the Surrounding Area

Both SCAQMD and CARB have monitoring networks in the SCAB that measure ambient concentrations of certain TACs that are associated with important health-related effects and are present in appreciable concentrations in the SCAB. SCAQMD uses this information to determine risks for a particular area. Stationary source TACs tend to be approximately the same level year-round. However, TACs from mobile sources tend to be higher during the fall and winter months (SCAQMD, 2000a). According to the SCAQMD's *MATES II Study* (SCAQMD, 2000a), the Specific Plan area is within four cancer risk zones, where risks range from 871 in one million to 961 in one million, which is largely due to diesel PM emissions.

Sensitive Receptors

Some people are especially sensitive to air pollution emissions than others, and are given special consideration when evaluating potential air quality impacts from projects. SCAQMD defines

typical air quality sensitive land uses as residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD, 1993). Land uses such as schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people are often at home for extended periods. The heightened sensitivity may also be due to individual's health problems, proximity to the emissions source, pollutant concentrations, and duration of exposure to pollutant concentrations. The air quality sensitive receptors located within and adjacent to the Specific Plan area include single-family and multi-family residences, as well as the schools, parks, and playgrounds.

3.2.2 Regulatory Setting

Air pollutants are regulated at the national, state, and air basin level; each respective regulatory agency has a different degree of control. USEPA regulates air pollutants at the national level, CARB regulates at the state level, and SCAQMD regulates at the regional level (i.e., air basin).

Federal and State

Federal Clean Air Act

The federal Clean Air Act (CAA) is a comprehensive federal law that regulates air emissions from area, stationary, and mobile sources. This law authorizes USEPA to establish NAAQS to protect public health and the environment. The federal CAA was passed in 1963, and has since undergone five major amendment cycles, with the latest in 1990, and prior major amendments in 1965, 1967, 1970, and 1977. USEPA utilizes the established NAAQS for six "criteria pollutants" as indicators of air quality, and has established a threshold maximum concentration level for which an adverse effect on human health may occur. Current NAAQS for these criteria pollutants are shown in Table 3.2-2.

Ambient air quality standards are intended to protect the public health and welfare, and they incorporate an adequate margin of safety. NAAQS were set to protect public health, including that of sensitive individuals; thus, NAAQS are subject to change as more medical research is available regarding the health effects of the criteria pollutants.

California Clean Air Act

In 1988, the state legislature passed the California Clean Air Act (CCAA), which established California's air quality goals, planning mechanisms, regulatory strategies, and ambient air quality standards for the first time. The CCAA provides the state with a comprehensive framework for air quality planning regulation, and sets state air quality standards (i.e., CAAQS). CAAQS, shown in Table 3.2-2, incorporate more stringent standards than NAAQS for most of the criteria pollutants, and has also set CAAQS for other pollutants not federally recognized (i.e., no NAAQS), such as, sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

State Implementation Plan

The 1977 federal CAA Amendments require that regional planning and air pollution control agencies prepare a regional Air Quality Plan to outline the measures by which both stationary and mobile sources of air pollutants can be controlled in order to achieve all standards specified in the federal CAA. For areas that are designated "nonattainment" with respect to an air pollutant's NAAQS, the federal CAA specifies future dates for achieving compliance with the NAAQS, and mandates that states submit and implement a State Implementation Plan (SIP) for areas not meeting the NAAQS. SIPs must include pollution control measures that demonstrate how the NAAQS will be met. Similarly, the CCAA also requires development of air quality plans and strategies to meet CAAQS in areas designated as nonattainment (with the exception of areas designated as nonattainment for the PM CAAQS). Maintenance plans are required for attainment areas that had previously been designated nonattainment, in order to ensure continued attainment of the NAAQS or CAAQS.

Toxic Air Contaminants

TACs have been regulated under federal air quality law since the 1977 federal CAA Amendments, the most recent, in 1990, reflecting a technology-based approach for reducing TACs. The first phase of control involves requiring facilities to install Maximum Achievable Control Technology (MACT). The MACT standards vary depending on the type of emitting source. USEPA has established MACT standards for over 20 facilities or activities, such as perchloroethylene dry cleaning and petroleum refineries. The second phase of control involves determining the residual health risk represented by air toxics emissions sources after implementation of MACT standards. Two principal laws provide the foundation for California regulation of TACs from stationary sources. In 1983, the California State Legislature adopted Assembly Bill (AB) 1807, which established a process for identifying TACs and provided the authority for developing retrofit air toxics control measures on a statewide basis. Air toxics from stationary sources in California are also regulated under AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Regulation of TACs from mobile sources has traditionally been implemented through emissions standards for on-road motor vehicles (imposed on vehicle manufacturers) and through specifications for gasoline and diesel fuel sold in California (imposed on fuel refineries and retailers), rather than through land use decisions, air quality permits, or regulations addressing how motor vehicles are used by the general public.

In August 1998, CARB identified diesel PM as a TAC. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB, 2000), which provides a plan to reduce diesel PM emissions, with the goal of reducing diesel PM emissions and the associated health risks by 75 percent in 2010, and by 85 percent in 2020. The plan aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra-low sulfur diesel fuel on diesel-fueled engines.

Regional

Regional Comprehensive Plan and Guide

The Southern California Association of Governments (SCAG) is the regional planning agency for the counties of Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial. SCAG addresses regional issues relating to transportation, the economy, community development, and the environment. SCAG is the federally-designated MPO for the majority of the southern California region and is the largest MPO in the nation. As the designated MPO, SCAG is mandated by the federal government to develop and implement regional plans that address transportation, growth management, hazardous waste management, and air quality issues. With respect to air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide for the Los Angeles County region, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation components of the Air Quality Management Plan (AQMP), and are utilized in the preparation of air quality forecasts and the consistency analysis that is included in the AQMP.

South Coast Air Quality Management District

Criteria Air Pollutants

SCAQMD attains and maintains air quality conditions in the SCAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of SCAQMD includes preparation of plans for attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. SCAQMD also inspects stationary sources of air pollution and responds to citizen complaints; monitors ambient air quality and meteorological conditions; and implements programs and regulations required by the federal CAA.

Air Quality Management Plan

SCAQMD and SCAG are responsible for preparing the AQMP, which addresses federal CAA and CCAA requirements. The AQMP details goals, policies, and programs for improving air quality in the SCAB.

The 2012 AQMP was adopted by the SCAQMD Governing Board on December 7, 2012. The purpose of the 2012 AQMP for the SCAB is to set forth a comprehensive and integrated program that will lead the region into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update to the SCAB's commitment towards meeting the federal 8-hour ozone standards (SCAQMD, 2013). The AQMP would also serve to satisfy recent USEPA requirements for a new attainment demonstration of the revoked 1-hour ozone standard, as well as a vehicle miles travelled (VMT) emissions offset demonstration.[1] Specifically, the AQMP would serve as the official SIP submittal for the federal 2006 24-hour $PM_{2.5}$ standard, for which USEPA has

[1] Although the federal 1-hour ozone standard was revoked in 2005, the USEPA has proposed to require a new 1-hour ozone attainment demonstration in the South Coast extreme ozone nonattainment area as a result of a recent court decision. Although USEPA has replaced the 1-hour ozone standard with a more health protective 8-hour standard, the Clean Air Act anti-backsliding provisions require that California have approved plans for attaining the 1-hour standard.

established a due date of December 14, 2012.[2] In addition, the AQMP updates specific new control measures and commitments for emissions reductions to implement the attainment strategy for the 8-hour ozone SIP. The 2012 AQMP sets forth programs which require integrated planning efforts and the cooperation of all levels of government: local, regional, state, and federal.

The proposed 2016 Air Quality Management Plan (2016 AQMP) is a regional blueprint for achieving air quality standards and healthful air. The 2016 AQMP represents a new approach, focusing on available, proven, and cost effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The most effective way to reduce air pollution impacts on the health of our nearly 17 million residents, including those in disproportionally impacted and environmental justice communities that are concentrated along our transportation corridors and goods movement facilities, is to reduce emissions from mobile sources, the principal contributor to our air quality challenges. For that reason, the SCAQMD has been and will continue to be closely engaged with CARB) and the USEPA who have primary responsibility for these sources. The 2016 AQMP recognizes the critical importance of working with other agencies to develop funding and other incentives that encourage the accelerated transition of vehicles, buildings, and industrial facilities to cleaner technologies in a manner that benefits not only air quality, but also local businesses and the regional economy. These "win-win" scenarios are key to implementation of the 2016 AQMP with broad support from a wide range of stakeholders. The proposed 2016 AQMP includes integrated strategies and measures to meet the NAAQS. Currently, public hearings are being held on the adoption of the 2016 AQMP (SCAQMD 2016).

SCAQMD Rules and Regulations

All projects are subject to SCAQMD Rules and Regulations in effect at the time of project construction. Specific rules applicable to the construction anticipated for the proposed project would include the following:

Rule 401 – Visible Emissions. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.

Rule 402 – Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of Rule 402 do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

[2] Although the 2012 AQMP was approved by the SCAQMD Board on December 7, 2012, the plan did not get submitted to the USEPA by December 14, 2012 as it first required approval from CARB. The 2012 AQMP was subsequently approved by CARB on January 25, 2013, and as of February 13, 2013 the plan has been submitted by CARB to the USEPA.

Rule 403 – Fugitive Dust. Rule 403 is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust.

Rule 1113 – Architectural Coatings. No person shall apply or solicit the application of any architectural coating within the SCAQMD with VOC content in excess of the values specified in a table incorporated in the Rule 1113.

Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities. Rule 1403 specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos containing materials. The requirements for demolition and renovation activities include asbestos surveying, notification, asbestos containing materials removal procedures and time schedules, asbestos containing materials handling and clean-up procedures, and storage, disposal, and land filling requirements for asbestos containing waste materials. All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

California Environmental Quality Act Air Quality Handbook.

SCAQMD published the *CEQA Air Quality Handbook* (the Handbook) in November 1993 to provide local governments with guidance for analyzing and mitigating Project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in CEQA documents and was used extensively in the preparation of this analysis.

In June 2003, the SCAQMD published the *Localized Significance Threshold Methodology* that is intended to provide voluntary guidance for lead agencies in analyzing localized air quality impacts from projects (SCAQMD, 2003). The document was revised in July 2008 to incorporate additional guidance regarding PM2.5 emissions (SCAQMD, 2006). The *Localized Significance Threshold Methodology* was also used in the preparation of this air quality impact analysis.

Toxic Air Contaminants

At the local level, air pollution control or management districts may adopt and enforce CARB control measures. Under SCAQMD Regulation XIV (Toxics and Other Non-Criteria Pollutants), and in particular Rule 1401 (New Source Review), all sources that possess the potential to emit TACs are required to obtain permits from SCAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. SCAQMD limits emissions and public exposure to TACs through a number of programs. SCAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

The Air Toxics Control Plan (SCAQMD, 2000b) is a planning document designed to examine the overall direction of SCAQMD's air toxics control program, and includes development and implementation of strategic initiatives to monitor and control air toxics emissions. Control

strategies that are deemed viable and are within SCAQMD's jurisdiction will each be brought to the SCAQMD Board for further consideration through the normal public review process. Strategies that are to be implemented by other agencies will be developed in a cooperative effort, and the progress will be reported back to the Board periodically.

Local

Los Angeles County General Plan: Air Quality Element

Local jurisdictions, such as the County of Los Angeles, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the County is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The County is also responsible for the implementation of transportation control measures as outlined in the AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the County assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits and monitors and enforces implementation of such mitigation measures.

The Los Angeles County General Plan (County of Los Angeles, 2015) provides the fundamental basis for the County's land use and development policy, and represents the basic community values, ideals, and aspirations to govern a shared environment through 2035. The County General Plan addresses all aspects of development including public health, land use, community character, transportation, economics, housing, air quality, and other topics. The County General Plan sets forth objectives, policies, standards, and programs for land use and new development, Circulation and Public access, and Service Systems for the Community as a whole.

The goals and policies of the Air Quality Element of the County General Plan applicable to the project are specified below, which will be implemented in connection with development of the Project (County of Los Angeles, 2015).

Goal AQ 1: Protection from exposure to harmful air pollutants.

Policy AQ 1.1: Minimize health risks to people from industrial toxic or hazardous air pollutant emissions, with an emphasis on local hot spots, such as existing point sources affecting immediate sensitive receptors.

Policy AQ 1.2: Encourage the use of low or no volatile organic compound (VOC) emitting materials.

Policy AQ 1.3: Reduce particulate inorganic and biological emissions from construction, grading, excavation, and demolition to the maximum extent feasible.

Policy AQ 1.4: Work with local air quality management districts to publicize air quality warnings, and to track potential sources of airborne toxics from identified mobile and stationary sources.

Goal AQ 2: The reduction of air pollution and mobile source emissions through coordinated land use, transportation and air quality planning.

Policy AQ 2.1: Encourage the application of design and other appropriate measures when siting sensitive uses, such as residences, schools, senior centers, daycare centers, medical facilities, or parks with active recreational facilities within proximity to major sources of air pollution, such as freeways.

Policy AQ 2.2: Participate in, and effectively coordinate the development and implementation of community and regional air quality programs.

3.2.3 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the project could have a significant impact on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan; (see Impact 3.2-1 below)
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation; (see Impact 3.2-2 below)
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors); (see Impact 3.2-3 below)
- Expose sensitive receptors to substantial pollutant concentrations; (see Impact 3.2-4 below)
- Create objectionable odors affecting a substantial number of people. (see Section 5.1.3 in this EIR)

The significance thresholds in SCAQMD's CEQA Air Quality Handbook are used in evaluating project impacts. SCAQMD has established daily mass thresholds for regional pollutant emissions, which are shown in **Table 3.2-4**.

TABLE 3.2-4
SCAQMD SIGNIFICANCE THRESHOLDS

Air Contaminant	Construction (pounds per day)	Operations (pounds per day)
CO	550	550
NO_x	100	55
SO_x	150	150
VOC (or ROG)	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55

SOURCE: SCAQMD, 2015.

Projects in the SCAB are also required to analyze localized air quality impacts. As discussed previously under Section 3.2.2 Regulatory Setting, SCAQMD has developed localized significance thresholds (LST)s that represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, and thus would not cause or contribute to localized air quality impacts. LSTs are developed based on the ambient concentrations of that pollutant for each of the SRAs in the SCAB, and distance to the nearest sensitive receptor. The LSTs, which are found in the mass rate look-up tables in SCAQMD's Final Localized Significance Threshold Methodology document (SCAQMD 2003), were developed for use on projects that disturb less than five acres per day and are only applicable to the following criteria pollutants: NOx, CO, PM_{10}, and $PM_{2.5}$. The construction and operational LSTs for a one-acre, two-acre, and five-acre sites in SRA 12 (South Los Angeles), which is where the Specific Plan area is located, are shown in **Table 3.2-5**.

TABLE 3.2-5
SCAQMD LOCALIZED SIGNIFICANCE THRESHOLDS IN SRA 12 (SOUTH LOS ANGELES)

Pollutant Monitored Within SRA 12 – South Los Angeles Area	Allowable emissions (pounds/day) as a function of receptor distance (feet) from site boundary				
	82 (ft)	164 (ft)	328 (ft)	656 (ft)	1,640 (ft)
One-Acre Site					
Construction Thresholds					
Nitrogen Oxides (NO_x)[a]	46	46	54	70	109
Carbon Monoxide (CO)	231	342	632	1,545	5,452
Respirable Particulate Matter (PM_{10})	4	12	26	54	139
Fine Particulate Matter ($PM_{2.5}$)	3	4	7	17	70
Operational Thresholds					
Nitrogen Oxides (NO_x)[a]	46	46	54	70	109
Carbon Monoxide (CO)	231	342	632	1,545	5,452
Respirable Particulate Matter (PM_{10})	1	3	7	13	34
Fine Particulate Matter ($PM_{2.5}$)	1	1	2	4	17
Two-Acre Site					
Construction Thresholds					
Nitrogen Oxides (NO_x)[a]	65	64	69	82	117
Carbon Monoxide (CO)	346	515	841	1,817	5,962
Respirable Particulate Matter (PM_{10})	7	20	34	62	146
Fine Particulate Matter ($PM_{2.5}$)	4	6	9	19	74
Operational Thresholds					
Nitrogen Oxides (NO_x)[a]	65	64	69	82	117
Carbon Monoxide (CO)	346	515	841	1,817	5,962
Respirable Particulate Matter (PM_{10})	2	5	9	15	36
Fine Particulate Matter ($PM_{2.5}$)	1	2	3	5	18

Pollutant Monitored Within SRA 12 – South Los Angeles Area	Allowable emissions (pounds/day) as a function of receptor distance (feet) from site boundary				
	82 (ft)	164 (ft)	328 (ft)	656 (ft)	1,640 (ft)
Five-Acre Site					
Construction Thresholds					
Nitrogen Oxides (NO_x)[a]	98	94	101	111	139
Carbon Monoxide (CO)	630	879	1,368	2,514	7,389
Respirable Particulate Matter (PM_{10})	13	41	55	83	166
Fine Particulate Matter ($PM_{2.5}$)	7	10	19	34	104
Operational Thresholds					
Nitrogen Oxides (NO_x)[a]	98	94	101	111	139
Carbon Monoxide (CO)	630	879	1,368	2,514	7,389
Respirable Particulate Matter (PM_{10})	4	10	14	20	40
Fine Particulate Matter ($PM_{2.5}$)	2	3	4	7	21

[a] The localized thresholds listed for NOx in this table take into consideration the gradual conversion of NO to NO_2.The analysis of localized air quality impacts associated with NOx emissions focuses on NO_2 levels as they are associated with adverse health effects.

Source: SCAQMD, 2003.

With regards to NOx emissions, the two principal species of NOx are NO and NO_2, with the vast majority (95 percent) of the NOx emissions being comprised of NO. However, because adverse health effects are associated with NO_2, not NO, the analysis of localized air quality impacts associated with NOx emissions is focused on NO_2 levels. For combustion sources, SCAQMD assumes that the conversion of NO to NO_2 is complete at a distance of 5,000 meters from the source.

CO Hotspot Analysis

Historically, the qualitative CO screening procedure provided in the *Transportation Project-Level Carbon Monoxide Protocol* (the Protocol) were used to determine whether a project poses the potential for a CO hotspot (UCD ITS, 1997). According to the Protocol, projects may worsen air quality if they increase the percentage of vehicles in cold start modes by two percent or more; significantly increase traffic volumes (by five percent or more) over existing volumes; or worsen traffic flow, defined for signalized intersections as increasing average delay at intersections operating at level of service (LOS) E or F or causing an intersection that would operate at LOS D or better without the project, to operate at LOS E or F.

However, CO concentrations have declined dramatically in California due to existing controls and programs, and most areas of the state, including the region in which the Specific Plan area is located, meet the state and federal CO standards. Additionally, CO hotspots have not been seen in the most congested intersections in the region in well over a decade. CO measurements and modeling were important in the early 1980s when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, fewer emissions

from new vehicles and improvements in fuels (CARB, 2004). The reduction in older polluting vehicles and emissions controls on newer vehicles have increased the number of vehicles that can idle, and the length of time that a number of vehicles can idle, before emissions would trigger a CO impact. This increase in vehicle idling has made the use of the LOS as an indicator obsolete for determining CO impacts. For this reason, several air districts, including the Bay Area Air Quality Management District (BAAQMD) (BAAQMD, 2009), have adopted guidelines that focus on criteria other than LOS and percentage traffic increase, and instead focus on total volumes and consistency with construction management plans.

SCAQMD has not created CO screening criteria. Because CEQA allows the Lead Agency to identify thresholds, and SCAQMD does not have CO screening criteria, BAAQMD CO screening criteria was used to determine if modeling is required, as follows:

1. Consistency with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. Traffic volumes at affected intersections would not be increased to more than 44,000 vehicles per hour.
3. Traffic volumes at affected intersections would not be increased to more than 24,000 vehicles per hour, where vertical and/or horizontal mixing is substantially limited (e.g., tunnels, parking garages, bridge underpass, natural or urban street canyon, below-grade roadway).

For the purposes of this analysis, intersections that exceed the BAAQMD CO screening criteria should conduct dispersion modeling to determine the potential impact from the impacted intersections. Where the screening values are not exceeded, the project would be determined to be less than significant with respect to localized CO impacts.

Toxic Air Contaminant Analysis

Currently, SCAQMD has only developed significance thresholds that apply to single stationary and mobile sources of TAC emissions, such as projects involving truck stops or warehouses (SCAQMD 2003). However, in absence of a threshold specific to assessing health impacts from a freeway, SCAQMD's stationary source TAC thresholds of 10 in one million for cancer risk and 1 for hazard index would serve as the most appropriate thresholds for use in a TAC analysis. Thus, for the purpose of this TAC analysis, the aforementioned SCAQMD significance criteria would be used as a benchmark to assess when project design features to reduce exposure to new sensitive receptors from existing mobile or stationary sources would need to be implemented. If this benchmark is exceeded, SCAQMD suggests that the proposed project should reduce health risks associated with exposure to TAC emissions to the greatest extent possible. These criteria are not applied as impact significance thresholds under CEQA. New sources of emissions should be compared to the SCAQMD's stationary source thresholds of 10 in one million.

3.2.4 Methodology

This analysis focuses on the nature and magnitude of the change in the air quality environment due to implementation of the proposed Specific Plan. Air pollutant emissions associated with the

proposed Specific Plan would result from operations of the future residential, commercial, and mixed use development within the Specific Plan area and from traffic volumes generated by these new uses. Construction activities would also generate air pollutant emissions on individual project sites within the Specific Plan area and on roadways resulting from construction-related traffic. The net increase in emissions generated by these activities and other secondary sources have been estimated and compared to the applicable thresholds of significance recommended by SCAQMD.

AQMP Impacts

The proposed Specific Plan area is under the jurisdiction of the SCAQMD, and the SCAQMD 2012 AQMP is currently the applicable air quality plan for the region. Projects that are consistent with the regional population, housing, and employment forecasts identified by SCAG are considered to be consistent with the AQMP growth projections, since the forecast assumptions by SCAG forms the basis of the land use and transportation control portions of the AQMP. Additionally, because SCAG's regional growth forecasts are based upon, among other things, land uses designated in general plans, a project that is consistent with the land use designated in a general plan would also be consistent with the SCAG's regional forecast projections, and thus also with the AQMP growth projections. However, in the case of the County of Los Angeles unincorporated areas such as Willowbrook, the County's growth differs from SCAG's estimated growth and therefore, use of SCAG's estimated growth is appropriate.

SCAQMD's *CEQA Handbook* suggests an evaluation of the following two consistency criterion to determine whether a project involving a legislative land use action (such as the proposed Specific Plan) would be consistent or in conflict with the AQMP:

1. The project would not generate population and employment growth that would be inconsistent with SCAG's growth forecasts, and
2. The project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Consistency Criterion 1 refers to the SCAG's growth forecasts and associated assumptions included in the 2012 AQMP. The future air quality levels projected in the 2012 AQMP are based on SCAG's growth projections, which are based, in part, on the general plans of cities located within the SCAG region. Therefore, projects, uses, and growth that is consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended daily emissions thresholds.

Consistency Criterion 2 refers to the CAAQS. SCAQMD has identified CO as the best indicator pollutant for determining whether air quality violations would occur since it is most directly related to automobile traffic, the emissions of which have been modeled by the SCAQMD to determine future air quality conditions.

Construction Impacts

Short-term construction-generated emissions of criteria air pollutants and ozone precursors associated with the proposed Specific Plan were modeled using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2, as recommended by SCAQMD. CalEEMod was used to determine whether short-term construction-related emissions of criteria air pollutants associated with the proposed Specific Plan would exceed SCAQMD's applicable regional thresholds and whether mitigation would be required. Modeling was based on Plan-specific data, where available. Where Plan-specific information was not available, reasonable assumptions based on other similar Specific Plan projects and default model settings were used to estimate criteria air pollutant and ozone precursor emissions. The timing of construction under the proposed Specific Plan would be dependent on market conditions. It was conservatively assumed that a maximum of 10 percent of the Specific Plan could be under construction in any given year (the project build out is over 20 years). It was also assumed that there could be multiple projects occurring at any given time during any given year, and therefore, construction phases may overlap. Modeling input and output files are provided in Appendix B of this EIR.

In addition, to determine whether or not construction activities associated with the proposed Specific Plan would create significant adverse localized air quality impacts on nearby sensitive receptors, the worst-case daily emissions contribution from the potential development were compared to SCAQMD's localized significance thresholds (LSTs). The LSTs developed by SCAQMD are based on the pounds of emissions per day that can be generated by a project without causing or contributing to adverse localized air quality impacts, and only applies to the following criteria pollutants: CO, NOx, PM_{10}, and $PM_{2.5}$. The analysis of localized air quality impacts focuses only on the on-site activities of a project, and does not include emissions that are generated offsite such as from on-road haul or delivery truck trips (SCAQMD, 2003).

For the purpose of analyzing localized air quality impacts, SCAQMD has developed LSTs for three distinct project site sizes: one-acre, two-acre, and five-acres. The LSTs established for each of the aforementioned site acreages represent the amount of pollutant emissions that would not exceed the most stringent applicable federal or State ambient air quality standards. As the acreage of individual project sites are unknown, the LSTs for construction activities encompassing five acres are to determine whether localized air quality impacts on nearby sensitive receptors would result from the on-site construction emissions.

In conducting the localized air quality analysis, which focuses only on on-site emissions, construction emissions generated from combustion sources (e.g., off-road construction equipment) under a worst-case construction scenario were extracted from the CalEEMod model run outputs. Additionally, to account for the combustion emissions associated with vehicles traveling on-site within active construction sites, vehicles are anticipated to travel approximately 0.2 miles while onsite. Overall, the daily total onsite combustion, mobile, and fugitive dust emissions associated with construction (as well as construction phase overlaps) were combined and evaluated against SCAQMD's LSTs for construction activities encompassing five acres.

Operational Impacts

Long-term (i.e., operational) regional emissions of criteria air pollutants and precursors associated with the proposed Specific Plan, including mobile- and area-source emissions, were also quantified using the CalEEMod computer model. Area-source emissions, which are widely distributed and made of many small emissions sources (e.g., building heating and cooling units, landscaping equipment, consumer products, painting operations, etc.), were modeled according to the size and type of land use proposed. Mass mobile-source emissions were modeled based on the daily vehicle trips that would result from the proposed Specific Plan. Project trip generation rates were available from the Traffic Study prepared for the project by The Mobility Group (Mobility Group, 2016). In addition, as the Specific Plan area is currently occupied by various residential, commercial, and industrial land uses, some of which would remain, some of which would be removed and reconstructed as the same land use, and others that would be removed and constructed as a new or expanded land use as proposed in the Specific Plan.

To determine net emissions increases, changes in land uses that would occur by the proposed Specific Plan were identified. The emissions from existing land uses that would be reduced or removed (either by number of units, square footage or by change in land use) were subtracted from the emissions from the anticipated growth (increase in existing land use types or change in land use). New and renovated structures that are developed with the implementation of the Specific Plan would have a decreased emissions envelope due to new regulatory requirements that was not in place when buildings were originally constructed. The net increase in long-term operational emissions that would be generated by build out of the proposed Specific Plan was then compared with the applicable SCAQMD thresholds for determination of significance.

Aside from regional air quality impacts, localized air quality impacts during operation of the proposed Specific Plan is also analyzed by extracting the onsite operational emissions from the CalEEMod model run for build out of the Specific Plan and evaluating those emissions against SCAQMD's applicable operational LSTs. As with the construction LST analysis, only onsite emissions are used in determining a project's potential to impact local air quality for NOx, CO, PM_{10}, and $PM_{2.5}$. To account for onsite mobile emissions (vehicles traveling through parking lots or parking garages), it was conservatively assumed that a vehicle would travel onsite for 0.2 miles.

3.2.5 Impact Analysis

Air Quality Plan

Impact 3.2-1: The proposed project would conflict with and obstruct implementation of the applicable air quality plan.

Project-Specific

The 2012 AQMP was prepared to reduce high levels of pollutants within the areas under the jurisdiction of SCAQMD, but also to accommodate growth. Projects that are considered to be consistent with the AQMP would not interfere with attainment of air quality standards, because this growth is included in the projections used to formulate the AQMP. Therefore, projects, uses,

and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended daily emissions thresholds.

Projects that are consistent with the projections of employment and population forecasts identified in RTP/SCS are considered consistent with the AQMP growth projections. Therefore, projects that are consistent with the County's General Plan's land use designations are normally considered to be consistent with the RTP/SCS, as the General Plan is normally the basis of the population and employment forecasts in the RTP/SCS, which forms the basis of the land use and transportation control portions of the AQMP. However, in the case of the County of Los Angeles unincorporated areas such as Willowbrook, the County's growth estimated from the General Plan differs from SCAG's estimated growth.

The Specific Plan implements infill development, located in an urbanized area with existing infrastructure, near a transit line. Thus, the Specific Plan would support AQMP objectives to reduce trips, and would aid in the implementation of the AQMP. In addition, the employment generating uses that would be implemented with the Specific Plan would provide new employment opportunities for residents that could reduce regional commute trips.

The Specific Plan would utilize, and make better use of, existing infrastructure, as roadways, drainage, sewer and other infrastructure would accommodate build out of the Specific Plan as described in Section, 3.12, *Utilities and Service Systems*, and would be consistent with the SCAG objective to "*Encourage patterns of urban development and land use that reduce costs in infrastructure construction and make better use of existing facilities.*" The Specific Plan would be consistent with SCAG's objective to reduce vehicle use and promote infill development.

However, as described in Section 3.10, *Population and Housing*, the additional of the residential units and square-footage of non-residential uses at build out of the Specific Plan would generate additional population and employees at build out and full occupancy, which would exceed SCAG's growth projections, and thus would not be consistent with the 2012 AQMP. As a result, the Specific Plan would not comply with Consistency Criterion 1 listed above in the Section 3.2.4, *Methodology*. Therefore, the implementation of the Specific Plan would result in significant impact related to the implementation of the AQMP.

In regards to Consistency Criterion 2, which evaluates the potential of a project to increase the frequency or severity of existing air quality violations, the localized CO hotspot analysis (described below) indicates that the Specific Plan would not result in a localized CO hotspot, and therefore, no significant adverse impacts are anticipated. Therefore, the Specific Plan is consistent with Consistency Criterion 2.

Although the Specific Plan would comply with all rules and regulations as implemented by SCAQMD and CARB, and would conform to the standards and guidelines of the County General Plan, implementation of the Specific Plan would exceed SCAG's growth projections, and thus would not be consistent with the 2012 AQMP, and therefore, the Specific Plan would not comply

with Consistency Criterion 1. Therefore, the implementation of the Specific Plan would result in significant impact related to conflict with or obstruction with an applicable air quality plan.

Cumulative

The geographic area of this cumulative evaluation is the SCAB. Cumulative development consisting of the proposed Specific Plan along with other reasonably foreseeable future projects in the SCAB includes projects that would require amendments to general plans because the proposed growth of a site would exceed the growth allowed in the respective general plan. Because cumulative development would exceed growth in the general plans, the combination of cumulative development would exceed the projections identified in the SCAG RTP/SCS and, therefore, would be in conflict with the AQMP. As a result, cumulative development would result in a significant cumulative impact related to the implementation of the AQMP.

Because the proposed project includes the addition of residential units and non-residential uses that would result in an exceedance of the SCAG growth projections for the project site, the development of the proposed project would not be consistent with the AQMP. Therefore, the project's impact related to the implementation of the AQMP would be cumulatively considerable.

Mitigation

Project-Specific

Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ identified below under Impact 3.2-2 is required.

Cumulative

Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ identified below under Impact 3.2-2 is required.

Significance Determination

Project-Specific

Significant and Unavoidable Impact. The implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ would reduce emissions generated during construction and operational activities. However, the reduction of emissions would still result in significant emissions that would conflict with and obstruct the 2012 AQMP.

Cumulative

Significant and Unavoidable Impact. The implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ would reduce the project's contribution of emissions generated during construction and operational activities; however, the reduction of emissions would still result in significant and the project's contribution to the cumulative conflict and obstruction of the 2012 AQMP would remain cumulatively considerable.

Air Quality Standards/Violations

Impact 3.2-2: The proposed project would violate regional air quality standards during construction activities and contribute substantially to an existing or projected air quality violation.

Project-Specific

Construction

Construction activities would occur intermittently at different sites in the Specific Plan area throughout project buildout. Although the related impacts at any one location would be temporary, construction of individual projects under the proposed Specific Plan could cause adverse effects on local air quality. Construction activities could generate substantial amounts of dust (including PM_{10} and $PM_{2.5}$) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) and other criteria air pollutants primarily from the operation of heavy equipment construction machinery (primarily diesel-operated) and construction worker automobile trips (primarily gasoline-operated). In addition, secondary impacts from upgrading or constructing new infrastructure upgrade would occur as a result of the implementation of the Specific Plan.

Fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the prevailing weather. Sources of fugitive dust during construction could include vehicle movement over paved and unpaved surfaces, demolition, excavation, earth movement, grading, and wind erosion from exposed surfaces. In addition, buildings constructed prior to 1980 often contain asbestos used in insulation, fire retardants, or building materials (floor tile, roofing, etc.) and lead-based paint. As such, demolition activities of such buildings could involve removal and disposal of asbestos and lead-based paint. Airborne asbestos fibers and lead dust pose a serious health threat. The demolition, renovation and removal of asbestos-containing building materials would be subject to the requirements of SCAQMD Rule 1403, which are described in Section 3.2.2 Regulatory Setting.

Construction activities would also result in the emissions of other criteria pollutants from equipment exhaust, construction-related vehicular activity and construction worker automobile trips. Emission levels for construction activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers. Criteria pollutant emissions of ROG and NO_x from these emission sources would incrementally add to the regional atmospheric loading of ozone precursors during project construction.

Mobile source exhaust emissions, primarily NO_X, would result from the use of construction equipment such as graders, backhoes, and cranes. During the finishing phase, paving operations and the application of architectural coatings (i.e., paints) and other building materials would release ROG emissions. The assessment of construction air quality impacts considers each of these potential sources.

It is mandatory for all construction projects in the SCAB to comply with SCAQMD Rule 403 for fugitive dust. Specific Rule 403 control requirements include, but are not limited to, applying

water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, and maintaining effective cover over exposed areas.

Because of the uncertainty of timing and methods of construction activities that would occur under the proposed Specific Plan, a worst-case construction scenario is analyzed here-in. Build out of the Specific Plan is anticipated to occur over 20 years with the location, type, and timing of construction determined by market demand. Construction was assumed to involve the demolition of existing buildings, site grading, building construction, paving and architectural coating. In the absence of detailed construction scheduling information, worst-case assumptions were applied for the analysis of construction emissions. These worst-case daily assumptions for construction activities occurring within the Specific Plan area include the grading of approximately 10 acres, demolition of 20,000 square feet and construction of 105 dwelling units and 172,000 square feet of non-residential use. SCAQMD Rule 402 identifies standards to reduce quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause or have natural tendency to cause injury or damage to business or property. SCAQMD Rule 403 regulates operations, which periodically may cause fugitive dust emissions into the atmosphere. Unmitigated emissions take into account the requirements under SCAQMD Rule 403.

Construction scheduling was based on CalEEMod defaults and typical construction scheduling, and CalEEMod default equipment was used. The emissions estimates are based on the construction development estimated to start in 2018. Due to the changeover in construction fleets as old equipment is replaced with new, it is anticipated that maximum daily emissions would decrease as development occurs in future years.

Maximum daily construction-related emissions are provided in **Table 3.2-6**, which shows the highest daily emission estimate for each construction phase during 2018. As shown, mitigated maximum daily emissions would exceed the SCAQMD daily significance thresholds of ROG, NO_X, and CO. Calculations and modeling input and output is included in Appendix B of this EIR. Therefore, construction impacts related to regional air pollutants of ROG, NO_X, and CO would be significant.

TABLE 3.2-6
REGIONAL CONSTRUCTION EMISSIONS

	Estimated Maximum Daily Emissions (lbs/day)					
Construction Phase	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Demolition	13.60	150.49	84.04	0.19	17.27	8.61
Grading	11.05	121.66	54.17	0.10	18.29	11.99
Residential Construction	80.47	372.00	306.82	0.48	25.38	22.15
Commercial Construction	71.38	163.42	132.31	0.21	11.12	9.66
Maximum Daily Emissions	**176.50**	**807.58**	**577.35**	**1.01**	**72.06**	**54.43**
Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	**Yes**	**Yes**	**Yes**	No	No	No

NOTE: Construction emissions would be slightly different during the summer and winter seasons. Maximum daily emissions of ROG and NO_X would generally be higher during the winter while emissions of CO and SO_2 would generally be higher in the summer. The maximum emissions for each pollutant over the course of the summer and winter seasons are shown in this table.

SOURCE: See Appendix B of this EIR.

Localized Construction Air Quality Impacts – Criteria Air Pollutants

The maximum daily on-site construction emissions generated by the proposed Specific Plan were evaluated against SCAQMD's LSTs for a five-acre site (i.e., multiple construction activities within close proximity of a sensitive receptor and encompassing a total of five acres) to determine whether the emissions would cause or contribute to adverse localized air quality impacts. The Specific Plan would implement infill mixed use development. Therefore, it is assumed that the nearest sensitive receptor would be adjacent to the project site under construction. Since the mass rate look-up tables provided by SCAQMD only provides LSTs at receptor distances of 82, 164, 328, 656, and 1,640 feet, the LSTs for a receptor distance of 82 feet are used to evaluate the potential localized air quality impacts associated with the Specific Plan's peak day construction emissions. Although the nearest off-site sensitive receptors are located closer than 82 feet of a project construction site within the Specific Plan area, SCAQMD's LST methodology states that projects with boundaries located closer than 82 feet (25 meters) to the nearest receptor should use the LSTs for receptors located at 82 feet.

Table 3.2-7 identifies the maximum daily localized on-site construction emissions that are estimated to occur during the Specific Plan's worst-case construction scenario. As shown in Table 3.2-7, the daily emissions would exceed the applicable SCAQMD LSTs in SRA 12 for NOx, PM_{10}, and $PM_{2.5}$ for five acres of disturbance, when within 82 feet of the same receptor. The emissions would not exceed the applicable SCAQMD LST for CO. As distances between project construction and receptors increase, the allowable daily emissions would increase. However, because it is unknown how many projects would be under construction at the same time and what the distances would be between projects and the nearest receptors, a worst-case construction assessment was assumed with respect to LST impacts which is the same level of construction activities assumed in the regional construction emissions evaluation above. These worst-case assumptions for daily LST construction impacts include the following activities occurring within

82 feet of a sensitive receptor: grading of approximately 10 acres, demolition of 20,000 square feet and construction of 105 dwelling units and 172,000 square feet of non-residential use. As the Specific Plan's worst-case construction emissions would exceed SCAQMD's applicable LST for NOx, PM_{10}, and $PM_{2.5}$, the localized air quality impacts associated with NOx, PM_{10} and $PM_{2.5}$ would be significant.

TABLE 3.2-7
LOCALIZED CONSTRUCTION EMISSIONS

	Estimated Maximum Daily Emissions (lbs/day)			
Construction Year / Phase	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
2018				
Demolition	121.82	75.55	14.86	7.88
Grading	121.45	51.90	17.72	11.84
Building Construction	369.65	295.51	22.58	21.39
Commercial Construction	159.66	127.47	9.95	9.33
Maximum Daily Emissions	**772.58**	**550.43**	**65.11**	**50.44**
Localized Significance Threshold [a]	*98*	*630*	*13*	*7*
Significant Impact?	**Yes**	No	**Yes**	**Yes**

[a] LSTs in SRA 12 for construction disturbance of five acres at a receptor distance of 82 feet (25 meters) from the site boundary.

Source: See Appendix B of this EIR.

Operation

The addition of residential units and square-footage of non-residential uses at build out of the Specific Plan would result in long-term regional emissions of criteria air pollutants and ozone precursors associated with area sources, such as natural gas consumption, landscaping, applications of architectural coatings, and consumer products, in addition to operational mobile emissions. According to the traffic study prepared for the proposed Specific Plan, and as shown the Table 3.12-6 of Section 3.12 *Transportation and Traffic*, the Project would add 3,139 new AM peak hour trips and 3,832 new PM peak hour trips to the Specific Plan area.

Operational emissions associated with the build out of the proposed Specific Plan were modeled and the estimated regional operations emissions are provided in **Table 3.2-8**. As shown, the proposed Specific Plan would result in long-term regional emissions of criteria air pollutants and ozone precursors that exceed the SCAQMD's applicable thresholds for ROG, NO_X, CO, PM_{10} and $PM_{2.5}$. Therefore, operational impacts related to regional air pollutants of ROG, NO_X, CO, PM_{10} and $PM_{2.5}$ would be significant.

TABLE 3.2-8
REGIONAL OPERATIONAL EMISSIONS

	Estimated Emissions (lbs/day)					
Emissions Source	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	1,036.06	77.42	2,013.27	4.73	279.09	279.10
Energy Sources	1.54	13.55	8.26	0.08	1.07	1.07
Mobile Sources	40.26	197.54	509.41	2.16	151.78	42.84
Total Emissions	**1,077.86**	**288.51**	**2,530.95**	**6.98**	**431.95**	**323.01**
Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Significant Impact?	**Yes**	**Yes**	**Yes**	No	**Yes**	**Yes**

NOTE: Operational emissions would be slightly different during the summer and winter seasons. Maximum daily emissions of ROG and NO_X would generally be higher during the winter while emissions of CO and SO_2 would generally be higher in the summer. The maximum emissions for each pollutant over the course of the summer and winter seasons are shown in this table.

SOURCE: See Appendix B of this EIR.

Localized Operational Air Quality Impacts – Criteria Air Pollutants

The maximum daily localized operational emissions generated by the proposed Specific Plan were evaluated against SCAQMD's LSTs for the operation of five acres of development to determine whether the emissions would cause or contribute to adverse localized air quality impacts. A worst-case maximum daily localized on-site emission level within 82 feet of the same sensitive receptor was evaluated. This worst-case assumption at the same sensitive receptor assumed maximum emissions to occur from the operation of 312,000 square feet of development located within Group Location One, MLKMedical (see Figure 2-6 in Section 2, Project Description) and within 82 feet of the same sensitive receptor.

The proposed Specific Plan's worst-case localized operational emissions are shown in **Table 3.2-9**. As shown in Table 3.2-9, the total operational emissions generated locally would not exceed SCAQMD's applicable operational LSTs in SRA 12 for the operation of five acres of development for NOx, CO, PM_{10}, and $PM_{2.5}$, when operational activities are within 82 feet of the same sensitive receptor. Because the Specific Plan's worst-case operational emissions would not exceed SCAQMD's applicable operational LST for NOx, CO, PM_{10}, and $PM_{2.5}$, the localized air quality impacts associated with NOx, CO, PM_{10} and $PM_{2.5}$ would be less than significant.

Localized Operational Air Quality Impacts – CO Hotspots

As discussed in Section 3.12 *Transportation and Traffic*, a total of 65 local intersections were analyzed as part of the traffic study that was prepared for the proposed Specific Plan (The Mobility Group, 2016). As determined in Section 3.2.3 *Thresholds of Significance,* the more conservative localized CO screen threshold for the project is that traffic volumes at affected intersections would not be increased to more than 24,000 vehicles per hour. As shown in Section 3.12, the existing plus project and future with peak hour project conditions for each of the study area intersections would not increase by more than the threshold of 24,000 vehicles per hour. Therefore, the project would not result in localized CO impacts, and the impact would be less than significant.

TABLE 3.2-9
LOCALIZED OPERATIONAL EMISSIONS

	Estimated Emissions (lbs/day)			
Localized Emissions	**NO_X**	**CO**	**PM_{10} [a]**	**$PM_{2.5}$ [a]**
Area	0.01	0.03	0.01	0.01
Energy	5.45	4.57	0.41	0.41
Maximum Localized (On-Site) Emissions	**5.46**	**4.60**	**0.42**	**0.42**
Localized Significance Threshold [b]	*98*	*630*	*4*	*2*
Significant Impact?	No	No	No	No

[a] Emissions account for implementation of dust control measures as required by SCAQMD Rule 403—Fugitive Dust.
[b] LSTs in SRA for five-acres of development operations in SRA 12 at a receptor distance of 82 feet.

SOURCE: See Appendix B of this EIR.

Cumulative

Regional Emissions

The geographic area of the cumulative evaluations of regional emissions is the SCAB.

Construction

Cumulative development, consisting of the proposed Specific Plan along with other reasonably foreseeable future projects in the SCAB as a whole, would generate daily construction emissions. The SCAQMD neither recommends quantified analyses of cumulative construction emissions nor provides methodologies or thresholds of significance to be used to assess cumulative construction impacts. Individual cumulative construction projects that exceed the SCAQMD recommended daily thresholds for an individual project would cause a cumulatively considerable impact. It is reasonable to assume that there are individual projects with the SCAB that exceed the SCAQMD regional construction thresholds. Therefore, cumulative development would result in significant regional construction criteria pollutant emissions.

Because the proposed Specific Plan would exceed the SCAQMD's regional construction thresholds for ROG, NO_X, and CO, the proposed project's contribution to cumulative impacts related to regional ROG, NOx and CO would be cumulatively significant. Because the project would not exceed the SCAQMD's regional construction threshold for SO_2, PM_{10} and $PM_{2.5}$, the project's contribution to cumulative impacts to these criteria pollutants would be less than cumulatively considerable.

Operational

Cumulative development, consisting of the proposed Specific Plan, along with other reasonably foreseeable future projects in the SCAB as a whole, would generate daily operational emissions. The SCAQMD neither recommends quantified analyses of cumulative operational emissions nor provides methodologies or thresholds of significance to be used to assess cumulative operational impacts. Individual projects that exceed the SCAQMD recommended daily thresholds for project-

specific impacts would cause a cumulatively considerable impact. It is reasonable to assume that there are individual projects within the SCAB that exceed the SCAQMD regional operational thresholds. Therefore, cumulative development would result in significant regional operational criteria pollutant emissions.

Because the proposed Specific Plan would exceed the SCAQMD's regional operational thresholds for ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ the proposed project's contribution to cumulative impacts related to regional operational ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions would be cumulatively considerable. Because the project would not exceed the SCAQMD's regional operational thresholds for SO_2, the project's contribution to cumulative impacts related to regional operational SO_2 emissions would be less than cumulatively considerable.

Localized Emissions

The geographic area of this cumulative evaluation of localized emissions is the South Los Angeles area which is defined as Sensitive Receptor Area 12 by SCAQMD.

Construction

Cumulative development, consisting of the proposed Specific Plan along with other reasonably foreseeable past, present and future projects in the South Los Angeles area, would generate daily localized construction emissions. SCAQMD neither recommends quantified analyses of cumulative localized construction emissions nor provides methodologies or thresholds of significance to be used to assess cumulative localized impacts. Individual projects that exceed the SCAQMD recommended daily LSTs for NOx, CO, PM_{10}, and $PM_{2.5}$ would cause a cumulatively significant impact. It is reasonable to assume that there are individual projects within the South Los Angeles area that exceed the SCAQMD localized construction thresholds. Therefore, cumulative development would result in significant localized operational criteria pollutant emissions.

Because the proposed Specific Plan would exceed the SCAQMD's localized construction thresholds for NO_X, PM_{10} and $PM_{2.5}$, the proposed project's contribution to cumulative impacts related to localized NO_X, PM_{10} and $PM_{2.5}$ emissions would be cumulatively considerable. Because the project would not exceed the SCAQMD's localized construction threshold for CO, the project's contribution to cumulative CO impacts would be less than cumulatively considerable.

Operational

Cumulative development, consisting of the proposed Specific Plan along with other reasonably foreseeable future projects in the South Los Angeles area, would generate daily localized operational emissions. SCAQMD neither recommends quantified analyses of cumulative operational emissions nor provides methodologies or thresholds of significance to be used to assess cumulative localized operational impacts. Individual projects that exceed the SCAQMD recommended daily LSTs for NOx, CO, PM_{10}, and $PM_{2.5}$ would cause a cumulatively significant impact. It is reasonable to assume that there are individual projects within the South Los Angeles area that exceed the SCAQMD localized operational thresholds. Therefore, cumulative

development would result in cumulatively significant localized operational impacts related to criteria pollutants.

Because the proposed Specific Plan would not exceed the SCAQMD's localized operational thresholds for NO_X, CO, PM_{10} and $PM_{2.5}$, the proposed project's contribution to cumulative operational impacts related to localized NO_X, CO, PM_{10} and $PM_{2.5}$ emissions would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

Mitigation Measure AIR-1: The County shall ensure that project approvals within the Specific Plan area require that all onsite construction vehicles and equipment with horsepower greater than 50 shall meet, at a minimum, USEPA Tier IV interim engine certification requirements. If Tier IV interim equipment is not available, the contractor may apply other available technologies available for construction equipment such that it would achieve a comparable reduction in NOx and PM emissions comparable to that of Tier IV construction equipment. Where alternatives to USEPA Tier IV are utilized, the contractor shall be required to show evidence to the County that these alternative technologies would achieve comparable emissions reductions. Certifications or alternative reduction strategies shall be required prior to receiving a construction permit. In addition, contractors shall limit heavy-duty construction equipment idling time to ~~5~~ 3 minutes, limit non-heavy-duty construction equipment idling time to 5 minutes, maintain construction equipment in good operating condition, use construction equipment that uses low-polluting fuels to the extent available and feasible (i.e. compressed natural gas, liquid petroleum gas, and unleaded gasoline).

Mitigation Measure AIR-2: The County shall ensure that project approvals within the Specific Plan area require that all active construction areas shall be watered at least four times daily to reduce fugitive dust emissions from grading, excavation, and other ground preparation. Watering shall be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water shall be used whenever possible.

Mitigation Measure AIR-3 Reduction or elimination of fireplaces within residential development such that there are no fireplaces within 95 percent of all new/redeveloped single family residential development or 100 percent of all multifamily residential development (new and redeveloped) within the Specific Plan area. Compliance would be ensured through County review prior to the issuance of a building permit.

Mitigation Measure AIR-4 All commercial development will use low-VOC architectural coating such that interior coatings do not exceed 10 grams per liter (g/l) of VOC content and exterior coatings do not exceed 100 g/l. This measure is to be made a condition of approval for continued upkeep of the property.

Mitigation Measure AIR-5 All commercial developments will use low-VOC cleaning supplies. This measure is to be made a condition of approval for continued upkeep of the property.

~~**Mitigation Measure AIR-6** All new development shall have electrical outlets associated with the outside of the buildings such that all landscaping equipment could be electrically operated.~~

Mitigation Measure AIR-6 ~~7~~ All new development shall comply with the Title 24 requirements in effect at the time of construction and shall, at a minimum, exceed 2013 Title 24 energy efficiency standards by 15 percent.

Cumulative

Implementation of Mitigation Measure AIR-1 through **AIR-6 ~~7~~** is required to reduce cumulative regional and localized emissions during construction and operational activities.

Significance Determination

Project-Specific

Significant and Unavoidable Impact. With the implementation of Mitigation Measures AIR-1 and AIR-2, construction emission impacts from implementation of the Specific Plan would remain significant. The implementation of Mitigation Measures AIR-3 through AIR-6 ~~7~~ would reduce air quality operational emissions; however, operational emissions would still exceed daily thresholds. Therefore, project construction and operational impacts related to violation of a regional air quality standard or contribution to an existing or projected air quality violation would be significant and unavoidable.

Cumulative

Significant and Unavoidable Impact. Implementation of Mitigation Measures AIR-1 and AIR-2 would reduce regional and localized construction emissions from development projects that would occur from implementation of the proposed Specific Plan; however, impacts after mitigation would remain significant, and therefore the project would remain cumulatively considerable.

Implementation of Mitigation Measures AIR-2 through AIR-6 ~~7~~ would reduce regional and localized operation emissions from development projects that would occur from implementation of the proposed Specific Plan; however, impacts after mitigation would remain significant for regional operational emissions, and therefore, the project would remain cumulatively considerable.

Criteria Pollutant

Impact 3.2-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Project-Specific

This impact evaluation relates to the potential cumulative effect of increasing criteria pollutants. This evaluation is provided below.

Cumulative

The geographic area of the cumulative evaluation of criteria pollutants is the SCAB. A cumulative impact arises when two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant impacts, meaning that the project's incremental effects must be viewed in connection with the effects of past, current, and probable future projects.

As the SCAB is currently in non-attainment for ozone, PM_{10}, and $PM_{2.5}$, cumulative development consisting of the proposed Specific Plan along with other reasonably foreseeable future projects in the Basin as a whole could violate an air quality standard or contribute to an existing or projected air quality violation. This is considered to be a significant cumulative impact.

With respect to determining the significance of the proposed Specific Plan's contribution to regional emissions, the SCAQMD neither recommends quantified analyses of cumulative emissions nor provides methodologies or thresholds of significance to be used to assess cumulative impacts. According to the SCAQMD, individual projects that exceed the SCAQMD recommended daily thresholds for project-specific impacts would cause a cumulatively considerable increase in emissions for those pollutants for which the SCAB is in non-attainment under an applicable federal or state ambient air quality standard. As discussed previously, the worst-case daily emissions associated with the proposed Specific Plan would exceed the SCAQMD's thresholds for ROG, NO_X, and CO. Therefore, because project pollutants that are currently in federal non-attainment of NAAQS (i.e., ozone, PM_{10}, and $PM_{2.5}$), would increase the amount of non-attainment pollutants, the project's contribution to cumulative impacts on non-attainment criteria pollutants would be significant.

Because the proposed Specific Plan would exceed the quantitative thresholds of ozone precursors (ROG and NOx), the proposed project's contribution to cumulative impacts to nonattainment criteria pollutants (ROG and NOx) would be cumulatively considerable. Because the project would not exceed the quantitative thresholds of the CO nonattainment criteria pollutant, the project's contribution to cumulative impacts to the CO criteria pollutant would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

The analysis above related to the cumulative evaluation, and therefore, the mitigation measures are discussed below under cumulative.

Cumulative

Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ is required.

Significance Determination

Project-Specific

This determination relates to the cumulative determination as discussed below under cumulative.

Cumulative

Significant and Unavoidable Impact. Implementation of Mitigation Measures AIR-1 and AIR-2 would reduce construction emissions from development projects that would occur from implementation of the proposed Specific Plan; however, impacts after mitigation would remain significant, and therefore would be cumulatively considerable. As the Specific Plan would result in a significant impact with respect to SCAQMD thresholds during operation, impacts would also be cumulatively considerable.

Sensitive Receptors

Impact 3.2-4: The project would expose sensitive receptors to substantial pollutant concentrations, including increased levels of TACs.

Project-Specific

In an urbanized environment, air pollutant concentrations are usually most prominent along busy streets and at busy intersections, where automotive exhausts can build up while vehicles stop and idle or slow down to approach and proceed through or make turning movements. The primary source of potential air toxics associated with operation of the proposed Specific Plan include diesel particulates from construction equipment during construction, and upon completion of construction, diesel particulates from delivery trucks (e.g., truck traffic on local streets and onsite truck idling) to the non-residential uses proposed in the Specific Plan.

Construction activities would take place intermittently as various development projects occur within the Specific Plan area throughout the 20-year build out period. Because development projects would be short-term and scattered throughout the Specific Plan area, sensitive receptors would be exposed for short-term limited time during nearby construction activities, but would not be exposed to construction emissions over the entire construction period. Health risk is evaluated assuming a constant exposure to emissions over a 70-year lifetime, 24 hours a day, seven days a week. As the exposure to receptors would be short-term and limited during infill development

activities, diesel particular matter (DPM) impacts from construction activities would be considered less than significant.

Implementation of the proposed Specific Plan would result in new land uses in the Specific Plan area consisting of residential and non-residential employment generating uses that may utilize solvents and cleaners, and generate motor vehicle emissions, which are not anticipated to emit TAC emissions in appreciable quantities. In addition, any non-residential use that would be a stationary source of TAC emissions would be subject to the rules and regulations of SCAQMD. As discussed previously, TACs are regulated at the federal, state, and local levels. At the local level, SCAQMD Regulation XIV (Toxics and Other Non-Criteria Pollutants), and in particular Rule 1401 (New Source Review), would require that all sources that possess the potential to emit TACs be required to obtain permits from SCAQMD. Permits are granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. This impact would be less than significant.

ARB's Handbook includes the recommendation to avoid the siting of new sensitive land uses (e.g., residences, schools) within 500 feet of freeways, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. In addition, the County of Los Angeles Department of Public Health includes a recommendation within the *Air Quality Recommendations for Local Jurisdictions* to include a buffer of at least 500 feet between freeways and sensitive land uses such as residences. The implementation of the proposed Specific Plan would allow the development of residential uses to be located within 500 feet of a freeway. Therefore, the location of the proposed residential uses would not be in concurrence with ARB or County of Los Angeles Department of Health recommendations. Based on the criteria in the ARB guidance document, it can be ascertained that the proposed Specific Plan would have the potential to expose sensitive receptors to TACs from mobile sources to an extent that health risks could result. This impact would be a significant impact.

New sensitive receptors would be exposed to TAC emissions from Metro trains. Sensitive receptors introduced by the proposed Specific Plan would primarily include residential uses. The Willowbrook/Rosa Parks Station is located at the intersection of the I-105 and South Wilmington Avenue within the Specific Plan area. The station is a multimodal transit facility that serves both the Metro Blue and Green light rail lines, along with six Metro bus routes, and local buses and shuttles that connect with the wider Metro rail and bus network throughout the region.

Based on Metro train timetables, Metro currently operates passenger trains daily along the Metro Blue Line. Northbound trains pass the Willowbrook/Rosa Parks Station from 4:14 AM to 12:15 AM and southbound trains pass the Willowbrook/Rosa Parks Station from 4:59 AM to 1:55 AM approximately every 15 minutes (approximately 260 daily events). Additionally, Union Pacific uses an adjacent rail line that has an average of two to six freight trains traversing the project area daily. The approximate daily train trips are only present intermittently and for a brief time. As such, the train trips are not a constant local source of emissions.

ARB's Air Quality and Land Use Handbook provides general guidance that can be applied to projects proposed in the vicinity of line source emissions, such as freeways, train tracks, etc. The report, based on traffic-related studies, states that the additional non-cancer health risk attributable to proximity, was strongest within 300 feet. Therefore, impacts from Metro trains would be greatest within 300 feet of the tracks, and sensitive receptors within 300 feet from the tracks could potentially be exposed to levels of DPM emissions that would be a significant impact. The proposed project would include the development of new housing units within 300 feet from the existing tracks. Therefore, implementation of the proposed project could expose new sensitive receptors to significant TAC impacts.

Cumulative

Implementation of the proposed Specific Plan would result in new sensitive land uses in the Specific Plan area, which would potentially result in siting sensitive receptors within 300 feet from the Metro rail tracks, and potentially would be exposed to DPM emission levels from diesel-fueled Metro trains that would result in a significant impact.

Cumulative development, consisting of the proposed Specific Plan along with other reasonably foreseeable future projects in the Specific Plan area, would site new sensitive land uses within 500 feet of a freeway and within 300 feet from the Metro rail tracks. Exposure of these new sensitive receptors to DPM emission levels from diesel-fueled trucks on freeways and along Metro train routes would result in a cumulative significant impact.

Because the proposed project includes the placement of residential uses within 500 feet of a freeway and within 300 feet from the Metro rail tracks, the proposed project would contribute to potential significant cumulative impacts that would be cumulatively considerable.

Mitigation Measures

Project-Specific

Mitigation Measure AIR-<u>7</u> ~~8~~: The County shall ensure that project approvals within the Specific Plan area require that any sensitive uses proposed to be located within 300 feet of the Metro tracks and within 500 feet of freeways shall be equipped with a filtered air supply system to maintain units under positive pressure when windows are closed. The ventilation system, whether a central HVAC (heating, ventilation and air conditioning) or a unit-by-unit filtration system, shall include high-efficiency filters meeting minimum efficiency reporting value (MERV) 13, per American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2 (equivalent to approximately ASHRAE Standard 52.1 Dust Spot 85%). The efficiency rating of the filtration system shall be determined based on a health risk assessment conducted for the proposed development, such that cancer and non-cancer risks are reduced to a 10 in one million increase in cancer risk, and less than 1 for non-cancer risk, unless thresholds are superseded by more current SCAQMD threshold. Air intake systems for HVAC shall be placed based on exposure modeling to minimize roadway air pollution sources. The ventilation system shall be designed by an engineer certified by ASHRAE, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. Disclosure to the occupants (buyers and renters) shall be required

regarding the proximity of Metro tracks (within a 300-foot radius) and freeways (within a 500-foot radius), the occurrence of diesel emissions form Metro trains and freeways heavy truck traffic), and the potential increased cancer and non-cancer risks associated with the development location.

Cumulative

Implementation of Mitigation Measure AIR-7 ~~8~~ is required.

Significance Determination

Project-Specific

Less than significant impact. After the implementation of Mitigation Measure AIR-7 ~~8~~, TAC emissions that would be exposed to sensitive uses would be reduced to less than significant.

Cumulative

Less than significant impact. After the implementation of Mitigation Measure AIR-7 ~~8~~, the proposed project's contribution to cumulatively exposing sensitive uses to TAC emissions would be reduce to less than cumulatively considerable.

3.2.6 References

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3.3 Cultural Resources

Introduction

This section addresses the impacts of the project on cultural and paleontological resources. This section describes the environmental setting for cultural and paleontological resources, the applicable regulatory framework, impacts of the proposed project, and mitigation measures to reduce significant impacts.

Cultural resources are defined as prehistoric and historic sites, structures, districts, and landscapes, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious, or any other reason. Under the California Environmental Quality Act (CEQA), paleontological resources, although not associated with past human activity, are grouped within cultural resources. For analysis purposes, cultural resources may be categorized into four groups: archaeological resources, historic resources (including architectural/engineering resources), Native American resources (although these may also be considered subsets of archaeological or historic resources), and paleontological resources.

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric-era (before European contact) or historic-era (after European contact). The majority of such places in California are associated with either Native American or Euro-American occupation of the area. The most frequently encountered prehistoric or historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and rock art sites. Historic-era archeological sites may include foundations or features such as privies, corrals, and trash dumps.

Historic resources include standing structures, infrastructure, and landscapes of historic or aesthetic significance that are generally 50 years of age or older. In California, historic resources considered for protection tend to focus on architectural sites dating from the Spanish Period (1529-1822) through World War II (WWII) and Post War era facilities. Some resources, however, may have achieved significance within the past 50 years if they meet the criteria for exceptional significance. Historic resources are often associated with archaeological deposits of the same age.

Tribal cultural resources can include archaeological resources, rock art, and the prominent topographical areas, features, habitats, plants, animals, and minerals that contemporary Native Americans value and consider essential for the preservation of their traditional values. These locations are sometimes difficult to define and traditional culture often prohibits Native Americans from sharing these locations with the public.

Paleontology is a branch of geology that studies the life forms of the past, especially prehistoric life forms, through the study of plant and animal fossils. Paleontological resources represent a

limited, non-renewable, and impact-sensitive scientific and educational resource. As defined in this section, paleontological resources are the fossilized remains or traces of multi-cellular invertebrate and vertebrate animals and multi-cellular plants, including their imprints from a previous geologic period. Fossil remains such as bones, teeth, shells, and leaves are found in the geologic deposits (rock formations) where they were originally buried. Paleontological resources include not only the actual fossil remains, but also the collecting localities, and the geologic formations containing those localities.

3.3.1 Environmental Setting

Geologic Setting

The Specific Plan area is located in the southern part of the Transverse Ranges Geomorphic Province in the Los Angeles Basin (Basin), which is about 50 miles long and 20 miles wide. The Basin is bounded on the north by the Santa Monica Mountains and the Elysian, Repetto, and Puente Hills and on the east and southeast by the Santa Ana Mountains and San Joaquin Hills. The Basin's low land surface slopes gently south or seaward towards the Pacific Ocean. The Specific Plan area is underlain more than 1,000 feet of alluvial sediments eroded from the Santa Monica Mountains, and deposited since the Pliocene (Yerkes et al., 1971). Near surface underlying the Specific Plan area date to the Pleistocene to Holocene (Saucedo et al., 2016). Beneath the alluvial deposits are marine sediments deposited during a time when a shallow sea covered much of southern California (County of Los Angeles, 2010). The ground surface of the Specific Plan area is generally flat portion of alluvial fan, sloping from 95 feet above mean sea level (amsl) in the northwest to 82 feet amsl in southeast.

A review of six borehole logs within or near the Specific Plan area (CGS, 2017) reveals the area is underlain by a series of fine-grained (i.e., silt, clay, fine sand) deposits to depth of more than 60 feet below ground surface. These sediments are the result of sheet wash and overbank flooding from current and former channels of the Los Angeles River to the east, Compton Creek to the west, and other streams. Early topographic maps depict a meandering, intermittent stream bisecting the Specific Plan area from north to south, and just east of Willowbook Avenue. Historically, portions of Willowbrook consisted of marshy ground, particularly in areas along Compton Creek and former courses of the Los Angeles River (CDOC, 1998). Soils within the Specific Plan area consist of soil complexes (Urban land-Hueneme, drained-San Emigdo, and Urban land-Biscailuz-Hueneme, drained) characterized by multiple parent soil horizons (C-horizons) with loamy textures (NRCS, 2017), consistent with a long history of repeated alluvial deposition.

Today, the Specific Plan area is urban and developed, with 80 to 90 percent of the ground surface classified as impervious.

Paleontological Setting

Surface deposits within the project site consist of younger Quaternary Alluvium, primarily derived from fluvial deposits from the floodplain of the Los Angeles River that currently flows in a concrete channel about 3 miles east of the project site. Alluvium in the project site is also

derived from fluvial deposits from Compton Creek that currently flows about 0.35-mile west of the project site. Typically, the younger Quaternary deposits do not contain significant vertebrate fossils, at least in the upper most layers. However, Quaternary deposits found at varying deeper depths, as shallow as 5 feet in depth, could contain significant fossil vertebrate remains (McLeod, 2017).

3.3.2 Cultural Setting

Prehistoric Setting

The chronology of southern California is typically divided into three general time periods: the Early Holocene (11,000 to 7,600 Before Present [B.P.]), the Middle Holocene (7,600 to 3,600 B.P.), and the Late Holocene (3,600 B.P. to A.D. 1769). Within this timeframe, the archaeology of southern California is generally described in terms of cultural "complexes." A complex is a specific archaeological manifestation of a general mode of life, characterized archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture.

While it is not certain when humans first came to California, their presence in southern California by about 11,000 B.P. has been well documented. At Daisy Cave, on San Miguel Island, cultural remains have been radiocarbon dated to between 11,100 and 10,950 B.P. (Byrd and Raab 2007). On the mainland, radiocarbon evidence confirms occupation of the Orange County and San Diego County coast by about 9,000 B.P. During the Early Holocene (11,000 to 7,600 B.P.), the climate of southern California became warmer and more arid and the human population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Byrd and Raab 2007).

The primary Early Holocene cultural complex in southern California was the San Dieguito Complex, which occurred between approximately 10,000 and 8,000 B.P. The people of the San Dieguito Complex inhabited the chaparral zones of southwestern California, exploiting the plant and animal resources of these ecological zones (Warren 1984). Leaf-shaped and large-stemmed projectile points, scraping tools, and crescentics are typical of San Dieguito Complex material culture.

During the Middle Holocene (7,600 to 3,600 B.P.), there is evidence for the processing of acorns for food and a shift toward a more generalized economy. Around 7,000 B.P., Millingstone cultures appeared, characterized by the collection and processing of plant foods, particularly acorns, and the hunting of a wider variety of game animals (Byrd and Raab 2007; Wallace 1955).

During the Late Holocene (3,600 B.P. to A.D. 1769), native populations of southern California were becoming less mobile and populations began to gather in small sedentary villages with satellite resource-gathering camps. Evidence indicates that the overexploitation of larger, high-ranked food resources may have led to a shift in subsistence, towards a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab 2007). Around 1,000 B.P. there was an episode of sustained drought, known as the Medieval Climactic

Anomaly. While this climatic event did not appear to reduce the human population, it did lead to a change in subsistence strategies in order to deal with the substantial stress on resources. Although the intensity of trade had already been increasing, it now reached its zenith, with asphaltum (tar), seashells, and steatite being traded from southern California to the Great Basin. Major technological changes appeared as well, particularly with the advent of the bow and arrow, which largely replaced the use of the dart and atlatl. Small projectile points, ceramics, including Tizon brownware pottery, and obsidian from Obsidian Butte (Imperial County), are all representative artifacts of the Late Holocene.

Ethnographic Background

The project site is located within the territory of the native population known as the Gabrielino Prior to European colonization, the Gabrielino occupied a diverse area that included the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Bean and Smith 1978). The Gabrielino were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply and some measure of protection from flooding. Community populations generally ranged from 50-100 inhabitants, although larger settlements may have existed. The Gabrielino are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber 1925). Houses were made of tule mats on a framework of poles (Bean and Smith 1978). Basketry and steatite vessels were used rather than ceramics; ceramics became common only toward the end of the Mission Period in the nineteenth century. The Gabrielino held some practices in common with other groups in southern California, such as the use of jimsonweed in ceremonies as did the Luiseño and Juaneño, but details of the practices and the nature of cultural interaction between the Gabrielino and other groups in southern California are unknown. Maps produced by early explorers indicate the existence of at least 40 Gabrielino villages in the region, but as many as 100 may have existed prior to contact with Europeans (Bean and Smith 1978; McCawley 1996).

Historic-Period Setting

Spanish Period (A.D. 1542–1821)

Although Spanish explorers made brief visits the region in 1542 and 1602, sustained contact with Europeans did not commence until the onset of the Spanish Period. In 1769 Gaspar de Portolá led an expedition from San Diego, passing through the Los Angeles Basin and the San Fernando Valley, on its way to the San Francisco Bay (McCawley, 1996). Father Juan Crespi, who accompanied the 1769 expedition, noted the suitability of the Los Angeles area for supporting a large settlement. This was followed in 1776 by the expedition of Father Francisco Garcés (Johnson and Earle, 1990).

In the late 18th century, the Spanish began establishing missions in California and forcibly relocating and converting native peoples. Mission San Gabriel Arcángel was founded on September 8, 1771 and Mission San Fernando Rey de España on September 8, 1797. By the early 1800s, the majority of the surviving Gabrielino-Tongva population had entered the mission system, either at San Gabriel or San Fernando. Mission life offered some degree of security in a

time when traditional trade and political alliances were failing and epidemics and subsistence instabilities were increasing (Jackson 1999). This lifestyle change also brought with it significant negative consequences for Gabrielino-Tongva health and cultural integrity.

On September 4, 1781, El Pueblo de la Reina de los Angeles was established not far from the site where Portolá and his men camped during their 1769 excursion, with a land grant of 28 acres issued to California Governor Felipe de Neve in 1781 (Gumprecht 2001). The pueblo was first established in response to the increasing agricultural needs of Spanish missions and presidios in Alta California. The original pueblo consisted of a central square surrounded by twelve houses and a series of agricultural fields. Thirty-six fields occupied 250 acres between the town and the river to the east (Gumprecht 2001).

By 1786, the flourishing pueblo attained self-sufficiency and funding by the Spanish government ceased. Fed by a steady supply of water and an expanding irrigation system, agriculture and ranching grew, and by the early 1800s the pueblo produced surplus wheat, corn, barley, and beans for export. A large number of livestock, including cattle and sheep, grazed in the surrounding lands (Gumprecht 2001).

Mexican Period (A.D. 1821–1848)

After Mexico gained its independence from Spain in 1821, Los Angeles became the capital of the California territory in 1835 (Gumprecht 2001). Mexico continued to promote settlement of California with the issuance of land grants. In 1833, Mexico began the process of secularizing the missions, reclaiming the majority of mission lands and redistributing them as land grants. According to the terms of the Secularization Law of 1833 and Regulations of 1834, at least a portion of the lands would be returned to the Native populations, but this did not always occur (Milliken et al. 2009).

Many ranchos continued to be used for cattle grazing by settlers during the Mexican Period. Hides and tallow from cattle became a major export for Californios (native Hispanic Californians), many of whom became wealthy and prominent members of society. The Californios led generally easy lives, leaving the hard work to vaqueros (Hispanic cowhands) and Indian laborers (Pitt 1994; Starr 2007).

American Period (A.D. 1848–Present)

Mexico ceded California to the United States as part of the Treaty of Guadalupe Hildalgo in 1848. California officially became one of the United States in 1850. While the treaty recognized right of Mexican citizens to retain ownership of land granted to them by Spanish or Mexican authorities, the claimant was required to prove their right to the land before a patent was given. The process was lengthy and generally resulted in the claimant losing at least a portion of their land to attorney's fees and other costs associated with proving ownership (Starr, 2007).

When the discovery of gold in Northern California was announced in 1848, a huge influx of people from other parts of North America flooded into California and the population of Los Angeles tripled between 1850 and 1860. The increased population provided an additional outlet

for the Californios' cattle. As demand increased, the price of beef skyrocketed and Californios reaped the benefits. However, a devastating flood in 1861, followed by droughts in 1862 and 1864, led to a rapid decline of the cattle industry; over 70 percent of cattle perished during these droughts (McWilliams, 1946; Dinkelspiel, 2008). These natural disasters, coupled with the burden of proving ownership, caused many Californios to lose their lands during this period. Former ranchos were subsequently subdivided and sold for agriculture and residential settlement (Gumprecht, 2001; McWilliams, 1946).

Los Angeles was connected to the transcontinental railroad via San Francisco on September 5, 1876, and the population again exploded. The city would experience its greatest growth in the 1880s when two more direct rail connections to the East Coast were constructed. The Southern Pacific completed its second transcontinental railway, the Sunset Route from Los Angeles to New Orleans, in 1883 (Orsi, 2005). In 1885, the Santa Fe Railroad completed a competing transcontinental railway to San Diego, with connecting service to Los Angeles (Mullaly and Petty, 2002). The resulting fare wars led to an unprecedented real estate boom. Despite a subsequent collapse of the real estate market, the population of Los Angeles increased 350 percent from 1880 to 1890 (Dinkelspiel, 2008). Los Angeles continued on its upward trajectory in the first few decades of the 20th century with the rise of tourism, automobile travel, and the movie industry (McWilliams 1946).

Willowbrook History

The project site was a part of the Rancho Tajauta land grant grated to Anastacio Abila in 1843. The Rancho Tajauta covered approximately 4,500 acres. In the late 1800s, Willowbrook was an agricultural site where residents grew fruits and vegetables, ran hogs, and raised chickens. Prior to agricultural and suburban development, the natural setting consisted of natural springs that watered the area. Willowbrook transitioned from being a rural town to suburban community due to increased commercial and residential development in the early 1900s up until the 1980s (County of Los Angeles Public Library, 2016).

The development of the Martin Luther King, Jr. Medical Center Campus between 1966 and 1971 was a direct result of the County of Los Angeles Board of Supervisor's approval of recommendations of the McCone Commission to respond to the civil unrest that had occurred in the Watts-Willowbrook area in 1965. In July 1971, Martin Luther King Jr. General Hospital and Charles R. Drew Postgraduate Medical School entered into a contract to provide health care and education services. In addition to the promise of increased employment and educational opportunities, it was hoped that the project would positively impact the wider community and generate local investment. Approximately one year later, on March 27, 1972, the new hospital accepted its first patient. Over the next five months, the hospital treated 42,618 outpatients, prompting County Supervisor Kenneth Hahn to note, "Building the hospital fulfilled the No. 1 health recommendation of the McCone Commission which investigated the Watts riot of 1965." In 2005, the hospital's Level 1 trauma center was closed with other hospital facilities and departments following suit. Since 2007, the hospital has functioned as a Multi-Service Ambulatory Care Center with clinics for urgent care and outpatient visits. In 2009, the County of Los Angeles Board of Supervisors approved the rehabilitation of the Inpatient Tower (constructed

in 1993) to house a 120-bed inpatient facility, and state and county officials announced a new agreement that would reopen the hospital (County of Los Angeles, 2010). The hospital reopened in the summer of 2015.

In 1990, the Willowbrook/Rosa Parks Los Angeles County Metro Rail station was opened. The station is along the Blue Line and the Green Line. The Blue Line is located on the lower platform, and the Green Line is located on the upper platform. The two levels are connected by stairs/escalators/elevators via a mezzanine. The Green Line provides westbound access towards Redondo Beach and eastbound access toward Norwalk. The Blue Line provides southbound access toward Downtown Long Beach and northbound access toward 7th Street/Metro Center.

Existing Cultural Resources

Cultural Resources Technical Report: Martin Luther King, Jr. Medical Center Campus Redevelopment Project

A Cultural Resources Technical Report (Sapphos Environmental, Inc., 2010) was prepared as part of the Martin Luther King, Jr. Medical Center Campus Redevelopment Project. An intensive level historic resources survey of the Martin Luther King, Jr. Medical Center Campus was completed in support of the Martin Luther King, Jr. Medical Center Campus Redevelopment Project. A total of 21 buildings that occupy the proposed project site were evaluated as potential historical resources as defined by CEQA. Four buildings, of the total of 21 buildings, appear to meet the criteria for listing in the NRHP and CRHR as contributors to a potential Martin Luther King, Jr. Medical Center Campus Historic District (California Historical Resources Code [CHR] 3D): (Building 5) Augustus F. Hawkins Comprehensive Medical Health Center; (Building 7) Multi-Service Ambulatory Care Center (MACC); (Building 14) Interns and Physicians Building; and (Building 18) Dr. H. Claude Hudson Auditorium. Contributing features to the potential historic district would also include seven appurtenant elements. The remaining 17 buildings and structures do not contribute to the historic district and are not considered to be historical resources.

SCCIC Records Search

A records search for the project site was conducted on July 16, 2015, at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) located at the California State University, Fullerton. The records search included a review of all recorded resources, including archaeological sites and built environment resources, within a half-mile radius of the project site, as well as a review of cultural resource reports on file.

The records search indicated that 35 cultural resources studies have been conducted within a half-mile radius of the project site. Of these 35 studies, 10 studies included a pedestrian survey of portions of the project area, and one included archival research of a portion of the project area (**Table 3.3-1**). A complete list of the 35 studies located within 1/2-mile of the project area is located in Appendix C.

TABLE 3.3-1
PREVIOUS CULTURAL RESOURCES INVESTIGATIONS INCLUDING THE SPECIFIC PLAN AREA

Author	SCCIC # (LA-)	Title	Year
Rosen, Martin D.	00078	*Evaluation of the Archaeological Resources and Potential Impact of the Proposed Construction of Route 105 Freeway From El Segundo to Norwalk*	1975
Maki, Mary K.	03202	*A Phase I Cultural Resources Survey[1] of 1 Acre at 11742-58 Bandera Ave., 11743 Wilmington Ave., and 1865 E. 118th Street, Los Angeles County, California*	1995
Maki, Mary K.	03738	*Negative Phase 1 Archaeological Survey Willowbrook Crp Los Angeles County*	1997
Maki, Mary K.	04145	*Negative Phase I Archeological Survey and Impact Assessment of 0.75 Acre for the Willowbrook Infill Housing Project/No. G89203-98, Willowbrook, Los Angeles County, California*	1998
Compass Rose Archaeological, Inc.	05570	*Negative Archaeological Survey Report: at 2115 E. Imperial Highway, Los Angeles*	2000
Maki, Mary K.	05573	*Negative Phase I Archaeological Survey and Impact Assessment of Approximately 0.6 Acre for the Willowbrook Community Redevelopment Project 1631, 1635, 1641, 1651 East 17th Street Willowbrook, Los Angeles County, California*	2000
Maki, Mary K.	05944	*Los Angeles Eye Institute, Cdc Project No. 62be17c-01*	2002
McKenna et al.	05958	*Nextel Site CA-7504*	2002
Maki, Mary K.	06226	*CDC-Oasis Eye Clinic in Willowbrook, Los Angeles County, California*	2002
EarthTouch, Inc.	07044	*MLK Medical/CA-7504a Communications Facility 11730 Holmes Ave., Los Angeles, CA.*	2004
CRM Tech	12763	*Historic Property Survey Report; undertaking to improve pedestrian and vehicular traffic access near the intersection of Wilmington Avenue and 119th /120th Streets*	2014

1. A Phase I Cultural Resources Survey/Study/Impact Assessment assesses the potential for archaeological, historical, and paleontological resources in the project site. It includes archival records search and literature reviews, search of Sacred Lands File, review of historic maps and aerials, review of geologic maps, field survey, and preparation of a technical report summarizing the methods and results of the study. A Negative Phase I Cultural Resources Survey/Study concludes no resources were observed during the project study.

The records search indicated that a total of nine cultural resources have been previously recorded within the ½-mile record search study area surrounding the Specific Plan area (**Table 3.3-2**). Of the nine resources, two (19-187085 and LAN-19-187545) are located within the project area. Outside the project area are three prehistoric archaeological sites (19-000385, 19-002757, and 19-002792), five historic resources (19-002848, 19-174983, 19-174984, 19-186641, 19-187545) and one resource (19-187085) that is a multi-component site.

TABLE 3.3-2
CULTURAL RESOURCES WITHIN ½-MILE OF THE SPECIFIC PLAN AREA

P-Number (P-19-)	Other Designation	Description	Date Recorded
000385	-	Two prehistoric-age burials	1969
002757	AE-AC-2	One prehistoric-age burial	1999
002792	AE-AC-2002	One prehistoric-age burial	2000
002848	AE-AC-2018H	Historic-age refuse deposit	2000
174983	Ritter Elementary School	Ritter Elementary School constructed in 1924. Determined eligible for the National Register of Historic Places. Listed on the California register of historic places.	1994
174984	House for Cora Springer	Single-family property constructed in 1910. Not eligible for listing on the National Register of Historic Places	1994
186641	Lynwood Water Tower	Elevated water tank constructed in 1955. Not eligible for listing on the National Register of Historic Places	2001
The Mojave Road	The Mojave Road	Mohave Indian trail (prehistoric-age) that was used by the federal government as a supply and mail route, a freight and emigrant wagon route, and a recreational trail. California Registered Historical Landmark # 963. This road was generally along the alignment of the existing railroad.	1985
187545	-	A single-story building originally constructed as a church in 1913. A second one-story building constructed in 1947 for ancillary use for the 1913 building.	2004

There are, however, numerous residential and commercial buildings that are older than 50 years located within the Specific Plan area that have not been comprehensively surveyed and evaluated. Therefore, it is possible that other potentially eligible historic resources exist within the Specific Plan area that could have significant associations with important events, people, or have high architectural merit.

Historic Research for the Specific Plan Area

Historic maps and aerial photographs were examined in order to provide historical information about the Specific Plan area. Historic topographic quadrangles from 1896, 1899, 1906, 1911, 1916, 1923, 1929, 1934, 1942, 1957, 1960, 1966, 1975, 1982, 1988, and 1981 were examined (NETR, 2017). Historic aerial photographs of the Specific Plan area from 1952, 1963, 1972, 1980, 1994, 2003, 2009, 2012, and 2017 were also examined (NETR, 2017).

Plat Map and Topographic Maps

The 1868 U.S. Surveyor General's plat map shows the project site as being located within Rancho Tajauta. The 1896, 1899, 1906, 1911, 1916, 1923, 1929, and 1934 topographic maps show the Specific Plan area as developed with few structures, an east-west road along the northern boundary, and a north-south road, probably Wilmington Avenue. A stream is shown running north-south through the eastern side of the Specific Plan area. The San Pedro Branch railroad line is shown to the east. The community of Lynwood is shown to the east and the unchannelized Los Angeles River is shown further to the east. The 1942 topographic map shows

the community of Willowbrook and a road grid. The surrounding areas are developed and the railroad to the east is now shown as the Southern Pacific Railroad. A spur of the Southern Pacific railroad runs northwest-southeast through the Specific Plan area. The Los Angeles River to the east appears channelized. The Lincoln School is shown along the western portion of the Specific Plan area. By 1963, the Mona Park School (currently the Martin Luther King Elementary School) buildings are shown at the southeast corner of the Specific Plan area. The MLK Community Hospital structures are shown on the 1982 historic topographic map.

Historic Aerial Photographs

The 1952 aerial photograph shows a majority of the Specific Plan area developed with paved roads, railroad, residential, educational institutions, religious buildings, and commercial buildings. The 1963 aerial photograph shows additional development on previously undeveloped parcels. By 1972, the MLK Community Hospital campus is clearly shown. No significant changes are shown until 1994 where the Interstate-105 is shown as constructed and operational. The Los Angeles County Metro Rail Blue Line and Green Line are shown in the 1994 aerial photograph. From 1994-2016 minor changes are shown such as the redevelopment of sites with larger structures.

Native American Outreach

The California Native American Heritage Commission (NAHC) maintains a confidential Sacred Lands File (SLF) that contains sites of traditional, cultural, or religious value to the Native American community. ESA contacted the NAHC on January 27, 2017, to request a search of the SLF. The NAHC responded in a letter dated January 30, 2017. The letter stated that the SLF search returned negative results. The letter also included a list of Native American contacts.

Native American Consultation

The County initiated Native American consultation pursuant to California PRC Section 21080.3.1, as amended by Assembly Bill 52 (AB 52). Consultation is required with Native American groups who are traditionally and culturally affiliated with the geographic area of the proposed project, and who have requested such consultation in writing. The County mailed letters to the groups on February 2, 2017 inviting them to consult regarding potential impacts to tribal cultural resources.

The County also sent consultation letters to the tribes in October 2015 and February 2, 2017 in fulfillment of SB 18 requirements (Appendix C).

The County Department of Regional Planning received letters from the Gabrieleno Band of Mission Indians – Kizh Nation (Tribe) on February 9. 2017 requesting consultation under Senate Bill (SB) 18 and AB 52. The County and Tribal representatives from the Gabrieleno Band of Mission Indians – Kizh Nation engaged in consultation via telephone on March 12, 2017, and in-person on April 4, 2017. The Tribe did not identify known cultural places located on land within the County's project area boundaries that would be affected by the proposed General Plan Amendment; however, the Tribe indicated that the project area is sensitive for prehistoric and ethnohistoric Native American archaeological resources.

Geoarchaeological Review

Chris Lockwood, Ph.D., R.P.A., conducted a desktop geoarchaeological review of the project site and vicinity in order to evaluate the potential for buried archaeological resources within the project site. The following section presents the results of Dr. Lockwood's analysis.

No archaeological resources are recorded within the Specific Plan area, but several Native American burials have been previously discovered east of the Specific Plan area (King, 1969; Williams, 1999; Horne, 2000), the closest within approximately 1800 feet (550 meters). The human remains, discovered during archaeological monitoring of construction, were found as shallow as 20 inches (50 cm) and as deep as 7.5 to 9.0 feet (2.3 to 2.7 meters) below ground surface. The additional discovery of historic archaeological materials at a depth of 3.5 feet (1.1 m) (Paniagua and Brewer 2000) near one set of human remains underscores the inconsistent subsurface layers in the vicinity of the Specific Plan area, as well as the potential effect that urbanization likely played in preserving or destroying cultural resources in different portions of the Specific Plan area.

Based upon the documented presence of prehistoric and historic cultural resources, including human burials, near the Specific Plan area, as well as a Holocene geomorphic history of alluvial deposition, the Specific Plan area is considered to have a high sensitivity for archaeological sites, which may be deeply buried.

LACM Paleontological Records Search

A paleontological records search request was sent to the LACM on January 3, 2017, and the results were received on January 17, 2017. The LACM reported no vertebrate paleontological localities within the project site boundaries (McLeod, 2017). The LACM records search results reported that a total of seven vertebrate localities have been documented in the vicinity of the project site from older Quaternary deposits similar to those underlying the project site, including: a fossil of undetermined elephantoid, Proboscidea, from an unstated depth approximately 1.4 miles southwest of the Specific Plan area; three localities with fossil specimens of mammoth *Mammuthus*, squirrel, Sciuridae, horse, *Equus*, and proghorne antelope, *Breameryx* at depths between 15 and 20 feet below ground surface all located approximately 2.0 miles southwest; two localities with late Pleistocene fauna including fossil specimens of pond turle, *Clemmys*, puffin, *Mancalla,* turkey, *Parapavo*, ground sloth, *Paramylodon*, mammoth, *Mammuthus*, dire wolf, *Canis dirus*, rabbit, *Slyvilagus*, squirrel, *Sciuridae*, deer mouse, *Microtus*, pocket gopher, *Thomomys*, horse, *Equus*, deer, *Cervus*, pronghorn antelope, *Capromeryx*, and bison, *Bison* at unstated but relatively shallow depths located approximately 1.6 miles west from the Specific Plan area; and one locality with a fossil specimen of mammoth, *Mammuthus*, at five feet below ground surface located approximately three miles south of the Specific Plan area.

Based on the LACM localities near the Specific Plan area, McLeod (2017) recommends monitoring of all excavation five feet below ground surface, collection of sediment samples to determine the potential or microvertebrate recovery, and curation of any collected fossils in an accredited, permanent repository.

3.3.2 Regulatory Setting

Federal, state, and local governments have developed laws and regulations designed to protect significant cultural resources that may be affected by actions that they undertake or regulate. The National Historic Preservation Act (NHPA) and CEQA are the primary federal and state laws governing preservation of historic and archaeological resources of national, regional, state and local significance.

Federal

National Historic Preservation Act of 1966

Cultural resources are protected through the National Historic Preservation Act (NHPA) of 1966, as amended (54 United States Code [U.S.C.] 300101 et seq.), and the implementing regulations, Protection of Historic Properties (36 Code of Federal Regulations [CFR] Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979. Prior to implementing an "undertaking" (e.g., issuing a federal permit), the NHPA (54 U.S.C. 306108) requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer (SHPO) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the NRHP. Under the NHPA, properties of traditional religious and cultural importance to a Tribe are eligible for inclusion in the NRHP (54 U.S.C. 302706). Also under the NHPA, a resource is considered significant if it meets the NRHP listing criteria at 36 CFR 60.4.

National Register of Historic Places

The NRHP was established by the NHPA of 1966, as "an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment" (Code of Federal Regulations [CFR] 36 Section 60.2). The NRHP recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (U.S. Department of the Interior, 1995):

A. Are associated with events that have made a significant contribution to the broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for NRHP listing (U.S. Department of the Interior, 1995).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance" (U.S. Department of the Interior, 1995). The NRHP recognizes seven qualities that, in various combinations, define integrity: location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.

State

California implements the NHPA through comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation (OHP) implements the policies of the NHPA and maintains the California Historical Resources Inventory.

California Environmental Quality Act

Under CEQA (Public Resources Code [PRC] Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. *State CEQA Guidelines* Section 15064.5 defines a historical resource as: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR; (2) a resource included in a local register of historical resources, as defined in Public Resources Code (PRC) Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

As described by PRC Section 21084.1 and Section 15064.5 of the *State CEQA Guidelines*, should a project cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (*State CEQA Guidelines* Sections 15064.5(b)(1) and 15064.5(b)(4)).

Archaeological resources are defined in CEQA Section 21083.2, which states that a "unique" archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Unique archaeological resources as defined in Section 21083.2 may require reasonable efforts to preserve resources in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. Additionally, the *State CEQA Guidelines* state that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*State CEQA Guidelines* Section 15064.5(c)(4)).

California Register of Historical Resources

Under the California Public Resources Code, Section 5024.19(a), the California Register of Historical Resources (CRHR) was created in 1992 and implemented in 1998 as "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historical resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

Criterion 1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

Criterion 2. It is associated with the lives of persons important in our past.

Criterion 3. It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.

Criterion 4. It has yielded, or may be likely to yield, information important in history or prehistory.

Furthermore, under PRC 5024.1, Title 14 CCR, Section 4852(c), a cultural resource must retain integrity to be considered eligible for the CRHR. Specifically, it must retain sufficient character or appearance to be recognizable as a historical resource and convey reasons of significance. Integrity is evaluated with regard to retention of such factors as location, design, setting, materials, workmanship, feeling, and association.

California Historical Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have statewide historical significance by meeting at least one of the criteria listed below. The resource also must be approved for designation by the County Board of Supervisors (or the city or town council in whose jurisdiction it is located); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks. The specific standards now in use were first applied in the designation of CHL #770. CHLs #770 and above are automatically listed in the CRHR.

To be eligible for designation as a landmark, a resource must meet at least one of the following criteria:

- It is the first, last, only, or most significant of its type in the state or within a large geographic region (northern, central, or southern California);
- It is associated with an individual or group having a profound influence on the history of California; or
- It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

California Points of Historical Interest

California Points of Historical Interest (PHI) are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. PHI designated after December 1997 and recommended by the SHRC are also listed in the CRHR. No historic resource may be designated as both a landmark and a point. If a point is later granted status as a landmark, the point designation will be retired. In practice, the point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance. To be eligible for designation as a PHI, a resource must meet at least one of the following criteria:

- It is the first, last, only, or most significant of its type within the local geographic region (city or county);
- It is associated with an individual or group having a profound influence on the history of the local area; or

It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

California Public Resources Code Section 21080.3.1

California PRC Section 21080.3.1, as amended by Assembly Bill (AB) 52, requires lead agencies to consider the effects of projects on tribal cultural resources and to conduct consultation with federally and non-federally recognized Native American Tribes early in the environmental planning process and applies specifically to projects for which a Notice of Preparation (NOP) or a notice of Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The goal is to include California Tribes in determining whether a project may result in a significant impact to tribal cultural resources that may be undocumented or known only to the Tribe and its members and specifies that a project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. Tribal cultural resources are defined as known "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources (PRC Section 21074 (a)(1)).

Prior to determining whether a Negative Declaration, MND, or Environmental Impact Report (EIR) is prepared for a project, the lead agency must consult with California Native American Tribes, defined as those identified on the contact list maintained by the California Native American Heritage Commission (NAHC), who are traditionally and culturally affiliated with the geographic area of the proposed project, and who have requested such consultation in writing. Consultation may include:

- The type of environmental review necessary
- The significance of tribal cultural resources
- The significance of the project's impacts on the tribal cultural resources
- Project alternatives or the appropriate measures for preservation
- Recommended mitigation measures

Consultation should be initiated by a lead agency within 14 days of determining that an application for a project is complete or that a decision by a public agency to undertake a project (PRC Section 21080.3.1(d) and (e)). The lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American Tribes that have requested notice. At minimum, notice should consist of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American Tribe has 30 days to request consultation pursuant to this section. The lead agency shall begin the consultation process within 30 days of receiving a California Native American Tribe's request for consultation. According to PRC Section 21080.3.2(b), consultation is considered concluded when either the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource, or a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.

Local

County of Los Angeles General Plan

The Los Angeles County General Plan was adopted in October 2015. The following goals and policies pertain to protection of cultural resources in Los Angeles County.

Land Use Element

Policy LU 3.2: Discourage development in areas with high environmental resources and/or severe safety hazards.

Policy LU 4.2: Encourage the adaptive reuse of underutilized structures and the revitalization of older, economically distressed neighborhoods.

Policy LU 7.1: Reduce and mitigate the impacts of incompatible land uses, where feasible, using buffers and other design techniques.

Policy LU 10.4: Promote environmentally-sensitive and sustainable design.

Policy LU 10.8: Promote public art and cultural amenities that support community values and enhance community context.

Conservation and Natural Resources Element

Goal C/NR 14: Protected historic, cultural, and paleontological resources.

Policy C/NR 14.1: Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.

Policy C/NR 14.3: Support the preservation and rehabilitation of historic buildings.

Policy C/NR 14.4: Ensure proper notification procedures to Native American tribes in accordance with Senate Bill 18 (2004).

Policy C/NR 14.6: Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.

Parks and Recreation Element

Policy P/R 5.1: Preserve historic resources on County park properties, including buildings, collections, landscapes, bridges, and other physical features.

Policy P/R 5.2: Expand the collection of historical resources under the jurisdiction of the County, where appropriate.

Policy P/R 5.3: Protect and conserve natural resources on County park properties, including natural areas, sanctuaries, and open space preserves.

Policy P/R 5.4: Insure maintenance, repair, rehabilitation, restoration, or reconstruction of historical resources in County parks and recreational facilities are carried out in a manner consistent with the most current Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.

County of Los Angeles Municipal Code

Section 22.44.1570 of the County of Los Angeles Municipal Code comprise the Archaeological/Paleontological/Historic Cultural Resources provision, which was established for the purpose of:

- Protect and preserve archaeological, historical and paleontological resources from destruction;
- Avoid impacts to such resources where feasible;
- Where avoidance is not feasible, impacts to resources shall be minimized to the maximum extent feasible.

Paleontological Resources

State

Paleontological resources are also afforded protection by CEQA. Appendix G (Part V) of the *CEQA Guidelines* provides guidance relative to significant impacts on paleontological resources, stating that a project will normally result in a significant impact on the environment if it will "…disrupt or adversely affect a paleontologic resource or site or unique geologic feature, except as part of a scientific study." Section 5097.5 of the Public Resources Code specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for the damage or removal of paleontological resources.

Professional Standards

The Society of Vertebrate Paleontology (SVP) has established standard guidelines for acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional paleontologists in the nation adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies accept the SVP standard guidelines as a measure of professional practice.

3.3.3 Thresholds of Significance

For the purposes of this EIR and consistency with Appendix G of the CEQA Guidelines and the County of Los Angeles Environmental Checklist Form, the project would have a significant impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5 (See Impact 3.3-1 below);

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5 (See Impact 3.3-2 below);
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature or contain rock formations indicating potential paleontological resources (See Impact 3.3-3 below);
- Disturb any human remains, including those interred outside of formal cemeteries (See Impact 3.3-4 below);
- Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 (See Impact 3.3-5 below).

CEQA provides that a project may cause a significant environmental effect where the project could result in a substantial adverse change in the significance of a historical resource (Public Resources Code, Section 21084.1). *CEQA Guidelines* Section 15064.5 defines a "substantial adverse change" in the significance of a historical resource to mean physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be "materially impaired" (*CEQA Guidelines*, Section 15064.5[b][1]).

CEQA Guidelines, Section 15064.5(b)(2), defines "materially impaired" for purposes of the definition of "substantial adverse change" as follows:

The significance of a historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

In accordance with *CEQA Guidelines* Section 15064.5(b)(3), generally a project that follows the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* is considered to have mitigated impacts to historic resources to less than significant.

Historic resources are usually 50 years old or older and must meet at least one of the criteria for listing in the California Register (such as association with historical events, important people, or architectural significance), in addition to maintaining a sufficient level of physical integrity (*CEQA Guidelines* Section 15064.5[a][3]).

3.3.4 Methodology

According to the State CEQA Guidelines (Section 15064.5(b)), a project that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the environment. The Guidelines further state that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historic resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter those physical characteristics of a historical resource that convey its historical significance and qualify it for inclusion in the California Register or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g). A lead agency must also take into account impacts to unique archaeological resources (State CEQA Guidelines Section 15064.5(c)(1)-(4)). A project that may disrupt or adversely affects paleontological resources is a project that may have a significant effect on the environment.

3.3.5 Impact Analysis

Historical Resources

Impact 3.3-1: The proposed project could cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

Project-Specific

As described above, two historic resources have been identified within the Specific Plan area. These resources include the Mojave Road, which is a California Registered Historical Landmark # 963; and, the Martin Luther King Jr. Medical Center Historic District comprised of four contributing features and seven appurtenant elements.

No characteristics of Mojave Road (19-187085) CHL No. 963, were identified within the Specific Plan area. No characteristics of the historic road are visible on the surface or anticipated subsurface. The entire segment of road within the Specific Plan area has been impacted by previous construction associated with the existing paved Willowbrook Avenue and/or the former Southern Pacific Railroad now Metro Blue Line and Union Pacific Railroad tracks.

The proposed project involves modifications, rehabilitation, and demolition that could impact the Martin Luther King, Jr. Medical Center Campus Historic District and its four contributing buildings (Augustus F. Hawkins Comprehensive Medical Health Center; Multi-Service Ambulatory Care Center (MACC); ; Interns and Physicians Building; and Dr. H. Claude Hudson Auditorium). Since the proposed project is at the programmatic level, specific project locations and design elements have yet to be finalized. Thus, future development occurring under the

proposed Specific Plan could adversely affect historic resources that could result in substantial adverse changes in the significance of historical resources such that the historic district or its contributors would no longer be eligible for inclusion in the CRHR. If project implementation improvements include the demolition and replacement of contributing buildings, a significant adverse change in the significance of the Martin Luther King, Jr. Medical Center Campus Historic District and the contributing building would occur and neither resource would continue to be eligible for inclusion in the CRHR resulting in a significant impact. Project implementation could result in alterations to the character-defining features of the Martin Luther King, Jr. Medical Center Campus Historic District. Therefore, impacts to historical resources are potentially significant.

In addition to the historic resources identified in this Section, numerous residential and commercial buildings that are older than 50 years are located within the Specific Plan area. As these structures have not been comprehensively surveyed and evaluated, it is possible that they may be eligible as historic resources if other criteria apply, such as significant associations with important events, people, or have high architectural merit. Since the proposed project is at the programmatic level, specific project locations and design elements have yet to be finalized. Thus, future development occurring under the proposed Specific Plan could adversely affect historic resources within the Specific Plan area. The impact to a historical resource is considered significant.

Cumulative

The geographical area of the cumulative impact to historical resources encompasses approximately 1/2 mile surrounding the Specific Plan area. As development occurs within the cumulative area, impacts to historical resources could occur due to the substantial historical-age resources known to occur in the area. These impacts by cumulative development could represent significant cumulative impacts on historical resources. Because the project could result in significant impacts to historical resources, the project's contribution to cumulative impacts to historical resources is cumulatively considerable.

Mitigation Measures

Project-Specific

CUL-1: Impacts to four significant historical resources that are eligible for listing and located within the MLK Subarea (Multi-Service Ambulatory Care Center (MACC), Augustus F. Hawkins Comprehensive Medical Health Center, Interns and Physicians Building, and Dr. H. Claude Hudson Auditorium) and the integrity of the Martin Luther King, Jr. Medical Center Campus Historic District (a fifth historic resource that is eligible for listing) shall be reduced to below the level of significance through utilization of the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines of Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings for any proposed alterations, including all site work, structural upgrades, architectural, and mechanical systems improvements and repairs. The work shall conform to the standards and guidelines for "rehabilitation." Conformance with the Secretary of the Interior's Standards shall be monitored by an architectural historian or historic architect who

meets the Secretary of the Interior's Professional Qualification Standards. Completion of this mitigation measure shall be monitored and enforced by the County of Los Angeles.

CUL-2: Impacts resulting from demolition or substantial alteration of significant historical resources not in conformance with the Secretary of the Interior's Standards shall be reduced to the maximum extent feasible through archival documentation of as-found condition. Prior to the initiation of construction activities, the County of Los Angeles shall ensure that documentation of the Martin Luther King, Jr. Medical Center Campus Historic District, Multi-Service Ambulatory Care Center (MACC), Augustus F. Hawkins Comprehensive Medical Health Center, Interns and Physicians Building, and/or Dr. H. Claude Hudson Auditorium is completed in accordance with Historic American Buildings Survey (HABS) requirements for donated material. The documentation shall be in the form of a Historic American Building Survey and shall comply with the Secretary of the Interior's Standards for Architectural and Engineering Documentation. The documentation shall include large-format photographic recordation, detailed historic narrative report, measured architectural drawings, and compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards for History and/or Architectural History. The original archival-quality documentation shall be offered as donated material to Historic American Building Survey for inclusion in the Library of Congress. Archival copies of the documentation also would be available at the Martin Luther King, Jr. Medical Center campus and maintained by the County of Los Angeles.

CUL-3: Impacts resulting from the loss of integrity of the Martin Luther King, Jr. Medical Center Campus Historic District such that its significance is materially impaired will be reduced to the maximum extent feasible through the development of a retrospective exhibit detailing the history of the Martin Luther King, Jr. Medical Center Campus Historic District, its significance, and its important details and features. The retrospective exhibit shall be in the form of a physical exhibit installed on the Martin Luther King, Jr. Medical Center Campus, which is located either within a building or on a freestanding kiosk or comparable structure or installation on the property. The exhibit shall commemorate the historic appearance of the district and provide the public with sufficient information to understand its historic significance.

The exhibit shall be prepared by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards for History and/or Architectural History. The exhibit shall be completed within a period of no more than two years from the date of completion of the portion of the project that would result in the loss of integrity of the historical resources eligible for listing.

CUL-4: Demolition of structures that meet the eligibility requirements for the CRHR and/or the County of Los Angeles Register shall be avoided. If demolition of a portion of an eligible structure cannot be feasibly avoided as determined by the County of Los Angeles, the alterations of a structure eligible as a historical resource shall be accomplished in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or Standards for*

Rehabilitation and Guidelines for Rehabilitating Historic Buildings. To ensure compliance with this measure, the County shall determine the need for a historic resources evaluation of a structure if a structures is proposed for demolition or alteration and is or will be 50 years or older prior to project construction, or if a structure is proposed for demolition or alteration that affect the eligibility of a historic resource in the immediate surroundings of a structure proposed for demolition or alteration.

Cumulative

Implementation of Mitigation Measures CUL-1 through CUL-4 is required.

Significance Determination

Project-Specific

Significant and Unavoidable. After implementation of the above measures CUL-1 through CUL-4, it is possible that the mitigation measures would not reduce the project's potential to adversely change the significance of a historic resource and result in a significant impact. Because the mitigation measures described above would reduce impacts to historical resources to the maximum extent practicable, and not guarantee full mitigation, impacts to the eligible historical resources could remain significant and unavoidable after implementation of Mitigation Measures CUL-1 through CUL-4.

Cumulative

Significant and Unavoidable. The project could still contribute to significant cumulative impacts to historic resources. Therefore, the project's contribution would still be significant.

Archaeological Resources

Impact 3.3-2: The proposed project could cause a substantial adverse change in the significance of an archaeological resource.

Project-Specific

Impacts on cultural resources could result from ground-disturbing activities and/or damage, destruction, or alteration of historic structures. Ground-disturbing activities include project-related excavation, grading, trenching, vegetation clearance, the operation of heavy equipment, or other surface and sub-surface disturbance that could damage or destroy surficial or buried archaeological resources, including prehistoric and historic remains or human burials.

The County of Los Angeles Municipal Code Section 22.44.1570 calls for the County to work to protect and preserve archaeological, historical and paleontological resources from destruction; avoid impacts to such resources where feasible; where avoidance is not feasible, impacts to resources shall be minimized to the maximum extent feasible through preliminary review, Phase I Inventory, Phase II Evaluation, and Phase III Mitigation Programs.

Given the high archaeological sensitivity of the Specific Plan area, previously unknown and unrecorded archaeological resources may be unearthed during excavation and grading activities for individual projects. This can occur in already developed areas, as older buildings are known to have been built on top of or within archaeological deposits. Although much of the project area is already heavily developed, potentially significant buried archaeological resources could still exist within the project area, beneath and between structures and roads. If previously undiscovered artifacts or remains are uncovered during excavation or construction, significant impacts could occur.

Cumulative

The geographical area of the cumulative impact to archaeological resources encompasses approximately 1/2 mile surrounding the Specific Plan area. As development occurs within the cumulative area, potential impacts to archaeological resources could occur due to the substantial archaeological resources known to occur in the area. These potential impacts by cumulative development could represent significant cumulative impacts on archaeological resources. Because the project could result in significant impacts to archaeological resources, the project's contribution to cumulative impacts to archaeological resources is cumulatively considerable.

Mitigation Measures

Project-Specific

CUL-5: Avoidance, preservation or data recovery shall occur for archaeological resources that could be affected by ground disturbing activities and are found to be significant resources. To ensure that developments in accordance with the Specific Plan do not result in significant impacts to pre-historic or historic archaeological resources, the following shall be implemented.

Individual development projects or other ground disturbing activities such as installation of utilities, shall be subject to a Phase I cultural resources inventory on a project-specific basis prior to the County's approval of project plans. The study shall be carried out by a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology. The cultural resources inventory would consist of: a cultural resources records search to be conducted at the South Central Coastal Information Center; a Sacred Lands File Search by the Native American Heritage Commission (NAHC) and with interested Native Americans identified by the NAHC; a pedestrian archaeological survey where deemed appropriate by the archaeologist; and recordation of all identified archaeological resources on California Department of Parks and Recreation 523 forms. If potentially significant cultural resources are encountered during the survey, the County shall require that the resources are evaluated for their eligibility for listing in the California Register of Historical Resources and for significance as a historical resource or unique archaeological resource per CEQA Guidelines Section 15064.5. Recommendations shall be made for treatment of these resources if found to be significant. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means of mitigation to avoid impacts to significant cultural resources, including prehistoric and historic archaeological sites, locations of importance to Native Americans, human remains, historical buildings, structures and landscapes. Methods of avoidance may include, but shall not be limited to, project re-route or re-design, project cancellation, or

identification of protection measures such as capping or fencing. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures, which may include data recovery or other appropriate measures, in consultation with the County, and local Native American representatives expressing interest.

During project-level construction, should prehistoric or historic subsurface cultural resources be discovered, all activity in the vicinity of the find shall stop and a qualified archaeologist will be contacted to assess the significance of the find according to CEQA Guidelines Section 15064.5. If any find is determined to be significant, the archaeologist shall determine, in consultation with the County, and local Native American groups expressing interest, appropriate avoidance measures or other appropriate mitigation. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant cultural resources. Methods of avoidance may include, but shall not be limited to, project re-route or re-design, project cancellation, or identification of protection measures such as capping or fencing. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. All significant cultural materials recovered will be, as necessary and at the discretion of the consulting archaeologist and in consultation with local Native American groups expressing interest, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.

Cumulative

Implementation of Mitigation Measure CUL-5 is required.

Significance Determination

Project-Specific

Less than Significant. The implementation of Mitigation Measure CUL-5 would result in less than significant impact involving an adverse change in the significance of an archaeological resource.

Cumulative

Less than Significant. The implementation of Mitigation Measure CUL-5 would ensure that the proposed project's contribution to cumulative impacts on archaeological resources would be reduced to less than cumulatively considerable by avoiding an adverse change in the significance of an archaeological resource.

Paleontological Resources

Impact 3.3-3: Implementation of the Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Project-Specific

Fossil remains are found in the geologic deposits (sedimentary rock formations) within which they were originally buried. A paleontologically important deposit is one that has a high probability of producing unique, scientifically important fossils. This is determined by the abundance and densities of fossil specimens and/or previously recorded fossil sites exposed in the deposit. Therefore, the potential paleontological sensitivity of the project site can be assessed by identifying the paleontological importance of geologic deposits within the Specific Plan area.

The Specific Plan area is underlain by younger Quaternary Alluvium, which is unlikely to contain vertebrate fossils. However, the younger Alluvium may be underlain by older Quaternary deposits that are known to contain vertebrate fossils. Fossils have been found within 1.5 miles of areas in similar deposits. Thus, the Natural History Museum of Los Angeles County considers the Specific Plan area to have a moderate paleontological sensitivity. While shallow excavation or surface grading is unlikely to uncover paleontological resources, deeper excavation into older sediments may uncover significant fossils. Thus, any deep excavations (five feet below ground surface and deeper) in the Specific Plan area could result in impacts to paleontological resources. Therefore, implementation of the proposed project could result in significant impacts to paleontological resources.

Cumulative

The geographical area of the cumulative impact to paleontological resources encompasses approximately 1/2 mile surrounding the Specific Plan area. As development occurs within the cumulative area, potential impacts to paleontological resources could occur due to the presence of older Quaternary deposits that are known to contain vertebrate fossils in the area. These potential impacts by cumulative development could represent significant cumulative impacts on paleontological resources. Because the project could result in significant impacts to paleontological resources, the project's contribution to cumulative impacts to paleontological resources is cumulatively considerable.

Mitigation Measures

Project-Specific

CUL-6: The project applicant shall retain a qualified paleontologist (in accordance with the Society of Vertebrate Paleontologists) to monitor all ground-disturbing activities in native soils or sediments beginning at five feet below ground surface and deeper. If the paleontologist, upon observing initial earthwork, determines there is low potential for discovery, no further action shall be required and the paleontologist shall submit a memo to the County confirming findings of low potential.

If the qualified paleontologist, upon observing initial earthwork, determines there is a moderate to high potential for discovery, a qualified paleontologist or paleontological monitor (retained by the

County) shall monitor all mass grading and excavation activities. Monitoring will be conducted in areas of grading or excavation in undisturbed formation sediments, as well as where over-excavation of surficial alluvial sediments will encounter these formations in the subsurface. Paleontological monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediment that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined on exposure and examination by qualified paleontological personnel to have low potential to contain fossil resources.

Should any paleontological resources (i.e., fossils) be uncovered during project construction activities, all work within a 100-foot radius of the discovery site shall be halted or diverted to other areas on the site and the County shall be immediately notified. The qualified paleontologist shall evaluate the finds and recommend appropriate next steps to ensure that the resource is not substantially adversely impacted, including but not limited to avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further, ground disturbance shall not resume within a 100-foot radius of the discovery site until an agreement has been reached between the project applicant, the qualified paleontologist, and the County as to the appropriate preservation or mitigation measures to ensure that the resource is not substantially adversely impacted.

Any recovered paleontological specimens shall be identified to the lowest taxonomic level possible and prepared for permanent preservation. Screen-washing of sediments to recover small invertebrates and vertebrates shall occur if necessary.

Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage shall occur at an institutional repository approved by the County. The paleontological program shall include a written repository agreement prior to the initiation of mitigation activities.

A final monitoring and mitigation report of findings and significance shall be prepared, including lists of all fossils recovered and necessary maps and graphics to accurately record their original location. The report, when submitted to an accepted by the County, shall signify satisfactory completion of the project program to mitigation impacts to any potential nonrenewable paleontological resources (i.e., fossils) that might have been lost or otherwise adversely affected without such a program in place.

Cumulative

Implementation of Mitigation Measure CUL-6 is required.

Significance Determination

Project-Specific

Less than Significant. The implementation of Mitigation Measure CUL-6 would require paleontological monitoring at depths with high paleontological sensitivity. The implementation of Mitigation Measure CUL-6 would ensure paleontological resources would not be significantly impacted.

Cumulative

Less than Significant. The implementation of Mitigation Measure CUL-6 would require paleontological monitoring at depths with high paleontological sensitivity. The implementation of Mitigation Measure CUL-6 would ensure that the proposed project's contribution to cumulative impacts on paleontological resources would be reduced to less than cumulatively considerable by avoiding an adverse change in the significance of a paleontological resource.

Human Remains

Impact 3.3-4: Implementation of the project could disturb human remains, including those interred outside of formal cemeteries.

Project-Specific

The archaeological site record for site 19-000385, 19-002757, and 19-2792 has indicated that human remains near the Specific Plan area had been identified during construction of buildings and pipeline trenching. In the event that human remains are discovered, including those interred outside of formal cemeteries, the human remains could be inadvertently damaged, which could be a significant impact.

Cumulative

The geographical area of the cumulative impact to human remains encompasses approximately 1/2 mile surrounding the Specific Plan area. As development occurs within the cumulative area, potential impacts to human remains could occur due to human remains/burials known to occur in the area. These potential impacts by cumulative development could represent significant cumulative impacts on human remains. Because the project could result in significant impacts to human remains, the project's contribution to cumulative impacts to human remains is cumulatively considerable.

Mitigation Measures

Project-Specific

CUL-7: If human remains are encountered, the County or its contractor shall halt work in the vicinity (within 100 feet) of the find and contact the Los Angeles County Coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. If the County Coroner determines that the remains are Native American, the NAHC will be notified in accordance with Health and Safety Code Section 7050.5, subdivision (c), and PRC Section 5097.98. The NAHC

will designate an MLD for the remains per PRC Section 5097.98. Until the landowner has conferred with the MLD, County shall ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials.

Cumulative

Implementation of Mitigation Measure CUL-7 is required.

Significance Determination

Project-Specific

Less than significant. The implementation of Mitigation Measure CUL-7 would ensure human remains would not be significantly impacted.

Cumulative

Less than significant. The implementation of Mitigation Measure CUL-7 would ensure that the proposed project's contribution to cumulative impacts on human remains would be reduced to less than cumulatively considerable by avoiding an adverse impact on human remains.

Tribal Cultural Resources

Impact 3.3.5: Implementation of the project could cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074.

The SLF search prepared by the NAHC indicated that no known Native American cultural resources are located in the project site or vicinity.

The County initiated Native American consultation pursuant to California PRC Section 21080.3.1, as amended by Assembly Bill 52 (AB 52). Consultation is required with Native American groups who are traditionally and culturally affiliated with the geographic area of the proposed project, and who have requested such consultation in writing. The County mailed letters to the groups on February 2, 2017 inviting them to consult regarding potential impacts to tribal cultural resources.

The County also sent consultation letters to the tribes in October 2015 and February 2, 2017 in fulfillment of SB 18 requirements (Appendix C).

The County Department of Regional Planning received letters from the Gabrieleno Band of Mission Indians – Kizh Nation (Tribe) on February 9. 2017 requesting consultation under Senate Bill (SB) 18 and AB 52. The County and Tribal representatives from the Gabrieleno Band of Mission Indians – Kizh Nation engaged in consultation via telephone on March 12, 2017, and in-person on April 4, 2017. The Tribe did not identify known cultural places located on land within the County's project area boundaries that would be affected by the proposed General Plan

Amendment; however, the Tribe indicated that the project area is sensitive for prehistoric and ethnohistoric Native American archaeological resources.

Project-Specific

The Tribe did not identify known tribal cultural resources; however, the Tribe indicated that the project area is sensitive for prehistoric and ethnohistoric Native American archaeological resources. Although no tribal cultural resources have been identified within the proposed project site, there is a potential for buried unknown archaeological resources that may be eligible for the California Register of Historical Resources or a local register of historical resources and could meet the definition of historical resource, unique archaeological resource, and/or tribal cultural resources. If previously undiscovered artifacts or remains are uncovered during excavation or construction, significant impacts could occur.

Cumulative

As development occurs within the cumulative area, potential impacts to archaeological resources could occur due to the substantial tribal cultural resources known to occur in the area. These potential impacts by cumulative development could represent significant cumulative impacts on archaeological resources. Because the project could result in significant impacts to tribal cultural resources, the project's contribution to cumulative impacts to tribal cultural resources is cumulatively considerable.

Mitigation Measures

Project-Specific

Implementation of Mitigation Measures CUL-5 and CUL-7 are required.

Cumulative

Implementation of Mitigation Measures CUL-5 and CUL-7 are required.

Significance Determination

Project-Specific

Less than Significant. Implementation of Mitigation Measures CUL-5 and CUL-7 as drafted in consultation with the Gabrieleno Band of Mission Indians – Kizh Nation during consultation, would reduce impacts to archaeological resources that also qualify as tribal cultural resources to less than significant.

Cumulative

Less than Significant. The implementation of Mitigation Measures CUL-5 and CUL-7 would ensure that the proposed project's contribution to cumulative impacts on tribal cultural resources would be reduced to less than cumulatively considerable by avoiding an adverse change in the significance of a tribal cultural resource.

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3.4 Geology and Soils

Introduction

This section addresses the potential impacts to geology and soils associated with the proposed Specific Plan development. A description of regional and local geology, a summary of applicable regulations related to geologic and seismic hazards, an evaluation of the potential impacts that may result from implementing the proposed program and identification of mitigation measures to minimize potential effects is provided.

3.4.1 Environmental Setting

Regional Geologic Setting

The Specific Plan area is located in the Transverse Ranges Geomorphic Province. The Province extends offshore to the west to include San Miguel, Santa Rosa, and Santa Cruz islands, and its eastern extension is comprised of the San Bernardino Mountains. The Province is one of the most rapidly rising regions on earth and is seismically active (CGS, 2002).

The Transverse Ranges are an anomaly when compared to the general structural grain of the North American Continent. Recent tectonic activity (i.e., middle Miocene and younger) accounts for much of the present rock distribution. The distributions of different crystalline basement rocks demonstrate older tectonic episodes. The distinctive physiography and structural geology of the Transverse Ranges province are overlain on an older pattern of Precambrian through early Cretaceous igneous and metamorphic basement rocks, which generally occur as fault-bounded blocks. Major basement rock boundaries are not only found along the edges of the Transverse Ranges, but they are also encountered within the province (County of Los Angeles, 2015a).

Specifically, the Specific Plan area is located in the southern part of the Transverse Range Geomorphic Province in the Los Angeles Basin (Basin), which is about 50 miles long and 20 miles wide. The Basin is bounded on the north by the Santa Monica Mountains and the Elysian, Repetto, and Puente Hills and on the east and southeast by the Santa Ana Mountains and San Joaquin Hills. The Basin's low land surface slopes gently south or seaward towards the Pacific Ocean, but it is interrupted by the Coyote Hills near the northeast margin, by a line of elongated low hills and mesas to the south and west that extends from Newport Bay northwest to Beverly Hills, and by the Palos Verdes peninsula at the southwest extremity. The Basin sediment consists of alluvium deposited over millions of years (Yerkes et al., 1971). The Specific Plan area lies within the central portion of the Los Angeles Basin, which is underlain by over 1,000 feet of sediments that have been deposited since Pliocene time. Underlying these alluvial deposits is Pliocene age marine sediments deposited during a time when a shallow sea covered much of southern California (County of Los Angeles, 2010).

The hills bordering the central portion of the Los Angeles Basin are characterized by a complex sequence of Cretaceous to Pleistocene age marine and non-marine sedimentary rocks. Localized igneous intrusive rocks attest to the complex geologic history of the area. Erosion of the hills

within the Santa Monica Mountains, located to the north of the site, is the source for the broad alluvial deposits forming much of the Los Angeles Basin to the south (County of Los Angeles, 2010).

Regional Faulting and Seismicity

The Los Angeles Basin, as well as most of Southern California, is located within a complex zone of faults and folds resulting from forces occurring along a bend within the boundary between the Pacific and North American tectonic plates. Numerous generally east-west to northwest trending faults have formed as a result of these north-south forces acting within this area. The major faults within the vicinity of the Los Angeles Basin are characterized by a combination blind thrusting, which is a rupture that is located below the uppermost layers of rock and would not be present on the surface; right-lateral strike-slip, a displacement in a trend or bearing where the right block moves toward you and the back block moves away; and reverse faulting, where the rock layer above the fault moves up (County of Los Angeles, 2010).

Surface fault rupture can occur during significant seismic events. The process generally involves the sudden failure and displacement of the earth's surface along a fault trace or fault zone. The magnitude and geometry of such ground displacement is highly variable. In general, strike-slip faults such as the active San Andreas Fault and Newport-Inglewood Fault are more likely to produce lateral offsets in the ground surface, with one side of the fault plane or zone "sliding" past the opposing side. Similarly, faults that generally fail under compressional stress, such as thrust or reverse faults, are more prone to vertical offsets in the ground surface. In either case, buildings or other man-made structures that lie atop the fault can experience serious damage or catastrophic failure during a strong earthquake (County of Los Angeles, 2015a).

The active faults are defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 11,000 years). Most of the larger earthquakes in the region have been associated with larger faults that have been mapped at the ground surface. A number of moderate to large earthquakes in the region have also occurred on deep-seated buried thrust faults in this geological complex region of Southern California. The Alquist-Priolo Earthquake Zoning Act of 1972 provided for the delineation of Earthquake Fault Zones along known active faults.

Local

The Specific Plan area is urban and developed, with 80 to 90 percent of the ground surface classified as impervious. The ground surface of the Specific Plan area is generally flat, sloping gently from 95 feet above mean sea level (amsl) in the northwest to 82 feet amsl in southeast. Stormwater run-off from the Specific Plan area sheet flows across the ground surface and is collected by curbs and gutters and conveyed through drop inlets to subterranean storm drains (County of Los Angeles, 2015b). There are no notable topographic features (e.g. rivers, hills, etc.) within the Specific Plan area. The following sections describe the potential geologic hazards within the Specific Plan area that are in addition to faulting and seismicity.

Faults and Seismicity

As shown on **Figure 3.4-1**, Geologic Hazards, the closest active fault to the Specific Plan area is the Newport-Inglewood fault, located approximately 1.8 miles to the southwest. The historically active San Andreas Fault is located approximately 42 miles to the north. Because there are no active faults that extend through the Specific Plan area, the potential for a surface fault rupture on the site is low. Although the active faults are not located within the Specific Plan, the structures within the Specific Plan area can be subject to ground movement during an earthquake. The ground movement can vary depending on the overall magnitude, distance to the fault, focus of the earthquake energy, and type of geologic material.

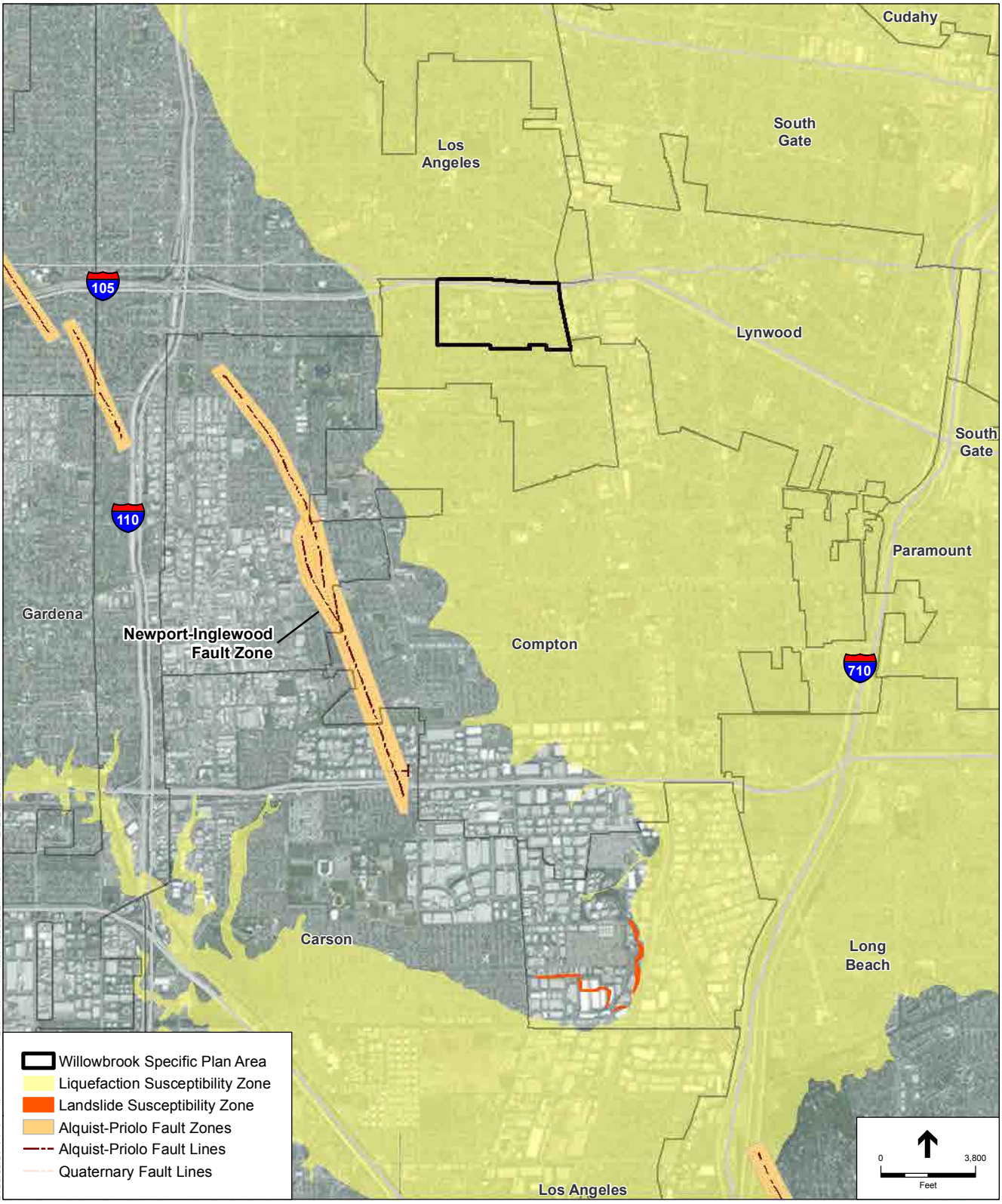
Liquefaction and Lateral Spreading Risk

Liquefaction is a loss of soil strength due to a buildup of pore-water pressure during severe ground shaking. Liquefaction is associated primarily with loose (low density), saturated, fine- to medium-grained, cohesionless soils. As shown on Figure 3.4-1, the Specific Plan area is located in a potential Liquefaction Susceptibility Zone. Based on a review of groundwater levels within and in the vicinity of the Specific Plan area, groundwater levels range generally from 30 to 50 feet below ground surface (LARWQCB, 2005 and DWR, 2016); however, groundwater levels can fluxuate depending on underlying aquifers. Damage attributed to liquefaction was noted in the vicinity of the project area following the 1933 Long Beach Earthquake. It was speculated that the considerable damage in Willowbrook was probably due to the communities' location on formerly marshy ground, particularly in areas along Compton Creek and the former courses of the Los Angeles River (CDOC, 1998)

Lateral spreading is a phenomenon in which large blocks of intact, non-liquefied soil move downslope on a liquefied soil layer. Lateral spreading is often a regional event. For lateral spreading to occur, a liquefiable soil zone must be laterally continuous, unconstrained laterally in at least one direction and free to move along sloping ground. Due to the relatively flat topography and groundwater at 30 to 40 feet below ground surface, the potential for lateral spreading is considered to be very low.

Landslide Potential

As identified above, the Specific Plan area is generally flat, sloping gently from 95 feet above mean sea level (amsl) in the northwest to 82 feet amsl in southeast. As shown in Figure 3.4-1, there are no landslide susceptibility zones within the Specific Plan area; therefore, the potential for landslides is low.



Path: U:\GIS\GIS\Projects\3xxxx\D130631_Willowbrook\task\Geology_portrait.mxd, jyl 12/30/2015

SOURCE: ESRI; County of Los Angeles GIS; USGS

Figure 3.4-1
Geologic Hazards

Erosion

Erosion is defined as the wearing away of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of waves, wind, and underground water (NRCS, 2001a, 2001b). Soil erosion can be accelerated beyond natural rates in areas with depleted plant cover and degraded soil structure resulting from excessive disturbance or reduced organic matter input. As stated previously, the majority of the Specific Plan area is developed and there is very little existing exposed soil with the exception of landscaping; therefore, there are currently minimal areas susceptible to erosion. Within the Specific Plan area, the surface soils consist of sandy silt and clay (County of Los Angeles, 2010). Surface soils with sandy silt are susceptible to wind and water erosion, if exposed.

Settlement, Subsidence and Collapsible Soils

Settlement of the ground surface can occur under static forces (e.g., due to gravity or groundwater removal) but can also be accelerated and accentuated by earthquakes. When liquefied ground re-consolidates following an earthquake, the ground surface may settle or subside as shaking decreases and the underlying liquefied soil becomes more dense (USGS, 2006). The potential for settlement would be higher in unconsolidated sediments and lower in consolidated sediments or sediments reworked during development. The actual potential for settlement is difficult to predict because conditions under which this hazard can occur are site specific.

Subsidence is a form of settlement defined as the gradual settling or sudden sinking of the earth's surface due to subsurface movement of earth materials (USGS, 2013). The Los Angeles County General Plan does not list subsidence as a safety issue within the County (County of Los Angeles, 2015c). Some subsidence has occurred in the past in the Los Angeles area, mainly as a result of oil production and groundwater pumping. However, subsidence has not been documented as occurring specifically in the Specific Plan area (USGS, 2014).

Dry soils that are susceptible to large and sudden reductions in volume when they become wet are known as collapsible soils. Collapse can be caused by water percolating from newly created ponds, irrigation, leakage from soil-lined canals, and storm runoff from roadways and roofs of buildings (Holzer, 2006). Collapsible soils are not identified as hazards in the Los Angeles County General Plan; collapse is not likely an issue in the Specific Plan area.

3.4.2 Regulatory Framework

State

Alquist-Priolo Earthquake Fault Zoning Act

Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act) of 1972 (revised in 1994) is the State law that addresses hazards from earthquake fault zones. The purpose of this law is to mitigate the hazard of surface fault rupture by regulating development near active faults. As required by the Act, the State has delineated Earthquake Fault Zones (formerly Special Studies Zones) along known active faults in California (CGS, 2015). The nearest Alquist-Priolo Earthquake Fault to the Specific Plan area is the Newport-Inglewood Fault.

Seismic Hazard Mapping Act

The Seismic Hazards Mapping Act was passed in 1990 following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by strong ground shaking, liquefaction, landslides, or other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones, and cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation must be conducted and appropriate mitigation measures incorporated into the project's design. For projects that would locate structures for human occupancy within designated Zones of Required Investigation, the Seismic Hazards Mapping Act requires project applicants to perform a site-specific geotechnical investigation to identify the potential site-specific seismic hazards and corrective measures, as appropriate, prior to receiving building permits. The California Geological Survey (CGS) Guidelines for Evaluating and Mitigating Seismic Hazards (CGS, 2008) provides guidance for evaluating and mitigating seismic hazards.

California Building Code

The California Building Code (CBC) has been codified in the California Code of Regulations (CCR) as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures within its jurisdiction. The 2013 CBC is based on the 2012 International Building Code published by the International Code Conference. In addition, the CBC contains necessary California amendments which are based on reference standards obtained from various technical committees and organizations such as the American Society of Civil Engineers (ASCE), the American Institute of Steel Construction, and the American Concrete Institute. ASCE Minimum Design Standards 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California. The building department of every city, county, or city and county is required to enforce all the provisions of the CBC, and is authorized to issue a construction permit for the erection, construction, reconstruction, installation, moving or alteration of any building or structure.

Chapter 18 of the CBC covers the requirements of geotechnical investigations (Section 1803), including excavation, grading, and fills (Section 1804). The CBC requires geotechnical investigations be conducted prior to construction unless waived by the designated building official (which could occur when satisfactory data from adjacent areas demonstrates an investigation is not necessary). Chapter 18 also describes analysis of expansive soils and the determination of the depth to groundwater table. Previously, the Thresholds of Significance in

Appendix G of the CEQA Guidelines stated that expansive soil would be characterized as defined in Table 18-1-B of the 1994 Uniform Building Code. However, that table is no longer used and the current CBC definition is as follows:

> **1803.5.3 Expansive Soil**. In areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1, 2 and 3 shall not be required if the test prescribed in Item 4 is conducted:
>
> 1. Plasticity index (PI) of 15 or greater, determined in accordance with ASTM D 4318
> 2. More than 10 percent of the soil particles pass a No. 200 sieve (75 micrometers), determined in accordance with ASTM D 422
> 3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422
> 4. Expansion index greater than 20, determined in accordance with ASTM D 4829

The CBC also includes earthquake design requirements that take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E (very high seismic vulnerability and near a major fault). Design specifications for individual projects are then determined according to the SDC.

NPDES Construction General Permit

The State of California adopted a Statewide NPDES Permit for General Construction Activity (Construction General Permit) on September 2, 2009 (Order No. 2009-0009-DWQ), which has since been amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ. The Construction General Permit regulates construction site storm water. Dischargers whose projects disturb one or more acres of soil, or whose projects disturb less than one acre but are part of a larger development plan that in total disturbs one or more acres, are required to obtain coverage under the Construction General Permit for discharges of storm water associated with construction activity. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit requires the development and implementation of an SWPPP that includes specific BMPs designed to prevent pollutants from contacting stormwater and being transported off-site into receiving waters. Types of BMPs include erosion control (e.g., preservation of vegetation), sediment control (e.g., fiber rolls), non-stormwater management (e.g., water conservation), and waste management. The SWPPP also includes descriptions of BMPs to reduce pollutants in storm water discharges after all construction phases have been completed at the site (post-construction BMPs). Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to include a

visual monitoring program, a chemical monitoring program for nonvisible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

In the project area, the Construction General Permit is implemented and enforced by the Los Angeles Regional Water Quality Control Board (LARWQCB), which administers the stormwater permitting program. Dischargers are required to electronically submit a Notice of Intent (NOI) and permit registration documents (PRDs) to obtain coverage under this Construction General Permit. Dischargers are responsible for notifying the LARWQCB of violations or incidents of noncompliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected.

Local

County of Los Angeles Subdivisions Code and Building Code

Many civil engineering projects within the County are required to include geotechnical investigations with input from: 1) an engineering geologist licensed in the State of California (engineering geologist) and 2) either a civil engineer licensed in the State of California, experienced in the field of soil mechanics, or a geotechnical engineer licensed in the State of California (soils engineer). These requirements are in accordance with the County of Los Angeles Subdivisions Code (Code of Ordinances Title 21) (LACSC) Section 21.48.050.8 and the 2011 County of Los Angeles Building Code (Code of Ordinances Title 26) (CLABC) Section 111 (LADPW, 2013).

County of Los Angeles Municipal Separate Storm Sewer System Permit

The current Municipal Separate Storm Sewer System (MS4) Permit for County of Los Angeles (Order No. R4-2012-0175) was adopted on November 8, 2012, became effective December 28, 2012, and will expire on December 28, 2017. Order No. R4-2012-0175 is the fourth iteration of the storm water permit for the MS4s in the Los Angeles region, which includes: Los Angeles County Flood Control District, County of Los Angeles, and 84 incorporated cities within the County watersheds excluding the City of Long Beach. The permit contains requirements that are necessary to improve efforts to reduce the discharge of pollutants in storm water runoff to the maximum extent practicable (MEP) and achieve water quality standards. This permit requires that runoff is addressed during the major phases of urban development (planning, construction, and operation) in order to reduce the discharge of pollutants from storm water to the MEP, effectively prohibit non-storm water discharges and protect receiving waters.

The MS4 Permit also includes construction requirements for implementation of minimum construction site BMPs for erosion, sediment, non-storm water management and waste management on construction sites. Section 3.7.2 in this EIR provides a detailed listing of the minimum construction BMPs.

County of Los Angeles General Plan

The Los Angeles County General Plan was recently adopted in October 2015. The following goals and policies pertain to geology and soils.

Conservation and Natural Resources Element

Goal – C/NR-5: Protected and useable local surface water resources.

Policy C/NR 5.1: Support the LID philosophy, which seeks to plan and design public and private development with hydrologic sensitivity, including limits to straightening and channelizing natural flow paths, removal of vegetative cover, compaction of soils, and distribution of naturalistic BMPs at regional, neighborhood, and parcel-level scales.

Policy C/NR 5.2: Require compliance by all County departments with adopted Municipal Separate Storm Sewer System (MS4), General Construction, and point source NPDES permits.

Policy C/NR 5.4: Actively engage in implementing all approved Enhanced Watershed Management Programs/Watershed Management Programs and Coordinated Integrated Monitoring Programs/Integrated Monitoring Programs or other County-involved TMDL implementation and monitoring plans.

Safety Element

Goal S 1: An effective regulatory system that prevents or minimizes personal injury, loss of life and property damage due to seismic and geotechnical hazards.

Policy S 1.1: Discourage development in Seismic Hazard and Alquist-Priolo Earthquake Fault Zones.

Policy S 1.2: Prohibit the construction of most structures for human occupancy adjacent to active faults until a comprehensive fault study that addresses the potential for fault rupture has been completed.

Policy S 1.3: Require developments to mitigate geotechnical hazards, such as soil instability and landsliding, in Hillside Management Areas through siting and development standards.

Policy S 1.4: Support the retrofitting of unreinforced masonry structures to help reduce the risk of structural and human loss due to seismic hazards.

County of Los Angeles Low Impact Development Manual

The County of Los Angeles (County) prepared the 2014 Low Impact Development Standards Manual (LID Standards) to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit for stormwater and non-stormwater discharges from the MS4 within the coastal watersheds of Los Angeles County (CAS004001, Order No. R4-2012-0175), referred to as the 2012 MS4 Permit

(County of Los Angeles, 2014). The LID Standards provide guidance for the implementation of stormwater quality control measures in new development and redevelopment projects in unincorporated areas of the County with the intention of improving water quality and mitigating potential water quality impacts from stormwater and non-stormwater discharges. The November 2013 LID Ordinance became effective December 5, 2013.

The LID Manual specifies requirements for development as mandated by the Ordinance. According to the Manual, liquefaction-induced settlement of structures and lateral spreading will need to be evaluated if analyses indicate the potential for liquefaction may increase due to stormwater runoff infiltration. Further, soil amendments must be implemented to avoid potential geotechnical hazards such as liquefaction if the hydraulic conductivity in the soil is not sufficient for the necessary water application rate.

3.4.3 Thresholds of Significance

For the purposes of this EIR and consistency with Appendix G of the CEQA Guidelines and the County of Los Angeles Environmental Checklist Form, the project would have a significant impact on geologic resources if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known active fault trace (See Section 5.1.6 in this EIR);
  - Strong seismic groundshaking (See Impact 3.4-1 below);
  - Seismic-related ground failure, including liquefaction and lateral spreading, (See Impact 3.4-2 below) or
  - Landslides (See Section 5.1.6 in the EIR);
- Result in substantial soil erosion or the loss of topsoil (See Impact 3.4-3 below);
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse (See Impact 3.4-4 below);
- Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property (See Section 5.1.6 in this EIR);
- Have soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater (See Section 5.1.6 in this EIR); or
- Conflict with the Hillside Management Area Ordinance (L.A. County Code, Title 22, § 22.56.215) or hillside design standards in the County General Plan Conservation and Open Space Element (See Section 5.1.6 in this EIR).

3.4.4 Methodology

The following analysis considers the existing environmental setting and regulatory environment applicable to the proposed Specific Plan area. The Los Angeles County General Plan was consulted to determine what, if any, identified geologic hazards are located in the project area. If there is a potential for geologic hazards and if existing regulatory requirements reduces the potential hazard to less than significant, no mitigation measures are required.

3.4.5 Impact Analysis

Strong Seismic Ground Shaking

Impact 3.4-1: The proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

Project Specific

The project site is located in a seismically active region and is located in the near vicinity of the active Newport-Inglewood fault. People and structures within the Specific Plan area could be subject to strong seismic ground shaking. However, conforming to the CBC and UBC would reduce impacts from strong seismic ground shaking to the maximum extent possible under currently accepted engineering practices. Therefore, the implementation of the proposed Specific Plan would result in less than significant impacts related to exposing people or structures to strong seismic ground shaking.

Cumulative

The study area for potential cumulative geology and soils impacts involving strong seismic ground shaking includes the proposed Specific Plan area and areas immediately adjacent to the Specific Plan area because the direct geology and soil impacts are site specific and people and structures within the Specific Plan could be exposed to indirect hazards from unstable structures immediately adjacent to the Specific Plan area. Future cumulative development could be located in areas susceptible to strong seismic ground shaking similar to the proposed project. Because future development could be exposed to these impacts, people and structures could be exposed to a high potential for seismic ground shaking. However, as required for all new developments, conforming to the CBC and UBC would reduce impacts from strong seismic ground shaking for future cumulative development to the maximum extent possible under currently accepted engineering practices. Therefore, cumulative development would result in less than significant impacts related to exposing people or structures to strong seismic ground shaking

Because both the proposed project and cumulative development would result in less than significant impacts related to exposing people or structures to strong seismic ground shaking, the project's contribution to cumulative strong seismic ground shaking would be less than cumulatively considerable, and therefore, less than cumulatively significant.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Liquefaction and Lateral Spreading

Impact 3.4-2: The proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving liquefaction and lateral spreading.

Project-Specific

The proposed project would involve new development and redevelopment of several structures in an area classified as having high potential for liquefaction and liquefaction-induced lateral spreading. Liquefaction can occur as a secondary effect of seismic shaking in areas of saturated, loose, fine-to-medium grained soils where the water table is 40 feet or less below the ground surface. Seismic shaking temporarily eliminates the grain-to-grain support normally provided by the sediment grains. The waters between the grains assume the weight of the overlying material and the sudden increase in pore water pressure results in the soil losing its friction properties. The saturated material (with the frictionless properties of a liquid) will fail to support overlying structures. Liquefaction-related effects include loss of bearing strength, ground oscillations, lateral spreading, and slumping. Liquefaction may occur in water-saturated sediment during a moderate to high acceleration of seismic shaking in the project area because the depth of groundwater is approximately 30 to 40 feet below the ground surface. Furthermore, a certain depth at an individual site is not necessarily an indicator to the area-wide or regional depth to groundwater, and levels are variable (LARWQCB, 2005).

Liquefaction susceptibility reflects the relative resistance of a soil to loss of strength when subjected to ground shaking. Physical properties of soil such as sediment grainsize distribution, compaction, cementation, saturation, and depth govern the degree of resistance to liquefaction. Younger alluvial fan deposits within the South Gate Quadrangle consist largely of sand, silt, and gravel, and lesser occurrences of clay. Most test boreholes drilled in these units report the presence of loose to medium dense sand and silt. Some deposits consist of very loose sand. Where historical groundwater levels are within 40 feet of the surface, as in Willowbrook, these

deposits are judged to be susceptible to liquefaction. Historic liquefaction has also been confirmed in the South Gate Quadrangle (CDOC, 1998). Because Southern California is a seismically active area that can produce a high acceleration of seismic shaking, the potential for exposure of people or structures to liquefaction and liquefaction-induced lateral spreading within the proposed Specific Plan area is considered high. However, conforming to the CBC would reduce impacts from liquefaction and liquefaction-induced lateral spreading within the proposed Specific Plan area to the maximum extent possible under currently accepted engineering practices. These engineering practices could include densification of soils, soil reinforcement, and drainage/dewatering to reduce pore water pressure within the soil (Tong, 2014). Therefore, the implementation of the proposed Specific Plan would result in less than significant impacts related to exposing people or structures to liquefaction and liquefaction-induced lateral spreading.

Cumulative

The study area for potential cumulative geology and soils impacts involving liquefaction and lateral spreading includes the proposed Specific Plan area and areas immediately adjacent to the Specific Plan area because the direct geology and soil impacts are site specific and people and structures within the Specific Plan could be exposed to indirect hazards from unstable structures immediately adjacent to the Specific Plan area. Future cumulative development could be located in areas susceptible to liquefaction and lateral spreading similar to the proposed project. Because future development could be exposed to these impacts, people and structures could be exposed to a high potential for liquefaction and lateral spreading. However, as required for all new developments, conforming to the CBC and County ordinances would reduce potential impacts from liquefaction and liquefaction-induced lateral spreading for future cumulative development to the maximum extent possible under currently accepted engineering practices. Therefore, cumulative development would result in less than significant impacts related to exposing people or structures to liquefaction and liquefaction-induced lateral spreading.

Because both the proposed project and cumulative development would result in less than significant impacts related to exposing people or structures to liquefaction and liquefaction-induced lateral spreading, the project's contribution to cumulative liquefaction and liquefaction-induced lateral spreading would be less than cumulatively considerable, and therefore, less than cumulatively significant.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Soil Erosion or Topsoil Loss

Impact 3.4-3: The proposed project would not result in substantial soil erosion or the loss of topsoil.

Project-Specific

Although the project is located within a developed urban area, construction activities may include excavation, grading, and other soil-disturbing activities that could result in soil erosion or loss of topsoil during rain or high-wind events. However, for projects disturbing more than an acre of ground surface, the Construction General Permit requires the preparation and implementation of a SWPPP that would include erosion control and sediment control BMPs such as sandbags and covering soil stockpiles, which would ensure that soil erosion and loss of topsoil on the construction site would be minimized. Specific developments as part of the proposed project that disturb less than an acre of ground surface would be required to implement at a minimum the BMPs identified in the Los Angeles County MS4 Permit (RWQCB Order No. R4-2010-0175), which include erosion control and sediment control strategies for small construction sites (see Chapter 3.7, *Hydrology and Water Quality*, for a more detailed explanation of the MS4 Permit requirements). Compliance with Construction General Permit and MS4 Permit requirements would ensure less than significant impacts related to erosion and topsoil during construction of specific developments in the Specific Plan area.

The Specific Plan area is developed and estimated to be between 80 to 90 percent impervious; new development and redevelopment projects proposed by the Specific Plan would not substantially alter the ratio of pervious to impervious surfaces in the Specific Plan area. Therefore, the chance of soil erosion and topsoil loss occurring during operation of the new development is low. Depending on the Specific Plan Zoning designation, a minimum of between 10 and 20 percent of each lot must be landscaped with trees, ground cover, shrubbery and flowers as required by the Specific Plan; these landscaped areas could erode and lose topsoil if not properly designed. However, as part of compliance with the Los Angeles County Low Impact Development (LID) Standards, any specific project under the Specific Plan qualifying as a new development or a redevelopment project would be designed to reduce offsite runoff, promote rainwater harvesting, and reduce erosion and hydrologic impacts downstream. By reducing the velocity and quantity of stormwater onsite, the potential for erosion and topsoil loss in landscaped areas caused by runoff is also reduced. The presence of vegetation on landscaped areas would reduce the ability of soil to be eroded and lost by wind erosion. Impacts related to erosion and topsoil loss during operation of proposed development would be less than significant.

Cumulative

Topsoil and erosion impacts are typically site-specific. All cumulative projects adjacent to the Specific Plan area disturbing more than an acre of ground surface would be required to

implement erosion control and sediment control BMPs as required by their site-specific SWPPPs per Construction General Permit requirements. Cumulative projects not falling into this disturbance category would be required at a minimum to implement erosion and sediment control BMPs listed in the MS4 Permit (see Chapter 3.7, *Hydrology and Water Quality*, for a more detailed explanation of the MS4 Permit). Therefore, cumulative developments would result in less than significant erosion and topsoil loss impacts because these projects would be required to comply with existing regulations. Because the projects that would be part of the Specific Plan would result in less than significant soil erosion and loss of topsoil impacts as discussed above, the project's contribution to cumulative soil impacts would be less than cumulatively considerable, and thus less than cumulatively significant.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Geologic Instability

Impact 3.4-4: The proposed project could be located on a geologic unit or soil that is currently unstable, or that would become unstable as a result of the project, and would not potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

Project-Specific

As stated in the IS/NOP for the project, the Specific Plan area would have no impact on the project area related to landslides given that the area is relatively flat. The potential for liquefaction and lateral spreading is addressed in Impact 3.4-1. As stated in Impact 3.4-1, development in accordance with the Specific Plan requires conformance with the CBC and the County ordinances that would reduce impacts from liquefaction and liquefaction-induced lateral spreading within the proposed Specific Plan area to the maximum extent possible under currently accepted engineering practices. These engineering practices could include densification of soils, soil reinforcement, and drainage/dewatering to reduce pore water pressure within the soil Therefore, the implementation of the proposed Specific Plan would result in less than significant impacts related to liquefaction and liquefaction-induced lateral spreading.

Because historical groundwater levels are within 40 feet of the surface in the project area, settlement of the ground surface can occur when liquefied ground reconsolidates following an earthquake. However, development under the Specific Plan would be required to adhere to County building code requirements, which include the preparation of a geotechnical investigation by a state licensed geotechnical engineer. The required geotechnical report for any new development or redevelopment would determine the susceptibility of the subject site to settlement, subsidence or collapse and prescribe appropriate engineering techniques for reducing its effects. Site preparation measures such as use of engineered fill, surcharging, wick drains, compaction requirements, structural slabs could be used. These measures would be evaluated and the most effective, feasible, and economical measures recommended in a geotechnical report would be incorporated into the site design in accordance with the building requirements. Therefore, with adherence to building code requirements, the potential for unstable soils resulting in settlement, subsidence, or collapse to adversely affect proposed structures and improvements would be reduced to less than significant.

Cumulative

The study area for potential cumulative geology and soils impacts involving landslides, liquefaction, lateral spreading, settlement, subsidence and collapsible soils includes the proposed Specific Plan area and areas immediately adjacent to the Specific Plan area because the direct geology and soil impacts are site specific and people and structures within the Specific Plan could be exposed to indirect hazards from unstable structures immediately adjacent to the Specific Plan area. As stated above the Specific Plan area and vicinity have relatively flat terrain and therefore, no cumulative impacts from landslides would occur. Future cumulative development could be located in areas susceptible to liquefaction, lateral spreading, settlement, subsidence and collapsible soils similar to the proposed project. Because future development could be exposed to these impacts, people and structures could be exposed to hazards from these impacts. However, as required for all new developments, conforming to the CBC and local ordinances would reduce potential impacts from liquefaction, lateral spreading, settlement, subsidence and collapsible soils for future cumulative development to the maximum extent possible under currently accepted engineering practices such as the site preparation and design measures identified above. Therefore, cumulative development would result in less than significant impacts related to exposing people or structures to liquefaction, lateral spreading, settlement, subsidence and collapsible soils

Because both the proposed project and cumulative development would result in less than significant impacts related to exposing people or structures to liquefaction, lateral spreading, settlement, subsidence and collapsible soils with adherence to the CBC and local ordinances, the project's contribution to cumulative liquefaction, lateral spreading, settlement, subsidence and collapsible soils would be less than cumulatively considerable, and therefore, less than cumulatively significant.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

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3.5 Greenhouse Gas Emissions

Introduction

This section provides a discussion of existing regulations related to greenhouse gas (GHG) emissions, and addresses GHG impacts related to implementation of the proposed Specific Plan. Specifically, this section analyzes the GHG emissions that would be generated by the construction and operation of the proposed Specific Plan. Mitigation measures intended to reduce GHG impacts are proposed, where appropriate, to avoid or reduce the potential for significant GHG impacts of the proposed Specific Plan.

The Specific Plan area is located within the unincorporated community of Willowbrook in the County of Los Angeles. Therefore, data used to prepare this analysis were obtained from the South Coast Air Quality Management District (SCAQMD), and by modeling existing and future GHG emissions from the construction and operation of the potential development with the implementation of the Specific Plan. The methods of analyzing emissions described in this section are consistent with the recommendations of the SCAQMD, as described below.

3.5.1 Environmental Setting

Climate

As discussed in Section 3.2 Air Quality, the proposed Specific Plan is located in the County of Los Angeles within the SCAB, which has a distinctive climate determined by its terrain and geographic location. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climate is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

Climate Change Overview

Gases that trap heat in the atmosphere are called GHGs. The major climate concern with GHGs is that increases in their concentrations are contributing to global climate change, which is a change in the average climate on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of the impacts attributable to human activities, most in the scientific community agree that there is a direct link between increased emissions of GHGs and long-term global temperature increases (i.e., global warming).

The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). Because different GHGs have different warming potential and CO_2 is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO_2 equivalents (CO_2e). For example, SF_6 is a GHG commonly used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF_6, while comprising a small fraction of the total GHGs emitted annually world-wide, is a much more potent GHG with 22,800 times the global

warming potential as CO_2. Therefore, an emission of one metric ton (MT) of SF_6 could be reported as an emission of 22,800 MT of CO_2e. Large emission sources are reported in million metric tons (MMT) of CO_2e. A metric ton is 1,000 kilograms, and it is equal to approximately 1.1 U.S. tons and approximately 2,204.6 pounds.

Some of the potential effects in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more forest fires, and more drought years (CARB, 2009). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2001):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

California produced 459 gross $MMTCO_2e$ in 2012 (CARB, 2014a). Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2012, accounting for 36 percent of total GHG emissions in the state (CARB, 2014a). This sector was followed by the electric power sector (including both in-state and out-of-state sources) (21 percent) and the industrial sector (19 percent) (CARB, 2014a).

Greenhouse Gas Emission Sources

According to much of the scientific literature on this topic, emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural sectors (CARB, 2015). Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution, respectively, and are two of the most common processes of CO_2 sequestration.

3.5.2 Regulatory Setting

Federal

As discussed in Section 3.2 Air Quality, the federal CAA requires USEPA to established NAAQS to protect public health and welfare. The federal CAA does not specifically regulate GHG emissions; however, on April 2, 2007, the U.S. Supreme Court in *Massachusetts v. U.S. Environmental Protection Agency*, determined that GHGs are pollutants that can be regulated under the federal CAA. Currently, there are no federal regulations that establish ambient air quality standards for GHGs.

The USEPA Administrator determined that atmospheric concentrations of GHGs endanger the public health and welfare within the meaning of Section 202(a) of the CAA. The evidence supporting this finding consists of human activity resulting in "high atmospheric levels" of GHG emissions, which are likely responsible for increases in average temperatures and other climatic changes. Furthermore, the observed and projected results of climate change (e.g., higher likelihood of heat waves, wild fires, droughts, sea level rise, and higher intensity storms) are a threat to the public health and welfare. Therefore, GHGs were found to endanger the public health and welfare of current and future generations. USEPA recently released a proposed rule which would regulate GHG emissions from existing power plants across the nation and establishes state-by-state 2030 GHG emission goals. There are currently no federal regulations that set ambient air quality standards for GHGs. However, in August 2012, the USEPA adopted vehicle emissions standards for GHGs for model year 2017 through 2025 passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile.

State

As discussed in Section 3.2 Air Quality, CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California. Various statewide and local initiatives to reduce the state's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and economic effects in the long term. Because every nation emits GHGs and therefore makes an incremental cumulative contribution to global climate change, cooperation on a global scale will be required to reduce the rate of GHG emissions to a level that can help to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

There are currently no state regulations in California that establish ambient air quality standards for GHGs. However, California has passed laws directing CARB to develop actions to reduce GHG emissions, and several state legislative actions related to climate change and GHG emissions have been adopted in the past decade, as discussed in the following paragraphs.

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32 – California Global Warming Solutions Act

In 2006, California Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, requires CARB to establish a statewide GHG emissions cap for 2020 based on 1990 emission levels. AB 32 required CARB to adopt and enforce programs and regulations that identify and require selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions. In December 2007, CARB adopted 427 MT CO_2e as the statewide GHG emissions limit equivalent to the statewide levels for 1990. This is approximately 28 percent below forecasted 2020 "business-as-usual" emissions of 596 MMT of CO_2e, and approximately 10 percent below average annual GHG emissions during the period of 2002 through 2004 (CARB, 2009).

CARB published the *Expanded List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration* in September 2007 (CARB, 2007). CARB adopted nine Early Action Measures for implementation, including Ship Electrification at Ports, Reduction of High Global-Warming-Potential Gases in Consumer Products, Heavy-Duty Vehicle Greenhouse Gas Emission Reduction (Aerodynamic Efficiency), Reduction of Perfluorocarbons from Semiconductor Manufacturing, Improved Landfill Gas Capture, Reduction of Hydrofluorocarbon-134a from Do-It-Yourself Motor Vehicle Servicing, Sulfur Hexaflouride Reductions from the Non-Electric Sector, a Tire Inflation Program, and a Low Carbon Fuel Standard.

As of January 1, 2012, the GHG emissions limits and reduction measures adopted in 2011 by CARB became enforceable. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

Climate Change Scoping Plan

In December 2008, CARB approved the AB 32 Scoping Plan outlining the state's strategy to achieve the 2020 GHG emissions limit (CARB, 2009). This Scoping Plan, developed by CARB in coordination with the Climate Action Team (CAT), proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California's energy sources, save energy, create new jobs, and enhance public health.

As required by AB 32, the Scoping Plan must be updated at least every five years to evaluate the mix of AB 32 policies to ensure that California is on track to meet the targets set out in the legislation. In October 2013, a draft Update to the initial Scoping Plan was developed by CARB in collaboration with the California Climate Action Team (CCAT). The draft Update built upon the initial Scoping Plan with new strategies and expanded measures, and identified opportunities to leverage existing and new funds to drive GHG emission reductions through strategic planning and targeted program investments. The draft Update to the initial Scoping Plan was presented to CARB's Board for discussion at its February 20, 2014 meeting. Subsequently, the first update to the AB 32 Scoping Plan was approved on May 22, 2014 by CARB.

As part of the proposed update to the Scoping Plan, the emissions reductions required to meet the 2020 statewide GHG emissions limit were further adjusted. The primary reason for adjusting the 2020 statewide emissions limit was based on the fact that the original Scoping Plan relied on the Intergovernmental Panel on Climate Change's (IPCC) 1996 Second Assessment Report (SAR) to assign the global warming potentials (GWPs) of greenhouse gases. Recently, in accordance the United Nations Framework Convention on Climate Change (UNFCCC), international climate agencies have agreed to begin using the scientifically updated GWP values in the IPCC's Fourth Assessment Report (AR4) that was released in 2007. Because CARB has begun to transition to the use of the AR4 100-year GWPs in its climate change programs, CARB recalculated the Scoping Plan's 1990 GHG emissions level with the AR4 GWPs. As the recalculation resulted in 431 $MMTCO_2e$, the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 $MMTCO_2e$ in the initial Scoping Plan. Considering that the proposed update also adjusted the 2020 BAU forecast of GHG emissions to 509 $MMTCO_2e$, a 15 percent reduction below the estimated BAU levels was determined to be necessary to return to 1990 levels by 2020 (CARB, 2014b).

Executive Order S-1-07

In 2007, Executive Order S-1-07was signed by Governor Schwarzenegger, proclaims that the transportation sector is the main source of GHG emissions in California. Executive Order S-1-07 establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020. As a result, CARB approved a proposed regulation to implement the low carbon fuel standard (LCFS) on April 23, 2009, which would reduce GHG emissions from the California transportation sector by approximately 16 MMT in 2020. The LCFS is designed to reduce California's dependence on petroleum, create a lasting market for clean transportation technology, and stimulate the production and use of alternative, low-carbon fuels in California. The LCFS is designed to provide a durable framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011.

Senate Bill 375

In September 2008, Senate Bill (SB) 375 was adopted, which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. As a result, on September 23, 2010, CARB adopted the vehicular GHG emission reduction targets that had been developed in consultation with the metropolitan planning organizations (MPOs); the targets

require a 7 to 8 percent reduction by 2020 and a 13 to 16 percent reduction by 2035, for each MPO. SB 375 recognizes the importance of achieving significant GHG reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs, such as SCAG would work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces GHG emissions, while meeting housing needs and other regional planning objectives. SCAG's reduction target for per capita vehicular emissions is 8 percent by 2020 and 13 percent by 2035 (CARB, 2010). The MPOs prepared their first SCS, according to their respective regional transportation plan (RTP) update schedule, with the SCAG RTP/SCS adopted on April 4, 2012.

Senate Bill 97

In August 2007, Senate Bill (SB) 97 was adopted, which required the California Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions, or the effects related to releases of GHG emissions. On April 13, 2009, the OPR submitted proposed amendments to the California Natural Resources Agency, in accordance with SB 97 regarding analysis and mitigation of GHG emissions. As directed by SB 97, the Natural Resources Agency adopted Amendments to the CEQA Guidelines for GHG emissions on December 30, 2009. On February 16, 2010, the California Office of Administrative Law approved the Amendments, and filed them with the California Secretary of State for inclusion in the California Code of Regulations, w which became effective on March 18, 2010.

Title 24, Building Standards Code

The California Energy Commission first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

California Green Building Standard Code

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices". When the CALGreen Code went into effect in 2009, compliance through 2010 was voluntary. As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings, which include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality. The CALGreen

Code was most recently updated in 2016 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2017.

Executive Order B-30-15

California Governor Edmund G. Brown issued on April 29, 2015, through Executive Order B-30-15, the following GHG emission reduction target:

- By 2030, California shall reduce GHG emissions to 40 percent below 1990 levels.

Renewables Portfolio Standard

On April 12, 2011, Governor Jerry Brown signed SB X1-2 to increase California's Renewables Portfolio Standard to 33 percent by 2020. SB 350 (Chapter 547, Statues of 2015) further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. SB 350 was signed into law on October 7, 2015.

Local

SCAQMD

After AB 32 was passed, SCAQMD formed a Climate Change Committee along with a Greenhouse Gases CEQA Significance Thresholds Working Group and the SoCal Climate Solutions Exchange Technical Advisory Group. On September 5, 2008, the SCAQMD Board approved the SCAQMD Climate Change Policy, which outlines actions the SCAQMD will take to assist businesses and local governments in implementing climate change measures, decrease the agency's carbon emissions, and provide information to the public regarding climate change.

As a method for determining significance under CEQA, SCAQMD developed a draft tiered flowchart in 2008 for determining significance thresholds for GHGs for industrial projects where SCAQMD is acting as the lead agency. In December 2008, SCAQMD adopted a 10,000 $MTCO_2e$/year for industrial facilities, but only with respect to projects where SCAQMD is the lead agency. SCAQMD has not adopted a threshold for residential or commercial projects at the time of this writing.

In order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, the GHG CEQA Significance Threshold Working Group drafted thresholds with the intent of capturing 90 percent of development projects (SCAQMD, 2010). Under Tiers 1 and 2, projects that are exempt from CEQA or consistent with an approved local GHG reduction plan can be found to be less than significant. Under Tier 3, a project's GHG emissions are compared to the draft screening thresholds. At present, the SCAQMD has not formally adopted thresholds for use by other lead agencies, but recommends that industrial projects utilize the 10,000 $MTCO_2e$ screening level that has been adopted for SCAQMD projects. The GHG CEQA Significance Threshold Working Group has drafted a significance indicator of 3,000 $MTCO_2e$ for mixed-use or all land use projects, but it has not been formally adopted. Under Tier 4, a project's GHG emissions are compared to a performance standard, such as achieving a percentage reduction in GHG emissions from a base case scenario or achieving a project-level efficiency target of 6.6 MTCO2e per service population (SP) annually for 2020 and 4.1 MT CO2e

per SP annually for 2035. Service population equals the total number of residents and employees within a development.

The SCAQMD flowchart uses a tiered approach in which a proposed project is deemed to have a less than significant impact related to GHG emissions when any of the following conditions are met:

- GHG emissions are within GHG budgets in an approved regional plan;
- Incremental increases in GHG emissions due to the project are below the defined Significance Screening Levels, or Mitigated to Less than the Significance Screening Level;
- Performance standards are met by incorporating project design features and/or implementing emission reduction measures; and
- Carbon offsets are made to achieve target significance screening level.

Los Angeles County General Plan

The Los Angeles County General Plan provides the fundamental basis for the County's land use and development policy, and addresses all aspects of development including public health, land use, community character, transportation, economics, housing, air quality, and other topics. The County General Plan sets forth objectives, policies, standards, and programs for land use and new development, Circulation and Public access, and Service Systems for the Community as a whole. Measures related to GHG emissions that would be applicable to the Project are contained in the County General Plan Elements of Land Use (LU), Mobility (M), Air Quality (AQ), and Public Services and Facilities (PS/F), which are specified below (County of Los Angeles, 2015). These measures will be implemented in connection with development of the Project.

Goal LU 10: Development that utilize sustainable design techniques.

Policy LU 10.1: Encourage new development to employ sustainable energy practices, such as utilizing passive solar techniques and/or active solar technologies.

Policy LU 10.2: Support the design of developments that provide substantial tree canopy cover, and utilize light colored paving materials and reflective roofing materials to reduce the urban heat island effect.

Policy LU 10.3: Encourage development to optimize the solar orientation of buildings to maximize passive and active solar design techniques.

Goal M 2: Interconnected and safe bicycle- and pedestrian-friendly streets, sidewalks, paths and trails that promote active transportation and transit use.

Policy M 2.8: Connect pedestrian and bicycle paths to schools, public transportation, major employment centers, shopping centers, government buildings, residential neighborhoods, and other destinations.

Policy M 2.10: Encourage the provision of amenities, such as benches, shelters, secure bicycle storage, and street furniture, and comfortable, safe waiting areas near transit stops.

Goal M 4: An efficient multimodal transportation system that serves the needs of all residents.

Policy M 4.1: Expand transportation options that reduce automobile dependence.

Policy M 4.2: Expand shuttle services to connect major transit centers to community points of interest.

Policy M 4.4: Ensure expanded mobility and increase transit access for underserved transit users, such as seniors, students, low income households, and persons with disabilities.

Policy M 4.15: Reduce vehicle trips through the use of mobility management practices, such as the reduction of parking requirements, employer/institution based transit passes, regional carpooling programs, and telecommuting.

Policy M 4.16: Promote mobility management practices, including incentives to change transit behavior and using technologies, to reduce VMTs.

Goal M 5: Land use planning and transportation management that facilitates the use of transit.

Policy M 5.1: Facilitate transit-oriented land uses and pedestrian oriented design to encourage transit ridership.

Policy M 5.2: Implement parking strategies that facilitate transit use and reduce automobile dependence.

Goal M 7: Transportation networks that minimizes negative impacts to the environment and communities.

Policy M 7.3: Encourage the use of sustainable transportation facilities and infrastructure technologies, such as liquid and compressed natural gas, and hydrogen gas stations, ITS, and electric car plug-in ports.

Goal AQ 3: Implementation of plans and programs to address the impacts of climate change.

Policy AQ 3.1: Facilitate the implementation and maintenance of the Community Climate Action Plan to ensure that the County reaches its climate change and greenhouse gas emission reduction goals.

Policy AQ 3.4: Participate in local, regional, and state programs to reduce greenhouse gas emissions.

Policy AQ 3.5: Encourage maximum amounts of energy conservation in new development and municipal operations.

Policy AQ 3.6: Support and expand urban forest programs within the unincorporated areas.

Goal PS/F 2: Increased water conservation measures.

Policy PS/F 2.1: Implement water conservation measures, such as drought tolerant landscaping and restrictions on water used for landscaping.

Goal PS/F 5: Adequate disposal capacity and minimal waste and pollution.

Policy PS/F 5.5: Reduce the County's waste stream by minimizing waste generation and enhancing diversion.

Policy PS/F 5.6: Encourage the use and procurement of recyclable and biodegradable materials.

Policy PS/F 5.7: Encourage the recycling of construction and demolition debris generated by public and private projects.

Policy PS/F 5.9: Encourage the availability of trash and recyclables containers in new developments, public streets, and large venues.

3.5.3 Thresholds of Significance

In accordance with Appendix G of the *CEQA Guidelines*, a project could have a significant effect related to GHG emissions if it would:

- Generate greenhouse gas (GHGs) emissions, either directly or indirectly, that may have a significant impact on the environment (See Impact 3.5-1, below); or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs (See Impact 3.5-2, below).

The increased concentration of GHGs in the atmosphere has been linked to global warming, which can lead to climate change. Therefore, construction and operation of the development projects under the proposed Specific Plan would incrementally contribute to GHG emissions along with past, present, and future activities, and the CEQA Guidelines acknowledge this as a cumulative impact. As such, impacts of GHG emissions are analyzed here on a cumulative basis.

Adopted in December 2010, the CEQA Guideline Amendments, state that each local lead agency must develop its own significance criteria based on local conditions, data, and guidance from public agencies and other sources. However, neither the SCAQMD, CEQA Guidelines, nor the County of Los Angeles has provided adopted numeric thresholds of significance for greenhouse gas emissions. In the case where no adopted numeric guidelines are available, the Office of Planning and Research (OPR), the agency that develops the CEQA Guidelines, encourages the lead agency to use programmatic mitigation plans and programs to tier individual project analysis. While the County of Los Angeles is in the process of adopting a Climate Action Plan, the Plan has not yet been adopted and therefore does not meet the requirements set forth in the CEQA Guidelines to enable tiering.

Under CEQA, it is up to the Lead Agency to determine which thresholds of significance and methodology to use in evaluating a project. Typically, the Lead Agency adopts the thresholds of

the air district which has jurisdiction over a project. While SCAQMD has issued proposed standards and guidelines, there is no adopted state or local standard for determining the cumulative significance of the proposed Specific Plan's GHG emissions. Additionally, SCAQMD has proposed, but not adopted, a 3,000 MT/year CO_2e threshold for mixed-use developments, a 3,500 MT/year CO_2e threshold for residential developments, and a 1,400 MT/year CO_2e threshold for commercial developments. As an alternative to the aforementioned proposed thresholds for residential, commercial, and mixed-use developments, SCAQMD has also recommended the use of a single numerical threshold of 3,000 MTCO_2e/year for all non-industrial projects. These thresholds were developed for individual land use projects and are not effective for larger projects such as specific plans.

As stated above, for larger projects that do not meet any of the above screening thresholds, the SCAQMD has proposed efficiency thresholds for planning level documents of 6.6 MT CO2e per service population (SP) annually for 2020, and 4.1 MT CO2e per SP annually for 2035. Service population equals the total number of residents and employees within a development. The screening threshold represents the level of GHG emissions under which a project would be considered to have a less-than-significant impact on the environment without the need for further mitigation. These draft threshold options are being evaluated through the GHG Thresholds Working Group, and have not been adopted as of this writing (SCAQMD, 2010).

In addition, the thresholds demonstrate that a project supports the efforts for the region to meet the GHG reduction requirements of AB 32. Compliance with AB 32 is used in evaluating the significance of the proposed project's incremental contribution to global warming impacts.

For the purposes of this analysis, SCAQMD's proposed performance standards for planning level documents are used. The performance standards are 6.6 MT CO_2e per service population annually for 2020 and 4.1 MT CO2e per service population annually for 2035. The service population is the total of all residents and employees within the project area. The screening threshold represents the level of GHG emissions under which a project would be considered to have a less than significant impact on the environment without further need of mitigation. Compliance with these performance standards demonstrates that a project supports the efforts for the region to meet the GHG reduction requirements of AB 32.

3.5.4 Methodology

SCAQMD recommends the use of CalEEMod for estimating construction and operational emissions associated with land use projects. CalEEMod incorporates the most recent (2011) versions of the Emission Factors (EMFAC) and Off-Road Emissions (OFF-ROAD) models developed by CARB. CalEEMod estimates the emissions of CO_2, CH_4, and N_2O as well as the resulting total CO_2e emissions associated with construction-related GHG sources such as off-road construction equipment, material delivery trucks, soil haul trucks, and construction worker vehicles. As CalEEMod currently uses IPCC's 1996 SAR to assign the GWPs for CH_4 and N_2O, the emissions for these two GHGs were taken from the CalEEMod outputs and converted to CO_2e emissions outside of CalEEMod using the updated GWPs from IPCC's AR4. The GHG analysis incorporates similar assumptions as the air quality analysis for consistency. Based on

SCAQMD's 2008 *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* document, SCAQMD recommends that for construction GHG emissions the total emissions for a project be amortized over a 30-year period and added to its operational emission estimates (SCAQMD, 2008).

Short-term construction-generated emissions of GHG's associated with the proposed Specific Plan were modeled in CalEEMod using the California default values (where specific information was not available), and reasonable assumptions based on the anticipated build out of the Specific Plan to estimate criteria air pollutant and ozone precursor emissions. GHG emissions from construction activities are associated with the exhaust emissions from the construction vehicles. Modeling input and output files are provided in Appendix B of this EIR.

Operational emissions of GHGs, including GHGs generated by direct and indirect sources, are estimated according to the recommended methodologies from SCAQMD described above. Direct sources include emissions such as vehicle trips, natural gas consumption, and landscape maintenance. Indirect sources include off-site emissions occurring as a result of the Specific Plan's operations such as electricity and water consumption and solid waste disposal. The direct and indirect emissions generated during the proposed Specific Plan's operations were estimated using CalEEMod. Similar to the calculation of the Specific Plan's construction-related GHG emissions, the operational emissions of CH_4 and N_2O were extracted from the CalEEMod output file and converted to CO_2e emissions using the GWPs from IPCC's AR4. Modeling was based on Specific Plan data (e.g., size and type of proposed uses) and vehicle trip information from the Traffic Study prepared for the Project by The Mobility Group (Mobility Group, 2017). Annual operational GHG emissions associated with the existing uses within the Specific Plan area were calculated using CalEEMod, and subtracted from the Specific Plan's estimated annual operational emissions to properly assess the net increase in operational emissions that would occur from implementation of the Specific Plan at build out.

3.5.5 Impact Analysis

Greenhouse Gas Emissions

Impact 3.5-1: The proposed project would generate GHG emissions, either directly or indirectly, and would have a significant impact on the environment.

Project-Specific

Construction Emissions

Demolition and construction activities would occur intermittently at different sites within the Specific Plan area until buildout. Although the related impacts at any one location would be temporary, demolition and construction of individual projects under the proposed Specific Plan could contribute to global climate change impacts. Demolition and construction activities would result in the emission of GHGs from equipment exhaust, construction-related vehicular activity, and construction worker automobile trips. Emission levels for demolition and construction activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers. The CalEEMod model was used to input the

maximum square footage that would be demolished and constructed within the Specific Plan area in one year, and the total annual GHG emissions were determined for demolition and construction activities. As shown in **Table 3.5-1**, the maximum annual GHG emissions from demolition and construction activities associated with the Specific Plan are 10,226 $MTCO_2e$ per year. Table 3.5-1 also identifies the total GHG emissions from demolition and construction activities over the 20-year buildout of the Specific Plan as 68,373 $MTCO_2e$. In accordance with SCAQMD methodology, demolition and construction GHG emissions are amortized over 30 years. This would result in an annual demolition and construction GHG emissions (amortized over 30-years) of 2,279 $MTCO_2e$ per year.

TABLE 3.5-1
ESTIMATED TOTAL CONSTRUCTION-RELATED GHG EMISSIONS

Emission Source	Estimated CO_2e Emissions
Total Demolition and Construction GHG Emissions	
Total Maximum Annual Demolition and Construction Emissions	
Demolition	1,001 MT/yr[1]
Construction	9,225 MT/yr[2]
Total Maximum Annual	10,226 MT/yr
Total Net Demolition and Construction Emissions from Buildout of Specific Plan	
Demolition	2,335 MT[3]
Construction	66,038 MT[4]
Total Net Demolition and Construction GHG Emissions	*68,373 MT*
Annual Demolition and Construction (Amortized over 30 years)	**2,279 MT/yr**

Notes: CO_2e= carbon dioxide equivalent; MT =metric tons; MT/yr = metric tons per year.

1 See Appendix B. Based on demolition of 227,000 square feet of structures. Total GHG demolition emissions is approximately 0.0044 MT/square foot.

2 See Appendix B. Maximum annual construction of 420 dwelling units and 227,000 square feet of non-residential structures is assumed. Total square footage of construction is assumed to be 420 units x 1,000 square feet/unit+ 227,000 square feet of non-residential = 647,000 square feet of structures. Total GHG construction emissions is approximately 0.0143 MT/square foot.

3 Based on a total net demolition of 152 units x 1,000 square feet/unit + 378,764 square feet of non-residential = 530,764 square feet of structures. Based on 0.0044 MT/square foot, 530,764 square feet of structures would generate 2,335 MT of net demolition GHG.

4 Based on a total net construction of 1,952 units x 1,000 square feet/unit + 2,666,035 square feet of non-residential = 4,618,035 square feet of structures. Based on 0.0143 MT/square foot, 4,618,035 square feet of structure would generate 66,038 MT of net construction GHG.

Source: Appendix B of this EIR, CalEEMod Modeling, January 2017

Operational Emissions

Area and indirect sources associated with the proposed Specific Plan would primarily result from electricity and natural gas consumption, water transport (the energy used to pump water), and solid waste generation from new land uses that would be implemented by the Specific Plan. GHG emissions from electricity consumed within the Specific Plan area would be generated off-site by fuel combustion at the electricity provider. GHG emissions from water transport are also indirect emissions resulting from the energy required to transport water from its source. In addition, the

growth under the proposed Specific Plan would generate GHG emissions from motor vehicle trips.

The estimated net operational GHG emissions that would be generated from implementation of the Specific Plan are shown in **Table 3.5-2**. The annual operational GHG emissions associated with the net change in land uses in the Specific Plan area were calculated using CalEEMod to properly assess the net annual increase in GHG emissions that would occur from Specific Plan implementation (see Appendix B for specific land use inputs to derive net annual GHG emissions).

TABLE 3.5-2
ESTIMATED NET INCREASE IN CONSTRUCTION AND OPERATIONS-RELATED GHG EMISSIONS WITHIN THE SPECIFIC PLAN AREA

Emission Source	Estimated Emissions CO_2e (MT/yr)
Construction	
Annual Mitigated Construction (Amortized over 30 years)	2,279
Project Operations	
Area Sources	1,201
Energy Consumption[a]	18,005
Mobile Sources	37,069
Solid Waste	1,331
Water Consumption[b]	4,014
Total Net Increase in emissions (Construction and Operational Emissions)	63,899
Service Population (SP)	11,410
CO_2e/ SP	5.6
Greater than 6.6 $MTCO_2e$/SP annual threshold for 2020	No
Greater than 4.1 $MTCO_2e$/SP annual threshold for 2035?	Yes

NOTES: CO_2e= carbon dioxide equivalent; MT/yr = metric tons per year; SP=service population.

[a] The energy-related GHG emissions, as estimated by CalEEMod, use 2008 Title 24 energy usage rates. However, according to the CEC, nonresidential buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards would be 15 percent more energy efficient than the 2008 Standards. As such, this additional reduction in energy consumption was accounted for in the Project's estimated GHG emissions associated with energy consumption.

[b] GHG emissions reductions associated with water use resulting from compliance with CALGreen requirements, which requires a minimum 20 percent reduction in indoor water use and the provision of irrigation controllers for outdoor water use, were accounted for in CalEEMod model run.

Source: Appendix B of this EIR, CalEEMod Modeling, January 2017

Additionally, in accordance with SCAQMD's recommendation, the Specific Plan's amortized annual construction-related GHG emissions from Table 3.5-1 are added to the annual net operational emissions estimate in order to determine the Specific Plan's total annual GHG emissions. As shown in Table 3.5-2, the proposed Specific Plan's total net annual GHG emissions would be approximately 63,899 $MTCO_2e$ per year (detailed calculations are included in Appendix B of this EIR). Given a service population (SP)(total net increase of residents and jobs

[employees] at buildout) increase of 11,410, annual GHG emissions per SP population for the proposed Specific Plan would be 5.6 $MTCO_2e$/SP. This would not exceed the SCAQMD's proposed efficiency level of 6.6 $MTCO_2e$/SP for 2020, but would exceed SCAQMD's proposed efficiency level of 4.1 $MTCO_2e$/SP for 2035, as shown in Table 3.5-2. Therefore, the net increase in GHG emissions resulting from implementation of the Specific Plan would be significant for 2035.

The above net GHG emissions evaluation includes mobile sources which include vehicles traveling within, to and from the Specific Plan area. To determine the GHG emissions, a total increase in the vehicle miles traveled was determined. Based on the net change in land uses within the Specific Plan, CalEEMod was used to determine the total vehicle miles traveled. The estimated total annual vehicle miles traveled for the proposed 1,952 residential uses are 32,120,271 miles. The estimated total annual vehicle miles traveled for the proposed 2,666,035 square feet of non-residential uses are 34,191,333 miles. Together, the proposed residential and non-residential uses would result in an estimated annual vehicle miles traveled of 66,311,604 miles.

The net GHG emissions identified above for the proposed Specific Plan has included various Specific Plan design features. These features include the establishment of a transit-oriented development (TOD) that includes mixed uses on the project site. The proposed Specific Plan includes sustainable design guidelines that include site designs for buildings to be sited and maximize the use of sunlight and shade for energy savings, clustering of buildings for shade, use of green roofs and providing drought tolerant plants to reduce water use. The TOD Specific Plan area is largely within walking distance of a Metro station serving the Green and Blue lines, has local bus routes and will provide bicycle and pedestrian facilities within the Specific Plan area. The average vehicle trips (ADTs) have been reduced based on these features and the vehicle miles traveled identified above have been reduced based on the ADTs. Although the Specific Plan includes design features to reduce GHG emissions, the Specific Plan would still result in a significant GHG emissions impact.

Cumulative

In accordance with SCAQMD methodology, the analysis of GHG impacts is by its nature a cumulative assessment. The analysis presented under the project-specific analysis of this section (above) is also representative of the project. Therefore, the project's contribution to cumulative impacts would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

Implementation of Mitigation Measures AIR-1 through AIR-5 ~~6~~ is required.

Cumulative

Implementation of Mitigation Measures AIR-1 through AIR-5 ~~6~~ is required.

Significance Determination

Project-Specific

Significant and unavoidable impact. Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ would reduce potential GHG emissions; however, emissions would remain significant. Mitigation Measures AIR-1 and AIR-2 in Section 3.2 Air Quality would reduce GHG emissions within the Specific Plan area, and include the use of more efficient construction equipment, which would reduce the combustion of fuels associated with construction. These mitigation measures reduce the amount of GHG's that would be generated and emitted through the construction and day to day operation of the project. Mitigation Measures AIR-3 through AIR-6 would reduce the burning of wood or fossil fuels, use low-VOC coatings and cleaning supplies, and potentially use electrical landscaping equipment, all of which reduce operational GHGs. Mitigation Measure AIR-7 would reduce energy consumption through making the development operation more energy efficient. All of these mitigation measures reduce the amount of GHG's that would be generated and emitted through the construction and day-to-day operation of a project.

Cumulative

Significant and unavoidable impact. As discussed under Project-Specific above, implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ would reduce potential GHG emissions; however, emissions would remain cumulatively considerable.

Conflict with Plan, Policy, or Regulation that Reduces Greenhouse Gas Emissions

Impact 3.5-2: The proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

Project-Specific

Consistency with AB 32

As previously discussed in Section 3.5-2 Regulatory Setting, AB 32, the California Global Warming Solutions Act of 2006, requires CARB to establish a statewide GHG emissions cap for 2020 based on 1990 emission levels. AB 32 details policies and programs for California to reach the 2020 target of a return to 1990 emissions levels; however, the State has not developed a plan to reduce emissions beyond the 2020 target. SCAQMD developed efficiency levels to demonstrate a project's compliance with the AB 32 reduction goals for 2020. As indicated under Impact 3.5-1, project GHG emissions would not exceed the SCAQMD's proposed efficiency level of 6.6 $MTCO_2e$/SP for 2020, as shown in Table 3.5-2, and therefore, would be in compliance with AB 32, and impacts would be less than significant.

The proposed project extends beyond the year 2020. Although the SCAQMD has established an efficiency threshold for 2035, there is no adopted greenhouse reduction goals as part of AB 32. Therefore, even though the project would exceed the SCAQMD threshold, the project would be consistent with the current approved reduction goals identified in AB 32. ,.

Consistency with CARB Scoping Plan

Out of the Recommended Actions contained in CARB's Scoping Plan, the actions that are most applicable to the Specific Plan are Actions:

- E-1 (increased Utility Energy efficiency programs including more stringent building and appliance standards),
- GB-1 (Green building),
- T-3 (Regional Transportation-Related Greenhouse Gas Targets), and
- W-1 (Increased water use efficiency).

CARB Scoping Plan Action E-1, together with Action GB-1 (Green Building), aims to reduce electricity demand by increased efficiency of Utility Energy Programs and adoption of more stringent building and appliance standards. Action T-3 aims to reduce GHG reductions by increasing access to a variety of mobility options such as transit, biking, and walking, while Action W-1 aims to promote water use efficiency. All new developments within the proposed Specific Plan area would be required to provide all mandatory green building measures for new developments under the CALGreen Code. Therefore, the proposed Specific Plan would be consistent with the Scoping Plan measures through incorporation of green building measures, and impacts would be less than significant.

Consistency with SCAG Sustainable Communities Strategy Related to Greenhouse Gas Emissions Reduction Policies

SB 375 requires SCAG to provide a Sustainable Communities Strategy (SCS) that will reduce GHG emissions from passenger vehicles and achieve the Regional Reduction Targets for GHG emissions from light-duty autos and trucks in the SCAG area. The SCS achieves the Regional Reduction Targets by providing changes in land use patterns that promote reductions in VMT and vehicle trips including transit oriented development with a mix of residential and commercial land uses that promote the use of transit rather than individual vehicles.

The proposed Specific Plan would implement many of the SCAG policies related to high-density, infill development that are focus on public transit opportunities. The Specific Plan would involve the revitalization of an already developed urban area with infill development that would make use of the existing circulation and utility infrastructure. The Specific Plan would also introduce high-density residential uses, thus creating a mixed-use environment in which residents would benefit from nearby shopping and employment opportunities. The new development would be within walking distance of the Willowbrook/Rosa Parks Station, which would encourage users of the Specific Plan area to use public transportation, and thereby would reduce GHG emissions. Additional detail of the proposed Specific Plan's consistency with SCAG policies are provided in Section 3.8, *Land Use*. Therefore, the proposed Specific Plan would be consistent with the greenhouse gas emission reduction policies in the SCAG SCS, and impacts would be less than significant.

Consistency with Los Angeles County General Plan Related to Greenhouse Gas Emissions Reduction Policies

The Specific Plan proposes to amend some General Plan land uses and zoning designations of parcels to implement the Specific Plan, and, as a result, the County would coordinate with SCAG to adjust the County's population, households, and employment forecast in future updates to the RTP/SCS. Overall, the Specific Plan would not result in a conflict with the General Plan because the proposed Specific Plan is generally consistent with the goals and policies of the General Plan by implementing a transit-oriented development through the introduction of mixed uses, provision of non-vehicular modes of transportation and creating a pedestrian-friendly environment. Because the proposed Specific Plan implements the transit-oriented development policies established by the County, the proposed Specific Plan is considered consistent with the County's land use policies.

The Los Angeles County General Plan policies related to the reduction of greenhouse gas emissions are detailed in Section 3.5.2 Regulatory Setting. The policies that are identified and are proposed to be implemented as part of the Specific Plan include sustainable design techniques such as the use of solar panels, building orientations, and use of trees to provide shading of structures to conserve energy; interconnected and safe bicycle- and pedestrian-friendly access through the provision of bicycle and pedestrian paths to activity centers and neighborhoods; an efficient multimodal transportation network through the improvement of roadway rights-of-way by providing safe bicycle and pedestrian paths throughout the Specific Plan area including to the onsite Willowbrook/Rosa Parks Station, and implementing plans to reduce climate change impacts through the implementation of a transit-oriented development with the introduction of mixed uses. Based on the proposed design features, the Specific Plan would be consistent with the greenhouse gas reduction policies within the Los Angeles County General Plan. Therefore, the project's impact on the County's greenhouse gas reduction policies would be less than significant.

Cumulative

The analysis of plans, policies and regulations that reduces greenhouse gas emissions is by its nature a cumulative assessment. The analysis presented under the project-specific analysis of this section (above) is also representative of the project, and therefore, the project would have a less than cumulatively considerable contribution to cumulative significant impacts.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

3.5.6 References

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3.6 Hazards and Hazardous Materials

Introduction

This section provides an evaluation of the anticipated hazards and hazardous materials impacts from implementation of the proposed Specific Plan. This analysis identifies existing and hazards and hazardous materials within the Specific Plan area and surrounding vicinity, as well as hazards and hazardous materials resulting from construction and operation of the proposed project. Health hazards associated with air pollution concentrations are described in Section 3.2, Air Quality in Impact 3.2-4.

Hazardous Materials Definition

As used in this EIR, the term "hazardous materials" refers to both hazardous substances and hazardous wastes. Under federal and state laws, materials, including wastes, may be considered hazardous if they are specifically listed by statute as such or if they exhibit one of the four characteristics: are poisonous (toxicity), can be ignited by open flame (ignitability), can corrode other materials (corrosivity), or can react violently, explode or generate vapors when mixed with water (reactivity). The term "hazardous material" is defined in law as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment (California Health and Safety Code, Section 25501(o)). In some cases, past industrial or commercial activities could have resulted in spills or leaks of hazardous materials, resulting in soil and/or groundwater contamination. The presence of certain hazardous materials can also lead to the buildup of methane gas which, if trapped under structures, can become an explosive hazard. Hazardous materials may also be present in building materials and released during building demolition activities.

Federal and state laws require that hazardous materials be specially managed. Excavated soils having concentrations of contaminants such as lead, gasoline, or industrial solvents that are higher than certain acceptable levels must be managed, treated, transported, and/or disposed of as a hazardous waste. The California Code of Regulations (CCR), Title 22, Sections 66261.20 through 66261.24, contains technical descriptions of characteristics that would cause a soil to be designated a hazardous waste. California regulations are compliant with federal regulations and in most cases, are more stringent. Regulations also govern the management of potentially hazardous building materials such as asbestos, lead-based paint, and polychlorinated biphenyls (PCBs) during demolition activities that could potentially disturb existing building materials.

3.6.1 Environmental Setting

This section summarizes known or possible contamination of soil and groundwater (including contamination of regional groundwater resources as well as known local soil and groundwater resources), and identifies hazardous materials that may be present in existing buildings and building components that could be removed with implementation of the proposed Specific Plan (such as underground storage tanks, septic tanks, asbestos, lead-based paint, and PCB-containing components).

Existing Land Uses

The Specific Plan area is developed, urban and includes a variety of land uses, the majority of which are residential, retail, office, educational, institutional facilities, and service facilities. There is one location within the Specific Plan area that includes an industrial use which is at the southwest corner of Mona Boulevard and I-105. This current industrial use is a truck repair and parking area. Some of the key non-residential land uses that are located within the Specific Plan area include: Martin Luther King, Jr. (MLK) Medical Center, CDU, Kenneth Hahn Plaza, Willowbrook Library, and MLK Center for Public Health.

One of the land uses that are normally sensitive to hazardous materials is schools. The Specific Plan area and vicinity include numerous institutional facilities such as preschools and primary and secondary schools. Table 3.6-1 lists the schools located within the Specific Plan Area and within ¼-mile of the Specific Plan boundary.

TABLE 3.6-1
SCHOOLS WITHIN SPECIFIC PLAN AND WITHIN ¼ MILE RADIUS

School Name	Location	Distance from Specific Plan Site
CDI Head Start Preschool	1700 E Imperial Hwy.	Within Specific Plan Boundaries
Barack Obama Charter Elementary School	1726 E 117th St.	Within Specific Plan Boundaries
Lincoln-Drew Elementary School	1667 E 118th St.	Within Specific Plan Boundaries
Martin Luther King Elementary School	2270 E 122nd St.	Adjacent to the south
King Drew Magnet High School	1601 East 120th St.	Within Specific Plan Boundaries
Nickerson Gardens Sage Center Day Care	1450 E 114th St.	0.17-mile northwest
Carver Elementary School	1425 E 120th St.	0.20-mile west
Bunche Middle School	12338 S Mona Blvd.	Adjacent to the east
Watts Christian School	2003 E Imperial Hwy.	Adjacent to the north

Operational activities associated with specific uses in the project area routinely use, store, and transport hazardous materials within the Specific Plan area. These specific existing uses include auto repair, dry cleaners, and restaurants and utilize or store cleaning substances, solvents, adhesives, chemicals or other hazardous materials.

The existing MLK Medical Center generates hazardous waste such as waste oil and mixed oil; oxygenated solvents including acetone, butanol, and ethyl acetate; spent halogenated solvents; and other hazardous materials including batteries, lamps, pesticides, thermostats, mercury, silver and polychlorinated biphenyls (Sapphos, 2010). The medical center as well as Charles R. Drew University of Medicine and Science (CDU) generates biomedical and radiological wastes.

Soil and Groundwater

Past and current land uses can be important indicators of whether hazardous materials were likely used at a site and whether they may be present in the subsurface soil and groundwater. Portions of the Specific Plan area were historically used for agricultural purposes. Development in the area

began in the late 1800s with a variety of public, commercial, and residential uses that may have included the generation, use, storage, or disposal of hazardous materials. These past and current operations in the Specific Plan area that may involve hazardous materials include: schools and university, hospital; pest control; and agriculture. Constituents of environmental concern common to these uses include biological waste, petroleum hydrocarbons, volatile organic compounds (VOCs), PCBs, and pesticides.

The results of the environmental database search identified two sites within the Specific Plan area that are on regulatory agency lists of known or possible soil or groundwater contamination sites (see Appendix D). These sites include the following: one leaking underground storage tank (UST) and one active cleanup site. These sites are described below.

Known Local Soil or Groundwater Contamination Sources

The MLK Community Hospital at 1680 E 120th Street is listed as a Leaking Underground Storage Tank (LUST) cleanup site. The Underground Storage Tank (UST) contained gasoline and was reported as leaking in 1989. The gasoline affected soils beneath the UST. Remediation activities were initiated to close the tank and remove affected soils, and the site maintains a case closed status as of January 17, 1996, which means that no significant hazardous threat remains.

The Kenneth Hahn Plaza at 11700 South Wilmington Avenue is a commercial shopping center. Sky High Cleaners is a dry cleaning operation located within the shopping center. Tetrachloroethene (PCE) was released into the subsurface resulting in hazardous soil, soil gas, and groundwater contamination. The site is currently undergoing site investigation and monitoring activities to determine the lateral and vertical extent of contamination.

Potential Hazardous Materials in Structural and Building Components

Hazardous materials, such as asbestos, lead, and PCBs, may also be contained in building materials and components. Procedures for dealing with these materials, and for safely removing and disposing of them in accordance with applicable regulations, have been developed by oversight agencies and are described below.

Asbestos Potential

Asbestos is a naturally-occurring fibrous material that was used as a fireproofing and insulating agent in building construction before such uses were banned by USEPA in the 1970s, although some nonfriable[1] use of asbestos in roofing materials still exists. The presence of asbestos can be found in materials such as ducting insulation, wallboard, shingles, ceiling tiles, floor tiles, insulation, plaster, floor backing, and many other building materials. Asbestos and asbestos-containing materials (ACMs) are considered both a hazardous air pollutant and a human health hazard. The risk to human health is from inhalation of airborne asbestos, which commonly occurs when ACMs are disturbed during such activities as demolition and renovation. Due to the age of the buildings within the Specific Plan area, it is likely that ACMs are present.

[1] Nonfriable asbestos refers to ACMs that contain asbestos fibers in a solid matrix that does not allow for them to be easily released.

Lead Potential

In 1978, the Consumer Product Safety Commission set the allowable lead levels in paint at 0.06 percent by weight in a dry film of newly applied paint. In the 1970s, the chief concern for lead-based paint was its cumulative effect on body systems, primarily when paint chips containing lead were ingested by children. Research in the early 1980s showed that lead dust is of special concern because the smaller particles are more easily absorbed by the body. Common methods of paint removal, such as sanding, scraping, and burning, create excessive amounts of dust. Lead dust is especially hazardous to young children because they play on the floor and engage in a great deal of hand-to-mouth activity, increasing their potential for exposure. Lead-based paints were commonly used in buildings built prior to 1970s. Since many of the structures located within the Specific Plan area were built prior to the federal regulations banning its use, lead-based paints are likely to exist in the existing structures.

Polychlorinated Biphenyls Potential

PCBs are organic oils that were formerly placed in many types of electrical equipment, including transformers and capacitors, primarily as electrical insulators. They may also be contained in hydraulic fluid used for hoists, elevators, etc. Years after widespread and commonplace installation, it was discovered that exposure to PCBs may cause various deleterious health effects and that PCBs are highly persistent in the environment. These substances have been listed as carcinogens by USEPA. PCBs were banned from use in electrical capacitors, electrical transformers, vacuum pumps, and gas turbines in 1979. Because of the age of many of the properties, there is a potential for PCBs within the Specific Plan area.

3.6.2 Regulatory Setting

Federal, state, and local regulations govern the range of hazardous materials issues that may be encountered during demolition, construction, and ongoing operation in the project area. Various state and local regulatory agencies implement these regulations to minimize the risk to human health and the environment from hazardous materials. In addition, the policies of the County's General Plan related to hazards and hazardous materials are also listed.

Federal

The Comprehensive Environmental Response, Compensation, and Liability Act. Superfund Amendments and Reauthorization Act of 1986 (42 USC Section 9601 et seq.)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was enacted by Congress in 1980. This law is also known as Superfund. CERCLA created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified (USEPA, 2017a).

There are four classes of Superfund liable parties: current owners and operators of a facility, past owners and operators of a facility at the time hazardous wastes were disposed, generators and parties that arranged for the disposal or transport of the hazardous substances, and transporters of hazardous wastes that selected the site where the hazardous substances were brought.

The law authorizes two kinds of response actions:

- Short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response.
- Long-term remedial response actions, that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life threatening. These actions can be conducted only at sites listed on EPA's NPL.

CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) in 1986. SARA stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites; required Superfund actions to consider the standards and requirements found in other state and federal environmental laws and regulations; provided new enforcement authorities and settlement tools; increased state involvement in every phase of the Superfund program; increased the focus on human health problems posed by hazardous waste sites; encouraged greater citizen participation in making decisions on how sites should be cleaned up; and increased the size of the trust fun to $8.5 billion. SARA also required EPA to revise the Hazard Ranking System (HRS) to ensure the relative degree of risk to human health and the environment posed by uncontrolled hazardous waste sites that may be placed on the NPL is accurately assessed (USEPA, 2017b).

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was passed by Congress in 1976 as the primary law governing the disposal of solid and hazardous waste. RCRA set national goals for: protecting human health and the environment from the potential hazards of waste disposal; conserving energy and natural resources; reducing the amount of waste generated; and ensuring that wastes are managed in an environmentally-sound manner. There are three programs under RCRA to assist in achieving the goals listed above:

- The solid waste program which encourages states to develop comprehensive plans to manage non-hazardous industrial solid waste and municipal solid waste landfills and other solid waste disposal facilities, and prohibits the open dumping of solid waste.
- The hazardous waste program establishes a system for controlling hazardous waste from the time it is generated until its ultimate disposal — in effect, from "cradle to grave."
- The UST program regulates USTs containing hazardous substances and petroleum products.

RCRA banned all open dumping of waste, encouraged source reduction and recycling, and promoted safe disposal of municipal waste. RCRA also mandated strict controls over the treatment, storage, and disposal of hazardous waste.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. TSCA addresses the production, importation, use and disposal of specific chemicals including PCBs, asbestos, radon and lead-based paint (USEPA, 2017c).

U.S. Department of Transportation. Hazardous Materials Transport Act (49 USC 5101)

The U.S. Department of Transportation, in conjunction with the USEPA, is responsible for enforcement and implementation of federal laws and regulations pertaining to transportation of hazardous materials. The Hazardous Materials Transportation Act of 1974 directs the U.S. Department of Transportation to establish criteria and regulations regarding the safe storage and transportation of hazardous materials. Code of Federal Regulations (CFR) 49, 171–180, regulates the transportation of hazardous materials, types of material defined as hazardous, and the marking of vehicles transporting hazardous materials.

State

Health and Safety Code, Section 25249.5 et seq. Safe Drinking Water and Toxics Enforcement Act, Proposition 65

This law identifies chemicals that cause cancer and reproductive toxicity, provides information for the public, and prevents discharge of the chemicals into sources of drinking water. Lists of the chemicals of concern are published and updated periodically. Businesses are required to notify Californians about the chemicals in products they purchase, in the workplace, or that are released to the environment. By providing this information, individuals are able to make informed decisions about protecting themselves from exposure to these chemicals.

Health and Safety Code, Section 25270, Aboveground Petroleum Storage Act

Health and Safety Code Sections 25270 to 25270.13 ensure compliance with the federal Clean Water Act. The law applies to facilities that operate a petroleum aboveground storage tank with a capacity greater than 660 gallons or combined aboveground storage tanks capacity greater than 1,320 gallons or oil-filled equipment where there is a reasonable possibility that the tank(s) or equipment may discharge oil in "harmful quantities" into navigable waters or adjoining shore lands. If a facility falls under these criteria, it must prepare a Spill Prevention Control and Countermeasure Plan.

Health and Safety Code, Sections 117600 – 118360, Medical Waste Management Act

The provisions within these sections of the Health and Safety Code govern medical waste management at the facility where waste is generated as well as at transfer stations and at treatment facilities. These sections define medical waste, identify the powers and duties of agencies overseeing the waste, stipulate the requirements of small and large quantity generators, and identify containment and storage requirements.

Government Code Section 65962.5, Cortese List

The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the Legislator who authored and enacted the legislation). The list, or a site's presence on the list, has bearing on the local permitting process as well on compliance with CEQA. The Department of Toxic Substances Control shall compile and update as appropriate, but at least annually, and shall submit to the Secretary for Environmental Protection a list of the following:

1. All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.
2. All land designated as hazardous waste property or border zone property pursuant to Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the Health and Safety Code.
3. All information received by the Department of Toxic Substances Control pursuant to Section 25242 of the Health and Safety Code on hazardous waste disposals on public land.
4. All sites listed pursuant to Section 25356 of the Health and Safety Code
5. All sites included in the Abandoned Site Assessment Program.

The State Department of Health Services shall compile and update as appropriate but at least annually, and shall submit to the Secretary for Environmental Protection, a list of all public drinking water wells that contain detectable levels of organic contaminants and that are subject to water analysis pursuant to Section 116395 of the Health and Safety Code.

The State Water Resources Control Board shall compile and update as appropriate, but at least annually, and shall submit to the Secretary for Environmental Protection, a list of all of the following:

1. All underground storage tanks for which an unauthorized release report is filed pursuant to Section 25295 of the Health and Safety Code.
2. All solid waste disposal facilities from which there is a migration of hazardous waste and for which a California regional water quality control board has notified the Department of Toxic Substances Control pursuant to subdivision (e) of Section 13273 of the Water Code.
3. All cease and desist orders issued after January 1, 1986, pursuant to Section 13301 of the Water Code, and all cleanup or abatement orders issued after January 1, 1986, pursuant to Section 13304 of the Water Code, that concern the discharge of wastes that are hazardous materials.

The local enforcement agency, as designated pursuant to Section 18051 of Title 14 of the California Code of Regulations, shall compile as appropriate, but at least annually, and shall submit to the California Integrated Waste Management Board, a list of all solid waste disposal facilities from which there is a known migration of hazardous waste. The California Integrated Waste Management Board shall compile the local lists into a statewide list, which shall be submitted to the Secretary for Environmental Protection and shall be available to any person who requests the information.

The Secretary for Environmental Protection shall consolidate the information submitted pursuant to this section and distribute it in a timely fashion to each city and county in which sites on the lists are located. The secretary shall distribute the information to any other person upon request. The secretary may charge a reasonable fee to persons requesting the information, other than cities, counties, or cities and counties, to cover the cost of developing, maintaining, and reproducing and distributing the information.

Hazardous Materials and Waste Handling

Excavated soil containing hazardous substances and hazardous building materials would be classified as a hazardous waste if they exhibit the characteristics of ignitability, corrosivity, reactivity, or toxicity (CCR, Title 22, Division 4.5, Chapter 11, Article 3). State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. These laws and regulations are overseen by a variety of state and local agencies. The California Integrated Waste Management Board and the RWQCB specifically address management of hazardous materials and waste handling in their adopted regulations (CCR, Title 14 and CCR, Title 27).

In the Specific Plan area, LACDPW Environmental Programs Division is responsible for implementing the UST Program, and the Los Angeles County Fire Department Health Hazardous Materials Division (LACFD-HHMD) is the Certified Unified Program Agency (CUPA) responsible for implementing the program elements shown below (CUPA, 2017).

- Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs (Tiered Permitting);
- Aboveground Petroleum Storage Tank Spill Prevention Control and Countermeasure Plan (SPCC);
- Hazardous Materials Release Response Plans and Inventory Program (Hazardous Materials Disclosure or "Community-Right-to Know");
- California Accidental Release Prevention Program (Cal ARP); and
- Uniform Fire Code Plans and Inventory Requirements.

The laws and regulations that established these programs require that businesses that use or store certain quantities of hazardous materials submit a Hazardous Materials Business Plan (HMBP) that describes the hazardous materials usage, storage, and disposal to the local oversight agency (CUPA). Aboveground and underground storage tanks must be properly permitted. The County may perform inspections and issue citations to businesses not in compliance with these regulations.

Health and Safety Code, Section 25500 et seq.

This code and the related regulations in 19 California Code of Regulations (CCR) 2620, et seq., require local governments to regulate local business storage of hazardous materials in excess of certain quantities. The law also requires that entities storing hazardous materials be prepared to respond to releases. Those using and storing hazardous materials are required to submit a HMBP

to their local CUPA and to report releases to their CUPA and the State Office of Emergency Services.

Health and Safety Code, Section 25531 et seq.

This code and the California Accidental Release Program regulate the registration and handling of regulated substances. Regulated substances are any chemicals designated as an extremely hazardous substance by USEPA as part of its implementation of SARA Title III. Health and Safety Code Section 25531 overlaps or duplicates some of the requirements of SARA and the Clean Air Act. Facilities handling or storing regulated substances at or above threshold reportable quantities must register with their local CUPA and prepare a risk management plan.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed.

Worker Safety

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health (Cal/OSHA) and the federal Occupational Safety and Health Administration (OSHA) are the agencies responsible for assuring worker safety in the workplace.

Cal/OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices. At sites known or possible to be contaminated, a Site Safety Plan must be prepared. The Site Safety Plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at a contaminated site.

Asbestos

Prior to renovation or demolition of buildings containing asbestos, contractors licensed to conduct asbestos abatement work must be retained. Asbestos abatement contractors must follow state regulations contained in 8 CCR 1529, and 8 CCR 341.6 through 341.14 where there is asbestos-related work involving 100 square feet or more of asbestos containing material. The South Coast Air Quality Management District (SCAQMD) and the California Occupational Safety and Health Administration (Cal/OSHA) must be notified ten days prior to initiating construction and demolition activities. Asbestos encountered during demolition of an existing building must be transported and disposed of at an appropriate facility. The contractor and hauler of the material are required to file a Hazardous Waste Manifest which details the hauling of the material from the site and the disposal of it. Section 19827.5 of the California Health and Safety Code, adopted January 1, 1991, requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos.

Polychlorinated Biphenyls

In 1979, the USEPA banned the use of PCBs in most new electrical equipment and began a program to phase out certain existing PCB-containing equipment. The use and management of PCBs in electrical equipment is regulated pursuant to the Toxic Substances Control Act, 15 USC Section 2601 *et seq*. The Toxic Substances Control Act and its implementing regulations generally require labeling and periodic inspection of certain types of PCB equipment and set forth detailed safeguards to be followed for disposal of such items.

Lead and Lead-Based Paint

Regulations to manage and control exposure to lead-based paint are described in CFR Title 29, Section 1926.62 and CCR Title 8 Section 1532.1. These regulations cover the demolition, removal, cleanup, transportation, storage and disposal of lead-containing material. The regulations outline the permissible exposure limit, protective measures, monitoring and compliance to ensure the safety of construction workers exposed to lead-based materials. Cal/OSHA's Lead in Construction Standard requires project proponents to develop and implement a lead compliance plan when lead-based paint would be disturbed during construction. The plan must describe activities that could emit lead, methods for complying with the standard, safe work practices, and a plan to protect workers from exposure to lead during construction activities. Cal/OSHA requires 24-hour notification if more than 100 square feet of lead-based paint would be disturbed.

Emergency Response

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government, and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services (OES), which coordinates the responses of other agencies, including the California Environmental Protection Agency (Cal/EPA), CHP, the California Department of Fish and Wildlife, the RWQCB, and the local fire department. The Los Angeles County Fire Department provides first response capabilities, if needed, for hazardous materials emergencies within the Specific Plan area.

Utility Notification Requirements

Title 8, Section 1541 of the CCR requires excavators to determine the approximate locations of subsurface installations such as sewer, telephone, fuel, electric, and water lines (or any other subsurface installations that may reasonably be encountered during excavation work) prior to opening an excavation. The California Government Code (Section 4216 et seq.) requires owners and operators of underground utilities to become members of and participate in a regional notification center. According to Section 4216.1, operators of subsurface installations who are members of, participate in, and share in the costs of a regional notification center are in compliance with this section of the code. Underground Services Alert of Southern California (known as DigAlert) receives planned excavation reports from public and private excavators and transmits those reports to all participating members of DigAlert that may have underground facilities at the location of excavation. Members will mark or stake their facilities, provide information, or give clearance to dig.

Local

Following are the relevant policies from the Los Angeles County General Plan (County of Los Angeles, 2015)

General Plan—Land Use Element

Policy LU 2.9: Utilize the General Plan Land Use Legend and the Hazard, Environmental and Resource Constraints Model to inform the development of land use policy maps.

Policy LU 4.1: Encourage infill development in urban and suburban areas on vacant, underutilized, and/or brownfield sites.

Policy LU 7.3: Protect public and semi-public facilities, including, but not limited to, major landfills, natural gas storage facilities, and solid waste disposal sites from incompatible uses.

General Plan—Safety Element

Policy S 4.1: Ensure that residents are protected from the public health consequences of natural or manmade disasters through increased readiness and response capabilities, risk communication, and the dissemination of public information.

3.6.3 Thresholds of Significance

In accordance with Appendix G of the *CEQA Guidelines and the County of Los Angeles Environmental Checklist Form*, a project could have a significant hazard or hazardous materials impact if it would result in any of the following:

- Create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials (See Section 5.1.7 in this EIR);
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (See Impact 3.6-1 below)
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses (See Impact 3.6-2 below);
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment (See Impact 3.6-3 below);
- For a project located within an airport land use plan or, where such a plan has not yet been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area (See Section 5.1.7 in this EIR);
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area (See Section 5.1.7 in this EIR);

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (See Section 5.1.7 in this EIR);
- Expose people or structures to a significant risk of loss, injury, or death involving fires, because the project is located (See Section 5.1.7 in this EIR):
  - within a Very High Fire Hazard Severity Zones (Zone 4)
  - within a high fire hazard area with inadequate access
  - within an area with inadequate water and pressure to meet fire flow standards
  - within proximity to land uses that have the potential for dangerous fire hazard; or
- Does the proposed use constitute a potentially dangerous fire hazard (See Section 5.1.7 in this EIR)?

3.6.4 Methodology

To identify previous land uses that may have generated hazardous materials in the Specific Plan area, historical aerial photographs were reviewed. In addition, to determine if hazardous waste sites exist in the Specific Plan area, a search of available environmental records was conducted. The Regional Water Quality Control Board's (RWQCB) database and the Department of Toxic Substances Control (DTSC) EnviroStor Data Management System were reviewed for the Specific Plan area. The GeoTracker database operated by the RWQCB is the Water Boards' data management system for managing sites that impact groundwater, especially those that require groundwater cleanup as well as permitted facilities such as operating Underground Storage Tanks (USTs) and land disposal sites (California State Water Resources Control Board, 2017). DTSC's EnviroStor Data Management System provides all existing information on permits and corrective action at hazardous waste facilities, as well as cleanup projects. In addition, the lists meeting the "Cortese List" requirements were also reviewed. These lists include:

- List of Hazardous Waste and Substances sites from DTSC EnviroStor database
- List of LUST Sites by County and Fiscal Year from Water Board GeoTracker
- List of solid waste disposal sites identified by Water Board with waste constituents above hazardous waste levels outside the waste management unit
- List of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO) from Water Board

Based on the above review, the presence of land uses that generate hazardous materials or the presence of hazardous materials within soils and/or groundwater could affect existing residents, students and/or employees within and directly adjacent to the Specific Plan area. If corrective action are currently underway, it is unlikely for potential significant impacts to occur because a federal, state or local agency is involved is resolving the issue.

3.6.5 Impact Analysis

Accident Conditions

Impact 3.6-1: Implementation of the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Project-Specific

Construction

Accidental spills of small quantities of hazardous materials during construction activities (i.e., motor fuels, oils, solvents, lubricants) related to implementation of the Specific Plan could expose the public or the environment to such substances in the event of an accidental release. Development activities that occur within Specific Plan area would be required to adhere to all applicable regulations regarding hazardous materials storage and handling, as well as to implement construction best management practices (BMPs) as described in Section 3.7, Hydrology and Water Quality to prevent such a release and to promptly contain and clean up any spills. Similarly, the storage, handling and disposal of diesel fuel, lubricants, and gas for project operations would be subject to regulations that would minimize the potential for harmful exposures. With compliance to existing laws and regulations, the project's construction related impacts would be less than significant.

As implementation of the proposed Specific Plan would primarily result in urban infill and redevelopment with mixed-uses, existing structures would need to be demolished prior to the construction of some new buildings. Due to the age of the buildings within the Specific Plan area, demolition of existing structures could result in exposure of construction personnel and the public to hazardous substances such as asbestos, PCBs, or lead-based paints. In addition, the disturbance of soils could result in the exposure of construction workers or nearby employees to health or safety risks if contaminated soils are encountered during construction.

Asbestos and Lead-Based Paint

Based on the age of some of the buildings within the Specific Plan area, it is likely that some materials containing lead and asbestos are present. Affected buildings would need appropriate abatement of identified asbestos prior to demolition or renovation. Federal and state regulations govern the renovation and demolition of structures where materials containing lead and asbestos are present. ACMs are regulated both as a hazardous air pollutant under the Clean Air Act and as a potential worker safety hazard under the authority of Cal OSHA. These requirements include SCAQMD Rules and Regulations pertaining to asbestos abatement (including Rule 1403); Construction Safety Orders 1529 (pertaining to asbestos) and 1532.1 (pertaining to lead) from CCR Title 8; CFR Title 40, Part 61, Subpart M (pertaining to asbestos); and lead exposure guidelines provided by the U.S. Department of Housing and Urban Development (HUD). Asbestos and lead abatement must be performed and monitored by contractors with appropriate certifications from the California Department of Health Services. In addition, Cal/OSHA has regulations concerning the use of hazardous materials, including requirements for safety training, availability of safety equipment, hazardous materials exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program

regulations, which include provisions for identifying and labeling hazardous materials, describing the hazards of chemicals, and documenting employee-training programs. All demolition that could result in the release of lead and/or asbestos must be conducted according to Cal/OSHA standards. Adherence to existing regulations would ensure that potential impacts related to ACMs would be less than significant.

PCB-containing Materials

The presence of PCB-containing materials may be present within the existing structures in the Specific Plan area. Demolition of these structures could disturb these materials and expose workers or the public to adverse effects. Similar to the concerns of asbestos containing materials, an initial survey to determine the presence of PCBs would need to be conducted for a construction/demolition site followed by implementation of appropriate measures to handle any materials with PCBs. Where PCBs occur, appropriate identification and removal work will be required according to federal, state and local standards. PCBs are managed under the federal and state regulations listed previously. Local agencies are required to comply with these existing regulations. Adherence to the regulatory requirements will reduce potential impacts related to PCBs to less than significant.

Soil and Groundwater Contamination

Unknown Contaminated Sites

The Specific Plan area currently contains properties that store, generate, and/or dispose of hazardous materials. While each known soil and/or groundwater contamination site has been remediated or is in the process of remediation, it is possible that implementation of infill projects within the Specific Plan area could expose unknown soil contamination during construction activities. If any unidentified sources of contamination are encountered during grading or excavation, identification and removal work will be required according to federal, state, and local standards. Adherence to the regulatory requirements will reduce potential impacts related to unknown contaminated sites to less than significant.

It is also possible that old USTs that were in use prior to permitting and record keeping requirements may be present in the Specific Plan area. If an unidentified UST was uncovered or disturbed during construction activities, it would be closed in place or removed. Removal activities could pose both health and safety risks, such as the exposure of workers, tank handling personnel, and the public to tank contents or vapors. Potential risks, if any, posed by USTs would be minimized by managing the tank according to existing state and local regulations.

Because of the age of buildings within the Specific Plan area and because the area has land uses that could generate a variety of potential sources of contamination, a variety of potential sources of contamination exists. These uses include cleaners, auto-repair facilities, and gas stations that are typically associated with hazardous materials. However, any new development activities that identify undocumented hazardous materials would be required to remediate and cleanup under the regulations and supervision of the DTSC and/or the RWQCB.

Known Soil and/or Groundwater Contamination

As listed above, two sites within the Specific Plan area have been identified as being hazardous and a source of contamination. Any new developments that identify undocumented contamination

would be required to be remediated and cleaned up under the regulations and supervision of the DTSC and/or the RWQCB, which would reduce potential impacts to a less than significant.

Operation

Development under the proposed Specific Plan would involve various uses that use, store and dispose of hazardous materials. Residential and commercial uses, and would include the use of and storage of common hazardous materials such as paints, solvents, and cleaning products. Additionally, building mechanical systems and grounds and landscape maintenance could also use a variety of products formulated with hazardous materials, including fuels, cleaners, lubricants, adhesives, sealers, and pesticides/herbicides. The Medical Center generates hazardous waste such as waste oil and mixed oil; oxygenated solvents including acetone, butanol, and ethyl acetate; spent halogenated solvents; and other hazardous materials including batteries, lamps, pesticides, thermostats, mercury, silver and polychlorinated biphenyls (Sapphos, 2010). The medical center as well as CDU generates biomedical and radiological wastes.

The properties and health effects of different chemicals are unique to each chemical and depend on the extent to which an individual is exposed. The extent and exposure of individuals to hazardous materials would be limited by the relatively small quantities of these materials that would be stored and used on individual project sites throughout the Specific Plan area. In addition to being a small quantity generator of some hazardous waste, the Medical Center is also a large generator of hazardous waste.

Any business or facility which uses, generates, processes, produces, packages, treats, stores, emits, discharges, or disposes a hazardous material (or waste) is a handler and may require a hazardous materials handler permit if the amount of material is above threshold amounts. Any business that handles a hazardous material and/or hazardous waste of quantities at any one time during a year equal to, or greater than a total volume of 55 gallons, a total weight of 500 pounds, or 200 cubic feet of a compressed gas is a hazardous materials handler and must report Owner/Operator, Business Activities, Inventory, Site Map, and Emergency Response and Contingency Plan and Employee Training Plan information in the California Environmental Reporting System (CERS). Because the hazardous materials associated with residential and commercial uses are generally in the form of routinely used common chemicals, potential hazard impacts from reasonable foreseeable upset and accident conditions is less than significant. As for the Medical Center and Drew University, specific governmental regulations exist to reduce potential upset and accident conditions to less than significant.

Development associated with the Specific Plan could also include the new and expanded medical uses at the Medical Center and Drew University that could result in an increase in hazardous waste in the form of medical waste. Medical waste is also known as biohazard waste. Biohazards waste could include, but not limited to laboratory waste, waste containing microbial specimens, human surgery specimens or tissues, discarded materials contaminated with excretion, exudates or secretions from humans, and prescription drugs and containers. Medical waste is regulated under the Medical Waste Management Act that includes various regulations stipulated in California Health and Safety Code Sections 117600 – 118360). These regulations identify requirements for use, storage, disposal and transport. Because the hazardous materials associated

with medical uses are required to comply with state regulations, potential hazard impacts from reasonable upset and accident conditions is less than significant.

Cumulative

The geographical area of the cumulative evaluation of hazardous materials is the Specific Plan area as well as the area adjacent to the Specific Plan area that could contribute to surface, soil or groundwater contamination within the Specific Plan area. Future construction activities within the Specific Plan area could occur at the same time as construction activities associated with future growth in the vicinity of the Specific Plan. Cumulative construction activities could result in accidental spills of small quantities of hazardous materials such as motor fuels, oils, solvents, and lubricants. Construction BMPs are required for each development project to prevent releases of spills and containment and cleanup of spills. Compliance with existing regulations would reduce potential cumulative hazard impacts from upset and accident conditions to less than significant. Because development within the Specific Plan area would also include construction BMPs to prevent releases of spills and containment and cleanup of spills, the project's contribution to cumulative hazard impacts would be less than cumulatively considerable.

Cumulative growth in the vicinity of the Specific Plan area could include commercial and residential projects due to vacant or underutilized parcels near the Specific Plan area. There is an existing area to the east (adjacent to Mona Boulevard in the City of Lynwood) that is zoned and developed with manufacturing uses; however, this area does not contain vacant lots. If cumulative development involving commercial and residential uses occur adjacent to the Specific Plan area, the potential for reasonable upset and accident conditions would be less than significant because of the typical small quantities of common hazardous materials such as paints, solvents, and cleaning products that are kept on individual residential and commercial sites. In addition, small quantities of fuels, cleaners, lubricants, adhesives, sealers and pesticides/herbicides could be used.

Because the proposed project would result in a less than significant hazardous waste impact related to reasonable upset and accident conditions, the project's contribution to cumulative hazardous waste impacts would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Schools

Impact 3.6-2: Implementation of the project would not emit or handle substantial hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Project-Specific

There are three schools and one preschool located within the Specific Plan area, and there are five schools located within one-quarter mile of the Specific Plan area listed in Table 3.6-1 above.

As described previously, common hazardous materials could be used in the construction and operation of new development in the Specific Plan area and within one-quarter mile of an existing school, including use of standard construction materials (e.g., paints, solvents, and fuels), cleaning and other maintenance products, diesel and other fuels (used in construction and maintenance equipment and vehicles), and pesticides associated with landscaping around new developments. The project would not include industrial uses. None of these materials would result in substantial hazardous emissions or are considered acutely hazardous.

As stated in Impact 3.6-1, the proposed residential and commercial uses are likely to use hazardous waste within one-quarter mile of existing schools; however, these wastes are expected to be common waste such as paints, solvents and cleaning products and in small quantities. The proposed project would include expanded medical uses at the Medical Center and CDU that would generate small and large quantities of hazardous materials. Existing regulations are in place to minimize potential health risks associated with their use or the accidental release. Compliance with existing regulations would minimize the risks associated with the exposure of sensitive receptors, including schools, to hazardous materials. Therefore, future development under the proposed project would result in a less than significant impact related to the emissions or handling of hazardous materials within the vicinity of schools.

Cumulative

The geographical area of the cumulative evaluation of hazardous materials is the Specific Plan area as well as one-quarter mile from the Specific Plan area. Cumulative growth in the vicinity of the Specific Plan area could include commercial and residential projects due to vacant or underutilized parcels near the Specific Plan area. There is an existing area to the east (adjacent to Mona Boulevard in the City of Lynwood) that is zoned and developed with manufacturing uses; however, this area appears fully built out. Future residential and commercial cumulative development could generate hazardous waste; however, the potential for hazardous materials to impact a school use would be less than significant because of the typical small quantities of common hazardous materials used by residential and commercial uses.

Although the proposed project would generate hazardous materials, the existing regulations would minimize potential impacts off of the sites that generate the hazardous materials. Because the proposed project would result in less than significant impacts on school uses related to hazardous materials, the projects contribution to cumulative hazardous materials impacts on schools would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact**.**

Hazardous Materials Site Listing

Impact 3.6-3: The project area includes individual sites that are included on a list of hazardous materials sites compile pursuant to Government Code Section 65962.5; however, the project would not create a significant hazard to the public or the environment.

Project-Specific

One hazardous materials site (the Sky High Cleaners on the Kenneth Hahn Plaza site at 11700 South Wilmington Avenue) is listed on SWRCB's GeoTracker database as a Cleanup Program Site with a cleanup status of Open-Assessment and Interim Remedial Action as of December 1, 2015. This site is located in the Cortese List. The Open-Assessment and Interim Remedial Action status is defined as regulatory oversight activities being conducted by the Lead Agency.

One previous LUST cleanup site (MLK Community Hospital at 1680 E 120th Street) that maintains a closed case status is located within the Specific Plan area. The closed status represent that the site was remediated, and no significant hazardous threat remains.

Since the existing hazardous materials site located within the Specific Plan area and listed on the Cortese List is being remediated per federal and state regulations and oversight, impact to public safety and the environment from implementation of the proposed Specific Plan would be less than significant.

Cumulative

The geographical area of the cumulative evaluation of hazardous materials is the Specific Plan area as well as the area adjacent to the Specific Plan area that contains a hazardous materials site that is listed on the Cortese List that could contribute to surface, soil or groundwater contamination within the Specific Plan area. Currently, there are two hazardous materials sites listed on the Cortese List and located adjacent to the project site. They include the Willow Apartments and the Hooper Texaco Service Station.

The Willow Apartments are located at 12612 South Wilmington Street and is a LUST Cleanup Site. This site maintains an Open-Remediation status. The potential contaminants of concern are petroleum/fuels/oils. The site was historically used as a gas station. Four underground storage tanks were removed and soil vapor extraction was implemented. The Regional Board letter dated October 24, 2005 issued a soil-only closure which identifies that the site's soils were remediated, and no significant hazardous threat remains associated with soil contamination. Gasoline-related contaminants are present in groundwater beneath the site at elevated concentrations. The lateral and vertical extent of the groundwater contamination has not been determined. However, this site is generally down gradient from the Specific Plan area, and therefore would not affect groundwater beneath the Specific Plan area.

The Hooper Texaco Service Station is located at 11913 S Compton Avenue and is immediately west of the western boundary of the Specific Plan area. This is a LUST site that has an Open – Assessment and Interim Remediation Action as of October 2010. The soil and groundwater is currently being monitored and remediation action is ongoing.

The two Cortese sites located adjacent to the Specific Plan area as well as the onsite Cortese site that have an open status currently have regulatory oversight and contamination at these sites is currently being remediated. Therefore, due to existing regulatory oversite as well as remediation, future development at or in the vicinity of these sites would result in a less than significant hazard to the public or environment. Because the proposed project would result in a less than significant hazard to the public or environment due to existing regulatory oversite and remediation at the existing open onsite Cortese-listed site, the project's contribution to cumulative hazards to the public or environment would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact**.**

3.6.6 References

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3.7 Hydrology and Water Quality

Introduction

This section addresses the potential impacts to hydrology and water quality associated with implementation of the proposed Specific Plan development. This section provides a description of the regional hydrology and water quality, a summary of applicable regulations related to hydrology and water quality, an evaluation of the potential impacts that may result from implementing the proposed project and identification of mitigation measures to minimize potential effects.

3.7.1 Environmental Setting

Surface Water Hydrology

Regional Drainage

The Specific Plan area is located within the Los Angeles River Watershed, which covers a land area of 834 square miles and spans from its headwaters which originate in the Santa Monica, Santa Susana, and San Gabriel mountains in the west and north to San Pedro Bay. The watershed encompasses and is shaped by the path of the Los Angeles River, which flows from its headwaters in the mountains eastward to the northern corner of Griffith Park. The channel then turns southward and passes through the Glendale Narrows before flowing across the coastal plain and into San Pedro Bay near Long Beach. As a result of intense urban development, the Los Angeles River has been transformed from what was once an uncontrolled, meandering river providing a valuable source of water for early inhabitants to a mostly channelized flood protection waterway (LACDPW, 2015).

Local Drainage

The Specific Plan area is a developed and urbanized area, occupied by residential, commercial, retail, and industrial land uses. Approximately 80-90% of the existing Specific Plan area ground surface is impervious, and it is relatively level, sloping gently from 95 feet above mean sea level (amsl) in the northwest to 82 feet amsl in southeast. Stormwater run-off from the Specific Plan area sheet flows across impervious surfaces, is collected by curbs and gutters, and then conveyed through drop inlets to subterranean storm drains consisting of reinforced concrete piping (RCP) and culverts, which are maintained by the Los Angeles County Flood Control District (County of Los Angeles, 2017). All storm drains receiving runoff from the Specific Plan area eventually outlet to Compton Creek, which is located 0.3 miles west of the Specific Plan area's western boundary. Compton Creek flows southeast and discharges into Reach 2 of the Los Angeles River approximately 6 miles southeast of the Specific Plan area. **Figure 3.7-1**, Drainage Map, shows the drainage path from the Specific Plan area to its direct receiving water. Reach 2 of the Los Angeles River drains to Reach 1 of the Los Angeles River, which then discharges into the Los Angeles River Estuary located at the River-Pacific Ocean interface. According to the Los Angeles Regional Water Quality Control Board (LARWQCB) Basin Plan, the receiving waters of the project site have several beneficial uses (the resources, services, and qualities of these aquatic

systems that are the ultimate goals of protecting and achieving high water quality (LARWQCB), 2011]), as detailed in **Table 3.7-1** below.

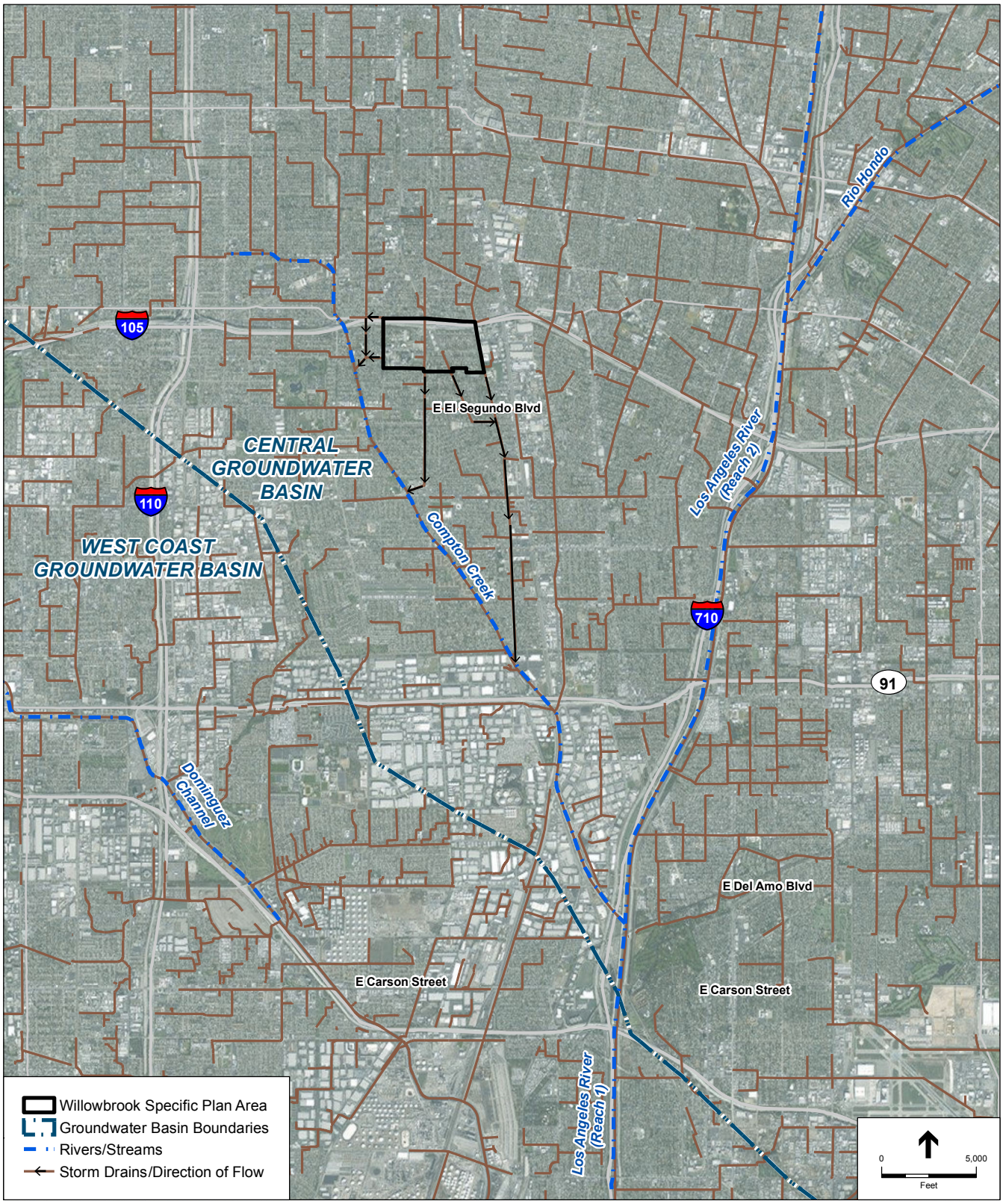
TABLE 3.7-1
BENEFICIAL USES OF WATER BODIES IN THE VICINITY OF THE SPECIFIC PLAN AREA

Water Body	Existing Beneficial Uses	Potential Beneficial Uses
Compton Creek	GWR, WARM, WILD, WET	MUN
Los Angeles River Reach 2	GWR, WARM	MUN, IND, WILD
Los Angeles River Reach 1	GWR, WARM, MAR, WILD, RARE	MUN ,MIGR, SPWN, SHELL
Los Angeles River Estuary	IND, NAV, COMM, EST, MAR, WILD, RARE, MIGR, SPWN, WET	SHELL

Beneficial Use Key:
COMM: Commercial and Sport Fishing
EST: Estuarine Habitat
GWR: Groundwater Recharge
IND: Industrial Service Supply
MAR: Marine Habitat
MIGR: Migration of Aquatic Organisms
NAV: Navigation
RARE: Rare species
SHELL: Shellfish Harvesting
SPWN: Spawning, Reproduction and/or Early Development
WARM: Warm Freshwater Habitat
WILD: Wildlife Habitat
WET: Wetland Habitat

SOURCE: LARWQCB, 2011.

Section 303(d) of the federal Clean Water Act (CWA) requires states to identify water bodies that are "impaired," or those that do not meet water quality standards and are not supporting their beneficial uses. Total Maximum Daily Loads (TMDLs) are then designed to serve as pollution control plans for these specific pollutants. As shown in **Table 3.7-2**, all waterbodies are impaired with various pollutants, and some TMDLs have already been developed for these impairments (LARWQCB, 2011).



SOURCE: ESRI; County of Los Angeles GIS

Figure 3.7-1
Drainage Map

TABLE 3.7-2
TMDLS FOR WATER BODIES IN THE VICINITY OF THE SPECIFIC PLAN AREA

Reach	Impairment(s)	Source(s)	TMDL Completion Date
Compton Creek	Benthic macroinvertebrate bioassessments	Source unknown	2021
	Coliform bacteria	Point and nonpoint	2009
	Copper	Point and nonpoint	2005
	Lead	Point and nonpoint	2005
	Trash	Nonpoint	2008
	pH	Point and nonpoint	2004
Los Angeles River Reach 2 (Carson Street to Figueroa Street)	Ammonia	Point and nonpoint	2004
	Coliform bacteria	Point and nonpoint	2009
	Copper	Unknown	2005
	Lead	Point and nonpoint	2005
	Nutrients	Point and nonpoint	2004
	Oil	Nonpoint	2009
	Trash	Urban runoff/storm sewers, nonpoint, surface runoff	2008
Los Angeles River Reach 1 (Estuary to East Carson Street)	Ammonia	Unspecified point and nonpoint	2004
	Cadmium	Unknown source	2005
	Coliform bacteria	Point and nonpoint	2009
	Copper, dissolved	Point and nonpoint	2005
	Cyanide	Unknown source	2019
	Diazinon	Unknown source	2019
	Lead	Point and nonpoint	2005
	Nutrients (Algae)	Point and nonpoint	2004
	Trash	Urban runoff/storm sewers, surface runoff, nonpoint	2008
	Zinc, dissolved	Point and nonpoint	2005
	pH	Point and nonpoint	2003
Los Angeles Estuary	Chlordane (sediment)	Nonpoint	2019
	DDT (sediment)	Nonpoint	2019
	PCB's	Nonpoint	2019
	Sediment Toxicity	Source unknown	2019
	Trash	Noinpoint, urban runoff/storm sewers, surface runoff	2008

*Although these TMDL dates have passed, no TMDLs have been established.

SOURCE: LARWQCB, 2011.

Groundwater

Los Angeles County is located in the South Coast Hydrologic Region (HR), as described by the Department of Water Resources Groundwater Bulletin 118 (DWR, 2003); the two largest and most critical groundwater basins among them are the Central Basin and the West Coast Basin. The Central and West Coast Groundwater basins are characterized by aquifers that are generally confined by relatively impermeable clay layers over most of the area (DWR, 2003), with the exception of the Montebello and Los Angeles Forebays in the Central Groundwater Basin (Central Basin). The proposed project area is underlain by the Central Basin (see Figure 3.7-1), which is 270 square miles in size and underlies portions of the Los Angeles River, Upper San Gabriel, and San Gabriel River/Rio Hondo Enhanced Watershed Management Program areas. Recharge to the Central Basin occurs primarily by engineered recharge of stormwater, imported water, and reclaimed water along the upper reaches of the San Gabriel River and the Rio Hondo via the San Gabriel River Water Conservation System. This system is a series of dams, spreading grounds and instream recharge systems that facilitate groundwater recharge into the Main San Gabriel Basin and Montebello Forebay of the Central Basin. Recycled water has been also delivered for recharge in the Montebello Forebay since 1962. Finally, the Central Basin includes one seawater intrusion barrier, the Alamitos Gap Seawater Intrusion Barrier (AGB), fed by treated imported water along with advanced water treatment recycled water (ESA, 2015).

Groundwater quality reflects current and historical land uses. As a highly urban area, commercial and industrial activities have resulted in contamination due to leaking aboveground and underground storage tanks, leaking sewer and oil pipelines, spills, and illegal discharges. Many groundwater contamination plumes consist of priority contaminants such as petroleum fuels and additives (e.g., methyl tert-butyl ether), solvents (e.g., trichloroethylene and perchloroethylene), herbicides (e.g., atrazine, simazine, prometon), and other hazardous/toxic substances (e.g., arsenic, perchlorate). Groundwater contamination within the Central Coast Basin and adjacent basins is discussed in depth in the California Groundwater Ambient Monitoring and Assessment Program (USGS and SWRCB, 2012). In general, contaminated plumes are typically found in shallow groundwater. However, as the aquifers and confining layers in these alluvial basins are typically interfingered,[1] the quality of groundwater in the deeper production aquifers is threatened by the migration of pollutants from the upper aquifers (ESA, 2015).

Between the 1900s and 1950s, groundwater was an important factor in urbanization of the Central basins. Excessive overpumping in the basins caused severe overdraft (i.e., lowered groundwater levels) and created a hydraulic gradient that resulted in seawater intrusion, which contaminated the coastal groundwater aquifers. To address this problem and halt the intrusion, three seawater intrusion barriers were constructed. While the water injection activities at the barriers were successful in halting further seawater intrusion, these efforts could not address the seawater that had already intruded into the Central and West Coast Basins before the barriers were constructed. These large plumes of saline water, referred to as “saline plumes,” are trapped inland of the injection wells, thereby degrading significant volumes of groundwater with high concentrations

[1] Interfinger means to grade or pass from one material (typically fine-grained) into another (typically coarse-grained) through a series of interpenetrating wedge-shaped layers. This can result in hydraulic connection between fine and coarse grounded layers.

of chloride and total dissolved solids (TDS) and decreasing the ability of affected aquifers to provide groundwater storage (ESA, 2015).

In general, groundwater in the main producing aquifers of the Central Basins is of good quality. Localized areas of marginal to poor quality water exist, primarily at the basin margins where seawater intrusion occurred in the past and also in mostly shallow groundwater near environmental release sites. Groundwater has also been impacted by industrial activities that have introduced highly mobile man-made organic compounds such as solvents and fuel additives. These contaminated groundwater plumes are well documented. Areas of these contaminant plumes are designated to restrict recharge activities that may create an increased driver for contaminant migration (ESA, 2015).

As of September of 2015, the groundwater level measured by a well adjacent to the Specific Plan area (Well No. 03S13W08J001S located near the intersection of East 119th Street, East 120th Street, and S. Wilmington Avenue) was approximately 155 feet below ground surface (bgs) (DWR, 2015).

3.7.2 Regulatory Setting

Federal

Clean Water Act

The Federal Water Pollution Control Act (33 U.S.C. 1251 et. sec.) as amended by the Federal Water Pollution Control Act Amendments of 1972, also known as the Clean Water Act (CWA), states that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Amendments to the CWA added a section that established a framework for regulating municipal and industrial (M&I) stormwater discharges under the NPDES program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations, under the 1987 CWA Amendments, that establish application requirements for stormwater permits.

Clean Water Act Section 402

CWA Section 402 regulates discharges to surface waters of the United States through the NPDES program. In California, the USEPA authorizes the State Water Resources Control Board (SWRCB) to oversee the NPDES program through the Regional Water Quality Control Boards (RWQCBs).

Stormwater discharges are also regulated under CWA Section 402. Construction activities disturbing one acre of land or greater must be covered under the SWRCB General Construction Activity Stormwater Permit. The permit requires preparation of a Stormwater Pollution Prevention Plan (SWPPP) for construction activities. A SWPPP prepared in compliance with the General Permit describes the site, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of post-construction sediment and erosion control measures and maintenance responsibilities, and non-stormwater management controls. Dischargers are also required to inspect construction sites before and after

storms to identify stormwater discharge from construction activity, and to identify and implement controls where necessary.

Clean Water Act Section 303(d)

Section 303(d) of the CWA requires that each state identify water bodies or segments of water bodies that are "impaired" (i.e., do not meet one or more of the water quality standards established by the state). These waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish TMDL for the pollutant. A TMDL is the maximum amount of a pollutant that a water body can receive and still meet the water quality standards. Typically, TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. On October 11, 2011, the USEPA approved a revised list of water quality limited segments (herein referred to as the 303(d) list) prepared by the RWQCB for California's 2008 through 2010. Table 3.7-1 summarizes the main impaired water bodies within the study area that are included on the RWQCB 2008 CWA Section 303(d) list that was revised on July 7, 2009.

Clean Water Act Section 401

Section 401 of the federal CWA requires that any activity, including the crossing of rivers or streams during road, pipeline, or transmission line construction, that might result in discharges of dredged or fill material into a state water body, be certified by the RWQCB. This certification ensures that the proposed activity does not violate state or federal water quality standards.

Clean Water Act Section 404

Wetlands are generally considered to be areas that are periodically or permanently inundated by surface water or groundwater, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by the Army Corps of Engineers (ACOE) which generally defines wetlands through consideration of three criteria: hydrology, soils, and vegetation. Under Section 404 of the CWA, the ACOE is responsible for regulating the discharge of dredged or fill material into waters of the United States. The term "waters of the United States" includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations.

State

Porter-Cologne Water Quality Act

The Porter-Cologne Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California and defines water quality objectives as the limits or levels of water constituents that are established for reasonable protection of beneficial uses. The SWRCB administers water rights, water pollution control, and water quality functions throughout the State, while the RWQCB conducts planning, permitting, and enforcement activities. The Porter-Cologne Act requires the RWQCB to establish water quality objectives, while acknowledging that water quality may be changed to some degree without unreasonably affecting beneficial uses.

Beneficial uses, together with the corresponding water quality objectives, are defined as standards, per Federal regulations. Therefore, the regional plans form the regulatory standards for meeting State and federal requirements for water quality control. Changes in water quality are only allowed if the change is consistent with the maximum beneficial use designated by the State, does not unreasonably affect the present or anticipated beneficial uses, and does not result in water quality less than that prescribed in the water quality control plans.

National Pollutant Discharge Elimination Program

The NPDES permit program is administered in the State of California by the RWQCBs, and was first established under the authority of the CWA to control water pollution by regulating point sources that discharge pollutants into waters of the United States. If discharges from industrial, municipal, and other facilities go directly to surface waters, those project applicants must obtain permits. An individual NPDES permit is specifically tailored to a facility. A general NPDES permit covers multiple facilities within a specific activity category such as construction activities. A general permit applies with same or similar conditions to all dischargers covered under the general permit.

Construction General Permit

The State of California adopted a Statewide NPDES Permit for General Construction Activity (Construction General Permit) on September 2, 2009 (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ). The last Construction General Permit amendment became effective on February 16, 2012. The Construction General Permit regulates construction site storm water management. Dischargers whose projects disturb one or more acres of soil, or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the general permit for discharges of storm water associated with construction activity. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit (CGP) requires the development and implementation of an Stormwater Pollution Prevention Plan (SWPPP) that includes specific Best Management Practices (BMPs) designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off-site into receiving waters. Types of BMPs include erosion control (e.g., preservation of vegetation), sediment control (e.g., fiber rolls), non-stormwater management (e.g., water conservation), and waste management. The SWPPP also includes descriptions of BMPs to reduce pollutants in storm water discharges after all construction phases have been completed at the site (post-construction BMPs). The SWPPP BMPs are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the CGP. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for nonvisible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

In the project area, the CGP is implemented and enforced by the Los Angeles Regional Water Quality Control Board (LARWQCB), which administers the stormwater permitting program. Dischargers are required to electronically submit a Notice of Intent (NOI) and permit registration documents (PRDs) to obtain coverage under this CGP. Dischargers are responsible for notifying the LARWQCB of violations or incidents of noncompliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected.

Municipal Stormwater Permitting (MS4)

The State's Municipal Stormwater Permitting Program regulates stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s). MS4 Permits were issued in two phases. Phase I was initiated in 1990, under which the RWQCBs adopted NPDES stormwater permits for medium (serving between 100,000 and 250,000 people) and large (serving more than 250,000 people) municipalities. As part of the Phase II, the SWRCB adopted a General Permit for small MS4s (serving less than 100,000 people) and non-traditional small MS4s including governmental facilities such as military bases, public campuses, and hospital complexes.

Regional and Local

Los Angeles Regional Water Quality Control Plan

The preparation and adoption of water quality control plans (Basin Plans) is required by the California Water Code (Section 13240) and supported by the CWA. Section 303 of the CWA requires states to adopt water quality standards which "consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses." According to Section 13050 of the California Water Code, Basin Plans consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives. Because beneficial uses, together with their corresponding water quality objectives, can be defined per Federal regulations as water quality standards, the Basin Plans are regulatory references for meeting the State and Federal requirements for water quality control. The Basin Plan indicates the beneficial uses for Compton Creek, the Los Angeles River Estuary, and Reaches 1 and 2 of the Los Angeles River, shown above in Table 3.7-1.

County of Los Angeles Stormwater Pollution Control Requirements for Construction Activities

To comply with the Phase II General Construction Permit, the County of Los Angeles has established a set of BMPs with which all permitted construction activities on unincorporated county lands must comply. The BMPs, which are based on the state's Stormwater Best Management Practices Handbook (CASQA, 2003), are as follows:

- Eroded sediments and other pollutants must be retained on site and may not be transported from the site via sheet flow, swales, area drains, natural drainage courses or wind.
- Stockpiles of earth and other construction related materials must be protected from being transported from the site by the forces of wind or water.

- Fuels, oils, solvents and other toxic materials must be stored in accordance with their listing and are not to contaminate the soil and surface waters. All approved storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of in a proper manner. Spills may not be washed into the drainage system.
- Non-stormwater runoff from equipment and vehicle washing and any other activity shall be contained at the project site.
- Excess or waste concrete may not be washed into the public way or any other drainage system. Provisions shall be made to retain concrete wastes on site until they can be disposed of as solid waste.
- Trash and construction related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.
- Sediments and other materials may not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public way. Accidental depositions must be swept up immediately and may not be washed down by rain or other means.
- Any slopes with disturbed soils or denuded of vegetation must be stabilized so as to inhibit erosion by wind and water.

The Los Angeles County Department of Public Works may identify and require additional BMPs, as appropriate.

Los Angeles County Municipal Separate Storm Sewer System Permit

The current Municipal Separate Storm Sewer System (MS4) Permit for Los Angeles County (Order No. R4-2012-0175) was adopted on November 8, 2012, became effective December 28, 2012, and will expire on December 28, 2017 (LARWQCB, 2012). Order No. R4-2012-0175 is the fourth iteration of the storm water permit for the MS4s in the Los Angeles region, which includes: Los Angeles County Flood Control District, County of Los Angeles, and 84 incorporated cities within the County watersheds excluding the City of Long Beach. The permit contains requirements that are necessary to improve efforts to reduce the discharge of pollutants in storm water runoff to the maximum extent practicable (MEP) and achieve water quality standards. This permit requires that runoff is addressed during the major phases of urban development (planning, construction, and operation) in order to reduce the discharge of pollutants from storm water to the MEP, effectively prohibit non-storm water discharges and protect receiving waters.

The MS4 Permit also includes construction requirements for implementation of minimum construction site BMPs for erosion, sediment, non-storm water management and waste management on construction sites, which are listed in **Table 3.7-3** below.

TABLE 3.7-3
MINIMUM BMPS FOR CONSTRUCTION SITES

Erosion Controls	Scheduling
	Preservation of Existing Vegetation
Sediment Controls	Silt Fence
	Sandbag Barrier
	Stabilized Construction Site Entrance/Exit
Non-Storm Water Management	Water Conservation Practices
	Dewatering Operations
Waste Management	Material Delivery and Storage
	Stockpile Management
	Spill Prevention and Control
	Solid Waste Management
	Concrete Waste Management
	Sanitary/Septic Waste Management

SOURCE: LARWQCB, 2012

County of Los Angeles Low Impact Development Manual

The Los Angeles County Department of Public Works (LACPWD) prepared the Low Impact Development Standards Manual (LACPWD, 2014) to comply with the requirements of the 2012 MS4 Permit and supersede the County Standard Urban Stormwater Mitigation Plan. The LID Standards Manual provides guidance for the implementation of stormwater quality control measures in new development and redevelopment projects in unincorporated areas of the County with the intention of improving water quality and mitigating potential water quality impacts from stormwater and non-stormwater discharges. Unlike traditional stormwater management, which collects and conveys stormwater runoff through storm drains, pipes, or other conveyances to a centralized stormwater facility, LID uses site design and stormwater management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's pre-development hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall.

The LID Standards Manual describes stormwater management requirements for Designated Projects, which are identified as meeting one or more of the following:

- All development projects equal to one acre or greater of disturbed area and adding more than 10,000 square feet of impervious surface area;
- Industrial parks with 10,000 square feet or more of surface area;
- Commercial malls with 10,000 square feet or more of surface area;
- Retail gasoline outlets with 5,000 square feet or more of surface area;

- Restaurants (Standard Industrial Classification [SIC] Code 5812) with 5,000 square feet or more of surface area;
- Parking lots with 5,000 square feet or more of impervious surface area, or with 25 or more parking spaces;
- Automotive service facilities (SIC Codes: 5013, 5014, 5511, 5541, 7532-7534, or 7536-7539) with 5,000 square feet or more of surface area;
- Projects located in or directly adjacent to, or discharging directly to a Significant Ecological Area (SEA), where the development will:
  - Discharge stormwater runoff that is likely to impact a sensitive biological species or habitat; and
  - Create 2,500 square feet or more of impervious surface area.
- Redevelopment projects, which are developments that result in creation or addition or replacement of either: (1) 5,000 square feet or more of impervious surface on a site that was previously developed as described in the above bullets; or (2) 10,000 square feet or more of impervious surface area on a site that was previously developed as a single family home.

Once a project has been established as a Designated Project, the project operator must: conduct site assessment and identify design considerations, including determining the feasibility of on-site infiltration; apply site-specific source control measures; calculate the Stormwater Quality Design Volume (SWQDv); implement stormwater quality control measures; implement alternative compliance measures; implement hydromodification requirements; and develop a Maintenance Plan. The LID Ordinance requires that all Designated Projects retain the SWQDv on-site using retention-based stormwater quality control measures (infiltration and/or stormwater runoff harvest and use). LID practices or stormwater quality control measures can be categorized into the following types:

- Retention-based stormwater quality control measures (bioretention, infiltration basin, dry well, permeable pavement, etc.)
- Biofiltration (e.g. biofiltration area)
- Vegetation-based stormwater quality control measures (e.g. stormwater planter, vegetated swale, green roof, etc.)
- Treatment-based stormwater quality control measures (e.g. sand filter, constructed wetland, propriety treatment control measures)

In the event that 100 percent retainment of the SWQDv onsite is technically infeasible, at least one of the following alternative compliance measures must be implemented:

- On-site biofiltration of 1.5 times the volume of the SWQDv that is not reliably retained on-site;
- On-site treatment and off-site infiltration/bioretention of the volume of the SWQDv that is not reliably retained on-site;

- Replenishment of groundwater supplies that have a designated beneficial use in the Basin Plan; or
- On-site treatment and off-site infiltration/bioretention or stormwater runoff harvest and use of the volume of SWQDv that is not reliably retained on-site through retrofit an existing development with similar land uses as the project.

The LID Standards Manual also has requirements for Non-Designated Projects. For small-scale Non-Designated Projects (residential development and redevelopment of four units or less), at least two of the following simple BMPs into the site design: porous pavement, downspout routing, disconnection of impervious surfaces, dry wells, landscaping and landscape irrigation interception of runoff, or green roofs. For large-scale Non-Designated Projects (all Non-Designated residential developments of five units or greater and all non-residential, Non-Designated Projects), the change in SWQDv must be retained through infiltration, evapotranspiration, stormwater runoff harvest and use, or a combination thereof unless technically infeasible. To meet these requirements, large-scale Non-Designated Projects must conduct site assessment and identify design considerations, apply site-specific source control measures; calculate the change in SWQDv, implement stormwater quality control measures; implement any necessary hydromodification requirements, and develop a maintenance plan, if necessary.

Los Angeles County General Plan

The most recent version of the Los Angeles County General Plan was adopted in October 2015. The following goals and policies pertain to hydrology and water quality.

Goal C/NR 5: Protected and useable local surface water resources.

Policy C/NR 5.1: Support the LID philosophy, which seeks to plan and design public and private development with hydrologic sensitivity, including limits to straightening and channelizing natural flow paths, removal of vegetative cover, compaction of soils, and distribution of naturalistic BMPs at regional, neighborhood, and parcel-level scales.

Policy C/NR 5.2: Require compliance by all County departments with adopted Municipal Separate Storm Sewer System (MS4), General Construction, and point source NPDES permits.

Policy C/NR 5.3: Actively engage with stakeholders in the formulation and implementation of surface water preservation and restoration plans, including plans to improve impaired surface water bodies by retrofitting tributary watersheds with LID types of BMPs.

Policy C/NR 5.4: Actively engage in implementing all approved Enhanced Watershed Management Programs/Watershed Management Programs and Coordinated Integrated Monitoring Programs/Integrated Monitoring Programs or other County-involved TMDL implementation and monitoring plans.

Policy C/NR 5.6: Minimize point and non-point source water pollution.

Policy C/NR 5.7: Actively support the design of new and retrofit of existing infrastructure to accommodate watershed protection goals, such as roadway, railway, bridge, and other— particularly—tributary street and greenway interface points with channelized waterways.

Goal C/NR 6: Protected and usable local groundwater resources.

Policy C/NR 6.1: Support the LID philosophy, which incorporates distributed, post-construction parcel-level stormwater infiltration as part of new development.

Policy C/NR 6.2: Protect natural groundwater recharge areas and regional spreading grounds.

Policy C/NR 6.3: Actively engage in stakeholder efforts to disperse rainwater and stormwater infiltration BMPs at regional, neighborhood, infrastructure, and parcel-level scales.

Policy C/NR 6.4: Manage the placement and use of septic systems in order to protect high groundwater.

Policy C/NR 6.5: Prevent stormwater infiltration where inappropriate and unsafe, such as in areas with high seasonal groundwater, on hazardous slopes, within 100 feet of drinking water wells, and in contaminated soils.

Goal C/NR 7: Protected and healthy watersheds.

Policy C/NR 7.1: Support the LID philosophy, which mimics the natural hydrologic cycle using undeveloped conditions as a base, in public and private land use planning and development design.

Policy C/NR 7.2: Support the preservation, restoration and strategic acquisition of available land for open space to preserve watershed uplands, natural streams, drainage paths, wetlands, and rivers, which are necessary for the healthy function of watersheds.

Policy C/NR 7.3: Actively engage with stakeholders to incorporate the LID philosophy in the preparation and implementation of watershed and river master plans, ecosystem restoration projects, and other related natural resource conservation aims, and support the implementation of existing efforts, including Watershed Management Programs and Enhanced Watershed Management Programs.

Policy C/NR 7.4: Promote the development of multi-use regional facilities for stormwater quality improvement, groundwater recharge, detention/attenuation, flood management, retaining nonstormwater runoff, and other compatible uses.

3.7.3 Thresholds of Significance

In accordance with Appendix G of the *CEQA Guidelines*, the project could have a significant impact on hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements (See Impact 3.7-1 below);
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted) (See Impact 3.7-2 below);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site (See Impact 3.7-3 below);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the amount of surface run-off in a manner which would result in flooding on- or off-site (See Section 5.1.8 in this EIR);
- Create or contribute run-off water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted run-off (See Impact 3.7-4 below);
- Generate construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality (See Impact 3.7-5 below);
- Conflict with the Los Angeles County Low Impact Development Ordinance (Los Angeles County Code, Title 12, Ch. 12.84 and Title 22, Ch. 22.52) (See Section 5.1.8 in this EIR);
- Result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance (See Section 5.1.8 in this EIR);
- Use onsite wastewater treatment systems in areas with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course) (See Section 5.1.8 in this EIR);
- Otherwise substantially degrade water quality (See Impact 3.7-6 below);
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain (See Section 5.1.8 in this EIR);
- Place structures, which would impede or redirect flood flows, within a 100-year flood hazard area, floodway, or floodplain (See Section 5.1.8 in this EIR);

- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam (See Section 5.1.8 in this EIR); or
- Place structures in areas subject to inundation by seiche, tsunami, or mudflow (See Section 5.1.8 in this EIR).

3.7.4 Methodology

The following analysis considers the existing environmental setting and regulatory environment applicable to the proposed Specific Plan area. The analysis determines if the project implementation could adversely affect the quality of water bodies during construction activities or result in a long-term increase in pollutant levels in storm water originating from the Specific Plan area. The SWRCB 303(d) list was consulted to determine existing impairments in receiving water bodies within the vicinity of the Specific Plan area. (These impairments are listed in Table 3.7-2 above). Considering the project characteristics and existing conditions, the following potential impacts were evaluated and mitigation measures provided, where applicable.

3.7.5 Impact Analysis

Water Quality Standards/Waste Discharge Requirements

Impact 3.7-1: The proposed project would not violate water quality standards or waste discharge requirements.

Project-Specific

Construction

Demolition of existing structures, removal of existing vegetation and trees, pavement and concrete replacement, grading, stockpiling of materials, excavation and the import/export of soil and building materials, construction of new structures, and landscaping activities could expose and loosen sediment and building materials, which have the potential to mix with storm water and urban runoff and degrade surface and receiving water quality. Furthermore, construction generally requires the use of heavy equipment and construction-related chemicals, such as concrete, cement, asphalt, fuels, oils, antifreeze, transmission fluid, grease, solvents and paints. Because each development within the Specific Plan area would be required to comply with NPDES requirements, BMPs would be in place to prevent potentially harmful materials from accidentally spilled or improperly disposed of during construction activities. These BMPs would also substantially reduce the potential for contaminated surface water to wash into and pollute surface waters or groundwater. Although the receiving waters of the Specific Plan area (Compton Creek, Reach 2 of the Los Angeles River, Reach 1 of the Los Angeles River, and the Los Angeles River Estuary) are impaired for several pollutants, compliance with the NPDES would substantially reduce the potential for pollutants from construction sites to exacerbate the current impairment of downstream receiving waters.

Each future project within the Specific Plan area would be assessed individually to ensure compliance with applicable NPDES requirements. Development projects disturbing more than an

acre of ground surface would be required to develop a SWPPP as part of compliance with the Construction General Permit that implements BMPs designed to prevent water quality degradation. Types of BMPs include erosion control, sediment control, waste management, and post-construction, all of which would prevent the introduction of pollutants into runoff, and consequentially, receiving waters. Projects disturbing less than an acre of ground surface during construction would not be required to prepare a SWPPP, but would be required to implement the minimum BMPs required by the Los Angeles County MS4 Permit (listed in Table 3.7-3 above), thereby protecting water quality. Further, all permitted construction activities in the project area would be required to implement the BMPs specified in the County Stormwater Pollution Control Requirements for Construction Activities. As a result, construction impacts related to water quality standards or waste discharge requirements from implementation of the proposed Specific Plan development would be less than significant.

Operation

As described above, the receiving waters of the Specific Plan area are impaired by several pollutants. Future development within the Specific Plan area would include residential, mixed use, medical, educational and commercial uses; pollutants associated with these land uses typically include sediments, trash, petroleum products, metals, and chemicals.

Since the Specific Plan area is substantially developed and approximately 80 to 90 percent impervious, buildout of the proposed Specific Plan development is expected to generate little or no increase in runoff to the existing stormwater drainage system (County of Los Angeles, 2017). New development in accordance with the Specific Plan would be required to meet MS4 Permit requirements through compliance with the County LID Standards Manual. Development satisfying Designated Project characterization as discussed above in Section 3.7-2, Regulatory Setting,would retain the estimated Stormwater Quality Design Volume (SWQDv) through implementation of retention, biofiltration, vegetation-based, and/or treatment-based stormwater quality control measures. If retainment of the SWQDv is not technically feasible, Designated Projects would be required to treat the SWQDv prior to its release or contribute to groundwater recharge. Large-scale Non-Designated Projects as defined above in Section 3.7-2, would implement stormwater quality control measures to retain the change in SWQDv and small-scale Non-designated Projects would be required to implement specific site design BMPs to filter and/or reduce runoff. By retaining and/or treating runoff onsite, the amount of potentially pollutant-laden runoff leaving the site and contaminating receiving waters would be substantially reduced.

As specified by the Sustainable Design Criteria in the proposed Specific Plan, walkways and plazas shall be designed to collect stormwater, when feasible. In addition, the majority of plant materials used for landscaping drought tolerant, indicating irrigation (and associated dry weather flows) would not be excessive. Green roofs would also be encouraged on development to reduce the quantity of water entering the storm drain system. Finally, Green Streets and LID strategies such as the use of vegetated swales and decomposed granite, should be followed to manage stormwater, improve water quality, reduce flows and enhance watershed health. Compliance with regulations and implementation of the Sustainable Design Criteria would minimize pollutants

being transported offsite into downstream receiving waters, and projects implemented in accordance with the Specific Plan would not violate water quality standards or waste discharge requirements.

Cumulative

The geographic scope for cumulative impacts related to water quality standards and waste discharge requirements includes the Los Angeles River watershed. Implementation of cumulative development would be required to comply with all pertinent regulations, such as the Construction General Permit, County Stormwater Pollution Control Requirements for Construction Activities, and the County LID Standards Manual. To comply with these regulations, BMPs would be required to decrease potential pollutant loadings in stormwater runoff and reduce runoff quantities. Compliance with these water quality regulations by cumulative projects would minimize pollutants being transported to downstream receiving waters, and these cumulative projects would not violate water quality standards or waste discharge requirements.

Because development under the Specific Plan would also be required to comply with water quality regulations, and the Specific Plan would implement the Sustainable Design Criteria, pollutants transported offsite into downstream receiving waters would be minimized. The proposed Specific Plan's contribution to cumulative impacts associated with a violation of water quality standards or waste discharge requirements would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Groundwater Supplies and Recharge

Impact 3.7-2: The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Project-Specific

Infill and redevelopment that would occur with implementation of the Specific Plan would result in population growth; thereby increasing demand on water supplies. The proposed project would add approximately 1,952 residential dwelling units and 2,666,035 square feet of commercial space to the Specific Plan area. The Specific Plan area receives water from Liberty Utilities (Liberty), Golden State Water Company (GSWC), and Los Angeles Department of Water and Power (LADWP). Liberty obtains its water supply from imported water, groundwater, and recycled water. Water delivered to Willowbrook system customers by the GSWC is a blend of groundwater and imported water. Water provided to the Willowbrook area by LADWP also includes a blend of groundwater and imported water. All three water purveyors have pumping rights to obtain their groundwater from the Central Groundwater Basin. These pumping rights were established as part of the adjudication of the Central Groundwater Basin in 1965 and amended in 1991. Because groundwater withdrawals from the Central Groundwater Basin are limited based on the adjudication, compliance with the judgment that set pumping rights would eliminate the potential for the water agencies, that will serve the proposed Specific Plan, to substantially impact the groundwater aquifer. Therefore, the implementation of the proposed project would result in less than significant impacts on the Central Groundwater Basin from groundwater use.

As described above, the Central Basin underlies the project area; however, the majority (80 to 90 percent) of the project area is developed and impervious, and thus does not have much groundwater recharge potential. The proposed Specific Plan development would not substantially increase the amount of impervious surfaces in the project area. As stated previously, the Central Basin is recharged mainly by stormwater, imported water, and reclaimed water along the upper reaches of the San Gabriel River and the Rio Hondo via the San Gabriel River Water Conservation System, which is located several miles away from the Specific Plan area. Thus, the proposed project would not reduce the groundwater recharge potential of the Specific Plan area. In addition, the depth to groundwater in the vicinity of the Specific Plan area is approximately 155 feet below ground surface. Thus, excavation for development in the Specific Plan area would not come into contact with groundwater or require dewatering during excavation activities such that groundwater levels would be adversely affected. Further, since groundwater is not present close to the ground surface, stormwater infiltration BMPs (as described in the County LID Standards Manual) would be technically feasible onsite, the use of which could increase the amount of groundwater recharge in the project area compared to existing conditions. Therefore, the implementation of the proposed Specific Plan would result in less than significant impacts to the existing recharge capabilities of the area overlying the Central Groundwater Basin.

Cumulative

The geographic scope for cumulative impacts related to groundwater impacts includes the approximately 227 square-mile service area of the Central Groundwater Basin. This service area extends from East Los Angeles to the north to Signal Hill to the south and from Willowbrook to the west to La Habra Heights to the east. As cumulative development growth occurs within the Central Groundwater Basin, the water purveyors that will serve the future development will use groundwater as well as other water supplies to meet the future demand. However, each water purveyor that has rights to groundwater from the Central Groundwater Basin are limited based on the adjudication that established the pumping rights for each purveyor. Because groundwater withdrawals from the Central Groundwater Basin are limited based on the adjudication, compliance with the judgment that set pumping rights would eliminate the potential for the water agencies, that will serve cumulative development growth, to substantially impact the groundwater aquifer. Therefore, the implementation of cumulative development would result in less than significant impacts on the Central Groundwater Basin from groundwater use.

As stated previously, groundwater recharge for the Central Groundwater Basin occurs along the upper reaches of the San Gabriel River and the Rio Hondo via the San Gabriel River Water Conservation System. These areas have been established as groundwater recharge areas. Much of the remaining area overlying the Central Groundwater Basin contains impervious surfaces. Therefore, cumulative development would not substantially impact groundwater recharge capabilities within the Central Groundwater Basin. As a result, the implementation of cumulative development would result in less than significant impacts to recharge capabilities.

Because the proposed project would result in less than significant impacts on the Central Groundwater Basin and the recharge capabilities of the basin, the project's contribution to impacts on the Central Groundwater Basin is less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Erosion/Siltation

Impact 3.7-3: The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site.

Project-Specific

Construction

Project construction would include excavation and the disturbance of the existing ground surface, thereby exposing bare soil and temporarily altering surface drainage patterns with the potential to cause erosion and siltation. However, construction activities would be required to implement erosion and sediment control BMPs required by the Construction General Permit and MS4 Permit regulations. Compliance with these regulations would ensure substantial erosion or siltation does not occur onsite. These requirements would include the implementation of BMPs as required by the County Pollution Control Requirements for Construction Activities. With implementation of erosion and sediment control BMPs, project construction activities would result in less than significant erosion and siltation impacts.

Operation

Development within the Specific Plan area would not involve the alteration of a stream or river. Since the majority of the area is developed and approximately 80 to 90 percent impervious, buildout of the proposed Specific Plan development is expected to generate little or no increase in runoff to the existing stormwater drainage system. The County LID Standards Manual requires the use of stormwater quality control measures to reduce the potential for erosion and siltation. The measures include the use of retention, biofiltration, vegetation-based, and/or treatment-based stormwater quality measures. Because the majority of the Specific Plan is already developed, new development is required to implement the County LID Standards Manual, and the Specific Plan includes Sustainable Design Criteria, the implementation of development within the Specific Plan area would result in a less than significant erosion and siltation impact during project operation.

Cumulative

The geographic scope for cumulative impacts related to erosion and siltation includes areas within the watershed that conveys stormwater to Reach 1 of the Los Angeles River. Cumulative development within the Los Angeles River watershed will increase erosion and sedimentation to the Los Angeles River. However, as cumulative development is constructed and operated, regulations such as NPDES requirements, County Stormwater Pollution Control Requirements for Construction Activities, and County LID Standards Manual requirements are required to be implemented. With the implementation of these regulations, cumulative development would result in less than cumulatively significant erosion and siltation impacts during project construction and operational activities.

Because the proposed project is required to implement NPDES requirements, the County Stormwater Pollution Control Requirements for Construction Activities and the requirements within County LID Standards Manual, potential erosion and siltation impacts would be substantially reduced. In addition, the Specific Plan includes design features within the

Sustainable Design Criteria that would also reduce potential erosion and siltation during operational activities. With the implementation of the above requirements, the proposed project would result in a less than cumulatively considerable impact related to erosion and siltation.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Stormwater Drainage Capacity

Impact 3.7-4: The proposed project would create or contribute runoff water which would not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Project-Specific

As shown in Figure 3.7-1, storm drains within the project area currently drain to different portions of Compton Creek. However, as stated previously, project buildout within the Specific Plan area is expected to generate little or no increase in runoff to the existing drainage system because the majority of the area is developed and approximately 80 to 90 percent of the existing Specific Plan area is impervious. Project development is not expected to directly trigger any need for upgrades to the County's existing storm drain major backbone facilities, mainly due to the Low Impact Development (LID) Ordinance requirements for percolation and on-site detention for new development, which will stabilize and/or even reduce runoff in the area. Therefore, the County does not recommend an upgrade of the existing storm drain system within the Specific Plan area (County of Los Angeles, 2017). Impacts related to exceeding the capacity of existing and planned storm drains would be less than significant.

As discussed in Impact 3.7-1, the proposed project would not result in the generation of substantial sources of polluted runoff because the project would be required to comply with NPDES requirements, County Stormwater Pollution Control Requirements for Construction Activities, and the requirements of the County LID Standards Manual. Therefore, the implementation of the proposed project would result in less than significant impacts related to the creation of polluted runoff.

Cumulative

The geographic scope for cumulative impacts related stormwater drainage capacity and polluted runoff includes the drain facilities that are located downstream of the project site. As cumulative development is implemented, compliance with the LID Ordinance requirements for percolation and on-site detention will be required. Compliance with these requirements will reduce the need for downstream drainage facility improvements. In addition, cumulative development would be required to comply with NPDES requirements, County Stormwater Pollution Control Requirements for Construction Activities, and the requirements of the County LID Standards Manual to reduce polluted runoff from cumulative development sites. Therefore, cumulative development would result in less than significant cumulative impacts on the capacities of existing or planned storm drains and on stormwater related to polluted runoff.

Because the proposed project would be required to implement the NPDES requirements, County Stormwater Pollution Control Requirements for Construction Activities, and the LID Ordinance requirements, the project's contribution to cumulative impacts on the capacities of existing and planned storm drains and on stormwater related to polluted runoff would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Surface Water and Groundwater Quality

Impact 3.7-5: The proposed project would generate construction and post-construction runoff but would not violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality.

Project-Specific

During construction, site-specific developments within the Specific Plan area that would disturb more than one acre of ground surface would be required to comply with the NPDES Construction General Permit (NPDES Order No. 2009-0009-DWQ). The Construction General Permit requires the development and implementation of a SWPPP, which identifies erosion control, sediment

control, good housekeeping, waste management and post-construction BMPs that would be implemented to reduce construction impacts on storm water quality. Development disturbing less than an acre of ground surface would be required to implement minimum BMPs as described by the NPDES MS4 Permit. Construction activities associated with the project would comply with the NPDES MS4 Permit and would not generate runoff that would violate the stormwater NPDES permit.

As discussed in Impact 3.7-1, surface water during construction activities would not be impacted because the activities would be required to comply with NPDES requirements that would include typical BMPs that include erosion control, sediment control and waste management. Also discussed in Impact 3.7-1, operational activities would not be impacted because these activities would be required to meet MS4 requirements through compliance with the County LID Standards Manual. The proposed Specific Plan also includes Sustainable Design Criteria that would minimize pollutants being transported offsite to downstream areas. Therefore, construction activities would result in less than significant impacts on surface water quality.

As discussed in Impact 3.7-2, groundwater levels in the Specific plan area are approximately 155 below ground surface. Due to the depth of groundwater, activities associated with the project would not impact the quality of groundwater.

Cumulative

The geographic scope for cumulative impacts related to compliance with NPDES permits and construction and operational surface water runoff quality and groundwater quality encompasses the Central Groundwater Basin. Implementation of cumulative development would be required to comply with all pertinent regulations, such as the Construction NPDES General Permit, County Stormwater Pollution Control Requirements for Construction Activities, and the County LID Standards Manual. Cumulative development would be required to comply with the NPDES MS4 permit by implementing BMPs. Therefore, construction activities associated with cumulative development would comply with the NPDES Permit and would not generate runoff that would violate the stormwater NPDES permit.

Cumulative development is required to also comply with all pertinent regulations, such as the Construction NPDES General Permit, County Stormwater Pollution Control Requirements for Construction Activities, and the County LID Standards Manual. Compliance with these regulations would require the implementation of BMPs to ensure the quality of surface water and groundwater would not be substantially degraded. Therefore, construction and operational activities would result in less than significant impacts to surface and groundwater quality.

Because the proposed project would be required to implement the NPDES requirements, County Stormwater Pollution Control Requirements for Construction Activities, and the LID Ordinance requirements, the project's contribution to cumulative impacts associated with compliance with NPDES permits and surface and groundwater quality would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Degrade Water Quality

Impact 3.7-6: The proposed project would not degrade water quality.

Project-Specific

As discussed in Impact 3.7-1, the construction and operational activities associated with development within the Specific Plan area would not violate water quality standards because these activities would be required to implement the NPDES requirements, County Stormwater Pollution Control Requirements for Construction Activities, and the LID Ordinance requirements. Construction activities would be required to comply with the Construction General Permit or the minimum requirements of the MS4 Permit depending on the size of the project. This compliance would require implementation of BMPs to reduce impacts to water quality. Operational activities are required to comply with County LID Standards Manual requirements. These LID requirements would require stormwater runoff retainment onsite through the implementation of site design BMPs that would be maintained throughout development operation. This would prevent surface water runoff leaving the Specific Plan from being degraded; and therefore, downstream water quality would be maintained. The proposed Specific Plan would result in a less than significant impact associated with degrading water quality.

Cumulative

The geographic scope for cumulative impacts related to water quality includes the Los Angeles River watershed. Implementation of cumulative development would be required to comply with all pertinent regulations, such as the Construction NPDES General Permit, County Stormwater Pollution Control Requirements for Construction Activities, and the County LID Standards Manual. Compliance with these regulations would result in the implementation of BMPs to reduce impacts on water quality, and potential cumulative impacts on water quality would be less than cumulatively significant.

Because the proposed project would be required to implement the NPDES requirements, County Stormwater Pollution Control Requirements for Construction Activities, and the LID Ordinance requirements, the project would minimize its impact on water quality. Therefore, the project's contribution to cumulative water quality impacts would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

3.7.6 References

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3.8 Land Use and Planning

Introduction

This section evaluates potential impacts to land uses from implementation of the proposed Specific Plan. Land use impacts can be direct or indirect. Direct impacts include land use incompatibilities such as the physical division of neighborhoods or communities and substantial degradation of the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character or other features. Indirect impacts include secondary effects resulting from land use policy implementation. This section examines the potential for the proposed Specific Plan to result in physical division of the community and the potential for conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect, including relevant policies and regulations within the Los Angeles County General Plan, the County zoning code, and the Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). In addition, this section includes analysis of the potential of the project to result in degradation of the character or quality of the Specific Plan area.

3.8.1 Environmental Setting

Regional

The proposed Specific Plan is located in Los Angeles County which encompasses approximately 4,000 square miles. Approximately 64 percent of Los Angeles County is unincorporated with the majority of this area located in the northern portions of the County that includes the Angeles National Forest, part of the Los Padres National Forest and the Mojave Desert. The unincorporated areas in the southern portion of the County consist of many non-contiguous land areas, including Willowbrook, which are often referred to as the County's unincorporated urban islands.

Local

The unincorporated community of Willowbrook is located approximately 10 miles south of downtown Los Angeles. It is surrounded by the Cities of Hawthorne to the west, Lynwood to the east, Gardena and Compton to the southwest and southeast, and the City of Los Angeles to the north. Willowbrook is proximate to two major freeways—Interstate 110 (I-110) and the Interstate 105 (I-105). I-110 runs north-south parallel to the community's western boundary and I-105, which runs east-west runs parallel to the northern boundary of the community until it intersects the north (eastern side) portion of the community.

Predominant land uses located north of the project site include single-family and multiple family residences. The primary land uses to the west include single-family and multiple-family residences as well as parks. The pre-dominate land uses to the south include single-family residences and industrial and commercial uses along the north-south major corridors such as

Alameda Street and Central Avenue. The primary land uses to the east include industrial uses as well as single-family residential uses.

Specific Plan Area

The Specific Plan area is located within the northeastern portion of the Willowbrook community and generally encompasses an area within a half-mile radius south of the Willowbrook/Rosa Parks Station (Figure 2-2). The Willowbrook community is developed with a variety of highly urban land uses. For planning purposes, the Specific Plan has divided the project area into seven subareas that connect to each other along the existing street grid, and include the following, which are shown in Figure 2-3.

Martin Luther King Jr. Medical Center Campus Subarea

This subarea consists of the MLK medical center campus, which consists of approximately 38 acres of land that is bound by Wilmington Avenue to the east, East 120th Street to the north, Compton Avenue to the west, and the East 122nd Street to the south. The MLK Community Hospital, MLK Center for Public Health, Fire Station, and the Multi-Service Ambulatory Care Center (MACC) are located within the campus.

The subarea is developed with medical and medical support uses including: outpatient and administrative support buildings, ancillary structures, surface parking lots, and multi-level parking structures. The landscaping within the subarea consists of ornamental non-native trees, shrubs, and grass areas that are adjacent to the buildings and located in open space areas throughout the campus.

Charles R. Drew University of Medicine and Science Subarea

The Charles R. Drew University of Medicine and Science (CDU) Subarea is located adjacent to the MLK Medical Center Campus on the north side. The subarea consists of the CDU and the King Drew Magnet High School. These institutions are bounded by Holmes Avenue to the east, Compton Avenue to the west, 120th Street to the south and 118th Street to the north. Other land uses located within this subarea include multi-family residences on East 118th Street, and several surface parking lots that serve CDU and the County facilities are located along East 120th Street.

The character of this area is similar to the Martin Luther King Jr. Medical Center Campus Subarea as it is mostly developed with institutional uses that are medical and educationally related. The area consists of multi-story buildings that generally consist of brick, stucco, and cement that are surrounded by streets, surface and multi-level parking lots and non-native ornaental landscaping on the school parcels. Overall, the character of the area is typical of educational uses in urban areas.

Northwest Subarea

The Northwest Subarea encompasses a variety of urban uses, including educational, retail, residential and institutional. Several vacant lots, owned by the Los Angeles Community Development Corporation, are located along East 117th Street; additionally, a large, vacant site is

located on the northeast corner of East 118th Street and Compton Avenue that is owned by the Compton Unified School District. The educational uses within this subarea include Lincoln-Drew Elementary School, a part of the Compton Unified School District, and the Barack Obama Charter Elementary School, which are both located north of East 118th Street. Other uses in this subarea include senior housing, CDU parking facilities, retail, and residential units that include single-family, duplexes, and multi-family structures. The character of the area is typical of the urban area, and mostly consists of developed parcels surrounded by ornamental landscaping.

Kenneth Hahn Plaza Subarea

This subarea consists of Kenneth Hahn Plaza, which is a 189,287-square-foot shopping center that is located south of the Willowbrook/Rosa Parks Station, and bound by Wilmington Avenue to the west, 119th Street to the south, and Willowbrook Avenue to the east. The anchor tenant is a Food-4-Less grocery store. Other tenants include Rite-Aid, General Discount, and DaVita Dialysis Center, McDonalds, Taco Bell, Pizza Hut, and Denny's restaurants. The Plaza also includes a Los Angeles County Sheriff substation.

The shopping center buildings are generally located at the rear of the site and parking in front; however, the fast-food restaurants are located in smaller structures adjacent to Wilmington Avenue. The shopping center is surrounded by a 6-foot-tall wrought iron security fence that blocks pedestrian connection between the Willowbrook/Rosa Parks Station and the shopping center. In addition, the shopping center has a blank facade facing 119th Street, which is lined with single-family uses along the south side.

Metro is in the process of acquiring approximately 1.5 acres of land on the northern end of the site for the expansion of the Willowbrook/Rosa Parks Station.

Willowbrook/Rosa Parks Station Subarea

The Willowbrook/Rosa Parks Station is a multi-modal transit facility that is located in the median of, and underneath, the I-105 freeway. Thus, the station itself is part of the freeway/transportation infrastructure. In addition, Metro tracks run adjacent to Willowbrook Avenue.

The pedestrian entrance to the Willowbrook/Rosa Parks Station is from the Metro public parking lot located north of I-105 freeway at Wilmington Avenue. The area around the Willowbrook/Rosa Parks Station is poorly lit and difficult to access, navigate, and it is poorly connected to its surrounding environment. For example, the station is located adjacent to Kenneth Hahn Plaza, but access is blocked by a fence and access to the residential neighborhoods to the east of the station is also limited.

The station consists of an open air platform that includes concrete shelters in the I-105 median area and small surface parking lots are located adjacent to the tracks. The Willowbrook/Rosa Parks Station is a concrete structure and contains artistic tiling near the elevators and displays a few artistic, African-American-themed murals on the underside of the I-105 overpass structure beams.

Imperial Highway Corridor Subarea

Imperial Highway is generally three lanes in each direction within the Specific Plan area and is also grade separated (overpass) through the central portion across Wilmington Avenue. The uses within Imperial Highway Corridor Subarea are sandwiched between Imperial Highway and the I-105 Freeway; and therefore the character of the area is highly urban. The land uses in the area consists of a mix of auto repair, retail, residential, Metro facilities, and underutilized or vacant lots. A school bus parking lot and a Metro maintenance yard are located to the west of Wilmington Avenue, and a Metro parking lot is located to the east of Wilmington Avenue. A barber shop, auto shop, and towing yard are located further west, near Compton Avenue. In addition, a vacant site owned by the Housing Authority for the City of Los Angeles is located within this corridor.

Residential Neighborhoods Subarea

Residential areas within the Specific Plan area include a mix of single-family, duplexes, and multi-family structures. The residential area south of Kenneth Hahn Plaza, east of Wilmington Avenue and west of Willowbrook Avenue is primarily multi-family that includes a mix of two-story multi-family buildings and duplexes.

The residential area bounded by Mona Boulevard, I-105, Willowbrook Avenue, and 121st Street contains mostly single-family residences, with the exception of the Willowbrook Avenue East frontage along the Metro Blue Line tracks, which is primarily multi-family residential. Because parking in this neighborhood is limited, vehicles are typically parked along the streets.

Residential parcel configurations vary dramatically across the Specific Plan area. A large portion of residential areas have parcels that are 90 feet wide and over 200 feet deep; however, some of the parcels are as narrow as 30 feet wide and approximately 100 feet deep. Additionally, many of the larger parcels have two (or more) units constructed on them, some illegally.

Existing General Plan Designations and Zoning

The Specific Plan area is largely designated for residential, approximately 34 percent of the area as listed in **Table 3.8-1**, approximately 8 percent of the Specific Plan area is designated for commercial, mixed use, and light industrial uses, approximately 29 percent is designated for public and parks/recreational uses, and approximately 29 percent is designated for rights-of-way.

The existing zoning of lands within the Specific Plan area is listed in **Table 3.8-2**. As shown approximately, 41 percent of the land use within the Specific Plan area is currently zoned for residential, 29 percent for mixed use, neighborhood business, commercial, and industrial, and 29 percent for rights-of-way.

TABLE 3.8-1
EXISTING GENERAL PLAN LAND USES WITHIN THE SPECIFIC PLAN AREA

Existing General Plan Land Use	Acres	Percentage of Specific Plan Area
H9 - Residential (9 dwelling units per acre)	57.44	18.41%
H18 - Residential (18 dwelling units per acre)	25.23	8.09%
H30 - Residential (30 dwelling units per acre)	24.12	7.73%
CG - General Commercial	3.61	1.16%
MU - Mixed Use	18.86	6.04%
IL - Light Industrial	1.07	0.34%
P - Public and Semi-Public	82.40	26.41%
OS-PR - Parks and Recreation	8.49	2.72%
Total Net Acres	**221.22**	**70.91%**
Right of Way	90.76	29.09%
TOTAL GROSS ACRES	**311.98**	**100.00%**

Source: The Arroyo Group, 2016

TABLE 3.8-2
EXISTING ZONING WITHIN THE SPECIFIC PAN AREA

Existing Zoning Land Use	Acres	Percentage of Specific Plan Area
Neighborhood Business (C-2)	67.80	21.7%
Unlimited Commercial (C-3)	2.76	0.9%
Light Manufacturing (M-1)	1.07	0.3%
Mixed Use Development (MXD)	18.86	6.0%
Single-Family Residence (R-1)	62.26	20.0%
Two-Family Residence (R-2)	36.11	11.6%
Limited Multiple Residence (R-3-()U)	30.70	9.8%
No Zoning	1.66	0.5%
Total Net Acres	**221.22**	**70.9%**
Right of Way	90.76	29.1%
TOTAL GROSS ACRES	**311.98**	**100.0%**

Source: The Arroyo Group, 2016

3.8.2 Regulatory Setting

Regional

Southern California Association of Governments

SCAG is the designated Metropolitan Planning Organization (MPO) for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. As the designated MPO for the region, SCAG is mandated by the federal government to research and create plans for transportation, growth management, hazardous waste management, and air quality. SCAG's major responsibilities include:

- Maintenance of a continuous, comprehensive, and coordinated planning process resulting in a Regional Transportation Plan (RTP) and a Regional Transportation Improvement Program (RTIP).
- Development of demographic projections plus the integrated land use, housing, employment, transportation programs, measures, and strategies portions of the South Coast Air Quality Management Plan (AQMP), as well as serving as co-lead agency for air quality planning for the Central Coast and Southeast Desert air basin districts.
- Responsibility under the federal Clean Air Act (CAA) for determining whether projects, plans, and programs conform to the CAA.
- To function as the authorized regional agency for intergovernmental review of programs proposed for federal financial assistance and direct development activities.
- Review of environmental impact reports for projects having regional significance for consistency with regional plans.
- To function as the authorized area-wide waste treatment management planning agency pursuant to federal water pollution control statutes.
- Responsibility under state law for preparation of the Regional Housing Needs Assessment (RHNA).

Because the proposed Specific Plan is a project with regional significance, per CEQA Guidelines Sections 15125(d) and 15206, SCAG is responsible for ensuring that the project is consistent with regional plans, which, in this case, include the Regional Comprehensive Plan and Guide (RCPG), the RTP, and the Compass Blueprint Growth Vision. In addition, this EIR uses the adopted SCAG population, housing and job forecasts for Los Angeles County information and uses population, housing and job forecast from the County of Los Angeles for smaller geographies such as unincorporated areas of the County of Los Angeles. The forecasts provided by the County of Los Angeles are generally consistent with the SCAG projections. The discussion of forecasts is provided in Section 3.10, Population and Housing).

Regional Transportation Plan 2016–2040/Sustainable Communities Strategy

In April 2016, SCAG adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS includes a strong commitment to reduce emissions from transportation to comply with Senate Bill 375, improve public health, and meet

the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. The RTP/SCS links its goals of sustaining mobility with its goals for fostering economic development; enhancing the environment; reducing energy consumption; promoting transportation-friendly development patterns; and encouraging fair and equitable access to residents affected by socio-economic, geographic and commercial limitations. In general, the 2016–2040 RTP/SCS provides a blueprint for improving quality of life for residents by providing more choices for where they will live, work, and play, and how they will move around.

The 2016–2040 RTP/SCS is guided by and incorporates all projects from Metro's Long-Range Transportation Plan and the subregional Sustainable Communities Strategy developed by the Gateway Cities Council of Governments (COG) (described further below). In addition, several major transportation projects in the Gateway Cities subregion are included in the 2016–2040 RTP/SCS.

The 2016–2040 RTP/SCS policies that are relevant to the proposed TOD Specific Plan, and the project's consistency with the relevant policies are discussed in Table 3.8-3 of Section 3.8.5, Impact Analysis.

Gateway Cities Council of Governments

The Gateway Cities COG is a California joint powers authority made up of 27 cities and the County of Los Angeles (three County supervisory districts which cover the unincorporated communities within the subregion), formed for the purpose of providing a vehicle for members to voluntarily engage in regional and cooperative planning and coordination of government services for the collective benefit of the residents of Southeast Los Angeles County. The goal and intent of the COG are to foster voluntary cooperation among cities and the County in the areas of transportation, air quality, housing, and economic development.

The unincorporated community of Willowbrook is located in the Gateway Cities region of southeast Los Angeles County, which consists of 27 cities and nine unincorporated communities. The Cities include: Artesia, Avalon, Bell, Bellflower, Bell Gardens, Cerritos, Commerce, Compton, Cudahy, Downey, Hawaiian Gardens, Huntington Park, La Habra Heights, Lakewood, La Mirada, Long Beach, Lynwood, Maywood, Montebello, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, and Whittier. In addition to Willowbrook, the unincorporated communities in the Gateway Cities region include: East Los Angeles, East Rancho Dominguez, Florence, Los Nietos, Rancho Dominguez, Rosewood, South Whittier, and Walnut Park.

The predominant land use in the Gateway Cities region is low-density residential, which occupies 43.3 percent of the land area. Medium-density residential occupies 8.5 percent. Industrial and commercial uses occupy approximately 15.1 percent and 10.1 percent of the area, respectively (Gateway Cities 2011).

The Gateway Cities Council of Governments (COG), and the County transportation commission (Los Angeles County Metropolitan Transportation Authority (LACMTA)) worked together to

develop a subregional Sustainable Communities Strategy, which is the subregion's plan to improve overall mobility, reduce greenhouse gases (GHG) by 2020 and 2035 using transportation and land use strategies, and enhances the quality of life for the region's residents. These strategies include major transportation improvements as well as transit oriented improvements. As described above, the SCAG 2012-2035 RTP/SCS incorporates the Gateway Cities COG Sustainable Communities Strategy. The Sustainable Communities Strategy does not include a set of goals and policies; instead, it relies on SCAG's goals and policies.

County of Los Angeles

Los Angeles County General Plan

The Los Angeles County General Plan was adopted by the County of Los Angeles Board of Supervisors on October 6, 2015, and provides the policy framework for how and where the unincorporated County will grow through the year 2035 (County of Los Angeles, 2015). The General Plan accommodates new housing and jobs within the unincorporated areas in anticipation of population growth in the County and the region.

The General Plan includes a Transit Oriented District Program (Program LU-2 in Chapter 16 General Plan Implementation Programs) that adds new TODs and expands existing TODs from approximately a 0.25-mile radius to 0.50-mile radius from the transit stations. The General Plan states that TOD is well-suited for higher density housing and mixed uses in urban and suburban areas, with nodes commercial, employment, and civic activities, and identifies the proposed Specific Plan area as a Transit Oriented District. The objective of the Transit Oriented District Program is to prepare a TOD Specific Plan for each TOD in the County, with the goals of: (1) increase walking, bicycling, and transit ridership and reduce vehicle miles traveled (VMTs); (2) facilitate compact, mixed use development; (3) increase economic activity; (4) facilitate the public investment of infrastructure improvements; and 5) streamline the environmental review process for future infill development projects.

The General Plan policies related to the proposed Specific Plan are listed below.

Land Use Element

Policy LU 1.10: Require the intensity, density, and uses allowed in a new specific plan to be determined using the General Plan, including the Land Use Policy Map and Land Use Legend.

Policy LU 1.11: Require a General Plan amendment for any deviation from the intensities, densities, and uses allowed by the General Plan (to apply the appropriate designation from the General Plan Land Use Legend), unless allowances for flexibility are specified in the specific plan.

Policy LU 1.12: Require development regulations and zoning for new specific plans to be consistent with their corresponding General Plan land use designation.

Policy LU 1.13: Allow specific plans to include implementation procedures for flexibility, such as development phasing, and redistribution of intensities and uses, as appropriate.

Policy LU 2.1: Ensure that all community-based plans are consistent with the General Plan.

Policy LU 2.6: Consider the role of arts and culture in community-based planning efforts to celebrate and enhance community character.

Policy LU 2.7: Set priorities for Planning Area-specific issues, including transportation, housing, open space, and public safety as part of community-based planning efforts.

Policy LU 2.8: Coordinate with the Los Angeles County Department of Public Works and other infrastructure providers to analyze and assess infrastructure improvements that are necessary for plan implementation.

Policy LU 2.9: Utilize the General Plan Land Use Legend and the Hazard, Environmental and Resource Constraints Model to inform the development of land use policy maps.

Policy LU 2.10: Ensure consistency between land use policy and zoning by undergoing a comprehensive zoning consistency analysis that includes zoning map changes and Zoning Code amendments, as needed.

Policy LU 4.1: Encourage infill development in urban and suburban areas on vacant, underutilized, and/or brownfield sites.

Policy LU 4.2: Encourage the adaptive reuse of underutilized structures and the revitalization of older, economically distressed neighborhoods.

Policy LU 4.3: Encourage transit-oriented development in urban and suburban areas with the appropriate residential density along transit corridors and within station areas.

Policy LU 4.4: Encourage mixed use development along major commercial corridors in urban and suburban areas.

Policy LU 5.1: Encourage a mix of residential land use designations and development regulations that accommodate various densities, building types and styles.

Policy LU 5.2: Encourage a diversity of commercial and retail services, and public facilities at various scales to meet regional and local needs.

Policy LU 5.3: Support a mix of land uses that promote bicycling and walking, and reduce VMTs.

Policy LU 5.4: Encourage community-serving uses, such as early care and education facilities, grocery stores, farmers markets, restaurants, and banks to locate near employment centers.

Policy LU 5.5: Encourage a mix of residential land use designations and development regulations that accommodate various densities, building types and styles.

Policy LU 5.10: Encourage employment opportunities and housing to be developed in proximity to one another.

Policy LU 7.1: Reduce and mitigate the impacts of incompatible land uses, where feasible, using buffers and other design techniques.

Policy LU 9.2: Encourage patterns of development that promote physical activity.

Policy LU 10.3: Consider the built environment of the surrounding area and location in the design and scale of new or remodeled buildings, architectural styles, and reflect appropriate features such as massing, materials, color, detailing or ornament.

Policy LU 10.4: Promote environmentally-sensitive and sustainable design.

Policy LU 10.5: Encourage the use of distinctive landscaping, signage and other features to define the unique character of districts, neighborhoods or communities, and engender community identity, pride and community interaction.

Policy LU 10.6: Encourage pedestrian activity through the following:

- Designing the main entrance of buildings to front the street;
- Incorporating landscaping features;
- Limiting masonry walls and parking lots along commercial corridors and other public spaces;
- Incorporating street furniture, signage, and public events and activities; and
- Using wayfinding strategies to highlight community points of interest.

Policy LU 10.7: Promote public spaces, such as plazas that enhance the pedestrian environment, and, where appropriate, continuity along commercial corridors with active transportation activities.

Policy LU 10.8: Promote public art and cultural amenities that support community values and enhance community context.

Policy LU 10.10: Promote architecturally distinctive buildings and focal points at prominent locations, such as major commercial intersections and near transit stations or open spaces.

Policy LU 11.1: Encourage new development to employ sustainable energy practices, such as utilizing passive solar techniques and/or active solar technologies.

Policy LU 11.2: Support the design of developments that provide substantial tree canopy cover, and utilize light-colored paving materials and energy-efficient roofing materials to reduce the urban heat island effect.

Policy LU 11.3: Encourage development to optimize the solar orientation of buildings to maximize passive and active solar design techniques.

Policy LU 11.4: Promote environmentally-sensitive and sustainable design.

Mobility Element

Policy M 1.1: Provide for the accommodation of all users, including pedestrians, motorists, bicyclists, equestrians, users of public transit, seniors, children, and persons with disabilities when requiring or planning for new, or retrofitting existing, transportation corridors/networks whenever appropriate and feasible.

Policy M 2.1: Provide transportation corridors/networks that accommodate pedestrians, equestrians and bicyclists, and reduce motor vehicle accidents through a context-sensitive

process that addresses the unique characteristics of urban, suburban, and rural communities whenever appropriate and feasible.

Policy M 2.2: Accommodate pedestrians and bicyclists, and reduce motor vehicle accidents by implementing the following street designs, whenever appropriate and feasible:

- Lane width reductions to 10 or 11 feet in low speed environments with a low volume of heavy vehicles.
- Wider lanes may still be required for lanes adjacent to the curb, and where buses and trucks are expected.
- Low-speed designs.
- Access management practices developed through a community-driven process.
- Back in angle parking at locations that have available roadway width and bike lanes, where appropriate.

Policy M 2.3: Accommodate pedestrians and bicyclists, and reduce motor vehicle accidents by implementing the following intersection designs, whenever appropriate and feasible:

- Right angle intersections that reduce intersection skew.
- Smaller corner radii to reduce crossing distances and slow turning vehicles.
- Traffic calming measures, such as bulb-outs, sharrows, medians, roundabouts, and narrowing or reducing the number of lanes (road diets) on streets.
- Crossings at all legs of an intersection.
- Shorter crossing distances for pedestrians.
- Right-turn channelization islands. Sharper angles of slip lanes may also be utilized.
- Signal progression at speeds that support the target speed of the corridor.
- Pedestrian push buttons when pedestrian signals are not automatically recalled.
- Walk interval on recall for short crossings.
- Left-turn phasing.
- Prohibit right turn on red.
- Signs to remind drivers to yield to pedestrians.

Policy M 2.4: Ensure a comfortable walking environment for pedestrians by implementing the following, whenever appropriate and feasible:

- Designs that limit dead-end streets and dead-end sidewalks.
- Adequate lighting on pedestrian paths, particularly around building entrances and exits, and transit stops.
- Designs for curb ramps, which are pedestrian friendly and compliant with the American Disability Act (ADA).
- Perpendicular curb ramps at locations where it is feasible.

- Pedestrian walking speed based on the latest standard for signal timing. Slower speeds should be used when appropriate (i.e., near senior housing, rehabilitation centers, etc.)
- Approved devices to extend the pedestrian clearance times at signalized intersections.
- Accessible Pedestrian Signals (APS) at signalized intersections.
- Pedestrian crossings at signalized intersections without double or triple left or right turn lanes.
- Pedestrian signal heads, countdown pedestrian heads, pedestrian phasing and leading pedestrian intervals at signalized intersections.
- Exclusive pedestrian phases (pedestrian scrambles) where turning volume conflicts with very high pedestrian volumes.
- Advance stop lines at signalized intersections.
- Pedestrian Hybrid Beacons.
- Medians or crossing islands to divide long crossings.
- High visibility crosswalks.
- Pedestrian signage.
- Advanced yield lines for uncontrolled crosswalks.
- Rectangular Rapid Flashing Beacon or other similar approved technology at locations of high pedestrian traffic.
- Safe and convenient crossing locations at transit stations and transit stops located at safe intersections.

Policy M 2.5: Ensure a comfortable bicycling environment by implementing the following, whenever appropriate and feasible:

- Bicycle signal heads at intersections.
- Bicycle signal detection at all signalized intersections.
- Wayfinding signage.
- Road diet techniques, such as lane narrowing, lane removal, and parking removal/restriction.
- Appropriate lighting on all bikeways, including those in rural areas.
- Designs, or other similar features, such as: shoulder bikeways, cycle tracks, contra flow bike lanes, shared use paths, buffered bike lanes, raised bike lanes, and bicycle boulevards.

Policy M 2.6: Encourage the implementation of future designs concepts that promote active transportation, whenever available and feasible.

Policy M 2.7: Require sidewalks, trails and bikeways to accommodate the existing and projected volume of pedestrian, equestrian and bicycle activity, considering both the paved width and the unobstructed width available for walking.

Policy M 2.8: Connect trails and pedestrian and bicycle paths to schools, public transportation, major employment centers, shopping centers, government buildings, residential neighborhoods, and other destinations.

Policy M 2.9: Encourage the planting of trees along streets and other forms of landscaping to enliven streetscapes by blending natural features with built features.

Policy M 2.10: Encourage the provision of amenities, such as benches, shelters, secure bicycle storage, and street furniture, and comfortable, safe waiting areas near transit stops.

Policy M 4.1: Expand transportation options that reduce automobile dependence.

Policy M 4.4: Ensure expanded mobility and increase transit access for underserved transit users, such as seniors, students, low income households, and persons with disabilities.

Policy M 4.7: Maintain a minimum LOS D, where feasible; however, allow LOS below D on a case by case basis in order to further other General Plan goals and policies, such as those related to environmental protection, infill development, and active transportation.

Policy M 4.8: Provide and maintain appropriate signage for streets, roads and transit.

Policy M 4.10:: Support the linkage of regional and community-level transportation systems, including multimodal networks.

Policy M 5.1: Facilitate transit-oriented land uses and pedestrian-oriented design, particularly in the first-last mile connections to transit, to encourage transit ridership.

Policy M 5.2: Implement parking strategies that facilitate transit use and reduce automobile dependence.

Policy M 6.4: Minimize noise and other impacts of goods movement, truck traffic, deliveries, and staging in residential and mixed-use neighborhoods.

Policy M 7.1: Minimize roadway runoff through the use of permeable surface materials, and other low impact designs, wherever feasible.

Housing Element

The Los Angeles County Housing Element 2014-2021 was adopted by the County Board of Supervisors on February 4, 2014, and received State certification on April 30, 2014.

Policy 1.4: Assist housing developers to identify and consolidate suitable sites for developing housing for low and moderate income households and those with special needs.

Policy 2.1: Support the development of housing for low and moderate income households and those with special needs near employment and transit.

Policy 2.2: Encourage mixed use developments along major commercial and transportation corridors.

Policy 3.1: Promote mixed income neighborhoods and a diversity of housing types throughout the unincorporated areas to increase housing choices for all economic segments of the population.

Air Quality Element

Policy AQ 3.5: Encourage energy conservation in new development and municipal operations.

Policy AQ 3.6: Support rooftop solar facilities on new and existing buildings.

Conservation and Natural Resources Element

Policy C/NR 5.6: Minimize point and non-point source water pollution.

Policy C/NR 6.1: Support the LID philosophy, which incorporates distributed, post-construction parcel-level stormwater infiltration as part of new development.

Policy C/NR 14.1: Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.

Policy C/NR 14.3: Support the preservation and rehabilitation of historic buildings.

Policy C/NR 14.6: Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.

Parks and Recreation Element

Policy P/R 1.2: Provide additional active and passive recreation opportunities based on a community's setting, and recreational needs and preferences.

Noise Element

Policy N 1.1: Utilize land uses to buffer noise-sensitive uses from sources of adverse noise impacts.

Policy N 1.2: Reduce exposure to noise impacts by promoting land use compatibility.

Policy N 1.3: Minimize impacts to noise-sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies (BAT).

Policy N 1.5: Ensure compliance with the jurisdictions of State Noise Insulation Standards (Title 24, California Code of Regulations and Chapter 35 of the Uniform Building Code), such as noise insulation of new multifamily dwellings constructed within the 60 dB (CNEL or Ldn) noise exposure contours.

Policy N 1.6: Ensure cumulative impacts related to noise do not exceed health-based safety margins.

Policy N 1.9: Require construction of suitable noise attenuation barriers on noise sensitive uses that would be exposed to exterior noise levels of 65 dBA CNEL and above, when unavoidable impacts are identified.

Policy N 1.11: Maximize buffer distances and design and orient sensitive receptor structures (hospitals, residential, etc.) to prevent noise and vibration transfer from commercial/light industrial uses.

Policy N 1.12: Decisions on land adjacent to transportation facilities, such as the airports, freeways and other major highways, must consider both existing and future noise levels of these transportation facilities to assure the compatibility of proposed uses.

Safety Element

Policy S 1.1: Discourage development in Seismic Hazard and Alquist-Priolo Earthquake Fault Zones.

Policy S 1.2: Prohibit the construction of most structures for human occupancy adjacent to active faults until a comprehensive fault study that addresses the potential for fault rupture has been completed.

Public Services and Facilities Element

Policy PS/F 1.1: Discourage development in areas without adequate public services and facilities.

Policy PS/F 1.2: Ensure that adequate services and facilities are provided in conjunction with development through phasing or other mechanisms.

Policy PS/F 2.1: Support water conservation measures.

Policy PS/F 8.2: Support library mitigation fees that adequately address the impacts of new development.

Economic Development Element

Policy ED 1.1: Encourage a diverse mix of industries and services in each Planning Area.

Policy ED 2.4: Ensure high standards of development and encourage environmentally sustainable practices in economic development activities.

Policy ED 2.5: Encourage employment opportunities to be located in proximity to housing.

Policy ED 2.6: Encourage community-serving uses, such as child care centers and personal services, to be located in proximity to employment centers.

Policy ED 2.7: Incentivize economic development and growth along existing transportation corridors and in urbanized areas.

Policy ED 4.4: Incentivize infill development in urban and suburban areas that revitalizes underutilized commercial and industrial areas.

Los Angeles County Zoning Code

The Los Angeles County Zoning Code (Title 22 – Planning and Zoning – of the Los Angeles County Code) implements the Land Use Element of the General Plan and provides specific development and land use standards. The purpose of the Zoning Code is to provide compatible use of land within the County, consistent with the needs of residential, commercial and industrial developments, and the public health, safety, welfare and general prosperity of residents.

3.8.3 Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines and the County of Los Angeles Environmental Checklist Form, the project could have a significant impact on land use and planning if it would:

- Physically divide an established community (see Impact 3.8-1 below.).
- Be inconsistent with the applicable County plans for the subject property including, but not limited to, the General Plan, specific plans, local coastal plans, area plans, and community/neighborhood plans (see Impact 3.8-2).
- Be inconsistent with the County zoning ordinance as applicable to the subject property (see Impact 3.8-3).
- Conflict with Hillside Management criteria, Significant Ecological Areas conformance criteria, or other applicable land use criteria (see Section 5.1.6).
- Substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character or other features (see Impact 3.8-4).

3.8.4 Methodology

The analysis of land use consistency impacts considers whether the proposed Specific Plan would physically divide an established community and whether the proposed Specific Plan would degrade the existing visual character. The physical division of an established community is evaluated based on whether the project would result in the construction of physical barriers or obstacles to circulation that would restrict existing patterns of movement between the project site and the surrounding neighborhood. The analysis related to the potential of the project to result in the degradation of the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character or other features is based upon the extent of visual contrast and compatibility in scale and character between project elements and the existing environment, and project conformance with policies and regulations related to urban design quality.

The analysis of the project's consistency with regional and local plans is based on a review of the relevant goals and policies of the plans that relate to avoiding or mitigating environmental impacts. The applicable plans include the Los Angeles County General Plan, the County zoning ordinance and the SCAG RTP/SCS. The assessment determines whether any inconsistency with these goals and policies create a significant environmental impact.

CEQA Guidelines Section 15125(d) requires that an EIR discuss inconsistencies with applicable plans that the decision-makers should address. A project need not be consistent with each and every policy and objective in a planning document. Rather, a project is considered consistent with the provisions of the identified regional and local plans if it meets the general intent of the plans and would not preclude the attainment of the primary goals of the land use plan or policy.

In addition, the analysis related to the potential of the project to result in degradation of the existing visual character or quality of the site and its surroundings because of height, bulk,

pattern, scale, character or other features is based upon the extent of visual contrast and compatibility in scale and character between project elements and the existing environment, and project conformance with policies and regulations related to urban design quality.

3.8.5 Impact Analysis

Divide an Established Community

Impact 3.8-1: Physically divide an established community.

Project-Specific

Currently, the Specific Plan area is an urban developed area that contains a mix of uses, including commercial, residential, public, and educational uses. As described above, there are various subareas that are focused on different land uses, such as medical, educational, and residential; however, the mixed uses that are in some of the subareas are integrated with one another (e.g. small retail serving the educational and medical uses). In addition, the existing and proposed uses within each subarea are linked by roadways and pedestrian routes that provide an urban community.

The objective of the transit oriented development that would be implemented by the project is to ensure future development within the Specific Plan area would provide for a walkable neighborhood of integrated land uses that provide for housing, employment, educational, and retail uses near regional transit. The proposed project would provide redevelopment and infill development that would result in higher density housing, employment opportunities, and mixed-use development. In addition, the Specific Plan would improve pedestrian and bicycle routes and linkages throughout the Specific Plan area and to/from the Willowbrook/Rosa Parks Station.

Development occurring under the proposed Specific Plan is anticipated to occur over a 20-year period and would involve infill development utilizing the established roadway network, transit network, and urbanized land use pattern. The increase in development capacity that would occur through implementation of the Specific Plan is intended primarily to allow intensified development or a more transit-oriented mix of land uses. The proposed zoning changes do not introduce substantially different land uses, propose new street patterns, or otherwise introduce land uses that would physically divide the Specific Plan area. Rather, the proposed Specific Plan integrates existing uses in the area, enhances mobility, and connectivity of land uses through implementation of mixed uses, resulting in a more physically connected community.

Overall, the proposed Specific Plan would increase the density/intensity of development as well as the presence of pedestrians throughout the Specific Plan area. The existing community would not be divided. The proposed Specific Plan would provide for additional residential and related commercial and employment development and improved connectivity within the existing community and transit network, and would not result in the division of an established community. Conversely, the project would establish a more integrated network of community land uses and mobility. Thus, impacts related to physical division of an established community would not occur.

Cumulative

The cumulative study area for land use and planning includes the areas within the Willowbrook community and the areas that are adjacent to the Specific Plan area (such as those areas within the City of Los Angeles, City of Lynwood, and City of Compton). The cumulative development anticipated within this cumulative study area includes the development projects that are listed in Table 3-1, in Section 3.0. These cumulative projects would not result in physically dividing an established community because the cumulative projects would not result in the construction of physical barriers or obstacles to circulation that would restrict existing patterns of movement in the cumulative study area. Therefore, cumulative projects would result in a less than significant impact related to the physical division of an established community.

The development of the proposed Specific Plan includes the development of a variety of uses including medical, educational, residential, and commercial, which are integrated into the community. The proposed Specific Plan enhances mobility and connectivity of land uses through implementation of mixed uses, resulting in a more physically connected community, and impacts related to physical division of an established community would not occur. Therefore, the implementation of the proposed project would not contribute to the less than significant cumulative impacts associated with physically dividing an established community.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

No impact.

Cumulative

No impact.

Conflict with Applicable Plans, Policies, or Regulations

Impact 3.8-2: The proposed project would be consistent with the applicable County plans for the subject property including, but not limited to, the General Plan, specific plans, local coastal plans, area plans, and community/neighborhood plans.

Project-Specific

The County of Los Angeles Environmental Checklist Form requires a discussion of consistency with County plans (as provided in the impact statement above); however, due to the regional

nature of the Specific Plan project and its location within Los Angeles County, SCAG RTP/SCS policies are also listed and evaluated below. Consistent with CEQA, the evaluation of consistency is primarily focused on those goals and policies that relate to avoiding or mitigating environmental impacts, and an assessment of whether any inconsistency with these standards creates a significant physical impact on the environment.

As described above, the Specific Plan area contains established roadway and transit networks and an urbanized land use pattern. The proposed Specific Plan would provide for targeted increases in development capacity that is intended to provide mixed uses within walking distance from the Willowbrook/Rosa Parks Station which is consistent with the County policies. Build-out of the proposed Specific Plan would allow for up to 1,952 residential units and 2,666,035 square feet of non-residential uses.

In regards to environmental quality, the proposed Specific Plan includes Sustainable Design Guidelines, a comprehensive set of Performance Standards, and Goals and Policies that serve as guidelines for decision making, all of which are listed in Section 2.0, *Project Description*. The proposed Zoning within the Specific Plan area (shown in Figure 2-4) along with the proposed Sustainable Design Guidelines, Performance Standards, and Goals and Policies are consistent with County policies as shown below and are provided to ensure land use compatibility and minimization of potential environmental impacts as build-out of the Specific Plan occurs.

As described in detail in the following pages, the proposed Specific Plan would be consistent with the applicable SCAG and General Plan goals and policies that are intended to avoid or mitigate adverse environmental effects. As a result, impacts related to the project's consistency with applicable County and SCAG plans and policies would be less than significant.

SCAG Policies

SCAG policies focus on encouraging development patterns and densities that reduce infrastructure costs and reliance on the automobile and promote public transit use, minimizing environmental impacts through the use of "green" building techniques and landscaping practices, providing affordable housing, and minimizing new development in open space areas and areas with limited emergency access.

The proposed Specific Plan would implement many of the SCAG policies related to high-density, infill development that is centered around public transit opportunities. The proposed Specific Plan proposes infill development in an already developed urban area that would make use of the existing circulation and utility infrastructure. The infill development includes high-density residential uses, educational, employment, and commercial uses to enhance the mixed-use environment in which residents benefit from nearby shopping and employment opportunities, and would be within walking distance of the Willowbrook/Rosa Parks Station. Thus, the proposed Specific Plan would be consistent with SCAG goals to increase transit-oriented development. **Table 3.8-3** lists the policies from SCAG's *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* that are relevant to the proposed Specific Plan, and provides a discussion of the proposed Specific Plan's level of consistency with each policy.

Gateway Cities Council of Governments Sustainable Communities Strategy

As described above, the Gateway Cities Council of Governments has developed its own Sustainable Communities Strategy. Although the Sustainable Communities Strategy identifies travel demand management strategies and other projects aimed at reducing GHG emissions, it does not propose its own set of goals and policies. Instead, it relies on SCAG's goals and policies. The proposed project would implement TOD and infill development strategies which are consistent with the Gateway Cities Sustainable Communities Strategy. Because the SCAG policies have been developed to implement the Gateway Cities Sustainable Communities Strategy and the proposed Specific Plan would be consistent with the SCAG policies as discussed in Table 3.8-3 below, the proposed project would not conflict with the Gateway Cities Council of Governments Sustainable Communities Strategy.

TABLE 3.8-3
CONSISTENCY OF PROPOSED SPECIFIC PLAN WITH SCAG POLICIES

Policy/Goal	Policy Text	Statement of Consistency or Non-Consistency
2016–2040 RTP/SCS		
RTP/SCS G2	Maximize mobility and accessibility for all people and goods in the region.	Consistent. The proposed Specific Plan would provide improvements to the circulation system in order to meet the needs of local and regional transportation and to ensure efficient mobility and accessibility for a variety of users, including motorists, pedestrians, and cyclists. Although the proposed Specific Plan would result in significant unavoidable impacts to levels of service for roadway facilities, the project would improve alternative modes of transportation such as pedestrians and cyclists.
RTP/SCS G3	Ensure travel safety and reliability for all people and goods in the region.	Consistent. See Policy G2 above. In addition, the circulation system improvements would be required to follow safety standards established by state, regional, and local agencies. For example, pedestrian walkways and bicycle routes must follow safety standards established by local (e.g., County of Los Angeles) and regional (e.g. Caltrans) agencies. Additionally, pedestrian circulation system improvements are required to be designed and constructed consistent with the Americans with Disabilities Act (ADA) and state requirements and the County's adopted engineering standards for circulation improvements. These standards would provide for safe and reliable travel.
RTP/SCS G4	Preserve and ensure a sustainable regional transportation system.	Consistent. The proposed Specific Plan would involve the creation of TOD opportunities, such as residential, retail, and other employment uses near the Willowbrook/Rosa Parks Station in order to increase opportunities for transit use and reduce reliance on the automobile.
RTP/SCS G5	Maximize the productivity of our transportation system	Consistent. The proposed Specific Plan would involve improvements to the circulation system to increase the efficiency for a variety of users and to improve the accessibility to the regional transit system. These improvements include wider sidewalks as well as provision of bicycle lanes.
RTP/SCS G6	Protect the environment and health for our residents by improving air quality and encouraging active transportation (non-motorized transportation such as bicycling and walking).	Consistent. The proposed Specific Plan includes an enhancement to the TOD pattern in the Specific Plan area to incentivize transit use and non-motorized transportation modes such as biking and walking. Reduced reliance on the automobiles would reduce the per capita vehicle miles traveled and would help to improve long-term air quality.
RTP/SCS G7	Actively encourage and create incentives for energy efficiency, where possible.	Consistent. The proposed Specific Plan includes Sustainable Design Guidelines related to energy efficient designs and incorporation of features that would increase the energy efficiency of buildings as well as water use efficiency. In addition, the Specific Plan includes the encouragement of transit use and the provision of pedestrian/bicycle facilities.

Policy/Goal	Policy Text	Statement of Consistency or Non-Consistency
RTP/SCS G8	Encourage land use and growth patterns that facilitate transit and non-motorized transportation.	Consistent. The proposed Specific Plan would implement a TOD pattern throughout the Specific Plan area in order to provide higher density housing and employment uses proximate to regional transit and to increase pedestrian activity throughout the area.

Los Angeles County General Plan

The proposed Specific Plan would involve infill development and redevelopment of underutilized parcels within walking distance to the existing Willowbrook/Rosa Parks Station. The Specific Plan includes rezoning land uses to introduce additional mixed uses and enhance the transit-oriented development pattern to the area. This is consistent with related General Plan policies as detailed in **Table 3.8-4**.

TABLE 3.8-4
CONSISTENCY OF PROPOSED SPECIFIC PLAN WITH 2035 GENERAL PLAN POLICIES

Policy Number	Policy Text	Statement of Consistency or Non-Consistency
Land Use Element		
1.11	Require a General Plan amendment for any deviation from the intensities, densities, and uses allowed by the General Plan (to apply the appropriate designation from the General Plan Land Use Legend), unless allowances for flexibility are specified in the specific plan.	Consistent. The proposed Specific Plan would require a General Plan amendment to implement specific land use designations, so that the community is more consistent with the transit oriented policies in the County's General Plan. Thus, the proposed Specific Plan is consistent with this policy.
1.12	Require development regulations and zoning for new specific plans to be consistent with their corresponding General Plan land use designation.	Consistent. As discussed above, the proposed Specific Plan would amend the currently designated uses or increasing the intensity or density of the onsite designated uses. The proposed Specific Plan includes development regulations and proposes new zoning to be consistent with the transit oriented policies and lands uses in the County's General Plan. As described above, a General Plan amendment would be required to implement specific land use designations to provide additional consistency with the transit oriented policies in the County's General Plan. The proposed Specific Plan includes zoning and amended General Plan designations so that both are consistent with each other. Therefore, the project would be consistent with this specific policy.
1.13	Allow specific plans to include implementation procedures for flexibility, such as development phasing, and redistribution of intensities and uses, as appropriate.	Consistent. The proposed Specific Plan provides flexibility in density, land uses, and does not provide a specific phasing timeline. The Specific Plan provides a range of uses, development standards, performance standards, and sustainability guidelines that provide the ability for the Specific Plan to meet its objectives, while providing flexibility to respond to economic changes and a range of potential development proposals. Thus, the proposed Specific Plan is consistent with this policy.
2.6	Consider the role of arts and culture in community-based planning efforts to celebrate and enhance community character.	Consistent. The proposed Specific Plan includes provisions to include public art in architecture and public plaza areas; and thus, is consistent with this policy.
2.7	Set priorities for Planning Area-specific issues, including transportation, housing, open space, and public safety as part of community-based planning efforts.	Consistent. The proposed Specific Plan sets housing, transportation, and open space amenities as priority objectives for the proposed project, as described in Section 2.0, Project Description. Thus, the proposed Specific Plan is consistent with this policy.

Policy Number	Policy Text	Statement of Consistency or Non-Consistency
2.8	Coordinate with the Los Angeles County Department of Public Works and other infrastructure providers to analyze and assess infrastructure improvements that are necessary for plan implementation.	Consistent. The Specific Plan project began with preparation of an existing setting study. It included an evaluation of existing infrastructure within the planning area, which was coordinated with the County Department of Public Works and other service providers. It was determined, as described in Section 2.0, Project Description, that infrastructure improvements to the existing water system would be necessary to accommodate build-out of the proposed Specific Plan. There are several existing lines that are smaller than eight-inches in diameter that would need to be improved to accommodate build-out of the proposed Specific Plan. As described in Section 3.13, Utilities and Service Systems, the other existing utility infrastructure has the ability to serve build-out of the proposed Specific Plan in addition to other existing services. As described in Section 3.12, Transportation and Traffic, the project would not incorporate some transportation measures to improve the levels of service at some intersections due to the existing physical limitations of existing rights-of-way and the desire to maintain or improve pedestrian and bicycle infrastructure and not motor vehicle infrastructure. Overall, the County has been in coordination with all of the service providers in the Willowbrook community; therefore, the proposed project has been implemented in compliance with this policy.
2.9	Utilize the General Plan Land Use Legend and the Hazard, Environmental and Resource Constraints Model to inform the development of land use policy maps.	Consistent. As detailed in Sections 3.4 Geology and Soils, 3.6 Hazards and Hazardous Materials, and Section 3.7 Hydrology and Water Quality, the General Plan information related to land use, hazards, constraints, and environmental resources were utilized in preparation of this EIR analysis and were utilized in preparing the proposed Specific Plan zoning maps.
2.10	Ensure consistency between land use policy and zoning by undergoing a comprehensive zoning consistency analysis that includes zoning map changes and Zoning Code amendments, as needed.	Consistent. Preparation of the Specific Plan included a comprehensive consistency analysis of existing land uses, proposing new zoning designations within the area, and general plan amendments to ensure zoning and general plan consistency.
4.1	Encourage infill development in urban and suburban areas on vacant, underutilized, and/or brownfield sites.	Consistent. The purpose of the proposed Specific Plan is to implement infill development and redevelopment of underutilized and vacant parcels within walking distance of the Willowbrook/Rosa Parks Station.
4.2	Encourage the adaptive reuse of underutilized structures and the revitalization of older, economically distressed neighborhoods.	Consistent. The purpose of the proposed Specific Plan is to implement infill development and redevelopment of underutilized parcels within the older economically distressed Willowbrook neighborhood.
4.3	Encourage transit-oriented development in urban and suburban areas with the appropriate residential density along transit corridors and within station areas.	Consistent. The purpose of the proposed Specific Plan is to implement transit-oriented infill development and redevelopment within walking distance of the Willowbrook/Rosa Parks Station.
4.4	Encourage mixed use development along major commercial corridors in urban and suburban areas.	Consistent. Implementation of the proposed Specific Plan would specifically direct mixed use development along the major corridors in the urban Willowbrook community.
5.1	Encourage a mix of residential land use designations and development regulations that accommodate various densities, building types and styles.	Consistent. Implementation of the proposed Specific Plan would accommodate a mix of residential land uses that range from single-family development to high density multi-family development throughout existing residential and future mixed-use neighborhoods in Willowbrook.
5.2	Encourage a diversity of commercial and retail services, and public facilities at various scales to meet regional and local needs.	Consistent. Implementation of the proposed Specific Plan would provide zoning for a mix of commercial, retail, and public facilities that would meet both regional needs (such as the medical, educational, and Metro uses) and local needs (such as retail and restaurants) for the residents, students, and employees within the Specific Plan area daily.

Policy Number	Policy Text	Statement of Consistency or Non-Consistency
5.3	Support a mix of land uses that promote bicycling and walking, and reduce VMTs.	Consistent. The proposed Specific Plan would implement a transit oriented land use design that includes pedestrian and bicycle facilities that would connect major land uses and transportation within the Specific Plan area. Major areas that would be connected include: MLK, CDU, the high schools, the Willowbrook/Rosa Parks Station, and the high density residential and mixed use neighborhoods.
5.4	Encourage community-serving uses, such as early care and education facilities, grocery stores, farmers markets, restaurants, and banks to locate near employment centers.	Consistent. The proposed Specific Plan provides zoning to encourage community serving uses including several education facilities, several medical facilities, and shopping centers to be maintained and expanded upon within the Willowbrook area that provides substantial employment through these same uses.
5.5	Encourage a mix of residential land use designations and development regulations that accommodate various densities, building types and styles.	Consistent. Implementation of the proposed Specific Plan would accommodate a mix of residential land uses that range from single-family development to high density multi-family development throughout existing residential and future mixed-use neighborhoods in Willowbrook.
5.10	Encourage employment opportunities and housing to be developed in proximity to one another.	Consistent. The purpose of the proposed Specific Plan is to implement infill development and redevelopment of the project area to generate a mixed use community, where employment, housing, retail, and educational uses are developed in proximity to one another and to the existing Willowbrook/Rosa Parks Station.
7.1	Reduce and mitigate the impacts of incompatible land uses, where feasible, using buffers and other design techniques.	Consistent. The Specific Plan includes Performance Standards to implement design techniques to ensure that sensitive land uses such as residential, schools, and hospitals are not adversely impacted by traffic, noise, light, and safety impacts from adjacent uses.
9.2	Encourage patterns of development that promote physical activity.	Consistent. The intent of the Specific Plan is to implement a transit oriented development that promotes walking and bicycling between various community uses. The project would implement additional sidewalk pedestrian routes and on-street bicycle routes. The walking and bicycling are physical activities that would be a result of project implementation.
10.3	Consider the built environment of the surrounding area and location in the design and scale of new or remodeled buildings, architectural styles, and reflect appropriate features such as massing, materials, color, detailing or ornament.	Consistent. The Specific Plan includes Land Use Regulations and Development and Design Standards for each of the land uses that would be implemented by the project. These regulations and standards include massing, height, materials, styles, setbacks, landscaping and other features that are considered specifically for each of the environments within the different subareas.
10.4	Promote environmentally-sensitive and sustainable design.	Consistent. The proposed Specific Plan includes Sustainable Design Guidelines related to site and building design, solar resources, and water efficiency.
10.5	Encourage the use of distinctive landscaping, signage and other features to define the unique character of districts, neighborhoods or communities, and engender community identity, pride and community interaction.	Consistent. The Specific Plan includes Land Use Regulations and Development and Design Standards for each of the different subareas to enhance the definition and unique character of each subarea within the Specific Plan area.
10.6	Encourage pedestrian activity through the following: • Designing the main entrance of buildings to front the street; • Incorporating landscaping features; • Limiting masonry walls and parking lots along commercial corridors and other public spaces; • Incorporating street furniture, signage, and public events and activities; and • Using wayfinding strategies to highlight community points of interest.	Consistent. The intent of the Specific Plan is to implement a transit oriented development that promotes walking and pedestrian activity. Consistent with this policy, the proposed project would incorporate pedestrian oriented circulation infrastructure (such as sidewalks and crossings), landscaping, wayfinding signage, street lighting, and street furniture along pedestrian and bicycle routes.

Policy Number	Policy Text	Statement of Consistency or Non-Consistency
10.7	Promote public spaces, such as plazas that enhance the pedestrian environment, and, where appropriate, continuity along commercial corridors with active transportation activities.	Consistent. The Specific Plan includes opportunities to enhance public space by provision of a pedestrian environment along commercial corridors (described in response to Policy 10.6 above) and connections to the Willowbrook/Rosa Parks Station. In addition, the Specific Plan includes an opportunity to develop a public gathering space within Kenneth Hahn Plaza that could include street furniture, landscaping, public art, a water feature, and concessions.
10.8	Promote public art and cultural amenities that support community values and enhance community context.	Consistent. The proposed Specific Plan includes provisions to include public art in architecture and public plaza areas; and thus, is consistent with this policy.
10.10	Promote architecturally distinctive buildings and focal points at prominent locations, such as major commercial intersections and near transit stations or open spaces.	Consistent. The Specific Plan includes Land Use Regulations and Development and Design Standards for each of the different subareas to identify the various distinctive buildings and focal points of each subarea within the Specific Plan area. Thus, the proposed Specific Plan is consistent with this policy.
11.1	Encourage new development to employ sustainable energy practices, such as utilizing passive solar techniques and/or active solar technologies.	Consistent. The proposed Specific Plan includes Sustainable Design Guidelines related to site and building design, solar resources, and water efficiency. Thus, the proposed Specific Plan is consistent with this policy.
11.2	Support the design of developments that provide substantial tree canopy cover, and utilize light-colored paving materials and energy-efficient roofing materials to reduce the urban heat island effect.	Consistent. See response to Policy 11.1, above.
11.3	Encourage development to optimize the solar orientation of buildings to maximize passive and active solar design techniques.	Consistent. See response to Policy 11.1, above.
11.4	Promote environmentally-sensitive and sustainable design.	Consistent. See response to Policy 11.1, above.
Mobility Element		
1.1	Provide for the accommodation of all users, including pedestrians, motorists, bicyclists, equestrians, users of public transit, seniors, children, and persons with disabilities when requiring or planning for new, or retrofitting existing, transportation corridors/networks whenever appropriate and feasible.	Consistent. The proposed Specific Plan would implement a transit oriented land use design that includes pedestrian and bicycle facilities that would connect major land uses and transportation within the Specific Plan area. Major areas that would be connected include: MLK, CDU, the high schools, the Willowbrook/Rosa Parks Station, and the high density residential and mixed use neighborhoods. The project would implement additional sidewalk pedestrian routes and on street bicycle routes. Development of all new facilities would be ADA accessible as required by federal and state law.
2.1	Provide transportation corridors/networks that accommodate pedestrians, equestrians and bicyclists, and reduce motor vehicle accidents through a context-sensitive process that addresses the unique characteristics of urban, suburban, and rural communities whenever appropriate and feasible.	Consistent. As described in response to Policy 1.1 above, the proposed Specific Plan would implement a transit oriented land use design that includes pedestrian and bicycle facilities that would connect major land uses, such as: MLK, CDU, the high schools, the Willowbrook/Rosa Parks Station, and the high density residential and mixed use neighborhoods. The project would implement additional sidewalk pedestrian routes and on street bicycle routes. The proposed pedestrian and bicycle facilities have been designed to specifically accommodate each of the unique urban uses within the Specific Plan area, as further detailed within Chapter 4, Mobility of the Proposed Specific Plan.

Policy Number	Policy Text	Statement of Consistency or Non-Consistency
2.2	Accommodate pedestrians and bicyclists, and reduce motor vehicle accidents by implementing the following street designs, whenever appropriate and feasible: • Lane width reductions to 10 or 11 feet in low speed environments with a low volume of heavy vehicles. • Wider lanes may still be required for lanes adjacent to the curb, and where buses and trucks are expected. • Low-speed designs. • Access management practices developed through a community-driven process. • Back in angle parking at locations that have available roadway width and bike lanes, where appropriate.	Consistent. The proposed Specific Plan (as detailed in the Specific Plan Chapter 4, Mobility) provides accommodations for pedestrian and bicycle facilities by developing sidewalks and bicycle routes, reducing number of lanes (on portions of 120th Street, Willowbrook Avenue, Mona Boulevard) and implementing low speed streetscape designs. The specific street designs identified in this policy such as lane width reductions and back in angled parking are not provided in the Specific Plan. However, the intent of this policy is to accommodate pedestrian and bicyclists and reduce motor vehicle accidents. The Specific Plan includes various accommodations to improve pedestrian and bicycle facilities and reduces the number of lanes on various street segments. This reduction of the number of lanes would reduce vehicular speeds.
2.3	Accommodate pedestrians and bicyclists, and reduce motor vehicle accidents by implementing the following intersection designs, whenever appropriate and feasible: • Right angle intersections that reduce intersection skew. • Smaller corner radii to reduce crossing distances and slow turning vehicles. • Traffic calming measures, such as bulb-outs, sharrows, medians, roundabouts, and narrowing or reducing the number of lanes (road diets) on streets. • Crossings at all legs of an intersection. • Shorter crossing distances for pedestrians. • Right-turn channelization islands. Sharper angles of slip lanes may also be utilized. • Signal progression at speeds that support the target speed of the corridor. • Pedestrian push buttons when pedestrian signals are not automatically recalled. • Walk interval on recall for short crossings. • Left-turn phasing. • Prohibit right turn on red. • Signs to remind drivers to yield to pedestrians.	Consistent. The proposed Specific Plan (as detailed in the Specific Plan Chapter 4, Mobility) provides accommodations for pedestrian and bicycle facilities by developing sidewalks and bicycle routes and implementing various low speed streetscape and crosswalk designs. These design improvements include bulb-outs, medians, landscaping, installing passive pedestrian detection, and pedestrian push buttons for crosswalks.

Policy Number	Policy Text	Statement of Consistency or Non-Consistency
2.4	Ensure a comfortable walking environment for pedestrians by implementing the following, whenever appropriate and feasible: • Designs that limit dead-end streets and dead-end sidewalks. • Adequate lighting on pedestrian paths, particularly around building entrances and exits, and transit stops. • Designs for curb ramps, which are pedestrian friendly and compliant with the American Disability Act (ADA). • Perpendicular curb ramps at locations where it is feasible. • Pedestrian walking speed based on the latest standard for signal timing. Slower speeds should be used when appropriate (i.e., near senior housing, rehabilitation centers, etc.) • Approved devices to extend the pedestrian clearance times at signalized intersections. • Accessible Pedestrian Signals (APS) at signalized intersections. • Pedestrian crossings at signalized intersections without double or triple left or right turn lanes. • Pedestrian signal heads, countdown pedestrian heads, pedestrian phasing and leading pedestrian intervals at signalized intersections. • Exclusive pedestrian phases (pedestrian scrambles) where turning volume conflicts with very high pedestrian volumes. • Advance stop lines at signalized intersections. • Pedestrian Hybrid Beacons. • Medians or crossing islands to divide long crossings. • High visibility crosswalks. • Pedestrian signage. • Advanced yield lines for uncontrolled crosswalks. • Rectangular Rapid Flashing Beacon or other similar approved technology at locations of high pedestrian traffic. • Safe and convenient crossing locations at transit stations and transit stops located at safe intersections.	Consistent. The Proposed Specific Plan, as detailed in the Specific Plan Chapter 4, Mobility, and as described above provides accommodations to ensure a comfortable pedestrian environment by developing sidewalks that connect various uses within the area and would be compliant with all County regulations, including lighting, ADA access, and Department of Traffic and Lighting design guidelines. The specific pedestrian design improvements that are proposed include (1) adding high visibility markings at intersections, (2) adding passive pedestrian detection and pedestrian push buttons for crosswalks at traffic signals at intersections, (3) adding pedestrian countdown pedestrian signals and audio signals to crosswalks at intersections, (4) adding advance stop lines to signalize intersections approaches, and (5) adding sidewalk bulb-outs and extensions, or reducing curb returns, on intersection corners, where feasible. The implementation of these proposed pedestrian design improvements would result in the project being consistent with this policy.
2.5	Ensure a comfortable bicycling environment by implementing the following, whenever appropriate and feasible: • Bicycle signal heads at intersections. • Bicycle signal detection at all signalized intersections. • Wayfinding signage. • Road diet techniques, such as lane narrowing, lane removal, and parking removal/restriction. • Appropriate lighting on all bikeways, including those in rural areas. • Designs, or other similar features, such as: shoulder bikeways, cycle tracks, contra flow bike lanes, shared use paths, buffered bike lanes, raised bike lanes, and bicycle boulevards.	Consistent. The Proposed Specific Plan (as detailed in the Specific Plan Chapter 4, Mobility) provides accommodations for bicycling by providing bicycle lanes on various roadways, reducing lane widths (on portions of 120th Street, Willowbrook Avenue, and Mona Boulevard), implementing low speed streetscape designs, and providing wayfinding signage.

Policy Number	Policy Text	Statement of Consistency or Non-Consistency
2.6	Encourage the implementation of future designs concepts that promote active transportation, whenever available and feasible.	Consistent. The intent of the Specific Plan is to implement a transit oriented development that promotes walking and bicycling between various community uses. The project would implement additional sidewalk pedestrian routes and on street bicycle routes. Thus, the project would promote active transportation.
2.7	Require sidewalks, trails and bikeways to accommodate the existing and projected volume of pedestrian, equestrian and bicycle activity, considering both the paved width and the unobstructed width available for walking.	Consistent. The proposed bikeways and pedestrian paths would be developed to accommodate the projected volume of use. A network of pedestrian and bicycle paths and improvements are proposed within the Specific Plan. The pedestrian improvements such as sidewalks, improvements at intersections, and adding pedestrian paths will accommodate future pedestrian activity. The bicycle improvements include the implementation of Class I bike paths that consist of paths separated from the roadway traffic and Class II bike paths that include adding bicycle lane striping. These proposed improvements would accommodate future increases in pedestrian and bicycle activity within the Specific Plan area.
2.8	Connect trails and pedestrian and bicycle paths to schools, public transportation, major employment centers, shopping centers, government buildings, residential neighborhoods, and other destinations.	Consistent. The proposed Specific Plan includes pedestrian and bicycle facilities that would connect major land uses and transportation within the Specific Plan area. Major areas that would be connected include: MLK, CDU, the high schools, the Willowbrook/Rosa Parks Station, and the high density residential and mixed use neighborhoods.
2.9	Encourage the planting of trees along streets and other forms of landscaping to enliven streetscapes by blending natural features with built features.	Consistent. The proposed Specific Plan would implement streetscape improvements that consist of street trees, street furniture, street lighting, signage, landscaping, and public art.
2.10	Encourage the provision of amenities, such as benches, shelters, secure bicycle storage, and street furniture, and comfortable, safe waiting areas near transit stops.	Consistent. The proposed Specific Plan would include street furniture, street lighting, signage, landscaping, and bicycle lock up facilities.
4.1	Expand transportation options that reduce automobile dependence.	Consistent. The proposed Specific Plan would expand transportation options that reduce automobile dependence by implementing a transit oriented land use design that includes pedestrian and bicycle facilities that would connect major land uses and transportation within the Specific Plan area.
4.4	Ensure expanded mobility and increase transit access for underserved transit users, such as seniors, students, low income households, and persons with disabilities.	Consistent. The proposed Specific Plan would expand mobility and increase transit access for underserved transit users by implementing a transit oriented land use design that would connect major land uses to the Willowbrook/Rosa Parks Station by pedestrian and bicycle facilities. Development of all new facilities would be ADA accessible as required by federal and state law.
4.7	Maintain a minimum LOS D, where feasible; however, allow LOS below D on a case by case basis in order to further other General Plan goals and policies, such as those related to environmental protection, infill development, and active transportation.	Consistent. The proposed Specific Plan would result in LOS below D due to the existing traffic conditions within the Specific Plan area and the anticipated growth that would occur through 2025. Although there are areas within the County and in the vicinity of the project site that will fall below LOS D with the implementation of the project, other General Plan goals such as the facilitation of improving circulation for bicycle and pedestrians will be achieved. Therefore, the proposed Specific Plan would further General Plan goals and policies related to infill development and active transportation
4.8	Provide and maintain appropriate signage for streets, roads and transit.	Consistent. The proposed Specific Plan would implement a wayfinding signage program that would help people orient themselves in the physical space and navigate from destination to destination by use of signage, markers, and/or monuments.

Policy Number	Policy Text	Statement of Consistency or Non-Consistency
4.10	Support the linkage of regional and community-level transportation systems, including multimodal networks.	Consistent. The proposed Specific Plan would link the regional and community-level transportation systems by maintaining roadways and parking facilities, and providing pedestrian and bicycle facilities that connect to the regional Metro system.
5.1	Facilitate transit-oriented land uses and pedestrian-oriented design, particularly in the first-last mile connections to transit, to encourage transit ridership.	Consistent. The intent of the Specific Plan is to implement a transit oriented development that promotes walking and bicycling between various community uses and the Willowbrook/Rosa Parks Station.
5.2	Implement parking strategies that facilitate transit use and reduce automobile dependence.	Consistent. The proposed Specific Plan includes reduced parking requirements and reduced maximum parking standards to be more closely tailored to transit-oriented development. The project also includes a Transportation Demand Management Program that will be implemented for new all non-residential uses exceeding 50,000 square feet. The implementation of these design strategies would facilitate transit use and reduce automobile dependence.
6.4	Minimize noise and other impacts of goods movement, truck traffic, deliveries, and staging in residential and mixed-use neighborhoods.	Consistent. The Specific Plan includes Performance Standards to implement design techniques to ensure that residential uses are not adversely impacted by traffic or noise impacts from adjacent non-residential uses.
7.1	Minimize roadway runoff through the use of permeable surface materials, and other low impact designs, wherever feasible.	Consistent. The proposed Specific Plan includes numerous potential opportunities to minimize roadway stormwater runoff. The Specific Plan includes the design of walkways and plazas to collect stormwater, drought tolerant landscape materials to reduce water runoff, and green roofs to absorbe rainwater to reduce stormwater runoff. The Specific Plan also includes the use of vegetative swales and decomposed granite to reduce stormwater runoff as well as regrading of sidewalks to allow stormwater to be conveyed into adjacent unpaved planters and parkways. Overall, the proposed Specific plan would be consistent with this policy.
Housing Element		
1.4	Assist housing developers to identify and consolidate suitable sites for developing housing for low and moderate income households and those with special needs.	Consistent. The Specific Plan identifies underutilized and vacant parcels within the plan area and provides the planning structure to consolidate and redevelop sites to provide infill development that would consist of various residential dwelling types for low and moderate income households. The location of the development would be within proximate distance to existing bus routes and the Willowbrook/Rosa Parks Station to assist people with special needs.
2.1	Support the development of housing for low and moderate income households and those with special needs near employment and transit.	Consistent. Implementation of the proposed Specific Plan would accommodate a mix of residential land uses that range from single-family development to high density multi-family development near the MLK and CDU related employment uses and the existing Willowbrook/Rosa Parks Station.
2.2	Encourage mixed use developments along major commercial and transportation corridors.	Consistent. Implementation of the proposed Specific Plan would specifically direct mixed use development along the major corridors in the urban Willowbrook community.
3.1	Promote mixed income neighborhoods and a diversity of housing types throughout the unincorporated areas to increase housing choices for all economic segments of the population.	Consistent. Implementation of the proposed Specific Plan would accommodate a mix of residential land uses that range from single-family development to high density multi-family development throughout existing residential and future mixed-use neighborhoods in Willowbrook.
Air Quality Element		
3.5	Encourage energy conservation in new development and municipal operations.	Consistent. The proposed Specific Plan includes Sustainable Design Guidelines related to site and building design, solar resources, and water efficiency.

Policy Number	Policy Text	Statement of Consistency or Non-Consistency
3.6	Support rooftop solar facilities on new and existing buildings.	Consistent. The proposed Specific Plan includes Sustainable Design Guidelines that support inclusion of solar facilities in new development.
Conservation and Natural Resources Element		
5.6	Minimize point and non-point source water pollution.	Consistent. As described in Section, 3.7, Hydrology and Water Quality, development projects that would be implemented by the proposed Specific Plan would be required to implement NPDES required SWPPPs during construction and RWQCB WQMP with BMPs during operations to minimize sources of water pollution.
6.1	Support the LID philosophy, which incorporates distributed, post-construction parcel-level stormwater infiltration as part of new development.	Consistent. As described in Section, 3.7, Hydrology and Water Quality, development projects that would be implemented by the proposed Specific Plan would be required to implement LID designs in compliance with RWQCB and County's Low Impact Development Standards (LID Standards)..
14.1	Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.	Consistent. As described in Section, 3.3, Cultural Resources, mitigation measures are recommended to reduce potential impacts to historic, cultural, and paleontological resources to less than significant.
14.3	Support the preservation and rehabilitation of historic buildings.	Consistent. As described in Section, 3.3, Cultural Resources, the Mitigation Measure CR-1 includes the treatment of altered significant historic structures in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. T
14.6	Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.	Consistent. Mitigation measures described in Section, 3.3, Cultural Resources, require proper notification and recovery processes in areas that could contain historic, cultural, and paleontological resources.
Parks and Recreation Element		
1.2	Provide additional active and passive recreation opportunities based on a community's setting, and recreational needs and preferences.	Consistent. The Specific Plan area is urban and developed with existing uses that do not provide substantial opportunity for additional recreation. However, the Specific Plan includes an opportunity to develop a public gathering space within Kenneth Hahn Plaza that could include street furniture, landscaping, public art, a water feature, and concessions. The implementation of a public gathering place could provide a passive recreational area, and therefore, the Specific Plan could be consistent with this policy.
Noise Element		
1.1	Utilize land uses to buffer noise-sensitive uses from sources of adverse noise impacts.	Consistent. The Specific Plan includes Performance Standards to implement design techniques to ensure that residential uses are not adversely impacted by noise.
1.2	Reduce exposure to noise impacts by promoting land use compatibility.	Consistent. See response above to Policy 1.1.
1.3	Minimize impacts to noise-sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies (BAT).	Consistent. See response above to Policy 1.1.

Policy Number	Policy Text	Statement of Consistency or Non-Consistency
1.5	Ensure compliance with the jurisdictions of State Noise Insulation Standards (Title 24, California Code of Regulations and Chapter 35 of the Uniform Building Code), such as noise insulation of new multifamily dwellings constructed within the 60 dB (CNEL or Ldn) noise exposure contours.	Consistent. Implementation of the proposed Specific Plan would be required to implement new development consistent with all regulations including the State Noise Insulation Standards.
1.6	Ensure cumulative impacts related to noise do not exceed health-based safety margins.	Consistent. As described in Section 3.9, Noise, the proposed Specific Plan project would result in less than significant cumulative impacts related to noise after the implementation of mitigation measures.
1.9	Require construction of suitable noise attenuation barriers on noise sensitive uses that would be exposed to exterior noise levels of 65 dBA CNEL and above, when unavoidable impacts are identified.	Consistent. As described above, the Specific Plan includes Performance Standards to implement design techniques to ensure that residential uses are not adversely impacted by noise from adjacent non-residential uses.
1.11	Maximize buffer distances and design and orient sensitive receptor structures (hospitals, residential, etc.) to prevent noise and vibration transfer from commercial/light industrial uses.	Consistent. The Specific Plan includes Performance Standards to implement design techniques to ensure that residential uses are not adversely impacted by traffic, noise, light, and safety impacts from adjacent non-residential uses.
1.12	Decisions on land adjacent to transportation facilities, such as the airports, freeways and other major highways, must consider both existing and future noise levels of these transportation facilities to assure the compatibility of proposed uses.	Consistent. As described above, the Specific Plan includes Performance Standards to implement design techniques to ensure that residential uses are not adversely impacted by noise from adjacent non-residential uses.
Safety Element		
1.1	Discourage development in Seismic Hazard and Alquist-Priolo Earthquake Fault Zones.	Consistent. The Specific Plan area is not located with or adjacent to an Alquist-Priolo Fault Zone. The closest active fault to the Specific Plan area is the Newport-Inglewood-Rose Canyon Fault, Strike 334, located approximately 3 miles southwest of the Specific Plan area (USGS, 2015). Due to the distance between the Specific Plan area and the active fault, implementation of the proposed Specific Plan would not result in developments in an Alquist-Priolo Fault Zone.
1.2	Prohibit the construction of most structures for human occupancy adjacent to active faults until a comprehensive fault study that addresses the potential for fault rupture has been completed.	Consistent. See response to Policy 1.1 above, the project would not result in construction of structures within a fault zone.
Public Services and Facilities Element		
1.1	Discourage development in areas without adequate public services and facilities.	Consistent. As described in Section 3.11, Public Services, the new land uses that would be implemented by the proposed Specific Plan would be served by adequate public services, including fire services, police services, school services, and library services. Similarly, with implementation of the water pipeline improvements, which are part of the proposed project, the utility infrastructure within the Specific Plan area is able to accommodate build-out of the proposed Specific Plan. Therefore, the project would not result in developments without adequate public services or facilities.
1.2	Ensure that adequate services and facilities are provided in conjunction with development through phasing or other mechanisms.	Consistent. See response to Policy 1.1.
2.1	Support water conservation measures.	Consistent. The proposed Specific Plan includes Sustainable Design Guidelines related to site and building design for water efficiency. In addition, projects implemented under the proposed Specific Plan would be required to meet all CALGREEN and Title 24 water conservation requirements.

Policy Number	Policy Text	Statement of Consistency or Non-Consistency
8.2	Support library mitigation fees that adequately address the impacts of new development.	Consistent. The development that would occur per the proposed Specific Plan would be required to pay all development impact fees, including library mitigation fees, as described in Section 3.11, Public Services.
Economic Development Element		
1.1	Encourage a diverse mix of industries and services in each Planning Area.	Consistent. The purpose of the proposed Specific Plan is to implement infill development and redevelopment of the project area to generate a mixed use community, providing diverse industries that include medical, educational, office, retail, housing, and related support industries.
2.4	Ensure high standards of development and encourage environmentally sustainable practices in economic development activities.	Consistent. The Specific Plan includes Land Use Regulations and Development and Design Standards for each of the land uses that would be implemented by the project. These regulations and standards include massing, height, materials, styles, setbacks, landscaping and other features that are considered specifically for each of the environments within the different subareas, which would ensure high standards of development. In addition, the Specific Plan includes Sustainable Design Guidelines to ensure environmentally sustainable practices.
2.5	Encourage employment opportunities to be located in proximity to housing.	Consistent. The purpose of the proposed Specific Plan is to implement infill development and redevelopment of the project area to generate a mixed use community, where employment, medical, housing, retail, and educational uses are developed in proximity to one another and to the existing Willowbrook/Rosa Parks Station.
2.6	Encourage community-serving uses, such as child care centers and personal services, to be located in proximity to employment centers.	Consistent. The proposed Specific Plan provides zoning to encourage community serving uses in proximity to employment centers and regional transit.
2.7	Incentivize economic development and growth along existing transportation corridors and in urbanized areas.	Consistent. The purpose of the proposed Specific Plan is to implement infill development and redevelopment along corridors within the economically distressed Willowbrook neighborhood to incentivize economic development.
4.4	Incentivize infill development in urban and suburban areas that revitalizes underutilized commercial and industrial areas.	Consistent. The purpose of the proposed Specific Plan is to implement infill development and redevelopment of underutilized and vacant parcels within walking distance of the Willowbrook/Rosa Parks Station.

County of Los Angeles Community Climate Action Plan 2020

The proposed Specific Plan would increase development within the Specific Plan area. The increase in development would result in increased impacts on climate change. The Community Climate Action Plan 2020 (CCAP) was adopted in 2015 and includes actions to reduce greenhouse gas emissions. Following is a discussion of the proposed Specific Plan's consistency with the applicable actions identified in the CCAP.

TABLE 3.8-5
CONSISTENCY OF PROPOSED SPECIFIC PLAN WITH COMMUNITY CLIMATE ACTION PLAN 2020

Policy Number	Actions Text	Statement of Consistency or Non-Consistency
Land Use Element		
BE-1	**Green Building Development:** Promote and incentivize at least Tier 1 voluntary standards within CALGreen for all new residential and nonresidential buildings. Develop a heat island reduction plan and facilitate green building development by removing regulatory and procedural barriers.	**Consistent.** The proposed Specific Plan includes Sustainable Design Guidelines related to site and building design, solar resources, and water efficiency and would comply with the applicable provisions of the County's Green Building Standards Code. Therefore, the proposed Specific Plan is consistent with this action.
BE-3	**Solar Installations:** Promote and incentivize solar installations for new and existing homes, commercial buildings, carports and parking areas, water heaters, and warehouses.	**Consistent.** The proposed Specific Plan includes Sustainable Design Guidelines related to solar facilities in new development. Therefore, the proposed Specific Plan is consistent with this action.
LUT-1	**Bicycle Programs and Supporting Facilities:** Construct and improve bicycle infrastructure to increase biking and bicyclist access to transit and transit stations/hubs. Increase bicycle parking and "end-of-trip" facilities offered through the unincorporated County.	**Consistent.** The proposed Specific Plan includes bicycle facilities that would connect major land uses and transportation within the Specific Plan area. Major areas include MLK, CDU, the high schools, the Willowbrook/Rosa Parks Station, and the high density residential and mixed use neighborhoods. Because the Specific Plan would provide bicycle facilities that connect the transit station to the major land uses within the Specific Plan area, the Specific Plan is consistent with this action.
LUT-2	**Pedestrian Network:** Construct and improve pedestrian infrastructure to increase walking and pedestrian access to transit and transit stations/hubs.	**Consistent.** The proposed Specific Plan includes the development of sidewalks to increase pedestrian access to the major land uses within the Specific Plan. As stated above for Action LUT-1, the major areas include MLK, CDU, the high schools, the Willowbrook/Rosa Parks Station, and the high density residential and mixed use neighborhoods. In addition, the proposed Specific Plan includes the retention of rights-of-way for pedestrian facilities and not for additional roadway improvements for automobiles. Because sidewalk improvements would be provided, the Specific Plan is consistent with this action.
LUT-3	**Transit Expansion:** Collaborate with the Los Angeles County Metropolitan Transportation Authority (Metro) on a transit program that prioritizes transit by creating bus priority lanes, improving transit facilities, reducing transit-passenger time, and providing bicycle parking near transit stations. Construct and improve bicycle, pedestrian and transit infrastructure to increase bicyclist and pedestrian access to transit and transit stations/hubs.	**Consistent.** As referenced in Action LUT-1, the proposed Specific Plan includes the provision of bicycle facilities that connect the transit station to the major land uses within the Specific Plan area. Therefore, the Specific Plan is consistent with this action.
LUT-4	**Travel Demand Management:** Encourage ride- and bike-sharing programs and employer sponsored vanpools and shuttles. Encourage market-based bike sharing programs that support bicycle use around and between transit stations/hubs. Implement marketing strategies to publicize these programs and reduce commute trips.	**Consistent.** The proposed Specific Plan includes a Transportation Demand Management Program that will be implemented for new all non-residential uses exceeding 50,000 square feet. Bicycle parking and stations as well as a bike sharing program are part of the Specific Plan. The implementation of these design strategies would facilitate transit use and reduce automobile dependence. Therefore, the Specific Plan is consistent with this action.

Policy Number	Actions Text	Statement of Consistency or Non-Consistency
LUT-6	**Land Use Design and Density:** Promotes sustainability in land use design including diversity of urban and suburban developments.	**Consistent.** Implementation of the proposed Specific Plan would accommodate a mix of residential, commercial, retail and public facilities that would provide a range of single-family to high density multi-family residential development and provide a mix of commercial, retail, and public facilities that would meet both regional needs (such as the medical, educational, and Metro uses) and local needs (such as retail and restaurants) for the residents, students, and employees within the Specific Plan area daily. The land use design within the proposed Specific Plan would promote sustainability and diversity and therefore, the Specific Plan is consistent with this action.
LUT-7	**Transportation Signal Synchronization Program:** Improve the network of traffic signals on the major streets throughout LA County.	**Consistent.** A traffic evaluation was conducted for the proposed Specific Plan. Signal timing/phasing changes were considered to be feasible at intersections within the County as well as adjacent jurisdictions as long as they would improve and not worsen intersection operations or potentially cause other problems and/or impacts elsewhere. As discussed in Section 3.12 of the Final EIR, improvements within the existing rights-of-way were considered; however, if an additional roadway widening was needed, the widening was determined to be not feasible. The retention or implementation of non-vehicular improvements within rights-of-way were considered consistent with the Los Angeles County General Plan land use policies.
LUT-9	**Idling Reduction Goal:** Encourage idling limits of 3 minutes for heavy-duty construction equipment, as feasible within manufacturer's specifications	**Consistent.** Heavy-duty construction equipment associated with individual projects within the Specific Plan area will be required to limit idling to 3 minutes or less, as feasible within manufacturer's specifications.
LUT-12	**Electrify Construction and Landscaping Equipment:** Utilize electric equipment whenever feasible for construction projects. Reduce the use of gas-powered landscaping equipment.	**Consistent.** As discussed in Section 3.2, Air Quality, the provision of electrical outlets on the outside of buildings shall be provided to allow landscaping equipment to be electrically operated. This will provide an opportunity to reduce the use of gas-powered landscaping equipment, and the proposed Specific Plan will be consistent with this action.
WAW-1	**Per Capita Water Use Reduction Goal:** Meet the State established per capita water use reduction goal as identified by Senate Bill (SB) X7-7 for 2020. (The State goal is a 20 percent reduction in per capita water use compared to baseline levels.).	**Consistent.** The proposed Specific Plan includes the use of drought tolerant plant materials to reduce water use. In addition, for non-residential buildings of 25,000 square feet or more, indoor potable water use will be reduced by 12 percent to comply with the County of Los Angeles Code Title 31, Section 301.3.3. The implementation of these requirements will reduce the per capita water use within the Specific Plan area. Therefore, the Specific Plan is consistent with this action.
SW-1	**Waste Diversion Goal:** Adopt a waste diversion goal to comply with all state mandates to divert at least 75 percent of waste (construction and operation) from landfill disposal by 2020.	**Consistent.** The individual projects within the Specific Plan will be required to comply with the County Code Title 31, Section 4.408.1 that requires the recycling and/or salvage for reuse of a minimum of 65 percent of the non-hazardous construction and demolition debris. Compliance with the County Code would result in the Specific Plan's consistency with this action.
LC-1	**Develop Urban Forest:** Supports and expands urban forest programs.	**Consistent.** The Project would include landscaping and tree plantings consistent with the County's Green Building Ordinance. Landscaping will utilize drought-tolerant, native, and fire-resistant trees to support water conservation efforts where feasible. In accordance with the County's Tree Planting ordinance (Section 22.52.2130(C)(5)), the Project would plant a minimum of two 15-gallon trees for each lot containing a single-family residence (at least one of which shall be from the drought-tolerant plant list).

Policy Number	Actions Text	Statement of Consistency or Non-Consistency
LC-2	**Create New Vegetated Open Space:** Restore and revegetate previously disturbed land and/or unused urban and suburban areas.	**Consistent.** Individual projects implemented in accordance with the proposed Specific Plan would be required to incorporate landscaping in accordance with County Code Sections 22.52.2120, 22.52.2130, and 21.32.195. These provisions require the installation of the trees with the implementation of projects. Compliance with the County Code would result in consistency with this action.

As described above, the proposed Specific Plan would be consistent with the applicable action identified in the CCAP.

Cumulative

The cumulative study area for land use and planning includes all areas within the Willowbrook community and the areas (such as the City of Los Angeles, City of Lynwood, and City of Compton areas) that are adjacent to the Specific Plan area. Future growth in the project vicinity is anticipated to be similar in character and intensity as existing development and proposed land uses under the Specific Plan. It is reasonable to assume that as future developments in the project vicinity are processed through the County as well as the adjacent cities, these projects would be consistent with the policies within the applicable general plan or if policy revisions or general plan amendments are proposed, these potential changes and revisions would be reviewed to ensure potential environmental impacts would be less than significant. Therefore, cumulative developments would result in less than significant environmental impacts associated with consistency to the County's and surrounding cities' general plans and policies.

As stated previously, the proposed Specific Plan would be consistent with the vision and policies of the County General Plan policies as well as with relevant SCAG 2016-2040 RTP/SCS policies. As a result, the project's contribution to the potential cumulative impacts associated with consistency to existing general plans and policies would be less than cumulatively considerable, and therefore, less than cumulatively significant.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Conflict with County Zoning Ordinance

Impact 3.8-3: The proposed project would be consistent with the County zoning ordinance as applicable to the subject property.

Project-Specific

The proposed Specific Plan would establish development regulations that would be largely consistent with current zoning ordinance requirements. Although not specifically permitted under the current zoning, the proposed Specific Plan would include the reclassification of parcels to implement mixed-uses and enhanced pedestrian and bicycle amenities to better connect the residential, employment, medical, and educational land uses within the Specific Plan area to the regional Metro transit services.

The existing zoning regulations do not fully meet the purpose and intent of the General Plan or other regional planning principles, and the proposed zoning that would be implemented by the Specific Plan would be more consistent with the TOD vision for the area that was established by the County General Plan. Because the purpose of zoning regulations is to implement the County's plans and planning concepts, the proposed zoning regulations would result in less than significant environmental impacts related to consistency with plans and policies.

Cumulative

The cumulative study area for determining potential environmental effects associated with the consistency to the County's zoning ordinance includes all areas within the Willowbrook community. Future growth in the Willowbrook community is anticipated to be similar in character and intensity as existing development and proposed land uses under the Specific Plan. It is reasonable to assume that as future developments in the project vicinity and within the unincorporated County area are processed through the County, these projects would be consistent with the regulations within the applicable zoning ordinance or if new regulations are proposed for a specific project (i.e., through a specific plan) that these proposed regulations are reviewed to ensure consistency with the vision and policies of the County General Plan. Therefore, cumulative developments would result in less than significant environmental impacts associated with consistency to the County zoning ordinance.

As stated previously, the proposed Specific Plan would be consistent with the vision and policies of the County General Plan policies as well as with relevant SCAG 2016-2040 RTP/SCS policies. As a result, the project's contribution to the potential cumulative impacts associated with consistency to the County zoning ordinance would be less than cumulatively considerable, and therefore, less than cumulatively significant.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Visual Character

Impact 3.8-4: The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character or other features.

Project-Specific

The proposed Specific Plan would result in redevelopment and infill development of transit oriented land uses within walking distance of the Willowbrook/Rosa Parks Station. This would alter the existing visual character throughout the Specific Plan area by establishing a more concentrated mixed use development pattern that is consistent with the existing urban character of the area. The new mixed uses would generally involve residential units being located on upper floors and commercial uses located on ground-floors.

The Specific Plan would implement pedestrian-oriented streetscape improvements that include street trees, street lights, street furniture (planters, benches, bicycle parking, trash receptacles, etc.), wayfinding signage, landscaped open space plaza areas, and introduction of more public art, such as at the intersection of Wilmington Avenue and 120th/119th Streets. In addition, large surface parking lots would be discouraged by the proposed Specific Plan and would ultimately be eliminated by moving parking lots to the mid-block areas behind building frontages.

The Specific Plan has identified the new land uses within each of the subareas. As described below, the new uses would be consistent with the existing character of each of the subareas. Additionally, the Specific Plan includes specific design standards for each subarea that provides architectural guidelines, including: setbacks, sidewalk widths, signage standards, landscaping standards, and lighting standards to create an attractive environment.

- **Martin Luther King Jr. Medical Center Campus Subarea.** As described above, this subarea is developed with medical and medical support uses. The proposed Specific Plan

would implement additional infill uses pursuant to the County's 2012 MLK Medical Center Campus Master Plan & the Willowbrook MLK Wellness Community Vision documents, which include: medical, clinic, medical office, retail, supportive residential, and parking uses. Although build-out of the MLK subarea was initially identified in the Campus Master Plan and Community Vision documents, the proposed Specific Plan would serve as the regulatory document for build-out of the MLK campus. The implementation of the proposed uses within the MLK subarea would be consistent with the character of the existing MLK uses because the proposed uses would be similar to the existing uses.

As described, the Specific Plan would implement new uses in the MLK subarea that would be similar to existing uses, but would be more intensified. Similarly, the landscaping within the subarea would be improved with each development within the subarea, and would continue to consist of ornamental non-native trees, shrubs, and grass areas. Thus, implementation of the proposed Specific Plan within the MLK subarea would not result in degradation of the existing visual character or quality of the area, and impacts would be less than significant.

- **CDU Subarea.** As described above, the CDU subarea is mostly developed with institutional uses that are medical and educationally related. Development of the CDU area under the Specific Plan includes 119 new residential units within the campus. The housing would consist of dormitories for undergraduate students, shared housing for graduate student, and housing for visiting faculty. Additionally, build-out of the CDU area would also include university related facilities such as, conference areas, research labs, classrooms, and parking structures. While the new uses within the CDU subarea would be four to six stories in height, which is slightly higher than the two to four story structures currently in the area, the Specific Plan requires new campus buildings to be set back from the adjoining streets, which is responsive to the scale of nearby residential uses. Landscaping in the area would be similar to the existing ornamental vegetation along sidewalks and in open spaces between buildings. Implementation of the proposed Specific Plan within the CDU subarea would implement additional uses that are similar to the same educational uses and would not result in degradation of the existing visual character or quality of the area, and impacts would be less than significant.
- **Northwest Subarea.** The Northwest Subarea encompasses a variety of urban uses, including educational, retail, residential and institutional. This subarea is adjacent to CDU and in proximity to the Willowbrook/Rosa Parks Station, which provides a good location for university housing and employment generating medical/educational uses. The Specific Plan encourages uses such as medical back office, laboratory facilities, hospital equipment facility, medical or university support businesses, etc. In addition, the Specific Plan provides for multi-family developments to provide housing options for employees, students and transit-dependent users. As described above, the Specific Plan includes design standards that provide architectural guidelines, including: setbacks, sidewalk widths, signage standards, landscaping standards, and lighting standards to create an attractive environment. Implementation of the new infill and redevelopment uses within the Northwest Subarea would be required to be consistent with these standards. Thus, implementation of the Specific Plan project in the Northwest Subarea would not result in degradation of the existing visual character or quality of the area, and impacts would be less than significant.

- **Kenneth Hahn Plaza Subarea.** The subarea consists of a 189,287-square-foot shopping center that is surrounded by parking areas. Approximately, 1.5 acres of land on the northern end of the subarea is in the process of being acquired by Metro and will be used for the expansion of the Willowbrook/Rosa Parks Station. The other portion of the site is planned by the Specific Plan to be transformed to a mixed use (residential and retail) transit oriented development. Development on the site could be integrated vertically (up to four stories high with residential or office uses above retail uses), or horizontally on site.

  The Specific Plan design for the Plaza would include removal of the perimeter fence to allow pedestrian access to the Willowbrook/Rosa Parks Station, the hospital, CDU, mixed use areas, as well as the nearby residential neighborhoods.

  Additionally, the Specific Plan provides for a large outdoor plaza or gathering space to be located in the Plaza that would include amenities, such as: street furniture, landscaped open space, public art, a water feature, and concessions.

  In addition, 119th Street is the primary connection to residential and transit uses, and the Specific Plan would improve crosswalks, sidewalks, and landscaping in the area. The planned land uses for 119th Street intends to build upon the connection to residential and transit by providing for retail or service uses (such as child care, senior care, attorney offices etc.) or residential town-home/walk-ups facing the single family residential uses on the south side of 119th Street. The design standards for this subarea require the massing and scale of these buildings to be similar to adjacent uses to respond to the existing densities in the area.

  Furthermore, the Specific Plan includes design standards for the Kenneth Hahn Plaza Subarea that provides architectural guidelines, including: setbacks, sidewalk widths, signage standards, landscaping standards, and lighting standards to create an attractive environment. Thus, implementation of the Specific Plan project in the Kenneth Hahn Plaza Subarea would not result in degradation of the existing visual character or quality of the area, and impacts would be less than significant.

- **Willowbrook/Rosa Parks Station Subarea.** Metro is working on the Willowbrook/Rosa Parks Station Improvement Project that will upgrade the existing station structure and access to the Willowbrook/Rosa Parks Station. The proposed Specific Plan would build upon the Station project and provide improvements to facilities that are adjacent and related to the Willowbrook/Rosa Parks Station.

  These include improvements to the at-grade crossing at the north end of the Blue Line platform to increase pedestrian connectivity to the residential neighborhoods to the east of the rail tracks. Another at-grade crossing would occur at the south end of the Blue Line platform to improve connectivity for residents to the east. The Specific Plan would also provide improved bicycle access to Metro Station by development of a bicycle path along Willowbrook Avenue West between Imperial Highway and 119th Street.

  The Specific Plan improvements in the Willowbrook/Rosa Parks Station Subarea are generally infrastructure and circulation connectivity related and improvements to enhance non-vehicular mobility in the subarea. Thus, the character of the subarea would remain urban transit related. However, the proposed Specific Plan provides the opportunity for public art to

be installed in the area and would provide streetscape improvements, which would soften the urban character of the transit facilities.

Overall, the Specific Plan would implement enhancements to the transit and circulation facilities in this subarea, which would have the same character as existing uses; however, character quality of the area would be improved through implementation of streetscaping and public art. Thus, implementation of the proposed Specific Plan within the Willowbrook/Rosa Parks Station Subarea would not result in degradation of the existing visual character or quality of the area, and impacts would be less than significant.

- **Imperial Highway Corridor Subarea.** As previously described, this is a highly urban area that is located in a narrow area between the Imperial Highway and the I-105 Freeway. Therefore, the Specific Plan prohibits any new residential uses to be developed within this area. New uses that would be implemented by the proposed Specific Plan include maintenance yards, parking facilities, industrial, or storage facilities.

  The Specific Plan includes design standards for the Imperial Highway Corridor Subarea that provides architectural guidelines, including: setbacks, sidewalk widths, signage standards, landscaping standards, and lighting standards to create an attractive environment. Implementation of the new infill and redevelopment uses within the subarea would be required to be consistent with these standards. Thus, implementation of the Specific Plan project would not result in degradation of the existing visual character or quality of the area, and impacts would be less than significant.

- **Residential Neighborhoods Subarea.** Implementation of the Specific Plan would preserve the existing residential uses and increase options for adding living quarters as living suites or relaxing the requirements for construction of second units, which would result in an increase of residential density in the subarea. The Specific Plan would also implement streetscape improvements, including installation of street trees and pedestrian-scaled street lighting.

  The Specific Plan includes design standards for the subarea that are specific for residential uses and provide guidelines that include: setbacks, sidewalk widths, signage standards, landscaping standards, and lighting standards. Implementation of the new infill and redevelopment uses within the subarea would be required to be consistent with these residential standards. Thus, implementation of the Specific Plan project would not result in degradation of the existing visual character or quality of the residential area, and impacts would be less than significant.

Build-out of the Specific Plan would alter the existing visual character of the Specific Plan area by increasing density and implementing streetscape and circulation changes. The visual character of the area and its vicinity would remain urban and would not be degraded. The design guidelines in the Specific Plan were intentionally included to enhance the aesthetics and land use compatibility in each specific subarea, and include requirements for façades, building heights and massing, character and urban pattern. The development standards, design guidelines, and streetscape improvements that would be implemented by the proposed Specific Plan would provide a unifying and identifying character to the Willowbrook area.

Overall, the Specific Plan would enhance, not degrade, the visual character and quality of the area. Therefore, less than significant impacts relating to the existing visual character or quality of the area would occur.

Cumulative

The cumulative study area for land use and planning includes all areas within the Willowbrook community and the areas (such as the City of Los Angeles, City of Lynwood, and City of Compton areas) that are adjacent to the Specific Plan area. Like the Specific Plan area, the cumulative land use study area is a developed, urban area that contains a mix of uses, including medical, educational, commercial, residential, and public facilities.

Similar to the proposed Specific Plan, future growth within the project vicinity is reasonably anticipated to represent orderly, contiguous, and largely infill development that would reinforce the existing urban and developed character of the area. Because development resulting from future growth is expected to be consistent with uses in the surrounding area, future developments are anticipated to result in less than significant environmental effects related to the visual character or quality of the area.

The Specific Plan proposes to rezone and amend General Plan land uses of specific parcels within the project area to implement a transit-oriented development pattern to the area. The modifications to land uses by implementation of the proposed Specific Plan are consistent with the existing residential, commercial, medical, educational, and public land uses within each of the subareas, as described above. In addition, the infill and redevelopment projects that would be implemented by the Specific Plan are expected to be consistent with future development in the cumulative study area. Because the proposed Specific Plan would result in less than significant visual charter and quality impacts, the project's contribution to the cumulative impact related to the visual character or quality of the area would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

3.8.6 References

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Southern California Association of Governments. 2008. *Draft Regional Comprehensive Plan and Guide*.

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3.9 Noise and Vibration

Introduction

This section evaluates the potential for noise and groundborne vibration impacts to result from implementation of the proposed Specific Plan. This includes the potential for developments occurring in the Specific Plan area to result in exposure of people in the vicinity of the project site to excessive noise and groundborne vibration levels. The evaluation includes a determination of whether this exposure is in excess of standards established in the local general plan or noise ordinance. In addition, the evaluation includes a determination of whether project construction and operation would result in a substantial temporary or permanent increase, respectively, in ambient noise levels within and in the vicinity of the project site. Mitigation measures intended to reduce noise and vibration impacts are proposed, where appropriate, to avoid or reduce the potential for significant noise and vibration impacts of the proposed Specific Plan.

The Specific Plan area is located within the northwestern portion of the Willowbrook community, which is an unincorporated community of the County of Los Angeles. Criteria used to evaluate the noise impacts of the proposed uses were obtained from the Noise Element of the County's General Plan, the Los Angeles County Code (LACC) Noise Control Ordinance, and by modeling existing and future traffic noise levels on major roadways in the Specific Plan area. Criteria used to evaluate the noise impacts on uses in the vicinity of the Specific Plan area were obtained from the adjacent jurisdictions. Traffic information contained in the *Willowbrook TOD Specific Plan EIR Traffic Study (The Mobility Group, 2017)* (**Appendix D**) was used to prepare the noise modeling of traffic noise exposure.

Noise Principles and Descriptors

Noise is generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to extremely low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Table 3.9-1**.

TABLE 3.9-1
REPRESENTATIVE NOISE SOURCES AND CORRESPONDING NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-Over at 1,000 Feet		
	--100--	
Gas Lawn Mower at 3 Feet		
	--90--	
Diesel Truck at 50 Feet at 50 MPH		Food Blender at 3 Feet
	--80--	Garbage Disposal at 3 Feet
Noisy Urban Area, Daytime		
Gas Lawn Mower at 100 Feet	--70--	Vacuum Cleaner at 10 Feet
Commercial Area		Normal Speech at 3 Feet
Heavy Traffic at 300 Feet	--60--	
		Large Business Office
Quiet Urban Daytime	--50--	Dishwasher Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime		
	--30--	Library
Quiet Rural Nighttime		Bedroom at Night
	--20--	
		Broadcasting/Recording Studio
	--10--	
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: Caltrans, 1998

Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time. A noise level is a measure of noise at a given instant in time. The noise levels presented in Table 3.9-1 are representative of measured noise at a given instant in time; however, they rarely persist consistently over a long period of time. Rather, community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic. What makes community noise variable throughout a day, besides the slowly changing

background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment change the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

L_{eq}: The L_{eq}, or equivalent sound level, is used to describe noise over a specified period of time in terms of a single numerical value. The L_{eq} may also be referred to as the average sound level.

L_{max}: L_{max} is the maximum, instantaneous noise level experienced during a given period of time.

L_{min}: L_{min} is the minimum, instantaneous noise level experienced during a given period of time.

L_x: L_x is the noise level exceeded a percentage of a specified time period. The "x" represents the percentage of time a noise level is exceeded. For instance, L_{50} and L_{90} represents the noise levels that are exceeded 50 percent and 90 percent of the time, respectively.

L_{dn}: L_{dn} is the average A-weighted noise level during a 24-hour day, obtained after an addition of 10 dBA to measured noise levels between the hours of 10:00 pm to 7:00 am to account nighttime noise sensitivity. L_{dn} is also termed the day-night average noise level or DNL.

CNEL: CNEL, or Community Noise Equivalent Level, is the average A-weighted noise level during a 24-hour day that is obtained after an addition of 5 dBA to measured noise levels between the hours of 7:00 pm to 10:00 pm and after an addition of 10 dBA to noise levels between the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

Effects of Noise on People

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. The effects of noise on people can be placed into four general categories:

- Subjective effects (e.g., dissatisfaction, annoyance)
- Interference effects (e.g., communication, sleep, and learning interference)
- Physiological effects (e.g., startle response)
- Physical effects (e.g., hearing loss)

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, telephone conversations, and interference with sleep. Sleep interference effects can include both awakening

and arousal to a lesser state of sleep. With regard to the subjective effects, the responses of individuals to similar noise events are diverse and are influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity.

Overall, there is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction on people. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to changes in A-weighted noise level, the following relationships generally occur:

- A change in noise levels of 1 dBA cannot be perceived.
- A change in noise levels of 3 dBA change in noise levels is considered to be a barely perceivable difference.
- A change in noise levels of 5 dBA is considered to be a readily perceivable difference.
- A change in noise levels of 10 dBA is subjectively perceived as doubling of loudness.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dBA for hard sites and 7.5 dBA for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver, such as asphalt or concrete surfaces or smooth bodies of water. No excess ground attenuation is assumed for hard sites, similar to the Willowbrook Specific Plan area, and the changes in noise levels with distance is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites. Line sources (such as traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement (Caltrans, 1998).

Fundamentals of Vibration

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* (FTA, 2006), groundborne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving, and operation of heavy earth-moving equipment. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration.

There are two different methods and units of measure that are used to quantify vibration levels for potential structural damage to buildings and human perception/annoyance, respectively. The peak particle velocity (PPV), measured in inches per second (in/sec), is most frequently used to describe potential vibration impacts to buildings, and is defined as the maximum instantaneous peak of the vibration signal. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body (i.e., perception and annoyance), which is defined as the average of the squared amplitude of the signal, and commonly measured in VdB. The difference in PPV and RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. The PPV is typically a factor of 1.7 to 6 times greater than RMS velocity (FTA, 2006). The decibel notation of VdB acts to compress the range of numbers required to describe vibration.

Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration sensitive equipment, typically, within buildings. The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause structural damage to buildings, depending upon its structural integrity. The potential for structural damage to buildings is not a factor for most projects, except when rock blasting or pile-driving during construction in proximity to buildings (i.e., typically, within approximately 100 feet). Human annoyance from vibration often occurs when the vibration levels exceed the threshold of human perception by only a small margin. However, a vibration level that is at the threshold of human annoyance will be well below the threshold of structural damage for buildings of conventional construction. The FTA measure of the threshold of architectural damage for conventional structures is 0.2 in/sec PPV (FTA, 2006).

In residential areas, the typical background vibration level is approximately 50 VdB (or in PPV, approximately 0.0013 in/sec), which is well below the threshold of perception for humans of approximately 65 VdB. A vibration level of 75 VdB is considered to be the approximate differentiation between barely perceptible and distinctly perceptible levels for many people (FTA, 2006).

3.9.1 Environmental Setting

Existing Noise Sources

Sources of noise in the Willowbrook community are typical of those found in other urban developed areas include, but not limited to, traffic, construction work, commercial operations, human activities, emergency vehicles, rail noise, aircraft overflights, etc. The noise environment in the Specific Plan area is dominated by transportation-related sources, including traffic on the local roadway network and freeway and the activity of Metro passenger trains. The key roadway facilities serving the Specific Plan area that have been identified in the project traffic report include San Pedro Street, Avalon Boulevard, Central Avenue, Compton Avenue, Wilmington Avenue, Alameda Street, State Street/Santa Fe, 103rd Street, 108th Street, Imperial Highway, I-105, 120th Street, 119th Street, El Segundo Boulevard, Rosecrans Avenue, Compton Boulevard, and Alondra Boulevard (The Mobility Group 2017).

The Specific Plan area also includes the daily operation of Metro trains though the Willowbrook/Rosa Parks Station, which is located at the intersection of the I-105 and South Wilmington Avenue. The station is a multimodal transit facility that serves both the Metro Blue and Green light rail lines, along with six Metro bus routes, and local buses and shuttles that connect with the wider Metro rail and bus network throughout the region. Currently, the station has the fourth highest volume of ridership in the Metro rail system with approximately 30,000 daily transit riders (Metro, 2015).

The nearest residence to the station from the existing Blue Line platform is approximately 110 feet. The station is currently undergoing improvements, after which completed, the nearest residence would be approximately 68 feet from the platform. The nearest residence to the Blue line or the Union Pacific (UP) rail line which runs parallel to the Blue Line is 70 feet and experiences a noise level of 65.6 dBA Ldn. The noise level at 75 feet from the Blue Line or UP line is approximately 65 dBA Ldn.

Existing Roadway Noise Levels

Existing roadway noise levels were calculated for 67 roadway segments, including one freeway segment, located within and in proximity to the Specific Plan area. The roadway segments selected for analysis are considered to be those that are expected to be most directly impacted by project-related traffic; which, for the purpose of this analysis, includes the roadways that are located within and immediately adjacent to the Specific Plan area. These roadways, when compared to roadways located further away from the Specific Plan area, would experience the greatest percentage increase in traffic generated by buildout under the Specific Plan.

Calculation of the existing roadway noise levels was accomplished using the Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes at the study intersections analyzed in the project's traffic study. The model calculates the average noise level at specific locations based on traffic volumes, average speeds, and site environmental conditions. The average daily noise levels along these roadway segments are presented in **Table 3.9-2**.

TABLE 3.9-2
EXISTING ROADWAY NOISE LEVELS

Roadway Segment	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a]
Segments Within Specific Plan Area		
County of Los Angeles		
Imperial Highway		
Compton Ave to Wilmington Ave	Residential/Commercial	70.6
Wilmington Ave to Mona Blvd	Commercial	70.9
I-105		
Compton Ave to Mona Blvd	Residential/Commercial	65.0[b]
118th Street		
Compton Ave to Wilmington Ave	Residential/School	62.4
119th Street		
Compton Avenue to Wilmington Ave	School/Hospital	66.9
Wilmington Ave to Willowbrook Ave	Residential/Commercial	65.3
Willowbrook Ave to Mona Blvd	Residential	63.3
Compton Ave		
Imperial Hwy to 120th Street	Residential/School	67.4
120th Street to Southern Boundary[c]	Hospitals	65.9
Wilmington Ave		
Imperial Hwy to I-105	Commercial	67.7
I-105 to 119th Street	Commercial	70.5
119th Street to Southern Boundary	Residential/Commercial	68.9
Mona Blvd		
Imperial Hwy to 119th Street	Residential	66.9
Segments Outside of Specific Plan Area		
City of Los Angeles		
103rd Street		
West of Central Ave	Residential/Commercial	64.1
Central Ave to Wilmington Ave	Residential/School/Park/Commercial	66.4
Wilmington Ave to Alameda Street	Residential/School/Commercial	65.1
108th Street		
Central Avenue to West of Avalon Blvd	Residential/Commercial	65.1
112th Street		55.4
Railroad to Mona Blvd	Residential/School/Commercial	
Imperial Highway		
San Pedro Street to West of Main Street	Residential/School/Commercial	71.1
San Pedro Street to Avalon Blvd	Residential/Commercial	69.3
Avalon Blvd to Slater Ave	Residential/Commercial	70.7
Slater Ave to Wilmington Ave	Residential/Commercial	70.6
Wilmington Ave to Mona Blvd	Residential/School/Commercial	70.9

Roadway Segment	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a]
Main Street		
North and South of Imperial Hwy	Residential/Commercial	65.9
San Pedro Street		
108th Street to 120th Street	Residential/School/Commercial	66.8
Avalon Blvd		
North of Imperial Hwy	Commercial	69.3
Imperial Hwy to 120th Street	Residential/Commercial	68.4
Central Ave		
Century Blvd to 108th Street	Residential/Park/Commercial	70.5
108th Street to 120th Street	Residential/School/Commercial	70.1
Compton Ave		
Century Blvd to Imperial Hwy	Residential/School/Commercial	67.4
Wilmington Ave		
Century Blvd to 112th Street	Residential/School/Commercial	67.2
112th Street to Imperial Hwy	Residential/Commercial	67.7
Alameda Street		
103rd Street to Imperial Hwy	School/Commercial	70.6
County of Los Angeles		
Imperial Highway		
Mona Blvd to Alameda Street	Residential/Commercial	70.9
120th Street		
San Pedro Street to Central Ave	Residential/Park/Commercial	67.7
Central Ave to Compton Ave	Residential/School/Commercial	68.1
El Segundo Blvd		
San Pedro Street to Slater Ave	Residential/School/Park/Commercial	69.6
Slater Ave to Wilmington Ave	Residential/School/Park/Commercial	69.8
Wilmington Ave to Alameda Street	Residential/Commercial	67.9
Rosecrans Ave		
East of Central Ave	Residential/Commercial	69.4
San Pedro Street		
120th Street to 135th Street	Residential/School/Commercial	66.8
Avalon Blvd		
120th Street to Rosecrans Ave	Residential/School/Park/Commercial	68.4
Central Ave		
120th Street to South of El Segundo Blvd	Residential/Commercial	69.4
South of El Segundo Blvd	Residential/Commercial	69.4
North of Rosecrans	Residential/Commercial	69.4
Compton Ave		
Imperial Hwy to 120th Street	Residential/Commercial	67.4
120th Street to El Segundo Blvd	Residential/Commercial	65.9

Roadway Segment	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a]
Wilmington Ave		
Imperial Hwy to I-105	Commercial	67.7
Southern Boundary to El Segundo Blvd	Residential/Commercial	68.9
Alameda Street		
124th Street to Oris Street	Commercial	70.0
City of Lynwood		
Imperial Highway		
Alameda Street to East of State Street	Commercial	71.1
Mona Blvd		
Imperial Hwy to 119th Street	Commercial	66.9
Alameda Street		
103rd Street to Imperial Hwy	School/Commercial	70.6
Imperial Hwy to North of 124th Street	Commercial	70.0
State Street/Santa Fe Ave		
N/O Imperial Hwy to S/O El Segundo	Residential/Park/Commercial	67.7
City of Compton		
El Segundo Blvd		
East and West of State Street	Residential/Commercial	64.9
Rosecrans Ave		
San Pedro Street to Willowbrook Ave	Residential/School/Commercial	69.4
Willowbrook Ave to Alameda Street	Commercial	69.8
Compton Blvd		
West of Central to East of Willowbrook	Residential/Library/Commercial	69.2
Alondra Blvd		
West and East of Willowbrook Ave	Residential/Commercial	68.7
Central Ave		
South of El Segundo Blvd to Rosecrans	Residential/School/Commercial	69.4
Rosecrans Ave to Walnut Street	Residential/School/Commercial	68.8
Wilmington Ave		
El Segundo Blvd to Rosecrans Ave	Residential/School/Commercial	68.9
Rosecrans Ave to SR-91	Residential/School/Commercial	69.3
Alameda Street		
North of 124th Street to Rosecrans Ave	Commercial	70.0
Rosecrans Ave to SR-91	Residential/Commercial	70.2
Santa Fe Avenue		
North of Weber to S/O El Segundo Blvd	Residential/Commercial	67.7

Notes:
[a] Noise level is at 25 feet from nearest curb.
[b] Accounts for existing earthen berm
[c] Southern Boundary of Specific Plan Area

As shown in Table 3.9-2, existing traffic noise levels range from 62.4 dBA CNEL (118th Street from Compton Avenue to Wilmington Avenue) to 71.1 dBA CNEL (Imperial Highway from San Pedro Street to west of Main Street and Imperial Highway from Alameda Street to east of State Street) at 25 feet from the nearest roadway curb to the land use.

Existing Ground-borne Vibration Levels

As described previously, some common sources of ground-borne vibration include trains, buses on rough roads, and construction activities such as blasting, pile-driving, and operation of heavy earth-moving equipment. Existing vibration in the Specific Plan area is currently experienced by vehicular roadway traffic along the I-105 Freeway, Metro Rail operations along the elevated Metro Green Line, and at-grade Metro Blue Line, as well as Union Pacific freight rail operations adjacent to the Blue Line tracks. Within the Specific Plan area, light rail passenger trains associated with the Metro Blue and Green Line pass through the Willowbrook/Rosa Parks Station on a daily basis.

As described in the FTA's *Transit Noise and Vibration Impact Assessment* (FTA, 2006), locomotive-powered passenger trains traveling at 50 miles per hour (mph) can generate vibration levels up to approximately 84.5 VdB (0.067 in/sec PPV) at 50 feet from the track centerline. However, it should be noted that this vibration level represents the upper range of measurement data collected by FTA from well-maintained systems (FTA, 2006). Existing vibration levels at the closest residences along Willowbrook Avenue (approximately 70 feet from the track centerline) are estimated to range from 69 VdB (vibration decibels) for Metro Blue Line train passbys at 30 mph to 75 VdB for Union Pacific freight locomotive passbys at 30 mph. Existing vibration levels from the freight train passbys are above the threshold of perception of 65 VdB (LACMTA 2015).

Additionally, aside from periodic construction work that may occur throughout the Specific Plan area, the only other sources of groundborne vibration in the Specific Plan area and vicinity are heavy-duty vehicular travel (e.g., refuse trucks, delivery trucks, and transit buses) on local roadways. Traveling trucks and buses typically generate groundborne vibration velocity levels of approximately 63 VdB (approximately 0.006 in/sec PPV) at a distance of 50 feet, and these levels could reach approximately 72 VdB (approximately 0.016 in/sec PPV) where trucks pass over bumps in the road (FTA, 2006). Traveling heavy-duty vehicles traveling at a distance of 50 feet can result in a vibration level of approximately 0.001 in/sec PPV.

Noise Sensitive Receptors

The Specific Plan area contains a range of land uses, including: residential, retail, office, educational, institutional facilities, and service facilities. Some of the key land uses within the Specific Plan area include: Martin Luther King, Jr. (MLK) Medical Center, Charles R Drew University of Medicine and Science (CDU), Kenneth Hahn Plaza, Willowbrook Library, and Martin Luther King, Jr. (MLK) Center for Public Health.

Some land uses are considered more sensitive to noise than others due to the amount of noise exposure and the types of activities typically conducted at a receptor location. People in

residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, natural areas, parks and outdoor recreation areas are generally more sensitive to noise than are people at commercial and industrial establishments. Consequently, noise standards for sensitive land uses are more stringent than for those at less sensitive uses. The LACC Noise Control ordinance defines noise-sensitive zones as those having residential or semi-residential/commercial land uses, as well as zones designated by the Director of the County's Department of Health Services, provided that conspicuous signs are displayed near the institution or facility within the zones.

As shown in Table 3.9-2, the noise sensitive receptors in the Specific Plan area include residential (both single- and multi-family) located within and surrounding the Specific Plan area, as well as, schools, parks, and hospitals. The proposed Specific Plan itself would also introduce noise sensitive receptors (e.g., potential new residential uses) within the Specific Plan area.

3.9.2 Regulatory Setting

Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans; local noise ordinances establish standards and procedures for addressing specific noise sources and activities. Detailed below is a discussion of the relevant regulatory setting and noise regulations, plans, and policies.

Federal

There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the proposed Specific Plan. With regard to noise exposure and workers, the Office of Safety and Health Administration (OSHA) regulations safeguard the hearing of workers exposed to occupational noise. Federal regulations also establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at approximately 50 feet (15 meters) from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

Federal Transit Authority Vibration Standards

The FTA has adopted vibration standards that are used to evaluate potential building damage impacts related to construction activities. The vibration damage criteria adopted by the FTA are shown in **Table 3.9-3**.

TABLE 3.9-3
CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

SOURCE: FTA, 2006.

In addition, the FTA has also adopted standards associated with human annoyance for groundborne vibration impacts for the following three land-use categories: Vibration Category 1 – High Sensitivity, Vibration Category 2 – Residential, and Vibration Category 3 – Institutional. The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference.

Under conditions where there are an infrequent number of events per day, the FTA has established thresholds of 65 VdB for Category 1 buildings, 80 VdB for Category 2 buildings, and 83 VdB for Category 3 buildings.[1] Under conditions where there are an occasional number of events per day, the FTA has established thresholds of 65 VdB for Category 1 buildings, 75 VdB for Category 2 buildings, and 78 VdB for Category 3 buildings.[2] No vibration thresholds have been adopted or recommended for commercial and office uses.

State

California Department of Health Services Noise Standards

The California Department of Health Services (DHS) has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. These guidelines for land use and noise exposure compatibility are shown in **Table 3.9-4**. In addition, Section 65302(f) of the California Government Code requires each county and city in the state to prepare and adopt a comprehensive long-range general plan for its physical development, with Section 65302(g) requiring a noise element to be included in the general plan. The noise element

1 "Infrequent events" is defined by the Federal Transit Administration as being fewer than 30 vibration events of the same kind per day.

2 "Occasional events" is defined by the Federal Transit Administration as between 30 and 70 vibration events of the same source per day.

must: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

TABLE 3.9-4
COMMUNITY NOISE EXPOSURE (L_{DN} OR CNEL)

Land Use	Normally Acceptable[a]	Conditionally Acceptable[b]	Normally Unacceptable[c]	Clearly Unacceptable[d]
Residential - Low Density Single-family, Duplex, Mobile Homes	55 - 60	55 - 70	70 - 75	75
Residential - Multi-Family Homes	55 - 65	60 - 70	70 - 75	75
Transient Lodging – Motels, Hotels	55 - 65	60 - 70	70 - 80	75
Schools, Libraries, Churches, Hospitals, Nursing Homes	55 - 70	60 - 70	70 - 80	80
Auditoriums, Concert Halls, Amphitheaters	---	55 - 70	---	65
Sports Arena, Outdoor Spectator Sports	---	55 - 75	---	70
Playgrounds, Neighborhood Parks	55 - 70	---	67 - 75	72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	55 - 75	---	70 - 80	80
Office Buildings, Business Commercial and Professional	55 - 70	67 - 77	75	---
Industrial, Manufacturing, Utilities, Agriculture	55 - 75	70 - 80	75	---

[a] Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

[b] Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

[c] Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

[d] Clearly Unacceptable: New construction or development should generally not be undertaken.

SOURCE: Office of Planning and Research, 2003.

The State of California also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dB. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at approximately 50 feet (15 meters) from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

The state has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dBA (L_{dn} or CNEL) in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are

proposed in areas subject to noise levels greater than 60 dBA L_{dn}/CNEL. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

State Vibration Standards

There are no state vibration standards applicable to the proposed project. Moreover, according to the California Department of Transportation's (Caltrans) *Transportation- and Construction-Vibration Guidance Manual* (2013), there are no official Caltrans standards for vibration. However, this manual provides guidelines for assessing vibration damage potential to various types of buildings, ranging from 0.08 to 0.12 in/sec PPV for extremely fragile historic buildings, ruins, and ancient monuments to 0.50 to 2.0 in/sec PPV for modern industrial/commercial buildings.

Local

Noise Standards

Los Angeles County General Plan, Noise Element

The overall purpose of the noise element of a general plan is to protect people from the harmful and annoying effects of exposure to excessive noise. The Noise Element in the Los Angeles County General Plan focuses on noise issues associated with transportation, including airports, highways, and railroads. The Noise Element quantifies the community noise environment by establishing noise exposure contours for both near- and long-term levels of growth and noise-generating activity. This information guides development of goals and policies to achieve noise-compatible land uses, and identifies baseline noise levels and sources to help local noise ordinance enforcement. The Los Angeles County General Plan EIR identified noise compatibility at noise-sensitive exterior areas as exceeding 65 dBA CNEL and noise compatibility for interior habitable noise-sensitive areas as exceeding 45 dBA CNEL (County of Los Angeles, 2015a). General land use-noise compatibility noise levels for the County of Los Angeles are identified in **Table 3.9-5** (County of Los Angeles, 2015b). These general noise levels for the County are categorized as Normally Acceptable, Conditionally Acceptable, Normally Unacceptable and Clearly Unacceptable.

Los Angeles County Code

In addition to regulating noise through implementation of the policies of general plan noise elements, local jurisdictions regulate noise through enforcement of local noise standards. These standards generally relate to noisy activities (e.g., construction) and stationary noise sources and facilities (e.g., heating, ventilation, and air conditioning (HVAC) units and industrial activities). Generally, federal and state laws preempt local agencies from establishing noise standards for transportation-related noise sources, such as aircraft, ships, trains, and motor vehicles.

TABLE 3.9-5
COMMUNITY NOISE EXPOSURE (L_{DN} OR CNEL)

Land Use	Normally Acceptable[a]	Conditionally Acceptable[b]	Normally Unacceptable[c]	Clearly Unacceptable[d]
Residential - Low Density Single-family, Duplex, Mobile Homes	55 - 60	55 - 70	70 - 75	75
Residential - Multi-Family Homes	55 - 65	60 - 65	70 - 75	75
Transient Lodging – Motels, Hotels	55 - 65	60 - 65	70 - 75	80
Schools, Libraries, Churches, Hospitals, Nursing Homes	55 - 70	60 - 65	70 - 75	80
Auditoriums, Concert Halls, Amphitheaters	---	55 - 70	---	65
Sports Arena, Outdoor Spectator Sports	---	55 - 75	---	70
Playgrounds, Neighborhood Parks	55 - 70	---	70 - 75	75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	55 - 75	---	70 - 75	80
Office Buildings, Businesses, Commercial and Professional	55 - 70	70 - 75	75	---
Industrial, Manufacturing, Utilities, Agriculture	55 - 75	70 - 80	75	---

[a] Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

[b] Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

[c] Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

[d] Unacceptable: New construction or development should generally not be undertaken.

SOURCE: County of Los Angeles, 2015b.

The LACC outlines exterior noise standards for four noise zones based on land use type: noise-sensitive areas, residential properties, commercial properties, and industrial properties (County of Los Angeles, 2017). The County's maximum exterior noise standards set forth in LACC Section 12.08.390 are provided in **Table 3.9-6**. For residential-zoned areas, the presumed ambient noise level is 50 dBA during the daytime and 45 dBA during the nighttime. The following standards are used to evaluate compliance:

- Standard No. 1: Exterior noise cannot exceed levels set forth in Table 3.9-6 for a cumulative period of more than 30 minutes in any hour.
- Standard No. 2: Exterior noise cannot exceed levels set forth in Table 3.9-6 plus 5 dBA for a cumulative period of more than 15 minutes in any hour.
- Standard No. 3: Exterior noise cannot exceed levels set forth in Table 3.9-6 plus 10 dBA for a cumulative period of more than 5 minutes in any hour.
- Standard No. 4: Exterior noise cannot exceed levels set forth in Table 3.9-6 plus 15 dBA for a cumulative period of more than one minute in any hour.

- Standard No. 5: Exterior noise cannot exceed levels set forth in Table 3.9-6 plus 20 dBA at any time.

TABLE 3.9-6
COUNTY OF LOS ANGELES EXTERIOR NOISE STANDARD

Noise Zone	Zone	Daytime Hours (7 A.M. to 10 P.M.) dBA (L_{eq})	Nighttime Hours (10 P.M. to 7 A.M.) dBA (L_{eq})
I	Noise-sensitive area	45	45
II	Residential	50	45
III	Commercial	60	55
IV	Industrial	70	70

SOURCE: LACC, Section 12.08.390.

If ambient noise levels exceed the exterior noise levels in Table 3.9-6, then the aforementioned standards can be adjusted by substituting relevant noise levels in Table 3.9-6 with the following ambient measurements.

- Standard No. 6: Ambient L_{50}, the noise level exceeded 50% of the time over an hour period.
- Standard No. 7: Ambient L_{25}, the noise level exceeded 25% of the time over an hour period.
- Standard No. 8: Ambient $L_{8.3}$, the noise level exceeded 8.3% of the time over an hour period.
- Standard No. 9: Ambient $L_{1.7}$, the noise level exceeded 1.7% of the time over an hour period.
- Standard No. 10: Ambient L_0, the maximum noise level over an hour period.

LACC Section 12.08.440 prohibits construction between the hours of 7:00 p.m. and 7:00 a.m. and at any time on Sundays or holidays, given that it creates a noise disturbance across a residential or commercial real property line. **Table 3.9-7** outlines the maximum noise levels permissible by construction equipment at affected buildings depending on land use. These noise thresholds pertain to two timeframes: daytime hours from 7:00 a.m. to 8:00 p.m. daily (except Sundays and holidays) and nighttime hours from 8:00 p.m. to 7:00 a.m. daily (or all day Sundays and holidays).

The County Noise Ordinance states that noise levels caused by any air-conditioning or refrigeration equipment shall not exceed the levels identified in **Table 3.9-8**, County of Los Angeles Noise Restrictions on Residential Air Conditioning and Refrigeration Equipment.

TABLE 3.9-7
COUNTY OF LOS ANGELES NOISE RESTRICTIONS ON CONSTRUCTION EQUIPMENT AT RECEPTOR

Equipment Type	Receptor Type	Daytime Hours	Nighttime Hours
Mobile short-term operation (less than 10 days)	Single-family Residential	75	60
	Multi-family Residential	80	64
	Semi residential/Commercial	85	70
	Business Structures	85	85
Stationary - long-term operation (more than 10 days)	Single-family Residential	60	50
	Multi-family Residential	65	55
	Semi residential/Commercial	70	60

Source: LACC, Section 12.08.440.

TABLE 3.9-8
COUNTY OF LOS ANGELES NOISE RESTRICTIONS ON RESIDENTIAL AIR CONDITIONING AND REFRIGERATION EQUIPMENT

Measurement Location	Units Installed Before 1-1-80 dBA	Units Installed On or After 1-1-80 dBA
Any point on neighboring property line, 5 feet above grade level, no closer than 3 feet from any wall.	60	55
Center of neighboring patio, 5 feet above grade level, no closer than 3 feet from any wall.	55	50
Outside the neighboring living area window nearest the equipment location, not more than 3 feet from the window opening, but at least 3 feet from any other surface.	55	50

Source: LACC, Section 12.08.530

Surrounding Jurisdictions

City of Los Angeles

The City's noise standard for increases in permanent noise levels is if a project causes the ambient noise level at a land use to increase by 3 dBA CNEL to or within the "normally acceptable" or "clearly acceptable" category identified in Table 3.9-4, or an increase of 5 dBA or greater noise increase.

City of Compton

The City of Compton's noise standard for increases in permanent noise levels is if a project increases ambient noise levels by more than 5 dBA CNEL or if a project increases ambient noise levels by 3 dBA or greater and exceeds the acceptable noise levels by land use. The acceptable noise level by land use is 70 dB CNEL or less for residential uses, 78 dBA CNEL or less for commercial/office buildings, 80 dB CNEL or less for industrial uses, 75 dB CNEL or less of institutional land uses, and 60 dB CNEL or less for noise-sensitive land uses such as schools, libraries, hospitals, and nursing homes.

City of Lynwood

The City of Lynwood's noise standard for increases in permanent noise levels is if noise level increases exceed the noise exposure level as shown in **Table 3.9-9**.

TABLE 3.9-9
SIGNIFICANCE OF CHANGES IN OPERATIONAL ROADWAY NOISE EXPOSURE

Existing Exterior Exposure	Allowable Noise Exposure Increase Ldn or Leq in dBA
45-50	7
50-55	5
55-60	3
60-65	2
65-75	1
75+	0

SOURCE: City of Lynwood, 2016.

Vibration Criteria

The County has adopted the following provision of Section 12.08.560 of the LACC that governs impacts from vibration:

> *the operation of any device that creates vibration which is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property, or at 150 feet (46 meters) from the source if on a public space or public right-of-way is prohibited. The perception threshold shall be a motion velocity of 0.01 in/sec over the range of 1 to 100 Hertz.*

Vibration-Related Human Annoyance

Table 3.9-10 shows the FTA and Caltrans vibration criteria to evaluate vibration-related annoyance due to resonances of the structural components of a building. These criteria are based on the work of many researchers that suggested that humans are sensitive to vibration velocities in the range of 8 to 80 Hz.

Vibration-Related Structural Damage

Structures amplify groundborne vibration, and wood-frame buildings such as typical residential structures are more affected by ground vibration than heavier buildings. The level at which groundborne vibration is strong enough to cause architectural damage has not been determined conclusively. The most conservative estimates are reflected in the FTA standards, shown in **Table 3.9-11**.

TABLE 3.9-10
GROUNDBORNE VIBRATION CRITERIA: HUMAN ANNOYANCE

Land Use Category	Vibration Velocity, in/sec (RMS amplitude)	Vibration Velocity, in/sec (PPV)	Vibration Velocity Level (VdB)	Description
Workshop	0.032[2]	0.128	90[3]	Distinctly felt vibration. Appropriate to workshops and non-sensitive areas
Office	0.016[2]	0.064	84[3]	Felt vibration. Appropriate to offices and non-sensitive areas.
Residential – Daytime	0.008[2]	0.032	78[3]	Barely felt vibration. Adequate for computer equipment.
Residential – Nighttime	0.004[2]	0.016	72[3]	Vibration not felt, but groundborne noise may be audible inside quiet rooms.

[1] As measured in 1/3-octave bands of frequency over the frequency ranges of 8 to 80 Hz
[2] SOURCE: County of Los Angeles, 2015a.
[3] SOURCE: FTA, 2006.

TABLE 3.9-11
GROUNDBORNE VIBRATION IMPACT CRITERIA: ARCHITECTURAL DAMAGE

Building Category		PPV (in/sec)
I.	Reinforced concrete, steel, or timber (no plaster)	0.5
II.	Engineered concrete and masonry (no plaster)	0.3
III.	Non-engineered timber and masonry buildings	0.2
IV.	Buildings extremely susceptible to vibration damage	0.12

SOURCE: FTA, 2006.

3.9.3 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines and the County of Los Angeles Environmental Checklist Form, the project could have a significant noise and/or ground-borne vibration impact if it would result in:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the County General Plan or noise ordinance (Los Angeles County Code, Title 12, Chapter 12.08), or applicable standards of other agencies (See Impact 3.9-1 below);
- Exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels (See Impact 3.9-2 below);
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from parking areas (See Impact 3.9-3 below);

- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from amplified sound systems (See Impact 3.9-4 below);
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels (See Section 5.1.11 in this EIR); or
- For a project within the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels (See Section 5.1.11 in this EIR).

Noise Criteria

For the purpose of determining whether the implementation of the proposed Specific Plan would result in the exposure of persons to or generate noise levels that would exceed established noise standards, construction and stationary operational noise levels associated with the Project would result in a significant impact if the County's construction noise regulations are violated and the County's operational noise standards are exceeded. The County's regulations and standards are identified in Section 3.9.3 Regulatory Setting above.

The *CEQA Guidelines* does not define the levels at which permanent and temporary increases in ambient noise are considered "substantial." Therefore, with regards to traffic noise, the significance of the proposed Specific Plan's traffic noise impacts can be determined by comparing estimated project-related noise levels to existing no-project noise levels. With respect to the community noise environment, the average healthy ear can barely perceive a noise level change of 3 dBA. A change from 3 to 5 dBA may be noticed by some individuals who are sensitive to changes in noise. A 5 dBA increase is readily noticeable, while the human ear perceives a 10 dBA increase as a doubling of sound. Each jurisdiction adjacent to the evaluated roadway segments (i.e., County of Los Angeles, City of Los Angeles, City of Compton and City of Lynwood) has established a significant traffic noise increase standard. As such, for the purpose of the proposed Specific Plan's traffic noise analysis, it is assumed that a significant permanent increase in roadway noise levels within the County of Los Angeles jurisdiction would occur if project-related traffic increases the ambient noise environment by 3 dB or more and the ambient noise level under the with-project conditions fall within the Normally Unacceptable or Clearly Unacceptable land use categories in Table 3.9-5. In addition, a significant permanent traffic noise impact would occur if project-related traffic increases the ambient noise environment by 5 dB or more regardless of the ambient noise level under the with-project conditions. Furthermore, for traffic noise increases along roadway in other jurisdictions, a significant impact would occur if the proposed Specific Plan increases ambient traffic noise levels along those roadways that would exceed the applicable jurisdiction's traffic noise increase standard as discussed in Section 3.9.3 Regulatory Setting above.

Vibration Criteria

The *CEQA Guidelines* also do not define the levels at which groundborne vibration or groundborne noises are considered "excessive." The thresholds for vibration impacts causing human annoyance and structural damage were obtained from the Los Angeles County General

Plan EIR. Construction activities would cause significant human annoyance impacts if groundborne vibration exceeds 0.032 in/sec PPV (78 VdB) and would cause significant impacts due to structural damage to timber and masonry buildings if groundborne vibration exceeds 0.2 in/sec PPV. In addition, construction activities would cause significant impacts due to structural damage to historic age buildings if groundborne vibration exceeds 0.12 in/sec PPV. Furthermore, significant human annoyance impacts would occur if groundborne vibration exceeds 72 VdB during the nighttime at residential uses.

3.9.4 Methodology

Implementation of the proposed Specific Plan could result in the introduction of noise levels that may exceed permitted County noise levels. The primary sources of noise associated with the proposed Specific Plan would be construction activities within the Specific Plan area and project-related traffic volumes generated by the new residential and non-residential land uses. Secondary sources of noise would include new stationary sources (such as HVAC units) associated with the new land use developments. The increase in noise levels generated by these activities and other sources associated with the proposed Specific Plan have been quantitatively estimated and compared to the applicable noise standards and thresholds of significance.

In addition to noise levels, groundborne vibration would also be generated during the construction of the new developments occurring throughout the Specific Plan area by various construction-related activities and equipment. Thus, the groundborne vibration levels generated by these sources have also been quantitatively estimated and compared to thresholds identified in the Los Angeles County General Plan EIR.

Construction Noise Levels

Construction noise levels were estimated by data published by the United States Environmental Protection Agency (USEPA) for general outdoor construction activities. These noise levels are then analyzed against the construction noise standards established in the LACC to determine whether an exceedance of allowable noise levels would occur across any adjacent property boundaries.

Roadway Noise Levels

Roadway noise levels were calculated for selected study area intersection segments located within and in proximity to the Specific Plan area based on information provided in the traffic report for the proposed Specific Plan. The roadway segments selected for analysis are expected to be most directly impacted by project-related traffic, which, for the purpose of this analysis, includes the roadways located within and immediately adjacent to the Specific Plan area. These roadways would experience the greatest percentage increase in traffic generated by the Specific Plan, when compared to roadways located further away from the Specific Plan area. The existing and future traffic noise levels with and without the project were calculated using the FHWA-RD-77-108 model and daily traffic volumes estimated from the peak hour volumes provided in the traffic analysis, and compared to determine whether traffic noise levels with the project would exceed permanent noise level increase standards established by each jurisdiction adjacent to the evaluated roadway segments.

Stationary Operational Noise Levels

Stationary point-source noise impacts were evaluated by identifying the noise levels generated by outdoor stationary noise sources such as rooftop mechanical equipment and loading dock activities, calculating the hourly L_{eq} noise level from each noise source at surrounding sensitive receiver property line locations, and comparing such noise levels to existing ambient noise levels.

Groundborne Vibration Associated with Project Construction and Operation

Groundborne vibration levels resulting from construction activities occurring within the Specific Plan area were estimated based on data published by the FTA in its *Transit Noise and Vibration Impact Assessment* document. Potential vibration levels resulting from construction of new transit-oriented developments under the proposed Specific Plan are identified for locations within the Specific Plan Area that are sensitive to vibration based on their distance from construction activities. The County has not adopted any quantitative thresholds for construction or operational groundborne vibration impacts. As such, the potential vibration levels at off-site sensitive locations resulting from implementation of the proposed Specific Plan are analyzed against the vibration thresholds for human annoyance and structural damage established by the FTA to determine whether an exceedance of allowable vibration levels would occur.

3.9.5 Impact Analysis

Exceedance of Established Noise Standards

Impact 3.9-1: Implementation of the project could expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Project-Specific

Construction

The proposed Specific Plan identifies sites within the Specific Plan area that have the potential for redevelopment, infill development, and/or adaptive reuse of existing under-utilized structures. The Specific Plan proposes to rezone and amend General Plan land uses of specific parcels within the project area with the intent of introducing a transit-oriented development pattern to the area. As discussed in Section 2.3, buildout under the proposed Specific Plan would involve the proposed new development of 2,104 residential uses, 584,075 square feet of institutional uses, 1,366,590 square feet of public uses, and 1,094,134 square feet of commercial/office uses. Of the 968 existing residential units, 152 residential units are proposed to be demolished. With a total of 2,104 residential units proposed to be constructed, the proposed development buildout would be 2,920 residential units. There are 1,910,523 square feet of existing non-residential uses of which 378,764 square feet of non-residential uses is proposed to be demolished. With a total of 3,044,799 square feet of non-residential uses proposed to be constructed, the proposed development buildout would be 4,576,558 square feet of non-residential uses.

Site specific development within the Specific Plan would be market driven such that they would occur in response to the existing and future needs of the residential and commercial markets over

the build out period. Institutional and public uses will also be implemented within the Specific Plan area. As such, it is expected that the proposed Specific Plan's construction activities would occur intermittently throughout the 20-year buildout period of the Specific Plan. Construction noise impacts associated with each new individual development would be short-term in nature and limited to the period of time when construction activity is taking place for that particular development. Development of future residential, commercial, and light industrial land uses would generally involve construction phases such as demolition, grading/excavation, building construction, and asphalt paving.

Construction, although typically short-term, can be a significant source of noise. Construction noise is most significant when it takes place near sensitive land uses, occurs at night, or in early morning hours. The construction activity noise levels at and near site specific development projects within the Specific Plan area would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Generally, each new residential, commercial, or mixed-use development would require the use of heavy construction equipment for activities such as site demolition, grading and excavation, installation of utilities, paving, and building fabrication. Development activities would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of construction for each individual development, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of the activity.

The USEPA has compiled data for outdoor noise levels for typical construction activities that are presented in **Table 3.9-12**, and represent composite noise levels associated with typical construction activities, which take into account both the number of pieces and spacing of heavy construction equipment that are typically used during each phase of construction. These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 84 dBA L_{eq} measured at 50 feet from the noise source to the receptor would reduce to 78 dBA L_{eq} at 100 feet from the source to the receptor, and reduce by another 6 dBA L_{eq} to 72 dBA L_{eq} at 200 feet from the source to the receptor.

TABLE 3.9-12
TYPICAL CONSTRUCTION NOISE LEVELS

Construction Phase	Noise Level (dBA, L_{eq})[a]
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

[a] Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

SOURCE: USEPA, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, 1971.

Table 3.9-13 shows typical noise levels produced by various types of construction equipment.

TABLE 3.9-13
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level (dBA, L_{eq} at 50 feet)
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Crane (Mobile)	83
Dozer	85
Grader	85
Jack Hammer	88
Loader	85
Paver	89
Pile –Driver (Impact)	101
Pile-Driver (Sonic)	96
Scraper	89
Truck	88

Source: FTA, 2006.

The construction activities for each new site-specific development project that would occur within the proposed Specific Plan area would expose nearby existing uses to increased noise levels. Because the Specific Plan would increase densities within the Specific Plan area, construction of new developments could be located less than 50 feet from a sensitive receptor, such as existing residential units. Consequently, construction that occurs immediately adjacent to these existing offsite receptors would generate noise levels that would be substantially greater than the existing noise levels at these receptor locations. Based on the project construction noise levels for general outdoor construction activities and specific construction equipment shown in Tables 3.9-12 and 3.9-13, respectively, these construction noise levels at adjacent receptors located off of a specific construction site and located within 50 feet of an existing residential, commercial, or mixed-use development could reach up to 89 dBA L_{eq} or above. It should be noted that this noise level is not anticipated to occur throughout the entire course of a construction day, as construction equipment and activities rarely operate continuously for a full day at a construction site. Typically, the operating cycle for construction equipment would involve one or two minutes of full power operation followed by three or four minutes at lower power settings. Additionally, construction equipment engines would likely be intermittently turned on and off over the course of a construction day.

With respect to construction activities, the County's General Plan Noise Element does not establish a numerical standard to regulate construction noise levels. However, Section 12.08.440 of the LACC has established numerical standards to regulate construction noise levels at buildings with specific land uses as shown in Table 3.9-7. In addition, Section 12.08.440 of the LACC limits construction activities in the County to between the hours of 7:00 am to 7:00 pm on weekdays (including Saturday's), and prohibits construction on Sundays and holidays. Construction activities may occur outside of these hours if the County determines that the emergency maintenance, repair, or improvement of public service utilities is needed or if a variance is issued by the health officer.

All new development projects in the Specific Plan area would be subject to these regulations. Because construction activities are required to comply with the regulations in the LACC, the construction activities associated with future developments in the Specific Plan area would not exceed any standards established in the LACC. Thus, impacts would be less than significant.

Operations

Exterior Noise Standards

With respect to non-vehicular operational noise levels, the County has established exterior noise standards that are correlated with land use zoning classifications, which are shown in Table 3.9-6. The standards aim to prohibit unnecessary, excessive, and annoying noises from all sources, as certain noise levels are detrimental to the health and welfare of individuals.

The Specific Plan would implement new land uses that would include residential, commercial, institutional, and public developments. These new developments may introduce higher noise levels than currently exist adjacent to existing sensitive uses, such as residences. However, the noise environment in a high density, urban, walkable transit-oriented environment is anticipated to be louder than other areas in the existing Willowbrook community that are less dense. The general noise sources associated with the proposed uses include temporary and intermittent nuisance noise from residential uses. Commercial, school and hospital uses include parking lot noises, delivery trucks, loading docks and HVAC units. Potential noise from HVAC units and loading docks are discussed further below.

These noise sources have the potential to expose existing noise-sensitive land uses to noise levels that exceed the County's exterior noise limits for residential uses (50 dBA during the daytime and 45 dBA at night) and for commercial uses (60 dBA during the daytime and 55 dBA at night). However, through implementation of specific environmental review and development permit processes, future developments in the Specific Plan area would be considered on a case-by-case basis to ascertain whether the operational noise levels generated by an individual development could result in exceedance of the County's noise standards, which regulate the appropriate location for various types of uses in relation to noise generation. Development permits are provided pursuant to the applicant's compliance with the LACC related to noise, which are provided to reduce potential noise impacts. With implementation of existing County noise regulations, noise impacts on land uses in the Specific Plan area from operation of future developments would be less than significant.

Heating, Ventilating, and Air Conditioning Equipment Noise

Once the new site specific development projects associated with the proposed Specific Plan are operational, a constant source of noise may be generated from these developments from operation of HVAC systems. However, as an industry practice, the design of the onsite HVAC units and other noise-generating mechanical equipment associated with the new developments in the Specific Plan area would typically be installed on the rooftops of residential and non-residential buildings and located either within an enclosure or behind other intervening structures that would provide a level of noise shielding for nearby noise-sensitive uses to comply with the regulations within the LACC. When these design measures are taken into consideration with the existing urban noise environment of the Specific Plan area, the noise generated from HVAC systems and other mechanical equipment at the new development sites would not increase ambient noise levels that would exceed the maximum exterior noise standards set forth in LACC Section 12.08.390. As a result, noise impacts from HVAC or other mechanical equipment on the existing and future land uses adjacent to new development within the Specific Plan area would be less than significant.

Loading Dock Noise

As the proposed Specific Plan would place a mix of residential and non-residential uses in the Specific Plan area, noise generated by activities at the non-residential uses could affect both nearby existing and new noise-sensitive receptors. Operational noise from the new non-residential uses associated with the proposed Specific Plan would be primarily related to the arrival, departure, and loading/unloading of goods from delivery trucks and their on-site circulation. While the noise levels generated by loading docks are not ordinarily loud, they may create temporary, sporadic increases in ambient noise. Because the temporary and sporatic increases related to loading and unloading activities would be required to comply with LACC, Section 12.08.390, loading dock noise levels associated with new Specific Plan land uses would be less than significant.

Transportation Related Noise

Based on the County's noise/land use compatibility matrix shown in Table 3.9-5, the County identifies normally acceptable exterior noise level limits in outdoor activity areas for various land uses. The normally acceptable compatibility standard for new single family residential uses is 60 dBA CNEL, for multiple family residential uses is 65 dBA CNEL, for schools and hospitals uses is 70 dBA CNEL, and for new single-family and multi-family residential, churches, libraries, schools, and hospitals of up to 70 dBA CNEL, parks, offices, and commercial uses of up to 75 dBA CNEL, and industrial uses of up to 80 dBA CNEL. The CNEL noise levels are allowed if the buildings are constructed using conventional design and that fresh air supply systems or air conditioning are provided to allow windows to be kept closed and interior noise levels achieve 45 dBA CNEL.

From a community noise perspective, the 24-hour average noise levels within and surrounding the Specific Plan area are influenced primarily by traffic on local roadways. With respect to traffic noise levels, the existing noise levels on roadway segments located within and in the vicinity of the Specific Plan area, as shown in Table 3.9-2, range from 62.4 dBA CNEL (118th Street from Compton Avenue to Wilmington Avenue) to 71.1 dBA CNEL (Imperial Highway

from San Pedro Street to west of Main Street and Imperial Highway from Alameda Street to east of State Street between Wilmington Avenue and Alameda Street) at 25 feet from the nearest roadway curb to the land use. This roadway modeling provides a representative indication of the current noise levels within the Specific Plan area.

To evaluate the future traffic noise environment in the Specific Plan area, the future traffic noise levels on the roadways located within the Specific Plan area were estimated based on future traffic volumes (existing with project) provided in the project's traffic study. The calculation of future traffic noise levels was conducted using the FHWA-RD-77-108, which calculates the CNEL noise level based on site-specific traffic volumes, distances, and speeds. The noise levels in **Table 3.9-14** accounted for noise barriers only along I-105 from Compton Avenue to Mona Boulevard. The future roadway noise levels are shown in Table 3.9-14.

As shown in Table 3.9-14, the existing with project traffic noise levels within the Specific Plan area would range from 62.9 dBA CNEL (118th Street from Compton Avenue to Wilmington Avenue) to 72.2 dBA CNEL (Wilmington Avenue from I-105 to 119th Street) at 25 feet from the roadway curb nearest the land use. As shown in Table 3.9-14, the traffic noise levels under existing with project conditions are anticipated to exceed the County's normally acceptable compatibility standards along 7 of the 13 roadway segments. Therefore, implementation of the proposed project could result in significant noise impacts at the land use receptors within the Specific Plan area.

Additionally, the Metro passenger trains and the Union Pacific freight trains that run through the Willowbrook/Rosa Parks Station on a daily basis are also a noise source in the Specific Plan area. As discussed previously, the existing day-night average noise level at 75 feet from operations along the Blue Line and along the Union Pacific tracks is 65 dBA Ldn and the combined noise level from operations along both tracks is 68 dBA Ldn. (LACMTA 2015). Because rail operations along both the Blue Line and Union Pacific tracks would not change as a result of the proposed project, no change in noise levels is expected from operations on either track.

However, as residential developments under the Specific Plan are proposed adjacent to, and in the immediate vicinity of the Metro rail line or Union Pacific rail tracks (i.e., closer than 75 feet), the noise generated by trains traveling through the Specific Plan area daily would result in noise levels of up to 68 dBA Ldn at 75 feet. If new residential uses are proposed adjacent to the rail lines and potentially exposed to rail noise exceeding 65 dBA Ldn for multiple family residential uses or 60 dBA Ldn for single family residential uses, the new residential uses could experience significant noise impacts.

TABLE 3.9-14
EXISTING WITH PROJECT ROADWAY NOISE LEVELS WITHIN SPECIFIC PLAN AREA

Segments Within Specific Plan Area	Proposed Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a]			
		Existing	Existing With Project	Significance threshold[b]	Exceed Threshold?[c]
Imperial Highway					
Compton Ave to Wilmington Ave	Commercial	70.6	70.9	75	No
Wilmington Ave to Mona Blvd	Commercial	70.9	71.8	75	No
I-105					
Compton Ave to Mona Blvd	MF Residential/Commercial	65[d]	65.2[d]	65/75	Yes/No
118th Street					
Compton Ave to Wilmington Ave	MF Residential/School	62.4	62.9	65/70	No/No
119th/120th Street					
Compton Avenue to Wilmington Ave	School/Hospital	66.9	68.4	70/70	No/No
Wilmington Ave to Willowbrook Ave	SF, MF Residential/ Commercial	65.3	65.6	60, 65/75	Yes, Yes/No
Willowbrook Ave to Mona Blvd	SF, MF Residential	63.3	63.6	60, 65	Yes, No
Compton Ave					
Imperial Highway to 120th Street	MF Residential/School/ Commercial	67.4	68.7	65/70/70	Yes/No/No
120th Street to Southern Boundary[e]	Hospital	65.9	66.9	70	No
Wilmington Ave					
Imperial Highway to I-105	Commercial	67.7	68.8	75	No
I-105 to 119th Street	MF Residential/ Commercial	70.5	72.2	65/75	Yes/No
119th Street to Southern Boundary[e]	MF Residential/Hospital/ Commercial	68.9	69.9	65/70/75	Yes/No/No
Mona Blvd					
Imperial Highway to 119th Street	SF, MF Residential	66.9	67.2	60, 65	Yes, Yes

[a] Noise level is at 25 feet from nearest curb.
[b] Significance Threshold is provided for each existing land use located along the existing roadway segment
[c] The determination of significance is for each existing land use located along the existing roadway segment
[d] Accounts for existing earthen berm
[e] Southern Boundary of Specific Plan Area

Cumulative

The geographic scope for cumulative noise impacts depends on the noise source. The geographic scope for construction noise includes areas directly adjacent to the Specific Plan area that could contribute to construction noise levels occurring within the Specific Plan area. The geographic scope for operational noise includes areas throughout the Specific Plan and directly adjacent to the Specific Plan area. The geographic scope for roadway noise includes areas along roadway segments between intersections evaluated in the traffic report.

Construction activities occurring in areas directly adjacent to the Specific Plan area could contribute cumulative noise levels with project construction activities. The areas that could be exposed to the highest cumulative construction noise levels are those areas that are not separated by existing roadways such as the area south of the existing MLK Medical Center. The areas that are located west, north, and east of the Specific Plan area are separated by roadways including Compton Avenue, Imperial Highway and Mona Boulevard, respectively. Construction activities occurring at cumulative developments would increase ambient noise levels; however, these cumulative construction activities would be required to comply with the construction equipment noise standards provided in Section 12.08.440 of the LACC. Because construction activities would be required to comply with the LACC, cumulative construction activities would result in less than significant noise impacts. Because the proposed project would also be required to comply with the LACC, the project's contribution to cumulative construction noise levels would be less than cumulatively considerable.

Cumulative development could result in exterior noise from operational activities including HVAC systems and loading docks. These cumulative noise levels from operational activities could increase ambient noise levels. However, operational activities occurring in the immediate vicinity of the Specific Plan area including within areas under the jurisdictions of the City of Los Angeles and the City of Lynwood as well as within the Specific Plan area, each operational activity would be required to comply with the operational noise regulations of the applicable jurisdiction. Therefore, noise levels from cumulative operational activities would be reduced to less than significant through compliance with the applicable noise regulations. Because operational activities associated with the proposed project are required to comply with the LACC, the noise levels contributed by project operational activities would be considered less than cumulatively considerable.

As shown in **Table 3.9-15**, the cumulative with project traffic noise levels within the Specific Plan area would range from 63.6 dBA CNEL (119th Street from Willowbrook Avenue to Mona Boulevard) to 72.4 dBA CNEL (Wilmington Avenue from I-105 to 119th Street) at 25 feet from the roadway curb nearest the land use.

As shown in Table 3.9-15, the traffic noise levels under cumulative with project conditions are anticipated to exceed the County's normally acceptable compatibility standards along 8 of the 13 roadway segments. Therefore, cumulative development would result in significant noise impacts at the land use receptors within the Specific Plan area. Because project traffic would contribute to cumulative traffic noise levels along roadways within the Specific Plan area, the project's contribution to cumulative noise impact at the land use receptors within the Specific Plan area would be cumulatively considerable.

TABLE 3.9-15
CUMULATIVE WITH PROJECT ROADWAY NOISE LEVELS WITHIN SPECIFIC PLAN AREA

Segments Within Specific Plan Area	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a]			
		Existing	Cumulative With Project	Significance threshold[b]	Exceed Threshold?[c]
Imperial Highway					
Compton Ave to Wilmington Ave	Commercial	70.6	70.9	75	No
Wilmington Ave to Mona Blvd	Commercial	70.9	71.9	75	No
I-105					
Compton Ave to Mona Blvd	MF Residential/Commercial	65.0[d]	65.6[d]	65/75	Yes/No
118th Street					
Compton Ave to Wilmington Ave	MF Residential/School	62.4	66.9	65/70	Yes/No
119th/120th Street					
Compton Avenue to Wilmington Ave	School/Hospital	66.9	68.4	70/70	No/No
Wilmington Ave to Willowbrook Ave	SF, MF Residential/ Commercial	65.3	65.6	60, 65/75	Yes/Yes/No
Willowbrook Ave to Mona Blvd	SF, MF Residential	63.3	63.6	60, 65	Yes, No
Compton Ave					
Imperial Hwy to 120th Street	MF Residential/School/ Commercial	67.4	68.7	65/70/70	Yes/No/No
120th Street to Southern Boundary[e]	Hospital	65.9	66.9	70	No
Wilmington Ave					
Imperial Hwy to I-105	Commercial	67.7	69.0	75	No
I-105 to 119th Street	MF Residential/Commercial	70.5	72.4	65/75	Yes/No
119th Street to Southern Boundary[e]	MF Residential/Hospital/ Commercial	68.9	70.0	65/70/75	Yes/No/No
Mona Blvd					
Imperial Hwy to 119th Street	SF, MF Residential	66.9	67.2	60, 65	Yes, Yes

[a] Noise level is at 25 feet from nearest curb.
[b] Significance Threshold is provided for each existing land use located along the existing roadway segment
[c] The determination of significance is for each existing land use located along the existing roadway segment
[d] Accounts for existing earthen berm
[e] Southern Boundary of Specific Plan Area

Cumulative development could be located adjacent to the Metro rail line or Union Pacific rail tracks outside of the Specific Plan and could be exposed to exterior noise levels exceeding the normally acceptable compatibility standards. Therefore, cumulative development could be exposed to significant noise impacts from rail operations. Because the implementation of the proposed project could also expose proposed residential developments within the Specific Plan area to significant noise impacts from rail operations, the project's contribution to rail noise impacts on land uses would be considered cumulatively considerable.

Mitigation Measures

Project-Specific

Mitigation Measure NOI-1: Prior to the issuance of building permits, exterior areas of proposed single family and multiple family residential uses that are projected to be exposed to existing with project roadway noise levels and cumulative with project roadway noise levels exceeding the County's exterior noise standards (i.e., 60 dBA CNEL for single family residential and 65 dBA CNEL for multiple family residential) shall include noise attenuation features including, but not limited to, setbacks, soundwalls, glass noise barriers, and landscaping so that exterior areas meet the County's exterior noise standards. To ensure that the County's exterior noise standards are met, the project applicant shall demonstrate compliance through the preparation of an acoustical evaluation.

Mitigation Measure NOI-2: Prior to the issuance of building permits, proposed residential developments adjacent to the Blue line and Union Pacific rail line that are exposed to rail noise of greater than 60 dBA CNEL for single family residential uses and 65 dBA CNEL for exterior areas of multiple family residential uses shall include noise attenuation features including, but not limited to, setbacks, soundwalls, glass noise barriers, and landscaping so that exterior areas meet the County's exterior noise standards. To ensure that the County's exterior noise standards are met, the project applicant shall demonstrate compliance through the preparation of an acoustical evaluation.

Cumulative

Implementation of Mitigation Measures NOI-1 and NOI-2 is required.

Significance Determination

Project-Specific

Less than significant. Implementation of Mitigation Measure NOI-1 and NOI-2 would ensure that exterior noise levels from roadway traffic volumes and rail noise would meet the County's exterior noise standards.

Cumulative

Less than significant. Implementation of Mitigation Measure NOI-1 and NOI-2 would ensure that exterior noise levels from cumulative with project roadway traffic volumes and rail noise would meet the County's exterior noise standards.

Exposure to Vibration Levels

Impact 3.9-2: Implementation of the project could expose persons to, or generate, excessive ground-borne vibration or ground-borne noise levels.

Project-Specific

Construction

Construction activities for individual development projects that would occur within the Specific Plan area would include demolition and grading activities, which would have the potential to generate low levels of groundborne vibration. Persons residing and working in close proximity to a construction site could be exposed to the generation of excessive groundborne vibration or groundborne noise levels related to construction activities. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Site ground vibrations from construction activities very rarely reach the levels that can damage structures, but they can be perceived in the audible range and be felt in buildings very close to a construction site.

The various PPV levels and RMS velocity (in VdB) levels for the types of construction equipment that would operate during the construction of the individual development projects are identified in **Table 3.9-16**. As shown, vibration velocities could reach as high as approximately 0.089 inch-per-second PPV at 25 feet for typical construction activities that corresponds to a RMS velocity level of 87 VdB at 25 feet. When high impact activities such as pile driving are required, vibration velocities could reach as high as 0.644 inch-per-second PPV at 25 feet, which corresponds to a RMS velocity level of 104 VdB at 25 feet.

TABLE 3.9-16
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

	Approximate PPV (in/sec)					Approximate RMS (VdB)				
Equipment	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Pile Driver (Impact)	0.644	0.228	0.173	0.124	0.081	104	95	93	90	86
Pile Driver (Sonic)	0.170	0.060	0.046	0.033	0.021	93	84	82	79	75
Large Bulldozer	0.089	0.031	0.024	0.017	0.011	87	78	76	73	69
Caisson Drilling	0.089	0.031	0.024	0.017	0.011	87	78	76	73	69
Loaded Trucks	0.076	0.027	0.020	0.015	0.010	86	77	75	72	68
Jackhammer	0.035	0.012	0.009	0.007	0.004	79	70	68	65	61
Small Bulldozer	0.003	0.001	0.0008	0.0006	0.0004	58	49	47	44	40

SOURCE: FTA, 2006; ESA, 2015.

Over the course of the Specific Plan build out, construction activities associated with new development could occur adjacent to or in the vicinity of sensitive receptors since these developments would primarily require redevelopment of already developed properties in the

Specific Plan area, which includes mixed uses. Because the Specific Plan area contains existing land uses, it is anticipated that some existing adjacent uses could be located 50 feet or less from a construction site. Consequently, receptors that are located immediately adjacent to a construction site could be exposed to excessive groundborne vibration levels. Based on the vibration source levels shown in Table 3.9-16, adjacent receptors that are located less than 50 feet from a construction site could be exposed to peak vibration levels of above 0.031 PPV and 78 VdB during construction that does not include pile driving equipment. Under scenarios where a construction site associated with the proposed project is located within 25 feet from an existing adjacent land use, the peak vibration levels experienced by these adjacent land uses can be above 0.089 PPV and 87 VdB during typical construction activities that do not include pile driving equipment. While most of the new development in the Specific Plan area is not anticipated to require pile driving, under conditions where such activities are required, peak vibration levels of above 0.644 PPV and 104 VdB could occur at adjacent receptors that are located less than 25 feet from the activity.

As individual development projects would be spread over the Specific Plan's 20-year build out period and construction events are short-term in nature, it is anticipated that there would be an infrequent amount of vibration events at sensitive land use receptors. However, depending on how close an actual receptor location is to a construction site, the type of construction equipment and the type of receptor building (non-engineered timber and masonry building, history-age building, etc.), the vibration levels at a receptor location could exceed the vibration threshold for structural damage (i.e., 0.2 PPV for non-engineered timber and masonry building and 0.12 for historic-age buildings that are extremely susceptible to vibration damage), as well as, the vibration threshold for human annoyance (i.e., 78 VdB for daytime residential areas and 72 VdB for nighttime residential areas). As such, vibration impacts during construction associated with the proposed Specific Plan could be potentially significant.

Operations

Groundborne vibration within and surrounding the Specific Plan area currently result from heavy-duty vehicular travel (e.g., refuse trucks, delivery trucks, and transit buses) on the nearby local roadways. The land uses proposed within the Specific Plan would increase the use of these existing heavy-duty vehicles on the local roadways. As discussed previously, groundborne vibration from heavy-duty vehicular travel could generate velocity levels of approximately 63 VdB (approximately 0.006 in/sec) at a distance of 50 feet and these levels could reach approximately 72 VdB (approximately 0.016 in/sec PPV) where trucks pass over bumps in the road. Based on a human annoyance threshold of 78 VdB (0.032 in/sec PPV) and a structural damage threshold of up to 0.12 in/sec PPV, heavy-duty vehicular travel associated with the uses proposed within the Specific Plan would result in a less than significant groundborne vibration impact.

As such, vibration impacts associated with operation of the future residential and non-residential developments implemented by the proposed Specific Plan would be less than significant.

Future development in the Specific Plan area would introduce additional residential uses in the immediate vicinity of the Metro Blue line. As described previously, trains are a common source

of groundborne vibration, where locomotive-powered passenger trains traveling at 50 mph can generate vibration levels up to approximately 84.5 VdB (0.067 in/sec PPV) at 50 feet from the track centerline. Given that future residential developments under the Specific Plan could be located as close as approximately 68 feet from the Metro Blue line, the resulting vibration levels at these developments could reach up to 82 VdB (or 0.05 in/sec PPV) (FTA, 2006). It should be noted that the vibration level of 82 VdB is a conservative estimate, as trains making a stop at the Willowbrook/Rosa Parks Station would be coming in at much lower speeds than 50 mph when entering the Specific Plan area. However, because not all trains would make a stop at the Metro Station, it is assumed for the purpose of conducting a worst-case analysis that these trains could be traveling at speeds up to 50 mph.

Metro currently operates passenger trains daily through this area. Existing vibration levels at the closest existing residences along Willowbrook Avenue are estimated, based on similar urban conditions, to range from 69 VdB (vibration decibels) for Metro Blue Line train passbys at 30 mph, to 75 VdB for Union Pacific freight locomotive passbys (approximately two to six daily) at 30 mph (LACMTA 2015). Based on Metro train timetables, Metro currently operates passenger trains daily from 4:00 a.m. to 12:00 a.m. approximately every 15 minutes in the eastbound and the westbound direction through this area and the Willowbrook/Rosa Parks Station (approximately 160 daily events). Because vibration events would occur more than 70 times per day, these events are considered to be "frequent" events. The FTA human annoyance threshold for frequent events is 72 VdB for residences and buildings where people normally sleep.

At the closest residence (68 feet from the centerline of the rail tracks), the vibration levels of 69 VdB (0.011 in/sec PPV) for Metro Blue Line train passbys at 30 mph, to 75 VdB (0.02 in/sec PPV) for Union Pacific freight locomotive passbys (approximately two to six daily) at 30 mph would be below the daytime human annoyance threshold of 78 VdB (0.032 in/sec PPV); however, the nighttime human annoyance threshold of 72 VdB (0.016 in/sec PPV) could be exceeded. The vibration levels from the rail operations would be below the structural damage threshold of 0.12 in/sec PPV.

Therefore, daytime human annoyance and structure damage thresholds would not be exceeded by existing rail operations and the potential impact would be less than significant. However, proposed residential uses within the Specific Plan that are planned to be located in close proximity to the rail tracks could be exposed to vibration levels that exceed the nighttime human annoyance threshold of 72 VdB (0.016 in/sec PPV) from the trains traveling through the Specific Plan area. These nighttime vibration impacts would be potentially significant.

Cumulative

The geographic scope for cumulative vibration impacts includes areas directly adjacent to the Specific Plan area that could contribute to construction or operational vibration levels within the Specific Plan.

Cumulative development could occur adjacent to the Specific Plan area. Construction activities associated with the cumulative development could exceed the vibration thresholds for human annoyance and structural damage depending on the distance to the receptor and the construction

equipment used. This exceedance of the vibration threshold would result in a significant vibration impact. Because the proposed project could result in significant human annoyance and structural damage vibration impacts from construction activities, the project's contribution to cumulative vibration impacts from construction activities would be cumulatively considerable.

Cumulative development could increase heavy-duty vehicular truck traffic within the Specific Plan area. This truck traffic is estimated to generate vibration levels of up to 72 VdB (approximately 0.016 in/sec PPV). This vibration level from cumulative development would not exceed the human annoyance or structural damage threshold, and therefore, would result in less than significant impacts. Because the proposed project would generate similar vibration levels from truck traffic as cumulative development, the project's contribution to cumulative impacts would be less than cumulatively considerable.

Cumulative development could contribute to groundborne vibration through operational activities; however, these activities are expected to occur in the daytime and result in a nominal potential increase in vibration levels on future residential uses within the Specific Plan area. Cumulative vibration levels would not exceed the daytime human annoyance threshold or structural damage threshold. Therefore, cumulative vibration impacts would be less than significant. Because the proposed project would result in less than significant vibration impacts associated with daytime human annoyance and structural damage, the project contribution to these vibration impacts would be less than cumulatively considerable.

Although future residential uses associated with the Specific Plan could be exposed to vibration levels that would exceed the nighttime human annoyance, future growth associated with cumulative development would not contribute to nighttime vibration impacts. Therefore, cumulative development would result in no nighttime vibration impacts.

Mitigation Measures

Project-Specific

Mitigation Measure NOI-3: Prior to approval of a grading permit or building permit, construction equipment shall be prohibited within 50 feet of occupied residential structures. If construction equipment is required to be within 50 feet of occupied residential structures, the project applicant shall demonstrate that the human annoyance threshold of 78 VdB (0.032 in/sec PPV) and structural damage thresholds of 0.2 in/sec PPV for non-engineered timber and masonry buildings and 0.12 in/sec PPV for historic-age buildings that are extremely susceptible to vibration damage is achieved. Demonstration of compliance shall be provided through the preparation of a vibration analysis.

Mitigation Measure NOI-4: Prior to the issuance of a building permit for a residential development within 100 feet of the rail tracks, the project applicant shall demonstrate that nighttime vibration level at the proposed residential uses shall not exceed the 72 VdB (0.016 in/sec PPV) threshold for human annoyance.

Cumulative

Implementation of Mitigation Measure NOI-3 is required.

Significance Determination

Project-Specific

Less than significant. Implementation of Mitigation Measure NOI-3 would prohibit the use of construction equipment that generates high levels of vibration within 50 feet of an occupied residential structure. If construction equipment is required to be used, the project applicant will be required to demonstrate that the human annoyance and structure damage thresholds from vibration impacts are achieved. Implementation of NOI-4 would ensure that future residential development is not exposed to vibration levels that exceed the nighttime human annoyance threshold of 72 VdB (0.016 in/sec PPV).

Cumulative

Less than significant. Implementation of NOI-2 would reduce the project's contribution to potential vibration impacts on occupied residential structures to less than cumulatively considerable.

Permanent Increase in Ambient Noise Levels

Impact 3.9-3: Implementation of the project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Project-Specific

The noise environment in the Specific Plan area is primarily transportation-related, with local traffic being the most significant source of community noise. Because the project includes development of residential and non-residential uses that would generate additional population within the Specific Plan, most of the permanent noise levels that would be generated would primarily be traffic-generated noise. The Specific Plan would contribute to an increase in local traffic volumes, which results in higher noise levels along local roadways. Based on the traffic study prepared for the proposed project, included as Appendix D of this EIR, in combination with an analysis of the surrounding land uses, roadway noise levels were forecasted to determine if the proposed Specific Plan's vehicular traffic would result in a substantial increase in noise at receptor locations located within and in proximity to the Specific Plan area. A substantial increase in ambient traffic noise levels would occur if the existing with project traffic volumes exceed the permanent noise level increase standards established by each jurisdiction adjacent to the evaluated roadway segments.

Table 3.9-17 identifies the existing roadway noise levels and the existing with project with and without the project, the noise level increase, and whether as shown traffic noise levels within and in proximity to the Specific Plan area would slightly increase with build out of the proposed Specific Plan.

TABLE 3.9-17
EXISTING WITH PROJECT ROADWAY NOISE LEVEL INCREASE

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a]				
		Existing	Existing With Project	Project Increment[b]	Significance Threshold[c]	Exceed Threshold?[d]
Segments Within Specific Plan Area						
Imperial Highway						
Compton Ave to Wilmington Ave	Commercial	70.6	70.9	0.3	3,70/3,75	No/No
Wilmington Ave to Mona Blvd	Commercial	70.9	71.9	1.0	3,75	No
I-105						
Compton Ave to Mona Blvd	MF Residential/ Commercial	65.0[e]	65.6e[e]	0.6	3,65/3,75	No/No
118th Street						
Compton Ave to Wilmington Ave	MF Residential/School	62.4	66.9	4.5	3,65/3,70	No/No
119th/120th Street						
Compton Avenue to Wilmington Ave	School/Hospital	66.9	68.4	1.5	3,70/3,70	No/No
Wilmington Ave to Willowbrook Ave	SF, MF Residential/ Commercial	65.3	65.6	0.3	3,60; 3,65/ 3,75	No/No/No
Willowbrook Ave to Mona Blvd	SF, MF Residential	63.3	63.6	0.3	3,60; 3,65	No, No
Compton Ave						
Imperial Hwy to 120th Street	MF Residential/School/ Commercial	67.4	68.7	1.3	3, 65/3,70/ 3,75	No/No/No
120th Street to Southern Boundary[f]	Hospital	65.9	66.9	1.0	3,70	No
Wilmington Ave						
Imperial Hwy to I-105	Commercial	67.7	69.0	1.3	3,75	No
I-105 to 119th Street	MF Residential/ Commercial	70.5	72.4	1.9	3,65/3,75	No/No
119th Street to Southern Boundary[f]	MF Residential/Hospital/ Commercial	68.9	70.0	1.1	3,65/3,70/ 3,75	No/No/No
Mona Blvd						
Imperial Hwy to 119th Street	SF, MF Residential	66.9	67.2	0.3	3,60/3,65	No/No
Segments Outside of Specific Plan Area						
City of Los Angeles						
103rd Street						
West of Central Ave	Residential/Commercial	64.1	64.6	0.5	3,70/3,75	No/No
Central Ave to Wilmington Ave	Residential/School/ Park/Commercial	66.4	66.8	0.4	3,70/3,70/ 3,70/3,75	No/No/ No/No
Wilmington Ave to Alameda Street	Residential/School/ Commercial	65.1	65.6	0.5	3,70/3,70/ 3,75	No/No/No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a]				
		Existing	Existing With Project	Project Increment[b]	Significance Threshold[c]	Exceed Threshold?[d]
108th Street						
Central Avenue to West of Avalon Blvd	Residential/Commercial	65.1	65.6	0.5	3,70/3,75	No/No
112th Street						
Railroad to Mona Blvd	Residential/School/ Commercial	55.4	59.0	3.6	3,70/3,70/ 3,75	No/No/No
Imperial Highway						
San Pedro Street to West of Main Street	Residential/School/ Commercial	71.1	71.8	0.7	3,70/3,70/ 3,75	No/No/No
San Pedro Street to Avalon Blvd	Residential/Commercial	69.3	70.0	0.7	3,70/3,75	No/No
Avalon Blvd to Slater Ave	Residential/Commercial	70.7	71.3	0.6	3,70/3,75	No/No
Slater Ave to Wilmington Ave	Residential/Commercial	70.6	70.9	0.3	3,70/3,75	No/No
Wilmington Ave to Mona Blvd	Residential/School/ Commercial	70.9	71.9	1.0	3,70/3,70/ 3,75	No/No/No
Main Street						
North and South of Imperial Hwy	Residential/Commercial	65.9	66.5	0.6	3,70/3,75	No/No
San Pedro Street						
108th Street to 120th Street	Residential/School/ Commercial	66.8	67.2	0.4	3,70/3,70/ 3,75	No/No/No
Avalon Blvd						
North of Imperial Hwy	Commercial	69.3	69.9	0.6	3,75	No
Imperial Hwy to 120th Street	Residential/Commercial	68.4	68.9	0.5	3,70/3,75	No/No
Central Ave						
Century Blvd to 108th Street	Residential/Park/ Commercial	70.5	71.1	0.6	3,70/3,70/ 3,75	No/No/No
108th Street to 120th Street	Residential/School/ Commercial	70.1	72.0	1.9	3,70/3,70/ 3,75	No/No/No
Compton Ave						
Century Blvd to Imperial Hwy	Residential/School/ Commercial	67.4	68.7	1.3	3,70/3,70/ 3,75	No/No/No
Wilmington Ave						
Century Blvd to 112th Street	Residential/School/ Commercial	67.2	67.7	0.5	3,70/3,70/ 3,75	No/No/No
112th Street to Imperial Hwy	Residential/Commercial	67.7	69.0	1.3	3,70/3,75	No/No
Alameda Street						
103rd Street to Imperial Hwy	School/Commercial	70.6	70.9	0.3	3,70/3,75	No/No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Existing	Existing With Project	Project Increment[b]	Significance Threshold[c]	Exceed Threshold?[d]
County of Los Angeles						
Imperial Highway						
Mona Blvd to Alameda Street	Residential/Commercial	70.9	71.9	1.0	3,70/3,75	No/No
120th Street						
San Pedro Street to Central Ave	Residential/Park/ Commercial	67.7	68.7	1.0	3,70/3,70/ 3,75	No/No/No
Central Ave to Compton Ave	Residential/School/ Commercial	68.1	69.5	1.4	3,70/3,70/ 3,75	No/No/No
El Segundo Blvd						
San Pedro Street to Slater Ave	Residential/School/ Park/Commercial	69.6	70.3	0.7	3,70/3,70/ 3,70/3,75	No/No/ No/No
Slater Ave to Wilmington Ave	Residential/School/ Park/Commercial	69.8	70.3	0.5	3,70/3,70/ 3,70/3,75	No/No/ No/No
Wilmington Ave to Alameda Street	Residential/Commercial	67.9	68.4	0.5	3,70/3,75	No/No
Rosecrans Ave						
East of Central Ave	Residential/Commercial	69.4	69.8	0.4	3,70/3,75	No/No
San Pedro Street						
120th Street to 135th Street	Residential/School/ Commercial	66.8	67.2	0.4	3,70/3,70/ 3,75	No/No/No
Avalon Blvd						
120th Street to Rosecrans Ave	Residential/School/ Park/Commercial	68.4	68.9	0.5	3,70/3,70/ 3,70/3,75	No/No/ No/No
Central Ave						
120th Street to South of El Segundo Blvd	Residential/Commercial	69.4	70.2	0.8	3,70/3,75	No/No
South of El Segundo Blvd	Residential/Commercial	69.4	70.2	0.8	3,70/3,75	No/No
North of Rosecrans	Residential/Commercial	69.4	70.2	0.8	3,70/3,75	No/No
Compton Ave						
Imperial Hwy to 120th Street	Residential/Commercial	67.4	68.7	1.3	3,70/3,75	No/No
120th Street to El Segundo Blvd	Residential/Commercial	65.9	66.9	1.0	3,70/3,75	No/No
Wilmington Ave						
Imperial Hwy to I-105	Commercial	67.7	69.0	1.3	3,75	No
Southern Boundary to El Segundo Blvd	Residential/Commercial	68.9	70.0	1.1	3,70/3,75	No/No
Alameda Street						
124th Street to Oris Street	Commercial	70.0	70.0	0.0	3,75	No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Existing	Existing With Project	Project Increment[b]	Significance Threshold[c]	Exceed Threshold?[d]
City of Lynwood						
Imperial Highway						
Alameda Street to East of State Street	Commercial	71.1	71.5	0.4	1.0	No
Mona Blvd						
Imperial Hwy to 119th Street	Commercial	66.9	67.2	0.3	1.0	No
Alameda Street						
103rd Street to Imperial Hwy	School/Commercial	70.6	70.9	0.3	1.0/1.0	No/No
Imperial Hwy to North of 124th Street	Commercial	70.0	70.0	0.0	1.0	No
State Street/Santa Fe Ave						
N/O Imperial Hwy to S/O El Segundo Blvd	Residential/Park/ Commercial	67.7	67.7	0.0	1.0/1.0/1.0	No/No/No
City of Compton						
El Segundo Blvd						
East and West of State Street	Residential/Commercial	64.9	65.4	0.5	3,70/3,78	No/No
Rosecrans Ave						
San Pedro Street to Willowbrook Ave	Residential/School/ Commercial	69.4	69.8	0.4	3,70/3,60/ 3,78	No/No/No
Willowbrook Ave to Alameda Street	Commercial	69.8	70.2	0.4	3,78	No
Compton Blvd						
West of Central to East of Willowbrook	Residential/Library/ Commercial	69.2	69.2	0.0	3,70/3,60/ 3,78	No/No/No
Alondra Blvd						
West and East of Willowbrook Ave	Residential/Commercial	68.7	68.9	0.2	3,70/3,78	No/No
Central Ave						
South of El Segundo Blvd to Rosecrans	Residential/School/ Commercial	69.4	70.2	0.8	3,70/3,60/ 3,78	No/No/No
Rosecrans Ave to Walnut Street	Residential/School/ Commercial	68.8	69.3	0.5	3,70/3,60/ 3,78	No/No/No
Wilmington Ave						
El Segundo Blvd to Rosecrans Ave	Residential/School/ Commercial	68.9	70.0	1.1	3,70/3,60/ 3,78	No/No/No
Rosecrans Ave to SR-91	Residential/School/ Commercial	69.3	70.0	0.7	3,70/3,60/ 3,78	No/No/No
Alameda Street						
North of 124th Street to Rosecrans Ave	Commercial	70.0	70.0	0.0	3,78	No
Rosecrans Ave to SR-91	Residential/Commercial	70.2	70.5	0.3	3,70/3,78	No/No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a]				
		Existing	Existing With Project	Project Increment[b]	Significance Threshold[c]	Exceed Threshold?[d]
Santa Fe Avenue						
North of Weber to S/O El Segundo Blvd	Residential/Commercial	67.7	67.7	0.0	3,70/3,78	No/No

Notes:
SF – Single Family
MF – Multiple Family

[a] Noise level is at 25 feet from nearest curb.

[b] Significance Threshold is provided for each existing land use located along the existing roadway segment

[c] The significance threshold is expressed by noise level increase in dBA (i.e., 3) and then the land use compatibility noise level (i.e., 70) for the roadway segments located within the County of Los Angeles, City of Los Angeles and City of Compton. The significance threshold is expressed by noise level increase in dBA (i.e., 3) for the roadway segments located in the City of Lynwood.

[d] The determination of significance is for each existing land use located along the existing roadway segment

[e] Accounts for existing earthen berm

[f] Southern Boundary of Specific Plan Area

As shown in Table 3.9-17, project development would increase local noise levels by less than the 3 dBA CNEL increase threshold along roadway segments within the County of Los Angeles, City of Los Angeles and City of Compton, except at 112th Street between the railroad and Mona Boulevard (a 3.6 dBA increase) and at 118th Street between Compton Avenue and Wilmington Avenue (a 4.5 dBA CNEL increase); however, the residential noise threshold of 70 dBA CNEL would not be exceeded at these locations. In addition, project development would increase local noise levels by less than the 1.0 dBA CNEL increase threshold along roadway segments within the City of Lynwood. Therefore, the project impact associated with mobile source noise at all of the analyzed roadway segments would be less than significant.

Cumulative

The primary noise source contributing to cumulative operational noise levels from future development projects under the proposed Specific Plan and related projects would be traffic. Cumulative mobile source noise impacts would occur primarily as a result of increased traffic on local roadways due to implementation of the proposed project, ambient growth, and other developments in the project vicinity. Therefore, cumulative traffic-generated noise impacts have been assessed based on the contribution of the proposed project to the future cumulative base traffic volumes on the roadway segments located within and in proximity to the Specific Plan area. The noise levels associated with existing traffic volumes and cumulative with project traffic volumes are identified in **Table 3.9-18**. In addition, Table 3.9-18 identifies the increment (increase) of noise contributed by Cumulative with Project roadway noise levels above existing noise levels.

TABLE 3.9-18
CUMULATIVE WITH PROJECT ROADWAY NOISE LEVELS INCREASES

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Existing	Cumulative With Project	Cumulative With Project Increment[b]	Significance Threshold[c]	Exceed Threshold?[d]
Segments Within Specific Plan Area						
Imperial Highway						
Compton Ave to Wilmington Ave	Commercial	70.6	70.9	0.3	3,70/3,75	No/No
Wilmington Ave to Mona Blvd	Commercial	70.9	71.9	1.0	3,75	No
I-105						
Compton Ave to Mona Blvd	MF Residential/ Commercial	65.0[e]	65.6[e]	0.6	3,65/3,75	No/No
118th Street						
Compton Ave to Wilmington Ave	MF Residential/School	62.4	66.9	4.5	3,65/3,70	No/No
119th/120th Street						
Compton Avenue to Wilmington Ave	School/Hospital	66.9	68.4	1.5	3,70/3,70	No/No
Wilmington Ave to Willowbrook Ave	SF, MF Residential/ Commercial	65.3	65.6	0.3	3,60; 3,65/3,75	No/No/No
Willowbrook Ave to Mona Blvd	SF, MF Residential	63.3	63.6	0.3	3,60; 3,65	No, No
Compton Ave						
Imperial Hwy to 120th Street	MF Residential/School/ Commercial	67.4	68.7	1.3	3, 65/3,70/3,75	No/No/No
120th Street to Southern Boundaryf	Hospital	65.9	66.9	1.0	3,70	No
Wilmington Ave						
Imperial Hwy to I-105	Commercial	67.7	69.0	1.3	3,75	No
I-105 to 119th Street	MF Residential/ Commercial	70.5	72.4	1.0	3,65/3,75	No/No
119th Street to Southern Boundaryf	MF Residential/Hospital/ Commercial	68.9	70.0	1.1	3,65/3,70/ 3,75	No/No/No
Mona Blvd						
Imperial Hwy to 119th Street	SF, MF Residential	66.9	67.2	0.3	3,60/3,65	No/No
Segments Outside of Specific Plan Area						
City of Los Angeles						
103rd Street						
West of Central Ave	Residential/Commercial	64.1	64.6	0.5	3,70/3,75	No/No
Central Ave to Wilmington Ave	Residential/School/ Park/Commercial	66.4	66.8	0.4	3,70/3,70/ 3,70/3,75	No/No/ No/No
Wilmington Ave to Alameda Street	Residential/School/ Commercial	65.1	65.6	0.5	3,70/3,70/ 3,75	No/No/No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Existing	Cumulative With Project	Cumulative With Project Increment[b]	Significance Threshold[c]	Exceed Threshold?[d]
108th Street						
Central Avenue to West of Avalon Blvd	Residential/Commercial	65.1	65.6	0.5	3,70/3,75	No/No
112th Street						
Railroad to Mona Blvd	Residential/School/ Commercial	55.4	59.0	3.6	3,70/3,70/ 3,75	No/No/No
Imperial Highway						
San Pedro Street to West of Main Street	Residential/School/ Commercial	71.1	71.8	0.7	3,70/3,70/ 3,75	No/No/No
San Pedro Street to Avalon Blvd	Residential/Commercial	69.3	70.0	0.7	3,70/3,75	No/No
Avalon Blvd to Slater Ave	Residential/Commercial	70.7	71.3	0.6	3,70/3,75	No/No
Slater Ave to Wilmington Ave	Residential/Commercial	70.6	70.9	0.3	3,70/3,75	No/No
Wilmington Ave to Mona Blvd	Residential/School/ Commercial	70.9	71.9	1.0	3,70/3,70/ 3,75	No/No/No
Main Street						
North and South of Imperial Hwy	Residential/Commercial	65.9	66.5	0.6	3,70/3,75	No/No
San Pedro Street						
108th Street to 120th Street	Residential/School/ Commercial	66.8	67.2	0.4	3,70/3,70/ 3,75	No/No/No
Avalon Blvd						
North of Imperial Hwy	Commercial	69.3	69.9	0.6	3,75	No
Imperial Hwy to 120th Street	Residential/Commercial	68.4	68.9	0.5	3,70/3,75	No/No
Central Ave						
Century Blvd to 108th Street	Residential/Park/ Commercial	70.5	71.1	0.6	3,70/3,70/ 3,75	No/No/No
108th Street to 120th Street	Residential/School/ Commercial	70.1	72.0	1.9	3,70/3,70/ 3,75	No/No/No
Compton Ave						
Century Blvd to Imperial Hwy	Residential/School/ Commercial	67.4	68.7	1.3	3,70/3,70/ 3,75	No/No/No
Wilmington Ave						
Century Blvd to 112th Street	Residential/School/ Commercial	67.2	67.7	0.5	3,70/3,70/ 3,75	No/No/No
112th Street to Imperial Hwy	Residential/Commercial	67.7	69.0	1.3	3,70/3,75	No/No
Alameda Street						
103rd Street to Imperial Hwy	School/Commercial	70.6	70.9	0.3	3,70/3,75	No/No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Existing	Cumulative With Project	Cumulative With Project Increment[b]	Significance Threshold[c]	Exceed Threshold?[d]
County of Los Angeles						
Imperial Highway						
Mona Blvd to Alameda Street	Residential/Commercial	70.9	71.9	1.0	3,70/3,75	No/No
120th Street						
San Pedro Street to Central Ave	Residential/Park/ Commercial	67.7	68.7	1.0	3,70/3,70/ 3,75	No/No/No
Central Ave to Compton Ave	Residential/School/ Commercial	68.1	69.5	1.4	3,70/3,70/ 3,75	No/No/No
El Segundo Blvd						
San Pedro Street to Slater Ave	Residential/School/ Park/Commercial	69.6	70.3	0.7	3,70/3,70/ 3,70/3,75	No/No/ No/No
Slater Ave to Wilmington Ave	Residential/School/ Park/Commercial	69.8	70.3	0.5	3,70/3,70/ 3,70/3,75	No/No/ No/No
Wilmington Ave to Alameda Street	Residential/Commercial	67.9	68.4	0.5	3,70/3,75	No/No
Rosecrans Ave						
East of Central Ave	Residential/Commercial	69.4	69.8	0.4	3,70/3,75	No/No
San Pedro Street						
120th Street to 135th Street	Residential/School/ Commercial	66.8	67.2	0.4	3,70/3,70/ 3,75	No/No/No
Avalon Blvd						
120th Street to Rosecrans Ave	Residential/School/ Park/Commercial	68.4	68.9	0.5	3,70/3,70/ 3,70/3,75	No/No/ No/No
Central Ave						
120th Street to South of El Segundo Blvd	Residential/Commercial	69.4	70.2	0.8	3,70/3,75	No/No
South of El Segundo Blvd	Residential/Commercial	69.4	70.2	0.8	3,70/3,75	No/No
North of Rosecrans	Residential/Commercial	69.4	70.2	0.8	3,70/3,75	No/No
Compton Ave						
Imperial Hwy to 120th Street	Residential/Commercial	67.4	68.7	1.3	3,70/3,75	No/No
120th Street to El Segundo Blvd	Residential/Commercial	65.9	66.9	1.0	3,70/3,75	No/No
Wilmington Ave						
Imperial Hwy to I-105	Commercial	67.7	69.0	1.3	3,75	No
Southern Boundary to El Segundo Blvd	Residential/Commercial	68.9	70.0	1.1	3,70/3,75	No/No
Alameda Street						
124th Street to Oris Street	Commercial	70.0	70.0	0.0	3,75	No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Existing	Cumulative With Project	Cumulative With Project Increment[b]	Significance Threshold[c]	Exceed Threshold?[d]
City of Lynwood						
Imperial Highway						
Alameda Street to East of State Street	Commercial	71.1	71.5	0.4	1.0	No
Mona Blvd						
Imperial Hwy to 119th Street	Commercial	66.9	67.2	0.3	1.0	No
Alameda Street						
103rd Street to Imperial Hwy	School/Commercial	70.6	70.9	0.3	1.0/1.0	No/No
Imperial Hwy to North of 124th Street	Commercial	70.0	70.0	0.0	1.0	No
State Street/Santa Fe Ave						
N/O Imperial Hwy to S/O El Segundo Blvd	Residential/Park/ Commercial	67.7	67.7	0.0	1.0/1.0/1.0	No/No/No
City of Compton						
El Segundo Blvd						
East and West of State Street	Residential/Commercial	64.9	65.4	0.5	3,70/3,78	No/No
Rosecrans Ave						
San Pedro Street to Willowbrook Ave	Residential/School/ Commercial	69.4	69.8	0.4	3,70/3,60/ 3,78	No/No/No
Willowbrook Ave to Alameda Street	Commercial	69.8	70.2	0.4	3,78	No
Compton Blvd						
West of Central to East of Willowbrook	Residential/Library/ Commercial	69.2	69.2	0.0	3,70/3,60/ 3,78	No/No/No
Alondra Blvd						
West and East of Willowbrook Ave	Residential/Commercial	68.7	68.9	0.2	3,70/3,78	No/No
Central Ave						
South of El Segundo Blvd to Rosecrans	Residential/School/ Commercial	69.4	70.2	0.8	3,70/3,60/ 3,78	No/No/No
Rosecrans Ave to Walnut Street	Residential/School/ Commercial	68.8	69.3	0.5	3,70/3,60/ 3,78	No/No/No
Wilmington Ave						
El Segundo Blvd to Rosecrans Ave	Residential/School/ Commercial	68.9	70.0	1.1	3,70/3,60/ 3,78	No/No/No
Rosecrans Ave to SR-91	Residential/School/ Commercial	69.3	70.0	0.7	3,70/3,60/ 3,78	No/No/No
Alameda Street						
North of 124th Street to Rosecrans Ave	Commercial	70.0	70.0	0.0	3,78	No
Rosecrans Ave to SR-91	Residential/Commercial	70.2	70.5	0.3	3,70/3,78	No/No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Existing	Cumulative With Project	Cumulative With Project Increment[b]	Significance Threshold[c]	Exceed Threshold?[d]
Santa Fe Avenue						
North of Weber to S/O El Segundo Blvd	Residential/Commercial	67.7	67.7	0.0	3,70/3,78	No/No

Notes:
SF – Single Family
MF – Multiple Family

[a] Noise level is at 25 feet from nearest curb.

[b] Significance Threshold is provided for each existing land use located along the existing roadway segment

[c] The significance threshold is expressed by noise level increase in dBA (i.e., 3) and then the land use compatibility noise level (i.e., 70) for the roadway segments located within the County of Los Angeles, City of Los Angeles and City of Compton. The significance threshold is expressed by noise level increase in dBA (i.e., 3) for the roadway segments located in the City of Lynwood.

[d] The determination of significance is for each existing land use located along the existing roadway segment

[e] Accounts for existing earthen berm

[f] Southern Boundary of Specific Plan Area

As shown in Table 3.9-18, cumulative with project traffic noise levels along the analyzed roadway segments would not exceed the applicable significance threshold. Therefore, cumulative with project traffic noise levels would result in a less than significant impact on adjacent land uses.

Table 3.9-19 provides the project's contribution to cumulative with project traffic noise levels along the analyzed roadway segments.

TABLE 3.9-19
PROJECT'S CONTRIBUTION TO CUMULATIVE WITH PROJECT ROADWAY NOISE LEVEL INCREASE

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Cumulative Without Project	Cumulative With Project	Project Increment[b]	Significance Threshold	Exceed Threshold?[c]
Segments Within Specific Plan Area						
Imperial Highway						
Compton Ave to Wilmington Ave	Commercial	70.6	70.9	0.3	3,70/3,75	No/No
Wilmington Ave to Mona Blvd	Commercial	71.1	71.9	0.8	3,75	No
I-105						
Compton Ave to Mona Blvd	MF Residential/ Commercial	65.4[d]	65.6[d]	0.2	3,65/3,75	No/No
118th Street						
Compton Ave to Wilmington Ave	MF Residential/School	66.7	66.9	0.2	3,65/3,70	No/No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Cumulative Without Project	Cumulative With Project	Project Increment[b]	Significance Threshold	Exceed Threshold?[c]
119th Street						
Compton Avenue to Wilmington Ave	School/Hospital	67.0	68.4	1.4	3,70/3,70	No/No
Wilmington Ave to Willowbrook Ave	SF, MF Residential/ Commercial	65.3	65.6	0.3	3,60; 3,65/ 3,75	No/No/No
Willowbrook Ave to Mona Blvd	SF, MF Residential	63.3	63.6	0.3	3,60; 3,65	No, No
Compton Ave						
Imperial Hwy to 120th Street	MF Residential/School/ Commercial	67.5	68.7	1.2	3, 65/3,70/ 3,75	No/No/No
120th Street to Southern Boundarye	Hospital	66.0	66.9	0.9	3,70	No
Wilmington Ave						
Imperial Hwy to I-105	Commercial	67.9	69.0	1.1	3,75	No
I-105 to 119th Street	MF Residential/ Commercial	70.8	72.4	1.6	3,65/3,75	No/No
119th Street to Southern Boundarye	MF Residential/Hospital/ Commercial	69.1	70.0	0.9	3,65/3,70/ 3,75	No/No/No
Mona Blvd						
Imperial Hwy to 119th Street	SF, MF Residential	66.9	67.2	0.3	3,60/3,65	No/No
Segments Outside of Specific Plan Area						
City of Los Angeles						
103rd Street						
West of Central Ave	Residential/Commercial	64.5	64.6	0.1	3,70/3,75	No/No
Central Ave to Wilmington Ave	Residential/School/ Park/Commercial	66.8	66.8	0.0	3,70/3,70/ 3,70/3,75	No/No/ No/No
Wilmington Ave to Alameda Street	Residential/School/ Commercial	65.1	65.6	0.5	3,70/3,70/ 3,75	No/No/No
108th Street						
Central Avenue to West of Avalon Blvd	Residential/Commercial	65.6	65.6	0.0	3,70/3,75	No/No
112th Street						
Railroad to Mona Blvd	Residential/School/ Commercial	55.8	59.0	3.2	3,70/3,70/ 3,75	No/No/No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Cumulative Without Project	Cumulative With Project	Project Increment[b]	Significance Threshold	Exceed Threshold?[c]
Imperial Highway						
San Pedro Street to West of Main Street	Residential/School/ Commercial	71.6	71.8	0.2	3,70/3,70/ 3,75	No/No/No
San Pedro Street to Avalon Blvd	Residential/Commercial	69.7	70.0	0.3	3,70/3,75	No/No
Avalon Blvd to Slater Ave	Residential/Commercial	71.1	71.3	0.2	3,70/3,75	No/No
Slater Ave to Wilmington Ave	Residential/Commercial	70.6	70.9	0.3	3,70/3,75	No/No
Wilmington Ave to Mona Blvd	Residential/School/ Commercial	71.1	71.9	0.8	3,70/3,70/ 3,75	No/No/No
Main Street						
North and South of Imperial Hwy	Residential/Commercial	66.4	66.5	0.1	3,70/3,75	No/No
San Pedro Street						
108th Street to 120th Street	Residential/School/ Commercial	67.2	67.2	0.0	3,70/3,70/ 3,75	No/No/No
Avalon Blvd						
North of Imperial Hwy	Commercial	69.8	69.9	0.1	3,75	No
Imperial Hwy to 120th Street	Residential/Commercial	68.7	68.9	0.2	3,70/3,75	No/No
Central Ave						
Century Blvd to 108th Street	Residential/Park/ Commercial	71.0	71.1	0.1	3,70/3,70/ 3,75	No/No/No
108th Street to 120th Street	Residential/School/ Commercial	70.7	72.0	1.3	3,70/3,70/ 3,75	No/No/No
Compton Ave						
Century Blvd to Imperial Hwy	Residential/School/ Commercial	67.5	68.7	1.2	3,70/3,70/ 3,75	No/No/No
Wilmington Ave						
Century Blvd to 112th Street	Residential/School/ Commercial	67.6	67.7	0.1	3,70/3,70/ 3,75	No/No/No
112th Street to Imperial Hwy	Residential/Commercial	67.9	69.0	1.1	3,70/3,75	No/No
Alameda Street						
103rd Street to Imperial Hwy	School/Commercial	70.6	70.9	0.3	3,70/3,75	No/No
County of Los Angeles						
Imperial Highway						
Mona Blvd to Alameda Street	Residential/Commercial	71.1	71.9	0.8	3,70/3,75	No/No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Cumulative Without Project	Cumulative With Project	Project Increment[b]	Significance Threshold	Exceed Threshold?[c]
120th Street						
San Pedro Street to Central Ave	Residential/Park/ Commercial	68.3	68.7	0.4	3,70/3,70/ 3,75	No/No/No
Central Ave to Compton Ave	Residential/School/ Commercial	68.5	69.5	1.0	3,70/3,70/ 3,75	No/No/No
El Segundo Blvd						
San Pedro Street to Slater Ave	Residential/School/ Park/Commercial	70.2	70.3	0.1	3,70/3,70/ 3,70/3,75	No/No/ No/No
Slater Ave to Wilmington Ave	Residential/School/ Park/Commercial	69.9	70.3	0.4	3,70/3,70/ 3,70/3,75	No/No/ No/No
Wilmington Ave to Alameda Street	Residential/Commercial	68.1	68.4	0.3	3,70/3,75	No/No
Rosecrans Ave						
East of Central Ave	Residential/Commercial	69.6	69.8	0.2	3,70/3,75	No/No
San Pedro Street						
120th Street to 135th Street	Residential/School/ Commercial	67.2	67.2	0.0	3,70/3,70/ 3,75	No/No/No
Avalon Blvd						
120th Street to Rosecrans Ave	Residential/School/ Park/Commercial	68.7	68.9	0.2	3,70/3,70/ 3,70/3,75	No/No/ No/No
Central Ave						
120th Street to South of El Segundo Blvd	Residential/Commercial	70.0	70.2	0.2	3,70/3,75	No/No
South of El Segundo Blvd	Residential/Commercial	70.0	70.2	0.2	3,70/3,75	No/No
North of Rosecrans	Residential/Commercial	70.0	70.2	0.2	3,70/3,75	No/No
Compton Ave						
Imperial Hwy to 120th Street	Residential/Commercial	67.5	68.7	1.2	3,70/3,75	No/No
120th Street to El Segundo Blvd	Residential/Commercial	66.0	66.9	0.9	3,70/3,75	No/No
Wilmington Ave						
Imperial Hwy to I-105	Commercial	67.9	69.0	1.1	3,75	No
Southern Boundary to El Segundo Blvd	Residential/Commercial	69.1	70.0	0.9	3,70/3,75	No/No
Alameda Street						
124th Street to Oris Street	Commercial	70.0	70.0	0.0	3,75	No
City of Lynwood						
Imperial Highway						
Alameda Street to East of State Street	Commercial	71.2	71.5	0.3	1.0	No
Mona Blvd						
Imperial Hwy to 119th Street	Commercial	66.9	67.2	0.3	1.0	No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Cumulative Without Project	Cumulative With Project	Project Increment[b]	Significance Threshold	Exceed Threshold?[c]
Alameda Street						
103rd Street to Imperial Hwy	School/Commercial	70.6	70.9	0.3	1.0/1.0	No/No
Imperial Hwy to North of 124th Street	Commercial	70.0	70.0	0.0	1	No
State Street/Santa Fe Ave						
N/O Imperial Hwy to S/O El Segundo Blvd	Residential/Park/ Commercial	67.7	67.7	0.0	1.0/1.0/1.0	No/No/No
City of Compton						
El Segundo Blvd						
East and West of State Street	Residential/Commercial	65.1	65.4	0.3	3,70/3,78	No/No
Rosecrans Ave						
San Pedro Street to Willowbrook Ave	Residential/School/ Commercial	69.6	69.8	0.2	3,70/3,60/ 3,78	No/No/No
Willowbrook Ave to Alameda Street	Commercial	70.0	70.2	0.2	3,78	No
Compton Blvd						
West of Central to East of Willowbrook	Residential/Library/ Commercial	69.2	69.2	0.0	3,70/3,60/ 3,78	No/No/No
Alondra Blvd						
West and East of Willowbrook Ave	Residential/Commercial	68.9	68.9	0.0	3,70/3,78	No/No
Central Ave						
South of El Segundo Blvd to Rosecrans	Residential/School/ Commercial	70.0	70.2	0.2	3,70/3,60/ 3,78	No/No/No
Rosecrans Ave to Walnut Street	Residential/School/ Commercial	69.2	69.3	0.1	3,70/3,60/ 3,78	No/No/No
Wilmington Ave						
El Segundo Blvd to Rosecrans Ave	Residential/School/ Commercial	69.1	70.0	0.9	3,70/3,60/ 3,78	No/No/No
Rosecrans Ave to SR-91	Residential/School/ Commercial	69.4	70.0	0.6	3,70/3,60/ 3,78	No/No/No
Alameda Street						
North of 124th Street to Rosecrans Ave	Commercial	70.0	70.0	0.0	3,78	No
Rosecrans Ave to SR-91	Residential/Commercial	70.2	70.5	0.3	3,70/3,78	No/No

Roadway Segments	Existing Land Uses Located Along Roadway Segment	dBA CNEL at 25 feet[a] Cumulative Without Project	Cumulative With Project	Project Increment[b]	Significance Threshold	Exceed Threshold?[c]
Santa Fe Avenue						
North of Weber to S/O El Segundo Blvd	Residential/Commercial	67.7	67.7	0.0	3,70/3,78	No/No

Notes:
SF – Single Family
MF – Multiple Family

[a] Noise level is at 25 feet from nearest curb.

[b] Significance Threshold is provided for each existing land use located along the existing roadway segment

[c] The significance threshold is expressed by noise level increase in dBA (i.e., 3) and then the land use compatibility noise level (i.e., 70) for the roadway segments located within the County of Los Angeles, City of Los Angeles and City of Compton. The significance threshold is expressed by noise level increase in dBA (i.e., 3) for the roadway segments located in the City of Lynwood.

[d] The determination of significance is for each existing land use located along the existing roadway segment

[e] Accounts for existing earthen berm

[f] Southern Boundary of Specific Plan Area

As shown in Table 3.9-19, the project's contribution to cumulative with project traffic noise levels along the analyzed roadway segments would not exceed the applicable significance threshold. Therefore, the project's contribution to cumulative with project traffic noise levels would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant.

Cumulative

Less than significant.

Temporary Increase in Ambient Noise Levels

Impact 3.9-4: Implementation of the project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Project-Specific

During implementation of the proposed Specific Plan, temporary or periodic increases in noise levels in the Specific Plan area would result primarily from construction activities associated with the proposed residential and non-residential developments. As individual development projects would occur intermittently over the proposed Specific Plan's 20-year build out period, construction activities for each new development would expose their respective nearby existing uses to increased noise levels. Construction noise impacts associated with each site-specific development would be short-term in nature and limited to the period of time when construction activity is taking place for that particular development.

Construction that occurs immediately adjacent to these existing offsite receptors would generate noise levels that would be substantially greater than the existing noise levels at these receptor locations. Based on the project construction noise levels for general outdoor construction activities and specific construction equipment shown in Tables 3.9-12 and 3.9-13, respectively, these construction noise levels could expose adjacent receptors located within 50 feet to noise levels up to 89 dBA L_{eq} or above. It should be noted that this noise level is not anticipated to occur throughout the entire course of a construction day, as construction equipment and activities rarely operate continuously for a full day at a construction site. Typically, the operating cycle for construction equipment would involve one or two minutes of full power operation followed by three or four minutes at lower power settings. Additionally, construction equipment engines would likely be intermittently turned on and off over the course of a construction day.

With respect to construction activities, the County's General Plan Noise Element does not establish a numerical standard to regulate construction noise levels. However, Section 12.08.440 of the LACC has established numerical standards to regulate construction noise levels at buildings with specific land uses as shown in Table 3.9-7. In addition, Section 12.08.440 of the LACC limits construction activities in the County to between the hours of 7:00 am to 7:00 pm on weekdays (including Saturday's), and prohibits construction on Sundays and holidays. Construction activities may occur outside of these hours if the County determines that the emergency maintenance, repair, or improvement of public service utilities is needed or if a variance is issued by the health officer.

All new development projects in the Specific Plan area would be subject to these regulations. Because construction activities are required to comply with the regulations in the LACC, the construction activities associated with future developments in the Specific Plan area would not exceed any standards established in the LACC. Thus, impacts would be less than significant.

Cumulative

The geographic scope for temporary or periodic noise increases such as construction noise includes areas directly adjacent to the Specific Plan area that could contribute to construction noise levels occurring within the Specific Plan area.

Construction activities occurring in areas directly adjacent to the Specific Plan area could contribute cumulative noise levels with project construction activities. The areas that could be exposed to the highest cumulative construction noise levels are those areas that are not separated

by existing roadways such as the area south of the existing MLK Medical Center. The areas that are located west, north, and east of the Specific Plan area are separated by roadways including Compton Avenue, Imperial Highway and Mona Boulevard, respectively. Construction activities occurring at cumulative developments would increase ambient noise levels; however, these cumulative construction activities would be required to comply with the construction equipment noise standards provided in Section 12.08.440 of the LACC. Because construction activities would be required to comply with the LACC, cumulative construction activities would result in less than significant noise impacts. Because the proposed project would also be required to comply with the LACC, the project's contribution to cumulative construction noise levels would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant.

Cumulative

Less than significant.

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3.10 Population and Housing

Introduction

This section evaluates the potential population growth impacts of the proposed Specific Plan. The section describes the existing and projected population, employment, and housing conditions; and it evaluates the project's potential to induce population and housing growth. Information in the section is based upon the Los Angeles County General Plan, Los Angeles County Housing Element 2014–2021, Southern California Association of Governments (SCAG) 2012–2035 and 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and U.S. Census demographic information. As part of the update to the Los Angeles County General Plan in 2015, the County included a major focus on Transit Oriented Districts (TOD) as a priority throughout the County. The Specific Plan is being proposed to implement TOD development pursuant to the overall goals and policies of the County's General Plan which will increase both population and housing intensities/densities within the Specific Plan area.

3.10.1 Environmental Setting

Population

The Willowbrook community currently encompasses approximately 3.8 square miles (approximately 2,410 acres) and is identified by the US Census Bureau as a Census Designated Place (CDP). Prior to 2013, the boundary of the Willowbrook CDP encompassed a larger area, and therefore, a comparison of population within the Willowbrook community was limited to the year 2013 and after. In 2013, the Willowbrook community had an estimated population of 20,250. In 2015, the Willowbrook community slightly increased in population to 20,685. The percentage of this increase was higher than the percentage population increase for Los Angeles County during the same time frame. The proposed Willowbrook TOD Specific Plan area is included in the Willowbrook community (CDP).

The proposed Specific Plan area encompasses 312 acres and represents approximately 12.9 percent of the Willowbrook CDP. The population of the Willowbrook TOD Specific Plan area (3,053 people) was derived using the County of Los Angeles Department of Regional Planning existing demographic information and applying the 2015 Specific Plan area total housing units (968) and a housing vacancy rate of 7.7 percent estimated by the U.S. Census Bureau for the Willowbrook community. Using the above data, the existing population was obtained by multiplying the total housing units (968) by the vacancy rate (7.7 percent) to obtain 893 occupied housing units and then multiplying the population to occupied housing unit ratio of 3.4 derived by using the County's demographic information to obtain 3,053 persons (893 occupied housing units x 3.4 persons per occupied unit). **Table 3.10-1** shows recent population growth trends for the Willowbrook community and the County of Los Angeles as a whole and includes a 2015 population estimate for the Willowbrook TOD Specific Plan area.

TABLE 3.10-1
POPULATION GROWTH FOR WILLOWBROOK COMMUNITY AND LOS ANGELES COUNTY (2013–2015)

	2013	2015	% Change (2013-2015)
Willowbrook Community	20,250	20,685	2.1%
Los Angeles County	9,893,481	10,038,388	1.5%

SOURCE: U.S. Census Bureau, 2013a, 2013b, 2015a, and 2015b.

Housing

The U.S. Census estimates that the Willowbrook CDP had approximately 5,163 housing units and an average vacancy rate of 7.7 percent in 2015, as shown on **Table 3.10-2**. Approximately, 3,835 (74 percent) of the housing stock consists of single-family residences and 18.3 percent consists of multi-family structures providing 5 or more residences. Compared to the Willowbrook CDP, the County contains a greater percentage of multi-family residential, as structures providing 5 units or more consist of 34 percent of the housing stock; and single-family units consist of a lower percentage (56 percent) of the housing stock. The greater number of single family units within the Willowbrook CDP compared to the total occupied housing units results in a greater average persons-per-household compared to the County. The Willowbrook CDP has an average persons-per-household ratio of 4.3 while the County's average persons per household was 3.0. As identified above, the Willowbrook TOD Specific Plan area includes 968 dwelling units in 2015 and has an average persons-per-household ratio of 3.4. This persons-per-household ratio is lower for the Willowbrook TOD Specific Plan area compared to the Willowbrook community because the percentage of single family residential units, which results in a higher persons-per-household ratio compared to multiple family residential units, is 74 percent within the Willowbrook community compared to 38 percent in the Willowbrook TOD Specific Plan area.

As shown below, the vacancy rate in 2015 for the County of Los Angeles was 5.0 percent. The Willowbrook CDP vacancy rate was higher than the County's rate at 7.7 percent. As described in Table 2-4 in Chapter 2.0, Project Description, the Specific Plan area currently contains 968 residential units, of which 364 units are single family and 604 units are multiple family units.

TABLE 3.10-2
HOUSING STOCK CHARACTERISTICS IN THE WILLOWBROOK COMMUNITY AND LOS ANGELES COUNTY IN 2015

	Willowbrook Community		County of Los Angeles	
Total Units	**5,163**	**100.0%**	**3,476,718**	**100.0%**
Occupied Units	4,774	86.7%	3,263,069	93.9%
Owner-Occupied	1,826	38.2%	1,499,879	46.0%
Renter-Occupied	2,950	61.8%	1,763,190	54.0%
Vacancy Rate	7.7%		5.0%	
SF Detached	3,433	66.5%	1,721,774	49.5%
SF Attached	402	7.8%	226,474	6.5%
MF 2-4 Units	300	5.8%	283,164	8.1%
MF 5+ Units	947	18.3%	1,189,107	34.2%
Mobile Homes/Other	81	1.6%	56,199	1.7%
Average Household Size (persons)	**4.3**		**3.0**	

SOURCES: U.S. Census Bureau, 2013c, 2013d, 2015c, and 2015d.

Employment

The County of Los Angeles had a labor force of 5,011,700 and 4,610,800 residents that had jobs in 2015, which represents an unemployment rate of 6.7 percent (EDD 2016). The County of Los Angeles had 4,398,089 jobs in 2015 (SCAG 2016). The 2015 unemployment rate of 6.7 percent for Los Angeles County is below the average unemployment rate of 8.2 percent for the County from 1990 to 2015 (EDD, 2017). The 2015 American Community Survey estimates 82.9 percent of County residents take an automobile to work, 10.5 percent take public transportation, walk, or bicycle to work, and the remaining residents take a taxicab or work at home (U.S. Census Bureau, 2015e).

In comparison, the Willowbrook CDP had a labor force of approximately 8,200 and 7,300 residents had jobs in 2015, which represents an unemployment rate of approximately 11 percent (EDD 2016). The 2015 American Community Survey estimates that 87.0 percent of Willowbrook CDP residents take an automobile to work, 10.6 percent take public transportation, walk, or bicycle to work, and the remaining residents take a taxicab or work at home (U.S. Census Bureau, 2015f).

The Willowbrook TOD Specific Plan area included 1,265 jobs in 2010 (Hoffman, 2015). However, for purposes of this analysis, it is assumed that the number of jobs within the Specific Plan area remained at 1,265 jobs in 2015.

Population, Household and Employment Projections

The anticipated population, household, and employment projections are shown in **Table 3.10-3**, which is based on the 2015 California Department of Economic Development (EDD) population figures and SCAG's 2035 estimates for the unincorporated County of Los Angeles areas and for

the County of Los Angeles. The EDD forecasts population within the unincorporated portions of the County will increase 31 percent between 2015 and 2035. Similarly, housing units are anticipated to increase by 29 percent and employment by 29 percent. In addition, the projections show that the population, housing units, and jobs in the unincorporated portions of the County will grow at a substantially faster rate than the County as a whole through 2035.

TABLE 3.10-3
POPULATION, HOUSEHOLDS, AND JOBS PROJECTIONS FOR UNINCORPORATED LOS ANGELES COUNTY AND LOS ANGELES COUNTY

	2015	2035	2015 – 2035 Percent Increase	Compound Annual Growth Rate
Unincorporated Los Angeles County				
Population	1,049,046[1]	1,373,889[2]	31.0%	1.36%
Housing Units	311,272[1]	400,958[2]	28.8%	1.27%
Employment (Jobs)	258,801[5]	333,592[2]	28.9%	1.28%
Employment (Jobs) to Housing Unit Ratio	0.83	0.83	-	
Total Los Angeles County				
Population	10,038,388[6]	11,145,000[3]	11.0%	0.52%
Housing Units	3,476,718[6]	3,809,000[3]	9.5%	0.46%
Employment (Jobs)	4,674,800[4]	5,062,000[3]	8.3%	0.40%
Employment (Jobs) to Housing Unit Ratio	1.34	1.33	-	

[1] Obtained from the California Department of Finance
[2] Based on applying the percent in forecast change for the County of Los Angeles between SCAG's 2012-2035 RTP/SCS and 2016-2040 RTP/SCS and applying the percent change to Unincorporated Los Angeles County estimate for 2035 provided in SCAG's 2012-2035 RTP/SCS to derive an updated 2035 estimate for Unincorporated Los Angeles County areas.
[3] Obtained from SCAG 2016-2040 RTP/SCS.
[4] Obtained from California Economic Development Department 2015 Data.
[5] Used a linear projected growth rate based on the County of Los Angeles 2013 employment projection from the County of Los Angeles General Plan Programmatic EIR and the 2035 employment projection provided in the SCAG 2016 RTP/SCS.
[6] U.S. Census Bureau, 2015b.

SOURCES: DOF 2016, SCAG 2012a, SCAG 2016, EDD 2016, and County of Los Angeles 2015, and U.S. Census Bureau 2015b.

Table 3.10-3 also identifies the jobs to housing ratio. "Jobs-housing ratio" is a general measure of the "balance" between the number of jobs and number of housing units within a geographic area, without regard to economic constraints or individual preferences. The ratio expresses quantitatively the relationship between the number of people working and number of people living in a given area. SCAG uses the jobs-housing balance as a general tool for analyzing where people work, where they live, and how efficiently they can travel between the two. Jobs-housing balance is achieved by increasing opportunities for people to work and live in close proximity. As described in the County's General Plan EIR Population and Housing Section, the County considers a jobs-housing ratio ranging between 1.3 and 1.7 is ideal (County of Los Angeles, 2015).

As described above, the Willowbrook TOD Specific Plan area includes 968 housing units and 1,265 jobs for 2015 which equates to a 1.31 jobs to housing ratio. As shown in Table 3.10-3 for

the year 2015, there are 311,272 residential units and 258,801 jobs within the unincorporated areas of the county, which equates to 0.83 jobs per housing unit. For the year 2015, there are 3,476,718 residential units and 4,506,400 jobs within the County, which equates to 1.34 jobs per housing unit. Based on the above, the Willowbrook TOD Specific Plan area and the County of Los Angeles have jobs to housing ratios that are considered ideal by the County. The unincorporated areas of the County are considered job poor and typically provide a higher ratio of residential uses compared to employment uses. As shown in Table 3.10-3, in 2035, the County is projected to have a jobs to housing ratio at 1.33. This ratio is between the 1.3 and 1.7 ratio that is considered ideal in the County's General Plan EIR.

Both the County of Los Angeles Department of Regional Planning and SCAG have provided growth projections throughout the County of Los Angeles. The current growth forecasts for the Willowbrook TOD Specific Plan area (i.e., not including projected growth resulting from the proposed Specific Plan) are provided in **Table 3.10-4**. As shown in Table 3.10-4, the growth forecasts for the Specific Plan area are higher from the County of Los Angeles compared to SCAG. According to County staff, the projections by the County used a different methodology than SCAG and once the County completed their growth projections for the unincorporated areas of the County, there was not enough time for SCAG to resolve the discrepancies between the two growth forecasts.

TABLE 3.10-4
POPULATION, HOUSING, AND JOBS PROJECTIONS FOR WILLOWBROOK TOD SPECIFIC PLAN AREA

		General Plan 2035 Projections		SCAG 2035 Projections	
	Existing	Incremental 2035 Growth	Total 2035 Growth	Incremental 2035 Growth	Total 2035 Growth
Population	3,108[1]	4,348[4]	7,456[7]	3,447[8]	6,555[11]
Housing	968[2]	1,479[5]	2,447[7]	887[9]	1,855[11]
Employment	1,265[3]	2,021[6]	3,286[7]	615[10]	1,880[11]
Average Household Size	3.21	2.94	3.05	3.89	3.53
Employment (Jobs) to Housing Unit Ratio	1.31	1.37	1.34	0.69	1.01

[1] County of Los Angeles Regional Planning, Geographic Information Systems Section, 2017.
[2] Existing number of units is based on The Arroyo Group existing land use information.
[3] Based on Stan Hoffman Associates existing employment information provided in the Economic Development Strategy Report.
[4] Based on subtracting County of Los Angeles Regional Planning, Geographic Information Systems Section total population projection for 2035 from the existing population.
[5] Based on subtracting County of Los Angeles Regional Planning, Geographic Information Systems Section total housing unit projection for 2035 from the existing housing units.
[6] Based on subtracting County of Los Angeles Regional Planning, Geographic Information Systems Section total employment projection for 2035 from the existing employment.
[7] County of Los Angeles Regional Planning, Geographic Information Systems Section growth projections
[8] Based on subtracting SCAG RTP/SCS total population projection for 2035 from the existing population.
[9] Based on subtracting SCAG RTP/SCS total housing unit projection for 2035 from the existing housing units.
[10] Based on subtracting SCAG RTP/SCS total employment projection for 2035 from the existing employment.
[11] SCAG RTP/SCS growth projections.

SOURCES: County of Los Angeles 2017, The Arroyo Group 2016, Hoffman 2015, SCAG 2017.

3.10.2 Regulatory Setting

Senate Bill 375

Adopted into law in 2008, Senate Bill (SB) 375[1] links regional transportation and housing planning with state greenhouse gas reduction goals. The law requires the California Air Resources Board to establish, for each region of the state, GHG reduction targets for the automobile and light truck sector, and requires the regional transportation plan for each region to include a Sustainable Communities Strategy (SCS) to achieve its GHG reduction target.

The law assigns responsibility for developing the SCS for Southern California to the Southern California Association of Governments (SCAG). The SCS must identify the general location of uses, residential densities, and building intensities in the region and identify areas within the region that will house all of the region's population, including all economic segments of the population, taking into account migration into the region and population growth, over the next 25 years. SB 375 requires regional Sustainable Communities Strategies to forecast development patterns that, when integrated with the region's transportation system, achieves statewide GHG reduction targets.

State of California Housing Element Requirements

California Housing Element Law (Government Code Section 65580, et seq.) requires cities and counties to include, as part of their general plans, a housing element to address housing conditions and needs in the community. The housing element law requires the California Department of Housing and Community Development, in consultation with each regional council of governments, to determine each region's existing and projected housing need. The regional council of governments in turn develops a regional housing allocation plan that includes the actual allocation of housing need to the cities and counties within the region. Allocations are based on factors that consider existing employment, employment growth, household growth, and the availability of transit; need is determined for households in all income categories from very-low to above-moderate (SCAG, 2016). Cities and counties are required to plan for their allocated number of housing units within the housing elements of their general plans. Housing elements are required to be updated every eight years, following timetables adopted by the state. Each agency's housing element must identify and analyze existing and projected housing needs and "make adequate provision for the existing and projected needs of all economic segments of the community," among other requirements.

Southern California Association of Governments

SCAG is the federally-designated Metropolitan Planning Organization (MPO) for the six-county Southern California region consisting of Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial counties. SCAG is responsible for developing regional plans for transportation, growth management, and hazardous waste management, and a regional growth

[1] SB 375 amended California Government Code Sections 65080, 654000, 65583, 65584.01, 65584.02, 65584.04, 65587, and 65588; added Government Code Sections 14522.1, 14522.2, and 65080.01; amended Public Resources Code (PRC) Section 21063; and added PRC Section 21159.28 and Chapter 4.2 (commencing with Section 21155) to Division 13 of the PRC relating to environmental quality.

forecast that is the foundation for these plans as well as for the regional air quality plan developed by the South Coast Air Quality Management District (SCAQMD). SCAG prepares several plans to address regional growth, including the Regional Comprehensive Plan and Guide (RCPG), the Southern California Compass Growth Vision, the Regional Housing Needs Assessment (RHNA), the RTP, the Regional Transportation Improvement Program (RTIP), and annual State of the Region reports to measure progress toward achieving regional planning goals and objectives.

Regional Comprehensive Plan and Guide

The Regional Comprehensive Plan (RCP), which was adopted by SCAG in 2008, is a major advisory plan prepared by SCAG that addresses important regional issues like housing, traffic/transportation, water, and air quality. The RCP serves as a framework for decision-making by local governments, assisting them in meeting federal and state mandates for growth management, mobility, and environmental standards, while maintaining consistency with regional goals regarding growth and changes through the year 2035 and beyond (SCAG, 2008). Further, the RCP lays the groundwork for the more robust 2012 and 2016 updates of the Regional Transportation Plan (RTP), and recommends key roles and responsibilities for public and private sector stakeholders and invites them to implement reasonable policies that are within their control.

The RCP, like several other SCAG policy documents, divides the six-county region into 14 subregions. Some subregions consist of entire counties (e.g., Orange, San Bernardino, Imperial, and Ventura counties), while others include multiple sub-county areas (e.g., Los Angeles and Riverside counties). The project site is located within City of Los Angeles subregion.

The RCP consists of chapters that contain goals, policies, implementation strategies, and technical data that support the overall vision for the region, which is to foster a southern California region that addresses future needs while recognizing the interrelationship between economic prosperity, natural resource sustainability, and quality of life. The Land Use and Housing Chapter of the RCP is particularly relevant to population and housing.

The Land Use and Housing Chapter includes advisory strategies for linking land use and housing to transportation planning, and how the choices we make about how land should be used and what kinds of buildings we construct. Its goals include maximizing the efficiency of the existing and planned transportation network, providing necessary amount and mix of housing for a growing population, enable a diverse and growing economy and protect important natural resources.

As part of a triennial process of updating the federally mandated RTP, SCAG is responsible for producing socioeconomic forecasts and developing, refining, and maintaining macro and small-scale forecasting models. These forecasts are developed in close consultation with a Technical Advisory Committee comprised of local government and other public agencies, California Department of Finance (DOF), County Transportation Commissions and other major stakeholders. The forecasts are developed in five-year increments through the year 2035 in the 2008 RTP and 2012 RTP/SCS and through the year 2040 in the 2016 RTP/SCS. The forecast is

relied upon for preparation of the RTP, the Air Quality Management Plan (AQMP), RTIP, and the RHNA. Consistency with the growth forecast, at the subregional level, is one criterion that SCAG uses in exercising its federal mandate to review "regionally significant" development projects for conformity with regional plans. SCAG's current forecast is the one prepared for the 2012-2035 RTP, which utilizes 2010 Census data as a baseline.

Based on SCAG's 2016 Forecast (included in Table 3.10-3 above), unincorporated Los Angeles County area is anticipated to have a population growth of 1.36 percent annually, a household growth of 1.27 percent annually, and employment growth of 1.28 annually.

SCAG Southern California Compass Growth Vision Report

The SCAG Southern California Compass Growth Vision Report (Compass Growth Vision), published in June 2004, presents a comprehensive growth vision for the six-county SCAG region, as well as achievements in the process of developing the growth vision. It details the evolution of the draft vision from the study of emerging growth trends and systematic modeling of the effects of alternative growth pattern scenarios on transportation systems, land consumption, and other factors.

The Compass Growth Vision Report notes that population and household growth trends, and existing housing conditions point to an unmet demand for a greater diversity of housing throughout the six-county region. For example, while existing multi-family units account for a substantial proportion of the overall supply (i.e., approximately 40 percent), multi-family buildings are being added to the total housing stock at a much lower proportion. As a result, the demand for multi-family housing (e.g., from young adults and seniors, etc.) is outpacing multi-family housing production.

SCAG Regional Housing Needs Assessment

State housing law requires that that local governments, through Councils of Governments (such as SCAG), identify existing and future housing needs in a Regional Housing Needs Assessment (RHNA). The RHNA provides recommendations and guidelines to identify housing needs within cities and unincorporated areas, but does not impose requirements as to housing development. SCAG, as the regional planning agency, is responsible for allocating the RHNA to each local jurisdiction within its region.

The RHNA adopted by SCAG for the planning period of 2014-2021 has identified a future housing need of 30,574 for unincorporated areas of Los Angeles County to be accommodated within the 7-year RHNA planning period. **Table 3.10-5** shows the RHNA allocation for unincorporated Los Angeles County. Specific RHNA allocations for the Willowbrook community are not available because individual unincorporated area numbers are not determined. However, the County's General Plan has provided land use policies and designations to direct this growth toward transit facilities in a transit oriented land use pattern, such is being implemented by the proposed Specific Plan.

TABLE 3.10-5
RHNA NEEDS BY INCOME CATEGORY FOR UNINCORPORATED LOS ANGELES COUNTY

Income Category	RHNA Need
Very Low	7,854
Low	4,650
Moderate	5,060
Above Moderate	12,581
Total	**30,145**

SOURCE: SCAG 2012b.

Local

Los Angeles County 2035 General Plan

The Los Angeles County General Plan contains policies that regulate the use of land within the County, including the project site and its vicinity, and provides a long-term vision for the future physical evolution of the County as it seeks to achieve its desired future. Following are goals and policies of the Economic Development Element and the Housing Element that are relevant to the project.

Economic Development Element

The Economic Development Element outlines the County's economic development goals, and provides strategies that contribute to the economic well-being of the County. The overall performance of the economy and economic development efforts strongly impact land use and development patterns. Through the implementation of this Element, the County is planning for the economic health and prosperity of its physical and social environments, and planning strategically for the future economy. The Element works in conjunction with the Los Angeles County Strategic Plan for Economic Development, which was adopted by the Los Angeles County Board of Supervisors in 2010. The goals in the Economic Development Element that are relevant to population, housing and employment issues and the proposed project include:

Goal 2: Land use practices and regulations that foster economic development and growth.

Policy 2.5: Encourage employment opportunities to be located in proximity to housing.

Policy 2.7: Incentivize economic development and growth along existing transportation corridors and in urbanized areas.

Policy 4.4: Incentivize infill development that revitalizes underutilized commercial and industrial areas.

Policy 4.6: Retrofit and reuse vacant and underutilized industrial and commercial sites for emerging and targeted industries.

Housing Element

The Housing Element sets forth goals, policies, and programs to address the City's existing and projected need for housing in the community in terms of affordability, availability, adequacy, and accessibility, pursuant to state law (Los Angeles County 2014). The goals and supporting policies in the Housing Element that are relevant to the project are the following:

Goal 1: A wide range of housing types in sufficient supply to meet the needs of current and future residents, particularly for persons with special needs, including but not limited to low income households, seniors, persons with disabilities, large households, single-parent households, the homeless and at risk of homelessness, and farmworkers.

Policy 1.1: Make available through land use planning and zoning an adequate inventory of vacant and underutilized sites to accommodate the County's Regional Housing Needs Assessment (RHNA) allocation.

Policy 2.1: Support the development of housing for low and moderate income households and those with special needs near employment and transit.

Policy 2.2: Encourage mixed use developments along major commercial and transportation corridors.

Policy 3.1: Promote mixed income neighborhoods and a diversity of housing types throughout the unincorporated areas to increase housing choices for all economic segments of the population.

Policy 6.2: Allocate state and federal resources toward the preservation of housing, particularly for low income households, near employment and transit.

Policy 8.1: Support the distribution of affordable housing, shelters, and transitional housing in geographically diverse locations throughout the unincorporated areas, where appropriate support services and facilities are available in close proximity.

3.10.3 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines and the Los Angeles County CEQA Checklist, the project could have a significant impact on population and housing if it would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or infrastructure) (see Impact 3.10-1);
- Displace a substantial number of existing housing, especially affordable housing, necessitating the construction of replacement housing elsewhere (see Section 5.1.12 in this EIR);
- Displace a substantial number of people, necessitating the construction of replacement housing elsewhere (see Section 5.1.12 in this EIR).

3.10.4 Methodology

The focus of environmental analysis prepared under CEQA is a project's potential to cause effects on the physical environment.[2] Accordingly, the *CEQA Guidelines* state that while economic or social information may be included in an EIR, or may be presented in whatever form the lead agency desires; social and economic effects shall not be treated as significant effects on the environment.[3] The *CEQA Guidelines* make clear that there must be a physical change resulting from the proposed project directly or indirectly for an impact to be considered significant.[4]

Social and economic effects, including employment, are relevant CEQA issues to the extent that a chain of cause and effect can be traced from a proposed project through anticipated social and economic changes resulting from the project, to physical changes caused in turn by the economic and social changes (*CEQA Guidelines*, Sections 15131(a) and 15064(f)). If a project's physical impacts would cause social or economic effects, the magnitude of the social or economic effects may be relevant in determining whether a physical impact is "significant" (*CEQA Guidelines* Section 15131(b)). If the physical change causes adverse economic or social effects on people, those adverse effects may be used as the basis for determining that the physical change is significant (*CEQA Guidelines*, Section 15064(f)).

Population growth impacts are based on an analysis of the number of residents anticipated at build out of the proposed Specific Plan. The scale of population at build out is then compared with official population growth forecasts for the project region (i.e., County of Los Angeles). The project area's population and growth that would result from Specific Plan implementation was examined in the context of existing and projected population for the County of Los Angeles. If build out of the Specific Plan would exceed growth projections, the resulting growth would be determined to be "substantial." However, the determination of whether the proposed project represents a significant impact is whether the project would induce additional growth that would result in significant impacts to the environment.

3.10.5 Impact Analysis

Induce Population Growth

Impact 3.10-1: The proposed project would not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or infrastructure).

New housing development implemented under the proposed Specific Plan would involve up to a net total increase of 1,952 residential units, as well as approximately 2,666,035 square feet of

2 "Environment" means the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, and objects of historic or aesthetic significance (Pub. Res. Code §21060.5).

3 *CEQA Guidelines* §15131(a) and 15064(f); see also Public Resources Code §21100 and 21151. "Significant effect on the environment" means a substantial, or potentially substantial adverse change in the environment (Pub. Res. Code §21068).

4 See discussion following *CEQA Guidelines* §15131.

non-residential employment generating uses. This new development would result in population growth as it provides new homes and businesses in the Willowbrook TOD Specific Plan area.

Using the County's average household size of 2.94 (see Table 3.10-4) for incremental 2035 growth within the Willowbrook TOD Specific Plan area, the addition of 1,952 residential units into the Willowbrook TOD Specific Plan would generate a population of approximately 5,739 persons (see **Table 3.10-6**). The County's incremental population growth projection for the Willowbrook TOD Specific Plan area is the addition of 4,348 persons. The project's incremental population growth represents an approximately 32 percent increase (5,739 persons/4,348 persons) or 1,391 persons over the County's population growth projection for the Specific Plan area. In addition, the project's incremental population growth represents an approximately 66 percent increase (5,739 persons/3,447 persons) or 2,292 persons over SCAG RTP/SCS's population growth projection for the Specific Plan area. In comparison to the SCAG RTP/SCS population growth projections for County of Los Angeles as a whole, the proposed Specific Plan's incremental population growth is approximately 0.5 percent (5,739 persons/1,106,612 persons) of the County's incremental population growth.

TABLE 3.10-6
PROPOSED SPECIFIC PLAN 2035 BUILDOUT PROJECTIONS FOR POPULATION, HOUSING, AND EMPLOYMENT FOR WILLOWBROOK TOD SPECIFIC PLAN AREA

		Proposed Specific Plan 2035 Buildout Projections	
	Existing[1]	Incremental 2035 Growth	Total 2035 ~~Growth~~
Population	3,108	5,739	8,847
Housing	968	1,952	2,920
Employment (Jobs)	1,265	5,632	6,897
Average Household Size	3.21	2.94	3.03
Employment (Jobs) to Housing Unit Ratio	1.31	2.89	2.36

[1] See Table 3.10-4.

The proposed Specific Plan 2035 incremental increase of 1,952 residential units would represent an approximately 202 percent increase in residential units over existing residential units in 2015 for a total of 2,920 residential units (see Table 3.10-6). Over an approximate 20-year buildout, the growth in residential units would be approximately 98 residential units per year or a compound average residential growth of 5.7 percent annually. This growth is greater than the anticipated growth in the County's General Plan that assumed 1,479 additional residential units, an average of approximately 74 units per year over an approximate 20-year buildout, and a compound average residential growth of 4.8 percent. The project's incremental residential growth represents an approximately 32 percent increase (1,952 units/1,479 units) over the County's residential growth projection. In addition, the proposed growth is greater than the anticipated growth in the SCAG RTP/SCS that assumed 887 additional residential units, an average of approximately 44 residential units per year or a compound average residential growth of 3.3 percent annually. The

project's incremental residential growth represents an approximately 120 percent increase (1,952 units/887 units) over the SCAG RTP/SCS residential growth projection for the Specific Plan area. In comparison to the SCAG RTP/SCS residential growth projections for County of Los Angeles as a whole, the proposed Specific Plan's incremental residential growth is approximately 0.6 percent (1952 units/332,282 units) of the County's incremental residential growth.

In addition, the proposed project would involve a net total of approximately 2,666,035 square feet of non-residential employment generating uses, which will result in a net increase of approximately 5,632 jobs, and therefore, by 2035 there would be a total of 6,897 jobs within the Specific Plan area (Hoffmann 2015) (see Table 3.10-6). This projected job growth is greater than both the job growth forecasts by the County of Los Angeles and SCAG for the Specific Plan area. The County of Los Angeles job growth for the Specific Plan area is a net increase of 2,021 and the SCAG job growth is a net increase of 615. The proposed project's incremental job growth over the 20-year buildout is 3,611 additional jobs which is approximately 179 percent greater than the County job growth estimate and 5,017 additional jobs which is 1,121 percent greater than the SCAG job growth estimate for the Specific Plan area. In comparison to the SCAG RTP/SCS job growth projections for County of Los Angeles as a whole, the proposed Specific Plan's incremental job growth is approximately 1.5 percent (5,632 jobs/387,200 jobs ~~units~~) of the County's incremental job growth over 20 years.

As shown above, the population, housing, and employment projections under the proposed Willowbrook TOD Specific Plan are greater than the projections identified for the Specific Plan area within the County General Plan and the SCAG RTP/SCS. This increase in population, housing and employment projections is considered substantial. However, the determination of whether the proposed growth represents a significant impact is whether the project would induce additional growth that would result in significant impacts to the environment.

The determination of whether the proposed project would induce growth in the project vicinity or within the County is based on whether the increase in population and housing in the Specific Plan area would increase the need for additional commercial or public services beyond the existing commercial or public services and the commercial services proposed as part of the project. In addition, a determination of inducement of growth is whether the increase in job growth within the Specific Plan would increase the need for additional housing beyond the existing housing and the housing proposed as part of the project.

As discussed above, the proposed project would exceed the County's population and housing projection for the Specific Plan area by 1,391 persons and 473 residential units. This exceedance of population and housing projection over 20 years within the region is considered nominal because the growth within the Specific Plan would represent 0.5 percent of the County's incremental population growth and 0.6 percent of the County's incremental residential growth. Therefore, the proposed Specific Plan would not induce additional population and housing growth that would result in significant impacts to the environment.

Also discussed above is the project's projected increase in job growth over 20 years. The project would exceed the County's 2035 job growth projection for the Specific Plan area by 3,611 jobs.

The Specific Plan's projected jobs are anticipated to include approximately 63 percent of professional office jobs, 21 percent of retail and other local services, 8 percent in industrial, and 6 percent in health and education jobs (Hoffmann 2015). Because a majority of the jobs created within the Specific Plan area would be skilled or managerial, a majority of these jobs are expected to be filled by persons outside of the Specific Plan area. The jobs are anticipated to be filled by people within the County due to the transit-oriented development nature of the proposed Specific Plan, its accessibility to the Willowbrook/Rosa Parks Station and multiple freeways, and the larger available labor force within the County. In addition, the increase in jobs within the Specific Plan represents 0.7 percent of the projected jobs within the County for 2035. Furthermore, based on an average County of Los Angeles unemployment rate of 8.2 percent over the past 25 years, it is reasonable to assume that there will be available people living within the County and region to fill the increase in jobs created in the Specific Plan area without a substantial number of people requiring to migrate into the County and region and require new housing in addition to the available housing either within the Specific Plan area, the County or region. Therefore, the proposed Specific Plan's increase in job growth would not induce additional growth that would result in significant impacts to the environment.

Construction of projects that would occur within the Specific Plan area would include need for construction labor during short time periods. Due to the employment patterns of construction workers in southern California, and the market for construction labor, construction workers are not likely, to any significant degree, to relocate their households as a consequence of the job opportunities presented by the project. The construction industry differs from most other industry sectors in several important ways that are relevant to potential impacts on housing:

- There is no regular place of work. Construction workers commute to job sites that change many times in the course of a year. These often lengthy daily commutes are made possible by the off-peak starting and ending times of the typical construction work day.
- Many construction workers are highly specialized (e.g., crane operators, steel workers, masons), and move from job site to job site as dictated by the demand for their skills.
- The work requirements of most construction projects are also highly specialized and workers are employed on a job site only as long as their skills are needed to complete a particular phase of the construction process.

Therefore, construction activities associated with the project would not result in an inducement of population, housing and job growth that would result in significant impacts to the environment.

As discussed above, both operational and construction activities associated with the implementation with the Specific Plan would not induce population, housing and job growth that would result in impacts to the environment.

Cumulative

The geographic context for an analysis of cumulative impacts would be Los Angeles County, which represents the planning area that includes the Specific Plan area and the overall population, housing and job projections for the County as a whole.

Past and present development projects have resulted in the population, housing inventory and non-residential growth that creates jobs that currently exist in the County. These existing developments are within SCAG's population, housing and job projections for the County. SCAG's projections include incremental increases of 1,106,612 people, 332,282 housing units and 387,200 jobs within Los Angeles County between 2015 and ~~3~~2035. As development occurs within the County, SCAG works with the counties and cities to re-evaluate projected growth to ensure there is a balance in geographical areas so that overall projections are not exceeded. Therefore, the implementation of the proposed Specific Plan along with future growth projected by SCAG would not induce growth that would result in significant impacts to the environment.

Because the implementation of the proposed Specific Plan would not induce population, housing and job growth that would result in significant impacts to the environment, the project's incremental contribution to environmental impacts associated with projected growth would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

3.10.6 References

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3.11 Public Services and Recreation

Introduction

This section analyzes the proposed Specific Plan's potential impacts to fire protection, police services, public schools, parks, libraries, other public facilities, and recreational facilities at buildout. This section is based on comparisons of existing and anticipated levels of service with buildout of the proposed Specific Plan. Information within this section has been obtained from each of the respective service providers.

3.11.1 Environmental Setting

Fire Protection

The Los Angeles County Fire Department (LACFD) provides fire protection and emergency medical services throughout the unincorporated County areas, including Willowbrook. One fire station is located within the Specific Plan area; Station No. 41 is located at 1815 E. 120th Street. Station No. 41 is staffed with a 4-person assessment engine, which is an engine company with paramedic capabilities, and a 2-person paramedic squad. Station 41 is staffed with 1 captain, 1 firefighter specialist, 3 fire fighter/paramedics, and 1 fire fighter.

In 2014, Station 41 responded to 4,920 emergency incidents, of which 110 were fires, 4,044 were Emergency Medical Services, and 766 were miscellaneous calls. In 2014, the Station had an average emergency response time of 4:46 minutes, which is within the General Plan Standard of 5 minutes or less (LACFD, 2015).

The closest LACFD Fire Station outside of the Specific Plan area is Station Number 147, located at 3161 East Imperial Highway in Lynwood, 1 mile from the northeast boundary of the Specific Plan area. The response time to the project area from Fire Station No. 147 is approximately 7 minutes. Fire Station No. 147 contains a four-person quint, which provides a pump, water tank, fire hose, aerial device, and ground ladders.

In addition, there are six other fire stations within 3.1 miles from the Specific Plan boundary, as listed below

- Station 65: 1801 E. Century Boulevard: 1.2 miles from the northern boundary of the Specific Plan area
- Station 64: 10811 S Main Street: 1.7 miles from the northern boundary of the Specific Plan area
- Station 16: 8010 S. Compton Avenue: 2.5 miles from the northern boundary of the Specific Plan area
- Station 148: 4264 Martin Luther King Jr. Boulevard: 2.2 miles from the eastern boundary of the Specific Plan area
- Station 14: 1401 W. 108th Street: 3.1 miles from the western boundary of the Specific Plan area

- Station 95: 137 W. Redondo Beach Blvd: 2.7 miles from the southern boundary of the Specific Plan area

Sheriff Protection Services

The Los Angeles County Sheriff's Department provides sheriff protection services and operates 23 stations throughout LA County. The station that serves the Specific Plan area is the Century Station, which is located at 11703 S. Alameda Street, Lynwood, CA 90262 (Sheriff, 2016a). The station is located adjacent and east of the Specific Plan area, and serves: Lynwood, the unincorporated areas of Florence/Firestone Walnut Park, Athens Park, Rosewood, and Willowbrook; and is staffed with 311 employees. Currently, Century Station has 91.7 patrol personnel dedicated to the 119,933 residents that live in the unincorporated area that is served by the station (Sheriff, 2016b), which equates to approximately 0.76 officers per 1,000 population. As described in the County's General Plan EIR, an officer-to-population ratio of one officer to every 1,000 residents provides the desired level of service for its service area (County of Los Angeles 2015).

However, the Sheriff's Department has an established an optimal service response time of 10 minutes or less for emergency response incidents (a crime that is presently occurring and is a life or death situation), 20 minutes or less for priority response incidents (a crime or incident that is currently occurring but which is not a life or death situation), and 60 minutes or less for routine response incidents (a crime that has already occurred and is not a life or death situation) (County of Los Angeles 2015).

The average response times in 2015 for service to the Century Station were 4.1 minutes for emergency calls; 8.3 minutes for priority calls; and 34.8 minutes for routine calls for service (Sheriff, 2016a). Thus, the existing services provided by the Sheriff's Century Station are well within the established response time goals.

Schools

The Specific Plan area is located within the Compton Unified School District (CUSD), and the following schools serve students residing in the Specific Plan area:

Lincoln-Drew Elementary (K-6) is located within the Specific Plan area at 1667 E. 118th Street. The school site is approximately 8.32 acres and the school buildings total 42,200 square feet, including: 45 classrooms, a cafeteria, a library, a computer lab, a science lab, one staff lounge, and two play areas.

Carver Elementary School (K-6) is located at 1425 E. 120th Street, west of the Specific Plan area. The school site is 5.33 acres and has buildings totaling 30,600 square feet, which includes 26 classrooms (4 of them are portables), a library, two computer labs, one staff lounge, one playground, a parent center, a professional development center, tennis court, and the main office.

McNair Elementary School (K-6) is located at 1450 W. El Segundo Avenue, southwest of the Specific Plan area. The school site is approximately 11.23 acres and the school buildings total 50,500 square feet, which includes: 23 classrooms (10 of them portables), a multi-

purpose/resource room, a cafeteria, a library, one computer lab, a parent center, and two playgrounds.

Bunche Middle School (7-8) is located at 12338 Mona Boulevard, which is on the boundary of the southeastern portion of the Specific Plan area. The school site is approximately 21.68 acres and the school buildings total 81,600 square feet, which includes: 36 classrooms, a library, two computer labs, a staff lunch room, a cafeteria, two recreation rooms, and two locker rooms.

Willowbrook Middle School (7-8) is located at 2601 N. Wilmington Avenue, which is south of the Specific Plan area. The school site is approximately 12.34 acres and the school buildings total 82,100 square feet, which includes: 41 classrooms (one of them a portable), a library, a staff lounge, a cafeteria, a parent center, one athletic field, and two locker rooms.

Centennial High School is located at 2606 N Central Avenue, which is south of the Specific Plan area. The school site is approximately 32.39 acres and the school buildings total 165,100 square feet, which includes: 74 classrooms (13 of them portables), one library, three computer labs, one staff lounge, a professional development room and three athletic fields.

Cesar Chavez High School is located at 12501 Wilmington Avenue, which is south of the Specific Plan area. The school site is approximately 21 acres and the school buildings total 43,800 square feet that includes: 21 classrooms, four computer labs, a multi-media room, a staff lounge, outdoor physical education areas, and a cafeteria.

As described in the Compton Unified School District's Facilities Master Plan, over the past 15 years the school district had a peak enrollment of 32,550 students in the 2002/2003 school year, and has declined by 8,705 students to the 2014/2015 school year, which equals a 26.74 percent decrease in enrollment and an average enrollment decline of 670 students per year (CUSD 2015). In addition, the school district anticipates the student enrollment to continue to decline from 23,845 students in school year 2014/2015 to 21,334 students by school year 2021/2022. This amounts to a projected decrease of 2,511 students, or 10.53 percent over that time (CUSD 2015). **Table 3.11-1** lists the schools that may serve students from the Specific Plan area, along with their current and anticipated future enrollment.

TABLE 3.11-1
CURRENT AND PROJECTED ENROLLMENT OF THE COMPTON USD SCHOOLS SERVING THE SPECIFIC PLAN AREA

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Carver Elementary	399	447	480	473	465	456	449	445
Lincoln Elementary	315	310	303	298	291	287	281	280
Martin L King Elementary	589	580	569	556	546	535	528	525
McNair Elementary	528	518	505	497	488	473	471	468
Bunche Middle	518	431	404	403	399	394	386	377
Vanguard Middle	302	283	280	280	277	274	269	262
Willowbrook Middle	344	305	261	260	258	254	250	244
Centennial High	961	934	905	888	871	874	865	850
Cesar Chavez High	418	424	398	386	373	377	368	366
Total	**4,374**	**4,232**	**4,105**	**4,041**	**3,968**	**3,924**	**3,867**	**3,817**

SOURCE: Compton Unified School District, 2015.

As shown below in **Table 3.11-2**, the number of elementary students is anticipated to decrease by 113, middle school students by 281, and high school students by 163, which totals 575 students within the schools serving the Specific Plan area.

TABLE 3.11-2
CHANGE IN CUSD ENROLLMENT FOR SCHOOLS SERVING THE SPECIFIC PLAN AREA BETWEEN 2014/15 AND 2021/22

	Enrollment		
School	**2014/15**	**2021/22**	**Change**
Carver Elementary	399	445	46
Lincoln Elementary	315	280	-35
Martin L King Elementary	589	525	-64
McNair Elementary	528	468	-60
Subtotal Elementary School	1,831	1,718	-113
Bunche Middle	518	377	-141
Vanguard Middle	302	262	-58
Willowbrook Middle	344	244	-100
Subtotal Middle School	1,164	883	-281
Centennial High	961	850	-111
Cesar Chavez High	418	366	-52
Subtotal High School	1,379	1,216	-163
Total for Schools in Specific Plan Area	**4,374**	**3,817**	**-557**

SOURCE: Compton Unified School District, 2015

In addition to the schools that are in the CUSD, there are alternative and private schools within and in the vicinity of the Specific Plan area. These include the CDI Head Start Preschool, Nickerson Gardens Sage Center Day Car and the Watts Christian School for kindergarten and first grade. There are also two additional public schools within the Specific Plan area. The King-Drew Magnet High School is a Los Angeles Unified School District (LAUSD) alternative high school that serves students in the LAUSD boundary which is located west and north of the Specific Plan area. The Barack Obama Charter School serves students Kindergarten through sixth grades and is open to students within the CUSD as an alternative school.

Parks and Recreation

The Willowbrook community is a fully developed and urbanized area that lacks natural open space. Open space within the community consists of developed parks that provide passive and active recreation and open space areas.

There are three parks located within the Specific Plan, and four additional parks that are located within the Willowbrook community. **Table 3.11-3** provides an overview of these parks. As shown, there are currently 149.06 acres of parkland within the Willowbrook community.

TABLE 3.11-3
PARKS WITHIN THE WILLOWBROOK COMMUNITY

Name and Address	Park Facilities	Location Relative to Specific Plan	Facility Acreage
Mona Park 2291 E 121st Street	baseball/softball field ,children's play area, community room, gymnasium, kitchen, basketball court, restrooms, picnic shelter, swimming pool	Within Specific Plan area	7.8
MLK Fitness ~~Center~~ Garden 11833 South Wilmington	Fitness stations, picnic tables, walking path	Within Specific Plan area	0.13
Faith and Hope Park 2247 E 119th Street	walking path, open lawn, trees and native plant landscaping	Within Specific Plan area	0.46
George Washington Carver Park 1400 E. 118th Street	arts and crafts room, lighted baseball/ softball fields, multi-purpose field, multi-purpose room, picnic areas with barbecues, swimming pool,	0.20 mile east of Specific Plan area	7.07
Magic Johnson Park 905 E El Segundo Boulevard	children's play areas, picnic areas with barbecues, restrooms, soccer fields, two fishing lakes, walking path	0.60 mile east of Specific Plan area	103.79
Enterprise Park 13055 Clovis Avenue	children's play area, community room, gymnasium, lighted baseball/ softball fields, multi-purpose field, picnic areas with barbecues, swimming pool	0.75 mile southeast of Specific Plan area	10.02
Athens Park 12603 S. Broadway Avenue	community building, computer lab, fitness area, gymnasium, lighted baseball/ softball fields, lighted basketball courts, multi-purpose field, multi-purpose room, picnic areas with barbecues, restrooms, skate park. swimming pool	1.80 mile west of the Specific Plan area	18.7
Total County Facility Acreage			**147.97**

SOURCE: County of Los Angeles Department of Parks and Recreation, 2016.

County of Los Angeles' goal for local parkland is 4.0 acres per 1,000 residents (County of Los Angeles, 2015). As described in Section 3.10, Population and Housing, the Willowbrook CDP had an estimated population of 20,685 in 2015. Based on the parkland listed in Table 3.11.3, there are approximately 7.2 acres of County parkland-per-1,000 population in the Willowbrook CDP.

Libraries

The County of Los Angeles Library provides public library services to the Willowbrook community. The Willowbrook Library is a 2,200-square-foot building that was constructed in 1987. It is located at 11838 South Wilmington Avenue, near the center of the Specific Plan area. The Willowbrook Library has: 4 public computers, 2 early literacy computers, and free wireless internet. In addition to this facility, there are three additional County libraries within the vicinity of the Specific Plan area, which include:

- Compton Library located at 240 W. Compton Boulevard. This library building 20,542 square feet and constructed in 1974. The building includes a meeting room with a capacity of 95

persons, and has: 14 public computers, 4 children's computers, 4 early literacy computers, 1 literacy computer, and free wireless internet.

- AC Bilbrew Library located at 12603 S. Broadway. This library building 21,843 square feet was constructed in 1977 and is currently being renovated. The building includes a meeting room with a capacity of 113 persons, and has: 11 public computers, 4 children's computers, 3 early literacy computers, 3 teen computers, and free wireless internet.
- Lynwood Library located at 11320 Bullis Road. This library building 11,722 square feet was constructed in 1977 and refurbished in 2004. The building includes a meeting room with a capacity of 106 persons. Lynwood Library has: 15 public computers, 3 children's computers, 2 early literacy computers, and free wireless internet.

Due to the increasing resources being available online, the availability of high speed internet services and a decrease in the need to physically visit a library, the County's library service needs are changing. The County provides thousands of online reference materials, books, magazines, music, videos, online learning resources, and a mobile library app. Thus, many of the library's resources can be obtained offsite (e.g. from home, work, or mobile internet device).

Other Public Facilities

In addition to Sheriff, fire, school and library facilities, there are typical urban public service facilities such as the MLK Medical Center within the Specific Plan, and four U.S Post Offices near the Specific Plan, including: one located at 2241 East El Segundo Boulevard, approximately 0.42 miles south of the Specific Plan; one located at 12003 Avalon Boulevard, 1.12 miles west of the Specific Plan boundary; one located at 11200 Long Beach Boulevard, approximately 1.13 miles east of the Specific Plan boundary; and one located at 10301 Compton Avenue, approximately 0.90 miles north of the Specific Plan boundary.

3.11.2 Regulatory Setting

State

Senate Bill 50

Senate Bill (SB) 50, also known as the Leroy F. Greene School Facilities Act of 1998 (School Facilities Program), was originally established to streamline the state's school construction funding process (State of California, 1998). The program provides grants to school districts to match local contributions for new construction and modernization projects, based on "unhoused pupils," from revenues obtained through the sale of State General Obligation Bonds when approved by voters in statewide elections. It provides funding for higher education facilities, K-12 facilities, modernization of older schools, additional funding for districts in hardship situations, and funding for class size reduction. The School Facilities Program also establishes the mandated CEQA mitigation measure for impacts related to school capacity and prohibits the denial of a land use application on the basis of school capacity. The CEQA mandated mitigation measure is the collection of fees to be used by schools affected by the proposed development. The base fee that can be levied for all new residential development is $2.14 per dwelling unit and $0.34 per square foot for new commercial and industrial development. Additional fees can be

levied if the applicable school district meets certain criteria, such as approval of a five-year school facilities plan.

Quimby Act (Government Code 66477)

State Subdivision Map, Section 66477 (Quimby Act) allows the legislative body of a city or county, by ordinance, to require the dedication of land, the payment of in-lieu fees, or a combination of both, for park and recreational purposes as a condition of approval for a final tract map or parcel map. The Quimby Act requires that developers set aside land, donate conservation easements, or pay fees for park improvements. The goal of the Quimby Act is to require developers to help mitigate the impacts of development.

Local

Los Angeles General Plan Public Services and Facilities Element

The following General Plan policies for public services are relevant to the Specific Plan project:

Sufficient Infrastructure

Policy 1.1: Discourage development in areas without adequate public services and facilities.

Policy 1.2: Ensure that adequate services and facilities are provided in conjunction with development through phasing or other mechanisms.

Policy 1.3: Ensure coordinated service provision through collaboration between County departments and service providers.

Policy 1.5: Focus infrastructure investment, maintenance and expansion efforts where the General Plan encourages growth, such as TODs.

Educational Facilities

Policy 7.2: Proactively work with school facilities and education providers to coordinate land use and facilities planning.

Libraries

Policy 8.1: Ensure a desired level of library service through coordinated land use and facilities planning.

Policy 8.2: Support library mitigation fees that adequately address the impacts of new development.

Los Angeles County General Plan Safety Element

The following General Plan policies from the safety element are relevant to the Specific Plan project:

Policy 4.2: Support County emergency providers in reaching their response time goals.

Policy 4.5: Ensure that there are adequate resources, such as sheriff and fire services, for emergency response.

Los Angeles County General Plan Parks and Recreation Element

Policy 3.1: Acquire and develop local and regional parkland to meet the following County goals: 4 acres of local parkland per 1,000 residents in the unincorporated areas and 6 acres of regional parkland per 1,000 residents of the total population of Los Angeles County.

Policy 3.2: For projects that require zone change approvals, general plan amendments, specific plans, or development agreements, work with developers to provide for local and regional parkland above and beyond their Quimby obligations.

Policy 4.1: Create multi-use trails to accommodate all users.

Los Angeles County Fire Strategic Plan

In June 2011, the LA County Board of Supervisors approved the update to goals and actions to achieve the goals of the fire services within LA County. The overall strategic priority related to the proposed Specific Plan is to maximize the effectiveness of process, structure, and operations to support timely delivery of customer-oriented and efficient public services.

Los Angeles County Quimby Park Requirements

County Code Section 21.24.340 (Residential Subdivisions, Local Park Space Obligation, Formula) contains the methodology used to determine the amount of parkland required to be dedicated by the subdivider as a part of the subdivision map approval process. In accordance with Section 21.28.140, the developer may also be allowed to pay a fee in-lieu of the provision of parkland. The County Code is applicable to new development requiring a subdivision map.

Willowbrook Community Parks and Recreation Plan

The Department of Parks and Recreation has completed the Community Parks and Recreation Plans to envision futures for the following six unincorporated communities in Los Angeles County: East Los Angeles, East Rancho Dominguez, Lennox, Walnut Park, West Athens-Westmont, and Willowbrook. As part of the public outreach process for the Willowbrook Community Parks and Recreation Plan, residents expressed the need for a wide variety of recreational amenities, including the following: exercise facilities, including new walking and running paths; play space for children; spaces for older youth, including sports facilities; gathering places for community and family events; an arts facility; a performance space; a splash pad; and an equestrian center, including stables, riding rings, equestrian trails; and green infrastructure.

~~Los Angeles Countywide Parks and Recreation Needs Assessment~~ ***Los Angeles Countywide Parks and Recreation Needs Assessment***

Adopted by the Board of Supervisors on July 5, 2016, the Parks Needs Assessment was a historic and significant undertaking to engage all communities within Los Angeles County in a collaborative process to gather data and input for future decision-making on parks and recreation. The primary goal of the Parks Needs Assessment was to quantify the magnitude of need for parks and recreational facilities, and determine the potential costs of meeting that need. This goal has been accomplished, as evidenced by the final report which uses a transparent, best-practices approach to evaluate park and recreation needs, and is the product of an engagement process that involved the public, cities, unincorporated communities, community-based organizations, and other stakeholders. Specifically, the Parks Needs Assessment:

- Uses a set of metrics to measure and document park needs for each study area;
- Establishes a framework to determine the overall level of park need for each study area;
- Offers a list of priority park projects for each study area;
- Details estimated costs for the priority park projects by study area;
- Builds a constituency of support and understanding of the park and recreational needs and opportunities; and
- Informs future decision-making regarding planning and funding for parks and recreation.

The project site is located within the unincorporated Willowbrook Community, which is an area of high park need, and currently contains seven ~~six~~ County parks maintained and operated by the Department of Parks and Recreation.

~~Los Angeles County Park Safe Neighborhood Parks Proposition of 1992, 1996, Proposition A~~ ***Los Angeles County Safe, Clean Neighborhood Parks and Beaches Measure of 2016***

The Safe, Clean Neighborhood Parks & Beaches Measure (Measure A) was approved by voters in 2016. This measure will replace expiring, voter-approved funding with new funding for parks, beaches, recreation and open spaces; and generate approximately $92.7 million per year. Funding from the measure will be used to upgrade playground equipment, parks, recreation centers and senior centers; provide children in our community safe places to play and opportunities to participate in after school programs in parks and recreation centers; allow for implementation of drought-tolerant plants and use of recycled water and rainwater to reduce the amount of water wasted; and help protect and preserve undeveloped natural areas for future generations.

3.11.3 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines and the County of Los Angeles Environmental Checklist. The project could have a significant environmental impact on public services if it would:

- Would the project create capacity or service level problems, or result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
  - Fire protection (See Impact 3.11-1);
  - Sheriff Protection (See Impact 3.11-2);
  - Schools (See Impact 3.11-3);
  - Parks (See Impact 3.11-4);
  - Libraries (See Impact 3.11-5); or
  - Other public facilities (See Impact 3.11-6).

In accordance with Appendix G of the *CEQA Guidelines* and the County of Los Angeles Environmental Checklist, the project would have a significant environmental impact on recreation if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that a substantial physical deterioration of the facility would occur or be accelerated (See Impact 3.11-7);
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment (See Impact 3.11-8); or
- Interfere with regional open space connectivity (See Section 5.1.13)

3.11.4 Methodology

Fire Facilities

Impacts on public services are considered significant if an increase in population or development levels would result in inadequate staffing levels, response times, and/or increased demand for services that would require the construction or expansion of new or altered facilities that might have an adverse physical effect on the environment.

For fire services, a significant impact could occur if the project generated the need for additional personnel or equipment that could not be accommodated within the existing stations and would require the construction of a new station or an expansion of an existing station that might have an adverse physical effect on the environment.

Sheriff Facilities

For sheriff services, a significant impact would occur if the project generated the need for additional personnel or equipment that could not be accommodated within the existing stations and would require the construction of a new station or an expansion of an existing station that might have an adverse physical effect on the environment.

School Facilities

The analysis of school facilities identifies the increased student generation due to increased residential units that would be developed with buildout of the proposed Specific Plan, and considers the context of existing schools, current capacity, and any pending or planned improvements to school facilities. Pursuant to SB 50 (described above), impacts related to schools are considered to be less than significant with payment of development fees to the Compton Unified School District, which were established to provide for school facilities construction, improvements, and expansion.

Library Facilities

The analysis of library facilities is considered in the context of the capacity and use of existing libraries. As described above, library service needs are changing with increasing resources being available online and the availability of high speed internet services. As a result, library service standards (e.g., a certain number of volumes or square feet of building space per thousand residents) are no longer appropriate when assessing the needs of a municipal library. A more appropriate standard is related to the physical usage of the library facility in relation to its physical capacity. Thus, a significant impact would occur if the project generated the need for additional library services that could not be accommodated within existing facilities and would require the construction of a new library or the expansion of an existing library, which could have an adverse physical effect on the environment.

In general, employment generating land uses do not typically generate a demand for library services. As such, the analysis of impacts on library services is based on the number of residents generated by the Specific Plan and their anticipated usage of library facilities.

Park and Recreation Facilities

The analysis of park and recreation facilities considers the increase in use that would be generated by the implementation of the Specific Plan in relation to the ability of existing park and recreation facilities to meet that demand. The analysis considers whether an increase in use would result in the need for new or expanded park and recreational facilities, or an increase in use would result in substantial physical deterioration of existing recreational facilities. The County's goal for the provision of parkland is 4.0 acres of local parkland per 1,000 residents and 6.0 acres of regional parkland per 1,000 residents(County of Los Angeles, 2015). Based on these goals, the impact of the Specific Plan on park and recreation facilities is evaluated.

Other Facilities

Impacts on other public facilities are considered significant if an increase in population or development levels would result in inadequate staffing levels, response times, and/or increased demand for services that would require the construction of new or expansion of existing facilities that might have an adverse physical effect on the environment.

3.11.5 Impact Analysis

Fire Protection Services

Impact 3.11-1: The proposed project would not result in substantial adverse physical impacts associated with the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts.

Project-Specific

Buildout of the Specific Plan would result in 1,952 additional residential units that would house approximately 6,383 persons, and approximately 2,666,035 square feet of non-residential uses that would generate approximately 5,632 jobs. This increase in development and persons within the Specific Plan area would result for additional calls for fire department services.

As described above, the Specific Plan areas includes one County Fire Station (Station 41), and another County Fire Station is located within one mile of the of the Specific Plan area (Station 147), and 6 more County Fire Stations are located within 4.5 miles of the Specific Plan. The proposed Specific Plan would result in infill development, increased residents and employees; and therefore, an increased number of calls for fire services that would increase needs for fire department staffing and equipment. This increase would occur gradually over the incremental implementation of the proposed 20-year plan, and the fire department would add staff and equipment to the existing stations on an as-needed basis in order to accommodate these increased demands. Due to the large number of existing County fire stations within the Willowbrook area, and the infill nature of the development that would occur by the Specific Plan that would locate all new development within the already served area, the increase in fire department staffing and equipment required to serve the buildout of the proposed Specific Plan would be accommodated by the existing fire stations, and new or physically altered fire protection facilities would not be required to serve the buildout of the Specific Plan. Thus, physical impacts to the environment related to the development of or expansion of fire department facilities would not occur.

Individually proposed development projects within the Specific Plan area would require incorporation of fire detection and suppression systems (fire alarms and sprinklers), emergency access (fire lanes), and properly placed fire hydrants as required by the Los Angeles County Fire Code (Chapter 12.14 of the County Municipal Code). These project design elements are reviewed and approved by the County Public Works Division and Fire Department prior to the issuance of development permits for each development project in the Specific Plan. These existing County development permitting procedures further minimize potential impacts associated with provision of fire protection services. Therefore, implementation of the Specific Plan would not require provision of new or physically altered fire protection facilities construction of which could cause

significant environmental impacts. Hence, the Specific Plan would not result in impacts related to fire protection services.

Cumulative

The geographic context for cumulative fire protection and emergency services is the typical service areas of the primary fire stations that are serving the Specific Plan area. Numerous cumulative development projects are anticipated to occur within the Specific Plan vicinity throughout the 20-year implementation period of the proposed Specific Plan, which would generate demand for additional fire protection and emergency medical services. Like the proposed Specific Plan, the related projects would be reviewed County Fire Department staff prior to permit approval and would be required to implement fire protection design features per the California Building Code and Los Angeles County Fire Code (Chapter 12.14 of the County Municipal Code), which would reduce potential fire hazards. Because the cumulative area is urban and developed and contains one fully staffed fire station and seven additional stations within 4.5 miles of the Specific Plan, and future cumulative development projects would consist of redevelopment or infill development of new uses that would be required to meet current fire codes, cumulative development would not result in physical environmental impacts related to the need to provide additional facilities for fire protection services.

Because the proposed project and cumulative projects would not result in physical environmental impacts related to fire protection services, the proposed project would not have a cumulatively considerable impact.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

No impact.

Cumulative

No impact.

Police Protection Services

Impact 3.11-2: The proposed project would not result in substantial adverse physical impacts associated with the need for new or physically altered sheriff facilities, the construction of which could cause significant environmental impacts.

Project-Specific

Buildout of the Specific Plan would result in 1,952 additional residential units that would house approximately 5,739 persons, and approximately 2,666,035 square feet of non-residential uses that would generate approximately 5,632 jobs. This increase in development and persons within the Specific Plan area would result in additional calls for sheriff services.

As described above, Los Angeles County has a staffing goal of one sworn officer-per-thousand population. Based on this staffing goal, an addition of approximately 5,739 new residents would require approximately six sworn officers by buildout of the Specific Plan (a 20-year timeline).

The demand for sheriff services and facility/equipment maintenance needs would increase gradually over the incremental implementation of the Specific Plan, and the Sheriff's Department would add staff, equipment, and maintenance services on an as-needed basis in order to accommodate these increased demands. As described by the County's General Plan EIR and confirmed by the Sheriff's Department, the existing Century Station facility would be able to accommodate buildout of the General Plan (County of Los Angeles, 2015 and Sheriff, 2016). In addition, as described in Section 3.10, Population and Housing, the growth anticipated by the buildout of the proposed Specific Plan is within that which was identified for the County's General Plan. Hence, the Sheriff Department facilities serving the Specific Plan area would be able to accommodate the proposed buildout.

Overall, because the Sheriff's Century Station is located adjacent and east of the Specific Plan boundary and can directly serve the Plan area, and would be able to accommodate six additional sworn officers needed to meet the anticipated demand from buildout of the proposed Specific Plan (County of Los Angeles, 2015 and Sheriff, 2016), implementation of the Specific Plan would not require new or physically altered Sheriff Department facilities, construction of which could cause significant environmental impacts. Hence, the Specific Plan would not result in physical environmental impacts related to the development or expansion of sheriff department facilities.

Cumulative

The geographic context for cumulative police services is the service area of the Sheriff's Century Station, which serves the Specific Plan area. Numerous cumulative development projects are anticipated to occur within the 20-year implementation period of the proposed Specific Plan, which would generate additional calls for sheriff services. As described above, the existing Century Station facilities would be able to accommodate buildout of the General Plan as described in the County General Plan EIR (County of Los Angeles, 2015).

The related projects would be reviewed by County and Sheriff Department staff prior to the developer's receipt of permits to ensure that appropriate security measures are included in each development, which would reduce the cumulative need for sheriff services to a level that could be

accommodated by existing facilities. Overall, as described by the County General Plan, projected growth in the County is not anticipated to result in the need for new or expanded sheriff facilities in the portion of the County including the Specific Plan area, and the existing facilities would be able to accommodate buildout of the proposed Specific Plan. Therefore, cumulative development would not result in physical environmental impacts related to sheriff services and cumulative impacts would be less than significant. Because the proposed project and cumulative projects would not result in physical environmental impacts related to sheriff services, the proposed project would not have a cumulatively considerable impact.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

No impact.

Cumulative

No impact.

Schools

Impact 3.11-3: The proposed project would not result in substantial adverse physical impacts associated with the need for new or expanded school facilities, the construction of which could cause significant environmental impacts.

Project-Specific

The County General Plan EIR identifies a student generation rate of 0.7 student per household to determine how many students would be generated by new residential dwelling units. At buildout the proposed Specific Plan is anticipated that approximately 1,952 additional residential units will exist within the Plan area. Assuming maximum buildout and full occupancy of the proposed residential units, approximately 1,366 additional students would be generated.

As described above, the Compton USD has experienced a 26.74 percent decrease in enrollment over the last 15 years, and the enrollment of the schools serving the Specific Plan area is anticipated to continue to decrease by an additional 557 students between the 2014/15 and 2021/22 school years (there are no additional Compton USD projections beyond 2021/22). A decrease of 557 students represents a 12.7 percent decrease in enrollment for the schools serving the Specific Plan area.

The difference in the anticipated decrease in students by 2022 projected by the Compton USD and the increase in students that would result from buildout of the Specific Plan though 2035 is 809 students. Hence, the schools serving the Specific Plan area would need to accommodate

809 more students than are currently accommodated. Due to the District's expected decline of 2,511 students by 2022 throughout the District, the additional 809 students generated in the Specific Plan area could be accommodated by schools within the District (CUSD, 2015).

As described previously, many of the schools have portables which accommodate a fluctuation of students as needed, and installation and removal of such structures do not generally result in any environmental effects. Additionally, the Compton USD Facilities Master Plan describes improvements and maintenance needs to the existing facilities described above, to continue to provide educational services. Thus, it is anticipated that the existing schools serving the Specific Plan area would continue to provide services, and the CUSD would be able to accommodate the additional students from buildout of the Specific Plan.

As described above, SB 50 prohibits the denial of a land use application because of school capacity and specifically establishes a mandated fee for mitigation of impacts under CEQA. Government Code Section 65995 authorizes school districts to collect fees on future development at a minimum of $2.14 per square foot for residential construction and $0.34 for commercial/industrial construction (Level I fees). Level I fees are adjusted every two years according to the inflation rate. Higher fees are permitted for school districts that adopt long-range school facilities plans. Class B construction fees are determined by the State Allocation Board. Government Code Section 66001 requires that a reasonable relationship exist between the amount and use of the fees and the development on which the fees are to be charged.

Payment of development impact fees, as required by Government Code Section 65995 and the Compton USD would be required for each development project, which would provide for funding of new facilities and would constitute mitigation of impacts related to the provision of school services. Therefore, impacts related to school facilities from implementation of the proposed Specific Plan would be less than significant.

Cumulative

The geographic context for cumulative school services is the area served by the Compton USD. Numerous cumulative development projects are anticipated to occur throughout the USD service area within the 20-year implementation period of the proposed Specific Plan that are anticipated to result in an increase in population, which will generate additional needs for public school classroom seating capacity in local schools. However, as described previously, the school district's overall enrollment has declined by 26.74 percent in the last 15 years, and a student reduction of 557 students through the 2021/22 school year is anticipated for schools that serve the Specific Plan area. Thus, the increase in student population that would result from implementation of cumulative projects would help to offset declines.

In addition, all new private development is required to pay statutory impact fees in accordance with Government Code Section 65995(b) to the Compton USD to help fund facility improvements and offset any additional increases in education demand at schools. Because these fees are required by law for mitigation of impacts to schools under CEQA, the payment of these fees would provide funding for needed school facilities and would constitute full mitigation of potential impacts to existing school facilities from implementation of the proposed Specific Plan.

Given the payment of these fees, the cumulative impact of cumulative development on public schools would be less than significant. Because the proposed project and cumulative projects would result in less than significant impacts on public schools, the proposed project's contribution to cumulative impacts on public schools would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Parks

Impact 3.11-4: The proposed project would not result in substantial adverse physical impacts associated with the need for new or physically altered parks and recreation facilities, the construction of which could cause significant environmental impacts.

Project-Specific

The proposed Specific Plan would result in an increase in population by 5,778 residents (assuming no vacancy) over the 20-year Specific Plan implementation timeline. As described above, there are 147.97 acres of County parkland within the Willowbrook community which based on the 2015 population of 20,685 residents provides 7.15acres of County parkland per 1,000 residents. The increase in population from buildout of the proposed Specific Plan would reduce the park acreage to 5.63 acres of County parkland per 1,000 residents, which is above the County's goal to provide 4.0 acres of local parkland per 1,000 residents (County of Los Angeles, 2015). Therefore, based on the County's planning criteria, buildout of the proposed Specific Plan would not result in the need for new or physically altered parks and recreation facilities, the construction of which could cause significant environmental impacts, and impacts would not occur.

Cumulative

As described above, the Willowbrook CDP area, currently provides 7.15 acres of County parkland per 1,000 population, and the County's planning service goal is to provide 4.0 acres of local parkland per 1,000 residents. Related projects throughout the Willowbrook CDP area would

reduce the amount of acreage per population. Assuming the Willowbrook community area grows proportionally with the Metro Area (Outside Community-Based Plan) as provided in the County of Los Angeles General Plan EIR, the Willowbrook community would increase in population by 27.6 percent from the current population of 20,685 to 26,394. With the addition of the proposed Specific Plan, the Willowbrook community would have a buildout population of 32,172. Assuming the Willowbrook community contains the existing 147.97 parkland acres, this parkland would provide 4.6 acres per 1,000 residents at buildout of the Willowbrook community and the buildout of the proposed Specific Plan. Therefore, cumulative growth would result in less than significant cumulative environmental impacts related to park and recreation facilities. Because the proposed project would not cause environmental impacts to park and recreational facilities, the proposed project would not contribute to cumulative environmental impacts to parks and recreational facilities.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

No impact.

Cumulative

No impact.

Library Facilities

Impact 3.11-5: The proposed project would not result in the need for new or physically altered library facilities, the construction of which could result in significant environmental impacts.

Project-Specific

As described above, the Specific Plan area contains one library, and three additional County libraries are located within three miles of the Specific Plan area. In addition, the County's library service needs are changing with the advent of increasing library resources being available online and the availability of high speed internet services. Many of the library's resources can be obtained offsite. Therefore, new residential uses in the Specific Plan area does not immediately equate to an increased need for library resources/services or square footage of library space.

The addition of 6,383 new residents within the Specific Plan area over the 20-year plan is anticipated to increase demand for library services and facilities. However, based on the

widespread use of the internet by people of Los Angeles County, it is reasonable to assume that many of the residential units could be equipped with internet access, which provides access to many of the same resources provided by the library and would limit the increased need for library services and resources. Thus, the existing four County library facilities would be able to accommodate the increased demand from the addition of 6,383 residents over the 20-year buildout of the Specific Plan. Buildout of the proposed Specific Plan would not result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts. Therefore, impacts to library services associated with implementation of the proposed Specific Plan would not occur.

Cumulative

The geographic scope for cumulative library services is the portions of the County of Los Angeles that are utilizing the four libraries serving the Specific plan area. As described previously, library usage has been changing with the advent of increasing resources being available online and the availability of high speed internet services. Therefore, new development results in a limited need for library resources/services or square footage of library space. However, cumulative increases in population growth over time could increase the demand for library services.

As described in Section 3.10, Population and Housing, SCAG estimates that the County's population will continue to increase over the next 20 years to the year 2035, which will generate increases in demand for library services. Although library use would be expected to incrementally increase from demand by cumulative developments, there are four existing libraries serving the Specific Plan area that would be able to meet the increased need. Additionally, technology and the information available on the internet is anticipated to increase and would limit the demands on library services.

Overall, cumulative development is not anticipated to result in the need for a new or expanded library, the construction of which could result in significant impacts. Therefore, no impacts from cumulative projects associated with library services would occur. Because the proposed project and cumulative projects would not cause environmental impacts related to new or expanded library services, the proposed project would not contribute to cumulative environmental impacts to library services.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

No impact.

Cumulative

No impact.

Other Public Facilities

Impact 3.11-6: The proposed project would not result in the need for new or physically altered other public facilities, the construction of which could cause significant environmental impacts.

Project-Specific

As described above there are no other public facilities that are related to implementation of the Specific Plan. The Specific Plan area is served by MLK Medical Center and several post offices, neither of which would need to be physically altered to serve the additional 6,383 new residents within the Specific Plan area over the 20-year plan. As described in Section 2.0, Project Description, Tier I of the MLK Center Campus Redevelopment Project implemented redevelopment of the hospital portion of the project, which has been completed. Hence, the hospital would not require physical expansion to serve the Specific Plan buildout.

Also, as described above, there are four U.S Post Offices within 1.13 miles of the Specific Plan area. These existing post office facilities would be able to accommodate the additional mail volume to the 1,952 residential units that would be developed at buildout. Because the proposed Specific Plan would implement redevelopment and infill development within the urban area that is already served by developed service infrastructure, as directed by the County General Plan's policies, the project would not require development of other public service facilities, the construction of which could cause significant environmental impacts.

Cumulative

The geographic scope for cumulative hospital and post office services is the portions of the County of Los Angeles that are utilizing the hospital and post offices that serve the Specific Plan area. Cumulative development over the next 20 years would increase the population and need for hospital and post office services; however, because the cumulative projects would implement redevelopment and infill development within the urban area, no substantial increase in the demand for hospital and post office services would occur. Therefore, cumulative development would result in less than significant cumulative impacts on other public services such as hospital and post office services. Because the proposed project would not require the development of other public services such as hospital and post office services, the proposed project would not contribute to cumulative impacts on other public services.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

No impact.

Cumulative

No impact.

Increase Use of Recreational Facilities

Impact 3.11-7: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that a substantial physical deterioration of the facility would occur or be accelerated.

Project-Specific

As described above, there are 147.97 acres of County parkland within the Willowbrook community which based on the 2015 population of the Willowbrook community of 20,685, provides 7.2 acres of County parkland per 1,000 residents. The increase in population from buildout of the proposed Specific Plan would reduce the park acreage to 5.63 acres of County parkland per 1,000 residents, which is above the County's goal to provide four acres of parkland per 1,000 residents (County of Los Angeles, 2015). Therefore, based on the County's planning criteria, buildout of the proposed Specific Plan would not result in the substantial acceleration of physical deterioration of park and recreation facilities.

Additionally, as described in the County General Plan EIR, enforcement of the General Plan goal of four acres of local parkland for every 1,000 residents as a condition of approval where an appropriate nexus exist would serve to reduce the potential for deterioration of facilities by allowing for new facilities and adequate funding. The Los Angeles County Measure A funding would add a parcel tax of one-and-a-half cent per square foot of developed property. The additional development that would occur by implementation of the Specific Plan would generate additional Measure A funds which will provide funding for parks and recreation projects. Overall, implementation of the proposed Specific Plan would result in less than significant impacts related to physical deterioration of existing park and recreation facilities.

Cumulative

As described above, the Willowbrook community currently provides 7.15 acres of County parkland per 1,000 population, and the County's planning service goal is to provide 4.0 acres of local parkland per 1,000 residents. Cumulative development throughout the Willowbrook community would reduce the amount of acreage per 1,000 residents to 4.6 (see above under Parks) and increase the use of existing facilities. However, with the implementation of Quimby Park Requirements, Measure A and General Plan Policy P/R 3.2, the future buildout of the Willowbrook community would result in less than significant cumulative impacts resulting from physical deterioration of existing park and recreation facilities. Because the proposed project would result in less than significant impacts related to physical deterioration of existing parks and

recreational facilities, the proposed project's contribution to cumulative impacts would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Recreational Facilities Physical Effect on the Environment

Impact 3.11-8: The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Project-Specific

The proposed Specific Plan does not include development of recreational facilities. In addition, as described above, the increase in population from buildout of the proposed Specific Plan would result in 5.63 acres of County parkland per 1,000 residents, which is above the County's goal to provide 4.0 acres of local parkland per 1,000 residents (County of Los Angeles, 2015). Therefore, because the buildout of the proposed Specific Plan would be adequately accommodated by existing park and recreational facilities within the Willowbrook community, the project would not require the construction of new or physically altered recreation facilities, and impacts would not occur.

Cumulative

The geographic context of cumulative impacts on recreational facilities is the Willowbrook community. Cumulative projects within the Willowbrook community may include recreation facilities, the construction of which would be evaluated by the County prior to permit or development approval. The potential development of recreational facilities associated with cumulative projects could result in significant impacts. Because no parkland or recreational facilities are proposed as part of Specific Plan, there would be no potential for the project to contribute to a cumulatively significant adverse physical effect on the environment.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

No impact.

Cumulative

No impact.

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3.12 Transportation and Traffic

Introduction

The analysis within this section was prepared in accordance with the County of Los Angeles Traffic Study Guidelines, and is consistent with traffic impact assessment guidelines set forth in the *2004 Congestion Management Program for Los Angeles County* (CMP). This EIR section was prepared with information and analysis findings contained in the *Willowbrook TOD Specific Plan EIR Traffic Study*, May 4, 2017, which was prepared by The Mobility Group and included as **Appendix F**.

This traffic analysis evaluates potential Specific Plan-related impacts at 66 study intersections, ten freeway segments, and ten freeway off-ramps that provide local and regional access to the traffic study area and define the extent of the boundaries for this traffic impact analysis. LOS investigations at these key locations were used to evaluate potential traffic-related impacts associated with build out of the proposed Specific Plan. This section also provides mitigation measures, where feasible, that would reduce potential impacts from build out of the proposed Specific Plan.

3.12.1 Environmental Setting

Roadway Network

Regional

The unincorporated community of Willowbrook is located approximately 10 miles south of downtown Los Angeles and is accessible by several regional freeways. Interstate 110 (I-110) defines the Willowbrook community's western boundary. I-110, known as the Harbor Freeway, runs north-south from San Pedro (near the Ports of Los Angeles and Long Beach) to downtown Los Angeles. In addition, Interstate 105 (I-105) defines the northern boundary of the Willowbrook community. I-105 runs east–west from the Los Angeles International Airport in the City of Los Angeles to the City of Norwalk where it connects to Interstate 605 (I-605). The Willowbrook community can also be accessed from Interstate 710 (I-710), which is located approximately 2.5 miles east of the eastern Specific Plan boundary and State Route (SR-91), which is located approximately 3.25 miles south of the southern Specific Plan boundary.

Local

The Specific Plan area and vicinity are served by a comprehensive grid system of surface streets, with two access points to the I-105 freeway (Wilmington Avenue and Central Avenue) and four access points to the I-110 freeway (Century Boulevard, Imperial Highway, El Segundo Boulevard and Rosecrans Avenue). The key surface streets serving the Specific Plan area and vicinity are described below (street classification references are from the Los Angeles County General Plan).

East-West Roadways

103th Street is a two-way street extending between Alameda Street and South Broadway, and is classified as a local street. It has one travel lane in each direction. On-street parking is generally allowed on both sides of the street.

108th Street is a two-way street extending west from Wilmington Avenue past I-110, and is classified as a Secondary Highway. It has one travel lane in each direction. On-street parking is generally allowed on both sides of the street. East of Wilmington Avenue it continues as the southern section of Santa Ana Boulevard South.

Santa Ana Boulevard North is a two-way street extending between Willowbrook Avenue and Alameda Street, and is a local street. It has one travel lane in each direction. On-street parking is generally allowed on both sides of the street. East of Alameda Street it continues as Fernwood Avenue.

Santa Ana Boulevard South is a two-way street extending between Wilmington Avenue and Alameda Street, and is a local street. It has one travel lane in each direction. On-street parking is generally allowed on both sides of the street. West of Wilmington Avenue it continues as 108^{th} Street.

Imperial Highway is a two-way street and is classified as a Major Highway. The configuration varies by location. It generally has three travel lanes in each direction with left turn lanes at intersections. It is grade separated from Wilmington Avenue and Willowbrook Avenue on an overpass with two lanes in each direction, and one-way frontage roads. On-street parking is allowed in some locations, with some restrictions.

119th Street is a two-way street extending between Wilmington Avenue and Mona Boulevard, and is classified as a Secondary Highway. It has one travel lane in each direction with a central turn lane. On-street parking is generally allowed on both sides of the street. West of Wilmington Avenue it continues as 120th Street.

120th Street, extending west of Wilmington Avenue, is a two-way street and is classified as a Secondary Highway. It has two travel lanes in each direction. On-street parking is generally allowed with some restrictions. East of Wilmington Avenue, 120th Street extends east to Mona Boulevard, on an alignment south of 120th Street west of Wilmington Avenue, but does not connect across the Metro Blue Line tracks on Willowbrook Avenue. Along this section, it is a Local Street, with one lane in each direction with parking allowed on both sides of the street.

El Segundo Boulevard is a two-way street and is classified as a Major Highway. The configuration varies by location. It generally has two travel lanes in each direction with left turn lanes at intersections. On-street parking is generally allowed on both sides of the street.

Rosecrans Avenue is a two-way street and is classified as a Major Highway. The configuration varies by location. It generally has two travel lanes in each direction with left turn lanes at intersections. On-street parking is generally allowed on both sides of the street.

West Compton Boulevard is a two-way street and is classified as a Secondary Highway east of Central Avenue. West of Central Avenue, it connects to Redondo Beach Boulevard and is classified as a Major Highway. It generally has two travel lanes in each direction with left turn lanes at intersections. On-street parking is generally prohibited.

Alondra Boulevard is a two-way street and is classified as a Major Highway. It generally has two travel lanes in each direction with left turn lanes at intersections. On-street parking is generally allowed on both sides of the street.

Greenleaf Boulevard is a two-way street extending between Central Avenue and Atlantic Drive and is classified as a Secondary Highway. It generally has one travel lane in each direction with left turn lanes at intersections and a center two-way left turn lane. On-street parking is generally allowed on both sides of the street.

Walnut Street is a two-way street extending between Billings Drive and Acacia Court and is classified as a Secondary Highway. Between Avalon Boulevard and Central Avenue, it has two travel lanes in each direction with a center two-way left turn lane. West of Avalon Boulevard and east of Central Avenue it has one travel lane in each direction. On-street parking is generally prohibited.

North-South Roadways

Avalon Boulevard is a two-way street and is classified as a Major Highway. It has two travel lanes in each direction with left turn lanes at intersections, and on-street parking is generally allowed. Between 119th Street and 126th Street it also has a center two-way left turn lane.

Central Avenue is a two-way street and is classified as a Major Highway. Its configuration varies, but generally has two travel lanes in each direction with left turn lanes at intersections, and on-street parking is generally allowed. Between 121st Street and 127th Street it has local access streets (i.e., frontage roads) immediately adjacent to it on either side, which each allow travel in both directions with parking permitted on both sides.

Compton Avenue is a two-way street and is classified as a Secondary Highway. It has two travel lanes in each direction. On-street parking is generally allowed on both sides of the street.

Wilmington Avenue is a two-way street and is classified as a Major Highway. North of 119th Street, it has three travel lanes northbound and two travel lanes southbound with left turn lanes at intersections, and on-street parking is generally prohibited. North of Imperial Highway, it reduces to one lane in each direction. South of 119th Street it has two travel lanes in each direction, and on-street parking is permitted without restriction.

Willowbrook Avenue – West is classified as a Secondary Highway. It does not connect directly to Imperial Highway, but is accessed from Wilmington Avenue and provides one southbound lane past the Willowbrook/Rosa Parks Station (and adjacent bus bays). From the Willowbrook/ Rosa Parks Station south to 119th Street it is a one-way southbound street and has two southbound travel lanes. On-street parking is prohibited on both sides of the street. South of

119th Street, it is a two-way street with one lane in each direction. On-street parking is generally allowed on the west side of the street and prohibited on the east side.

Willowbrook Avenue – East is a two-way street and is classified as a Secondary Highway. It has one travel lane in each direction. On-street parking is generally allowed on the east side of the street and prohibited on the west side. It does not extend north of I-105 as a though street, as the section between just north of 117th Street and Imperial Highway is restricted to southbound buses serving the Willowbrook/Rosa Parks Station.

Mona Boulevard is a two-way street and is classified as a Secondary Highway. It has two travel lanes in each direction. On-street parking is generally prohibited.

Alameda Street is split into an eastern section and a western section, separated by a train line. The western section is a two-way street and is classified as a Secondary Highway. It has two travel lanes in each direction and on-street parking is generally allowed on both sides of the street. The eastern section of Alameda Street has a single travel lane in each direction and is a local street and parking is generally allowed on both sides of the street.

San Pedro Street is a two-way street and is classified as a Secondary Highway. South of 120th Street it has two travel lanes in each direction, and north of 120th Street it has one travel lane in each direction with left turn lanes at intersections. North of 120th Street it also has a central left turn lane. North of Alondra Boulevard it connects to Avalon Boulevard. On-street parking is generally allowed on both sides of the street.

Main Street is a two-way street and is classified as a Major Highway. South of 120th Street it has two travel lanes in each direction, and north of 120th Street it has one travel lane in each direction with left turn lanes at intersections. North of 119th Street and south of El Segundo Boulevard it also has a central left turn lane. On-street parking is generally allowed on both sides of the street.

State Street/Santa Fe Avenue is a two-way street and is classified as a Secondary Highway north of Lynwood Road. South of Lynwood Avenue it is classified as a Major Highway. It has two travel lanes in each direction with left turn lanes at intersections. On-street parking is generally allowed on both sides of the street.

Transit Services

The Specific Plan area is served by significant levels of transit including two Metro rail lines (Blue and Green Lines), seven regional bus lines, and five local shuttle routes. There are five Metro Local regional bus lines, one Compton Renaissance bus line, one GTrans (formerly Gardena Municipal Bus Lines) bus line, two Los Angeles County The Link shuttle bus lines, one Lynwood Breeze shuttle bus line, and one LADOT DASH shuttle bus line, serving the Specific Plan area.

The focus of transit service is the Willowbrook/Rosa Parks Station, which serves the Metro Blue and Green Lines and many of the bus lines. All transit lines are described, including the frequency of service (headways) during the peak periods.

Rail Transit

The Willowbrook/Rosa Parks Station is located on the southeast corner of Wilmington Avenue and Imperial Highway. It is a three-level station where the ground level platform provides access to the Metro Blue Line, the second level is a mezzanine area connecting both platforms, and the third-level provides access to the Metro Green Line.

The Metro Blue Line runs between Downtown Los Angeles and Downtown Long Beach. It operates between approximately 4:00 am and 1:00 am, and until about 2:00 am on weekend nights. It operates every six to 12 minutes during weekday peak periods and every ten to 15 minutes on weekends. Passengers can transfer to the Metro Green Line at this station.

The Metro Green Line runs between Redondo Beach and Norwalk. It operates between approximately 4:00 am and 12:00 am, and until about 2:00 am on weekend nights. It operates every seven to ten minutes during weekday peak periods and every 15 minutes on weekends. Passengers can transfer to the Metro Blue Line at this station.

Bus Transit

Willowbrook/Rosa Parks Station

The Willowbrook/Rosa Parks Station is also directly served by the following bus lines via off-street bus loading bays (the route names refer to communities, not street names):

- Metro Local 55/355 - Willowbrook to Downtown Los Angeles.
- Metro Local 120 - Whittier to El Segundo.
- Metro Local 202 - Wilmington to Willowbrook.
- Metro Local 205 - Willowbrook to San Pedro.
- Gardena Municipal Bus Lines Route 5 - Willowbrook to Hawthorne.
- Metro Local 612 – Local Area Circulator Shuttle.
- Los Angeles County Link Route B - Local Willowbrook Shuttle.
- Lynwood Breeze Route A - Shuttle between Willowbrook and Lynwood.

Regional Bus Transit Service Serving the Specific Plan Area

Metro Local 55/355 runs between Willowbrook/Rosa Parks Station and Downtown Los Angeles via Wilmington Avenue in the study area. It operates at about ten- to 30-minute headways during weekday peak periods and at about 20- to 60-minute headways on weekends. It operates 24-hours a day.

Metro Local 120 runs between Whittier and El Segundo via Imperial Highway in the study area. It operates at about 30-40 minute headways during weekday peak periods and at 60-minute headways on weekends.

Metro Local 202 runs between Wilmington and Willowbrook/Rosa Parks Station via Willowbrook Avenue in the study area. It operates at about 50- to 60-minute headways during

weekday peak periods and at about 60-minute headways overnight. There is no mid-day service and no service on weekends.

Metro Local 205 runs between Willowbrook/Rosa Parks Station and San Pedro via Wilmington Avenue in the study area. It operates at about 25- to 50-minute headways during weekday peak periods and at 55- 60-minute headways on weekends.

Metro Local 612 runs as a circulator shuttle, connecting the Willowbrook/Rosa Parks Station to Lynwood, South Gate, Cudahy, Bell, Walnut Park, and Watts. It operates at about 60-minute headways every day.

GTrans Route 5 runs between Willowbrook/Rosa Parks Station and Hawthorne via Wilmington Avenue in the study area. It operates at about 30-minute headways on weekdays.

Compton Renaissance Route 5 operates as a circulator shuttle between Willowbrook (Martin Luther King Jr. [MLK] Community Hospital) and Compton. Based on available schedules, it operates at about 60- minute headways between 8am and 3pm on weekdays and between 10am and 3pm on Saturdays.

Shuttle Bus Routes Serving the Specific Plan Area

Los Angeles County

The Link Route A is a clockwise loop linking Hahn Plaza, MLK Medical Center via Wilmington Avenue, El Segundo Boulevard, Central Avenue, Rosecrans Avenue, Broadway and Imperial Highway. It provides connections to the MLK Medical Center, Carver Park, the Magic Johnson Park, the Avalon Green Line Station and other points throughout Willowbrook. It operates at about 60-minute headways on weekdays and Saturdays.

The Link Route B runs as circulator shuttle throughout Willowbrook, mostly running along Willowbrook Avenue, Mona Boulevard, Wilmington Avenue, 120th Street, 124th Street, 126th Street and 130th Street. It provides connections to the MLK Medical Center, Drew University, Mona Park, Jefferson Elementary school, and the Willowbrook Rosa Parks Station. It operates at about 30-minute headways on weekdays and Saturdays.

King Medical Center Shuttle runs between the Medical Center and the Willowbrook/Rosa Parks Station and also served the Hahn Shopping Center. It operates at 20-minute headways on weekdays and Saturdays.

Los Angeles Department of Transportation (LADOT) DASH

The DASH Watts shuttle (LDWTS) runs as a circulator shuttle connecting Willowbrook to areas throughout Watts, mainly via Mona Boulevard, 103rd Street, Wilmington Avenue, 92nd Street, McKinley Avenue, Avalon Boulevard, and 120th Street. It operates at 20-minute headways on weekdays and Saturdays.

Lynwood Breeze

The Lynwood Breeze Route D shuttle runs between Willowbrook and Lynwood. It operates at about 30-minute headways on weekdays.

Bicycle and Pedestrian Facilities

Bicycle Facilities

The Los Angeles County Bicycle Master Plan designates a countywide network of bicycle paths, bicycle-lanes, and bicycle routes in the vicinity of the Specific Plan area. The following designations are used by type of facility:

Bicycle Paths (Class I) are paved right-of-way for exclusive use by bicyclists, pedestrians and other non-motorized modes of travel. They are physically separated from vehicular traffic.

Bicycle Lanes (Class II) have an allocated portion of the roadway exclusive for bicycle travel, defined by pavement striping and signage. Bicycle lanes are one-way facilities on either side of the roadway. They are located adjacent to the curb, where there is no on-street parking and adjacent to the parking lane, where on-street parking exists.

Bicycle Routes (Class III) provide shared use with motor vehicle traffic within the same traffic lane and are designated by signage.

There are no existing bike paths, bike lanes, or bike routes in the Specific Plan area. The nearest existing bicycle facilities are a single Bicycle Path that runs along Compton Creek and Bicycle Lanes on Central Avenue between Century Boulevard and Imperial Highway, and between El Segundo Boulevard and south of Compton Boulevard.

Pedestrian Facilities

Sidewalks exist on all streets in the Specific Plan Area. Pedestrian crosswalks exist at signalized intersections. There is a mid-block crosswalk on 120th Street midway between Compton Avenue and Wilmington Avenue, which is a signalized crosswalk. There are also two unsignalized crosswalks on 118th Street between Compton Avenue & Wilmington Avenue.

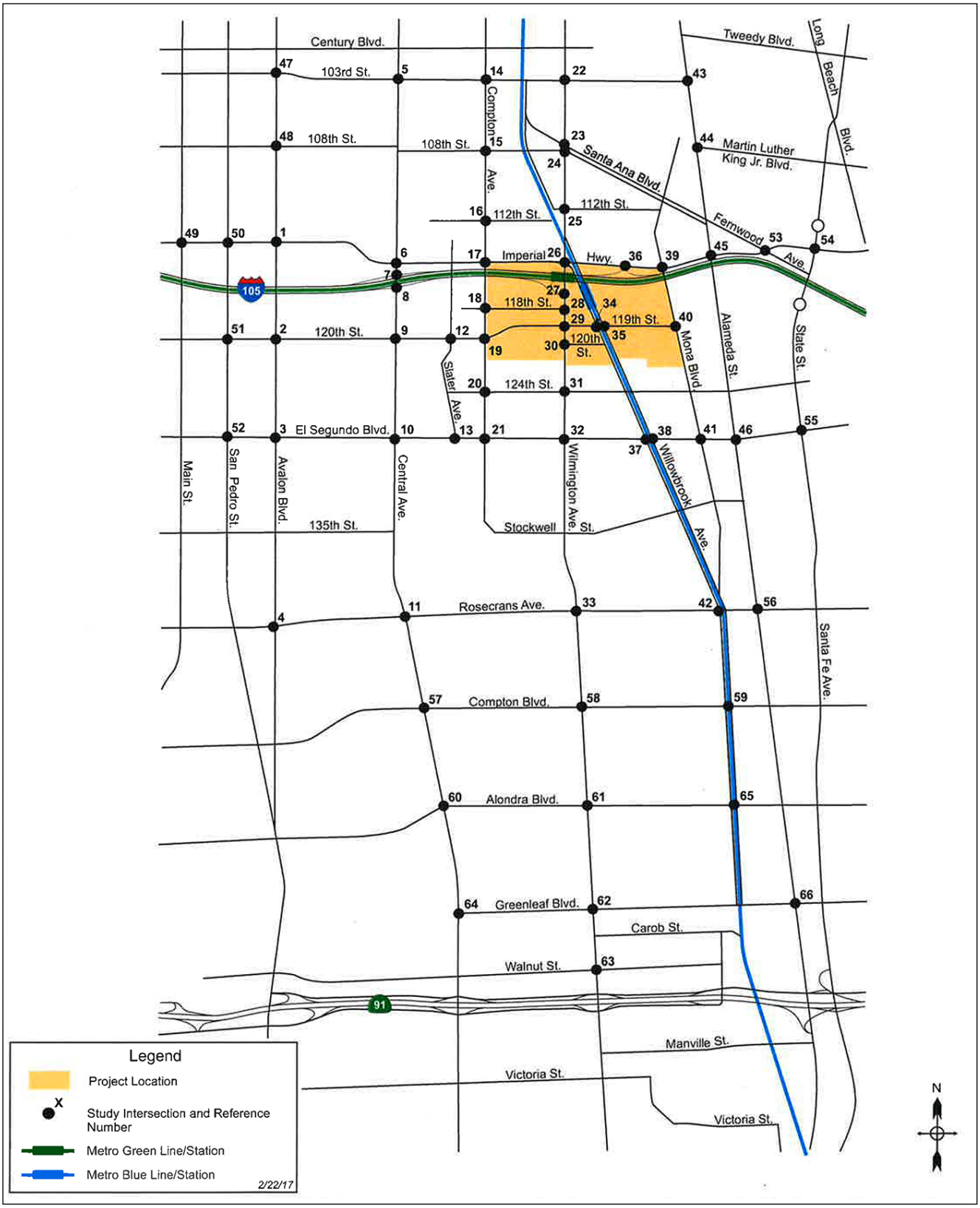
Existing Traffic Conditions

Intersection Operations

A total of 66 study intersections were identified, in conjunction with Los Angeles County staff, for inclusion in the traffic analysis. The analyzed locations are shown in **Figure 3.12-1**, Intersection Study Locations, and were identified as locations where the majority of trips associated with the proposed Specific Plan would be focused based on the trip distribution developed for the Project. These locations consist of the intersections through which Specific Plan trips would travel before dispersing to multiple routes and therefore were the locations where potential traffic impacts were most likely to occur. The intersections identified for analysis are as follows:

1. Avalon Blvd & Imperial Hwy
2. Avalon Blvd & 120th St
3. Avalon Blvd & El Segundo Blvd
4. Avalon Blvd & Rosecrans Ave
5. Central Ave & 103rd St
6. Central Ave & Imperial Hwy
7. Central Ave & I-105 w/b Ramps
8. Central Ave & I-105 e/b Ramps
9. Central Ave & 120th St
10. Central Ave & El Segundo Blvd
11. Central Ave & Rosecrans Ave
12. Slater Ave & 120th St
13. Slater Ave & El Segundo Blvd
14. Compton Ave & 103rd St
15. Compton Ave & 108th St
16. Compton Ave & 112th St
17. Compton Ave & Imperial Hwy
18. Compton Ave & 118th St
19. Compton Ave & 120th St
20. Compton Ave & 124th St
21. Compton Ave & El Segundo Blvd
22. Wilmington Ave & 103rd St
23. Wilmington Ave & Santa Ana Blvd
24. Wilmington Ave & 108th St
25. Wilmington Ave & 112th St
26. Wilmington Ave & Imperial Hwy
27. Wilmington Ave & I-105 e/b Ramps
28. Wilmington Ave & 118th St
29. Wilmington Ave & 120th St West
30. Wilmington Ave & 120th St East
31. Wilmington Ave & 124th St
32. Wilmington Ave & El Segundo Blvd
33. Wilmington Ave & Rosecrans Ave
34. Willowbrook Ave W & 119th Street
35. Willowbrook Ave E & 119th Street
36. Imperial Hwy & I-105 w/b Ramps
37. Willowbrook Ave W & El Segundo Blvd
38. Willowbrook Ave E & El Segundo Blvd
39. Mona Blvd & Imperial Hwy
40. Mona Blvd & 119th St
41. Mona Blvd & El Segundo Blvd
42. Willowbrook Ave & Rosecrans Ave
43. Alameda St & 103rd St
44. Alameda St & Abbott Rd
45. Alameda St & Imperial Hwy
46. Alameda St & El Segundo Blvd
47. Avalon Blvd & 103rd St
48. Avalon Blvd & 108th St
49. Imperial Hwy & Main St
50. Imperial Hwy & San Pedro St
51. San Pedro St & 120th St
52. El Segundo Blvd & San Pedro St
53. Imperial Hwy & Fernwood Ave
54. Imperial Hwy & State St
55. El Segundo Blvd & Santa Fe Ave
56. Alameda St & Rosecrans Ave
57. Central Ave & W Compton Blvd
58. Wilmington Ave & W Compton Blvd
59. Willowbrook Ave & W Compton Blvd

60. Central Ave & Alondra Blvd
61. Wilmington Ave & Alondra Blvd
62. Wilmington Ave & Greenleaf Blvd
63. Wilmington Ave & Walnut St
64. Central Ave & Greenleaf Blvd
65. Willowbrook Ave & Alondra Blvd
66. Alameda St & Greenleaf Blvd



SOURCE: Willowbrook TOD Specific Plan, 2017

Figure 3.12-1
Intersection Study Locations

Existing Traffic Volumes

Recent traffic counts were used for all of the analyzed intersections. AM and PM peak period traffic counts (7-10 AM and 3-6 PM) were conducted in May of 2015 for intersections 1-46 and were conducted in December 2016 for intersections 47-66. The 2015 counts were factored by 1% to reflect 2016 conditions. The existing traffic volume counts are provided in **Appendix F**.

Level of Service Methodology

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F, with each level defined by a range of volume/capacity (V/C) ratios for signalized intersections. Three of the 66 study intersections are unsignalized. Levels of service for unsignalized intersections are defined instead by the average delay in seconds per vehicle occurring at the intersection. In contrast to signalized intersections, where all approaches to the intersection must stop at a red light and wait for the next green light, at stop-controlled intersections only the minor street traffic controlled by the stop sign is required to stop (at two-way stop intersections). Through traffic movements on the major street do not stop, and turning movements from the major street must stop only if there is conflicting traffic approaching in the opposite direction. At all-way stop intersections, all approaches have to stop. **Table 3.12-1** defines the ranges of delay and V/C ratios and their corresponding levels of service for unsignalized and signalized intersections. For unsignalized intersections these parameters are reported for the minor movements only and not for the major street through moves or for the intersection as a whole. The methodology used in this evaluation was based on each agency's methodology for intersections in their jurisdiction.

Los Angeles County Methodology

Per the County of Los Angeles Traffic Impact Analysis guidelines, the Intersection Capacity Utilization (ICU) method of intersection analysis was used to obtain volume/capacity (V/C) ratios for each signalized study intersection in the county. A capacity of 1,600 vehicles per hour per lane and 2,880 vehicles per hour for dual left-turn lanes, and a ten percent yellow clearance cycle was assumed in conducting the capacity analysis. For unsignalized intersections the Highway Capacity Manual (HCM) 2010 methodology was used.

City of Compton, and City of Lynwood Methodology

The County of Los Angeles methodology of ICU analysis was used to determine volume/capacity (V/C) ratios for each study intersection in the City of Compton and in the City of Lynwood.

City of Los Angeles Methodology

For intersections in the City of Los Angeles, intersection analysis was conducted using the "Critical Movement Analysis (Planning Method)" as described in "Transportation Research Circular 212, Transportation Research Board, Washington D.C. 1980", and as required by LADOT's Traffic Study Policy and Procedures, to obtain volume/capacity (V/C) ratios for each intersection. The City's CMA Spreadsheet was used for all intersection LOS calculations. For unsignalized intersections, the Highway Capacity Manual (HCM) 2010 methodology was used.

TABLE 3.12-1
DEFINITIONS FOR INTERSECTION LEVEL OF SERVICE

Unsignalized Intersections			Signalized Intersections	
Description	**Average Total Vehicle Delay (Seconds)**	**Level of Service Grade**	**Volume-to-Capacity (V/C) Ratio**	**Description**
No delay for stop-controlled approaches.	≤10.0	A	≤0.60	Excellent: No vehicle waits longer than one Red light, and no approach phase is fully used.
Operations with minor delay.	>10.0 and ≤15.0	B	>0.60 and ≤0.70	Very Good: An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
Operations with moderate delays.	>15.0 and ≤25.0	C	>0.70 and ≤0.80	Good: Occasionally, drivers may have to wait through more than one Red light; backups may develop behind turning vehicles.
Operations with increasingly unacceptable delays.	>25.0 and ≤35.0	D	>0.80 and ≤0.90	Fair: Delays may be substantial during portions of the rush hours, but enough lower-volume periods occur to permit clearing of developing queues, preventing excessive backups.
Operations with high delays, and long queues.	>35.0 and ≤50.0	E	>0.90 and ≤1.00	Poor: Represents the most vehicles that intersection approaches can accommodate; can have long lines of waiting vehicles through several signal cycles.
Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.	>50.0	F	>1.00	Failure: Backups from nearby intersections or on cross streets may restrict or prevent movements of vehicles out of the intersection approaches. Lengthy delays with continuously increasing queue lengths.

SOURCES: Transportation Research Board, Highway Capacity Manual, updated 2000; Transportation Research Board, Transportation Research Circular No. 212, Interim Materials on Highway Capacity, 1980.

Existing Intersection LOS

Table 3.12-2 summarizes the existing AM and PM peak hour V/C ratios, delay, and corresponding levels of service at the analyzed intersections. Intersection worksheets are shown in **Appendix F**.

TABLE 3.12-2
EXISTING CONDITIONS – INTERSECTION LEVEL OF SERVICE

Intersection		Intersection Type	Existing Conditions			
			Weekday AM Peak Hour		Weekday PM Peak Hour	
			V/C or (Delay)	LOS	V/C or (Delay)	LOS
Los Angeles County						
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.726	C	0.844	D
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.652	B	0.804	C
10.	Central Ave & El Segundo Blvd[1]	Signalized	0.899	D	0.925	E
11.	Central Ave & Rosecrans Ave[1]	Signalized	0.822	D	0.761	C
12.	Slater Ave & 120th St	Signalized	0.501	A	0.367	A
17.	Compton Ave & Imperial Hwy[2]	Signalized	1.007	F	0.781	C
18.	Compton Ave & 118th St	Signalized	0.438	A	0.367	A
19.	Compton Ave & 120th St	Signalized	0.574	A	0.448	A
20.	Compton Ave & 124th St	Signalized	0.378	A	0.287	A
26.	Wilmington Ave & Imperial Hwy[2]	Signalized	0.657	B	0.654	B
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.848	D	0.680	B
28.	Wilmington Ave & 118th St	Signalized	0.641	B	0.527	A
29.	Wilmington Ave & 120th St (West)	Signalized	0.840	D	0.766	C
30.	Wilmington Ave & 120th St (East)	Signalized	0.424	A	0.426	A
31.	Wilmington Ave & 124th St	Signalized	0.557	A	0.485	A
32.	Wilmington Ave & El Segundo Blvd[1]	Signalized	0.716	C	0.793	C
34.	Willowbrook Ave W & 119th Street	Signalized	0.447	A	0.436	A
35.	Willowbrook Ave E & 119th Street	Signalized	0.375	A	0.359	A
36.	Imperial Hwy & I-105 w/b Ramps[2]	Signalized	0.775	C	0.792	C
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.416	A	0.508	A
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.447	A	0.507	A
39.	Mona Blvd & Imperial Hwy[3]	Signalized	0.730	C	0.825	D
40.	Mona Blvd & 119th St[4]	Unsignalized[5]	(13.5)	B	(17.0)	C
41.	Mona Blvd & El Segundo Blvd	Signalized	0.512	A	0.609	B
43.	Alameda St & 103rd St[4]	Signalized	0.790	C	0.852	D
45.	Alameda St & Imperial Hwy[4]	Signalized	0.772	C	0.799	C
46.	Alameda St & El Segundo Blvd[1]	Signalized	0.765	C	0.898	D
52.	El Segundo Blvd & San Pedro St	Signalized	0.589	A	0.601	B

Intersection		Intersection Type	Existing Conditions			
			Weekday AM Peak Hour		Weekday PM Peak Hour	
			V/C or (Delay)	LOS	V/C or (Delay)	LOS
City of Compton						
13.	Slater Ave & El Segundo Blvd	Signalized	0.687	B	0.649	B
21.	Compton Ave & El Segundo Blvd	Signalized	0.804	C	0.706	C
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.854	D	0.847	D
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.693	B	0.719	C
55.	El Segundo Blvd & Santa Fe Ave[4]	Signalized	0.592	A	0.700	B
56.	Alameda St & Rosecrans Ave	Signalized	0.606	B	0.604	B
57.	Central Ave & W Compton Blvd	Signalized	0.758	C	0.802	C
58.	Wilmington Ave & W Compton Blvd	Signalized	0.702	B	0.888	D
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.532	A	0.453	A
60.	Central Ave & Alondra Blvd	Signalized	0.754	C	0.842	D
61.	Wilmington Blvd & Alondra Blvd	Signalized	0.825	D	0.877	D
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.797	C	0.911	E
63.	Wilmington Ave & Walnut St	Signalized	0.595	A	0.785	C
64.	Central Ave & Greenleaf Blvd	Signalized	0.534	A	0.671	B
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.532	A	0.526	A
66.	Alameda St & Greenleaf Blvd	Signalized	0.631	B	0.732	C
City of Lynwood						
44.	Alameda St & Abbott Rd	Signalized	0.660	B	0.624	B
53.	Imperial Hwy & Fernwood Ave	Signalized	0.732	C	0.755	C
54.	Imperial Hwy & State St	Signalized	0.738	C	0.785	C
City of Los Angeles						
1.	Avalon Blvd & Imperial Hwy	Signalized	0.747	C	0.713	C
2.	Avalon Blvd & 120th St	Signalized	0.592	A	0.672	B
5.	Central Ave & 103rd St	Signalized	0.637	B	0.664	B
6.	Central Ave & Imperial Hwy	Signalized	0.737	C	0.757	C
7.	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.823	D
8.	Central Ave & I-105 e/b Ramps	Signalized	0.668	B	0.635	B
9.	Central Ave & 120th St	Signalized	0.753	C	0.690	B
14.	Compton Ave & 103rd St	Signalized	0.604	B	0.587	A
15.	Compton Ave & 108th St	Signalized	0.663	B	0.527	A
16.	Compton Ave & 112th St	Unsignalized5	(31.0)	D	(38.5)	E
22.	Wilmington Ave & 103rd St	Signalized	0.660	B	0.463	A
23.	Wilmington Ave & Santa Ana Blvd N	Signalized	0.473	A	0.441	A
24.	Wilmington Ave & 108th St	Signalized	0.593	A	0.496	A

Intersection		Intersection Type	Existing Conditions			
			Weekday AM Peak Hour		Weekday PM Peak Hour	
			V/C or (Delay)	LOS	V/C or (Delay)	LOS
25.	Wilmington Ave & 112th St	Unsignalized5	(44.5)	E	(42.1)	E
47.	Avalon Blvd & 103rd St	Signalized	0.441	A	0.475	A
48.	Avalon Blvd & 108th St	Signalized	0.564	B	0.608	A
49.	Imperial Hwy & Main St	Signalized	0.590	B	0.632	A
50.	Imperial Hwy & San Pedro St	Signalized	0.661	B	0.697	B
51.	San Pedro St & 120th St	Signalized	0.528	A	0.597	A
City of Los Angeles & Los Angeles County[6]						
17.	Compton Ave & Imperial Hwy	Signalized	0.898	D	0.663	B
26.	Wilmington Ave & Imperial Hwy	Signalized	0.501	A	0.497	A
36.	Imperial Hwy & I-105 w/b Ramps	Signalized	0.69	B	0.71	C
39.	Mona Blvd & Imperial Hwy	Signalized	0.601	B	0.704	C

[1] Shares jurisdiction with City of Compton
[2] Shares jurisdiction with City of Los Angeles
[3] Shares jurisdiction with City of Los Angeles and City of Lynwood
[4] Shares jurisdiction with City of Lynwood
[5] Unsignalized intersection show delay/LOS for controlled approach
[6] Analyzed per City of Los Angeles methodology

SOURCE: The Mobility Group, 2017

All 66 study intersections currently operate at LOS D or better during the AM and PM peak hours, with the exception of the following five intersections:

10. Central Ave & El Segundo Blvd – LOS E (PM peak hour)
16. Compton Ave & 112th St – LOS E (PM peak hour)
17. Compton Ave & Imperial Hwy – LOS F (AM peak hour)
25. Wilmington Ave & 112th St – LOS E (AM and PM peak hours)
62. Wilmington Ave & Greenleaf Blvd – LOS E (PM peak hour)

Freeway Segment Operations

The analysis addresses ten freeway mainline segments on the I-110, I-105, I-710, and SR-91 freeways that are closest to, and that provide regional access to, the Project site. **Figure 3.12-2**, Freeway Segment Study Locations, illustrates the location of the freeway segment study locations.

Existing Traffic Volumes

Existing traffic volumes on the ten study freeway segments for the AM peak hour and PM peak hour time periods were provided by Caltrans. These 2015 volumes were factored by 1% to represent 2016 volumes.

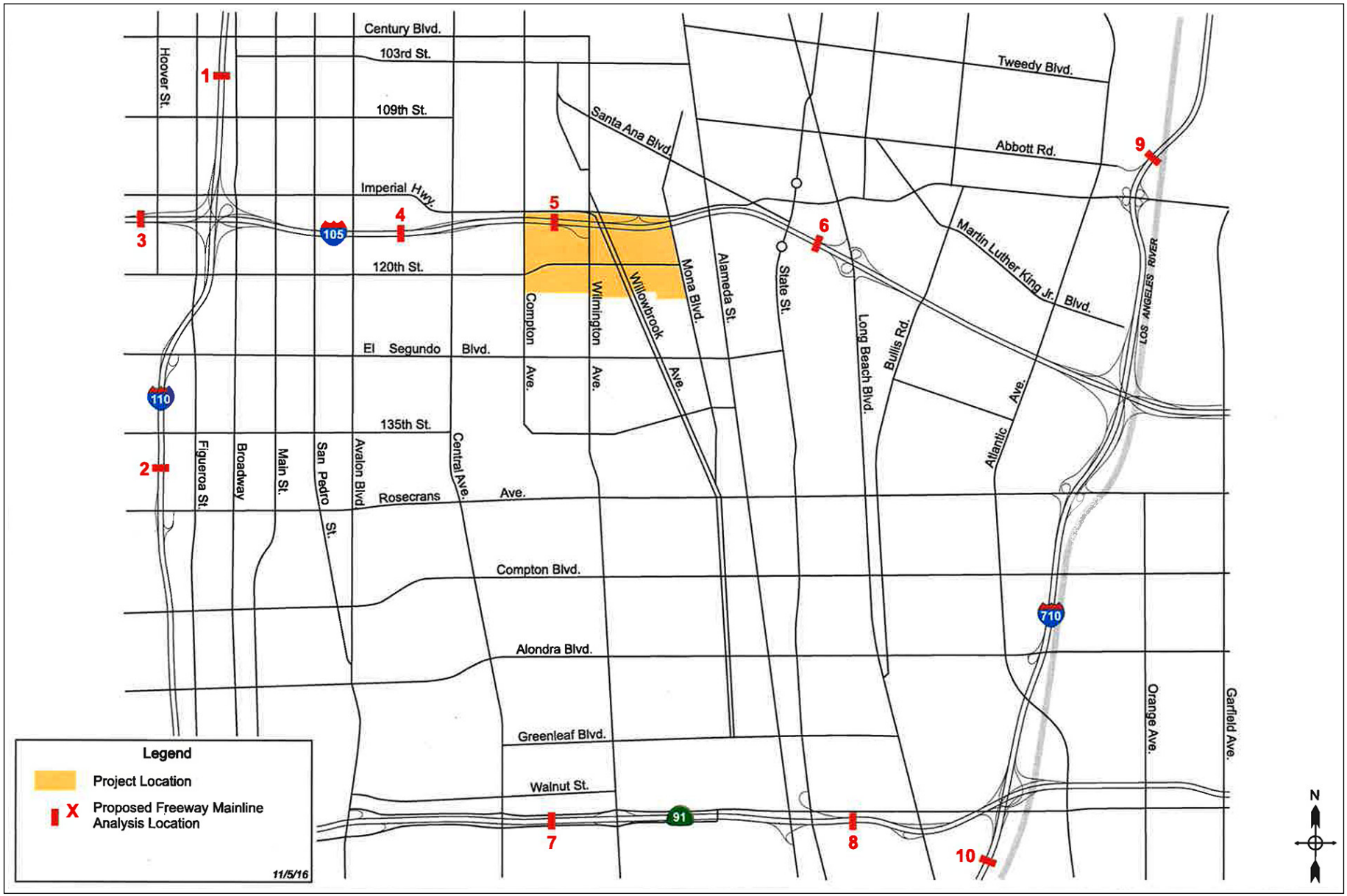
Level of Service Methodology

Level of service for freeway segments is based on the total volume of traffic, or demand, traveling along a freeway segment compared to the capacity of that specific location. A lane capacity of 2,000 vehicles per hour per lane (vphpl) for a freeway mainline lane was used; auxiliary lanes were not included in the analysis. The overall capacity of a specific freeway segment was calculated by multiplying the lane capacity by the total number of lanes in that segment. Freeway level of service (LOS) was then determined by comparing the total number of vehicles traveling along a specific freeway segment to the capacity of that segment as calculated below. These demand/capacity (D/C) ratios are then rated for levels of service using the definitions shown below in **Table 3.12-3**.

TABLE 3.12-3
LEVEL OF SERVICE DEFINITIONS FOR FREEWAY SEGMENTS

Level of Service	Demand/Capacity Ratio	Flow Conditions
A	0.00 – 0.35	Highest quality of service. Free traffic flow, low volumes and densities. Little or no restriction on maneuverability or speed.
B	0.36 – 0.54	Stable traffic flow, speed becoming slightly restricted. Low restriction on maneuverability.
C	0.55 – 0.77	Stable traffic flow, but less freedom to select speed, change lanes, or pass. Density increasing.
D	0.78 – 0.93	Approaching unstable flow. Speeds tolerable but subject to sudden and considerable variation. Less maneuverability and driver comfort.
E	0.94 – 1.00	Unstable traffic flow with rapidly fluctuating speeds and flow rates. Short headways, low maneuverability and low driver comfort.
F (0)	1.01 – 1.25	Forced traffic flow. Speed and flow may be greatly reduced with high densities.
F (1)	1.26 – 1.35	Forced traffic flow. Severe congested conditions prevail for more than one hour. Speed and flow may drop to zero with high densities.
F (2)	1.36 – 1.45	Forced traffic flow. Severe congested conditions prevail for more than one hour. Speed and flow may drop to zero with high densities.
F (3)	> 1.45	Forced traffic flow. Severe congested conditions prevail for more than one hour. Speed and flow may drop to zero with high densities.

SOURCE: 2010 Congestion Management Program for Los Angeles County, Los Angeles County Metropolitan Transportation Authority, July 2010.



SOURCE: Willowbrook TOD Specific Plan, 2017

Figure 3.12-2
Freeway Segment Study Locations

Existing Freeway Segment Level of Service

The freeway segment LOS analysis is provided below in **Table 3.12-4**, which shows the level of service and D/C ratios for Existing Conditions for the AM and PM peak hours.

TABLE 3.12-4
EXISTING CONDITIONS – FREEWAY SEGMENT LEVEL OF SERVICE

						Existing Conditions[1] (Year 2016)		
No.	**Location**	**Direction**	**Inbound/ Outbound**	**No. of Lanes**	**Capacity**	**Hourly Volume[1]**	**D/C**	**LOS**
AM Peak Hours								
1	I-110 between Century Blvd and 109th St	NB	Outbound	4G+2E	8,000	6,697	0.837	D
		SB	Inbound	5G+2E	10,000	8,811	0.881	D
2	I-110 between 135th St and Rosecrans Ave	NB	Inbound	4G+1E	8,000	7,987	0.998	E
		SB	Outbound	4G+1E	8,000	8,566	1.071	F(0)
3	I-105 between Vermont Ave and Hoover St	EB	Inbound	3G+1HOV	6,000	3,819	0.637	C
		WB	Outbound	3G+1HOV	6,000	6,225	1.038	F(0)
4	I-105 between Avalon Blvd and Central Ave	EB	Inbound	3G+1HOV+1A	7,000	7,029	1.004	F(0)
		WB	Outbound	4G+1HOV	8,000	6,846	0.856	D
5	I-105 between Compton Ave and Wilmington Ave	EB	Inbound	3G+1HOV	6,000	5,190	0.865	D
		WB	Outbound	3G+1HOV	6,000	4,946	0.824	D
6	I-105 between State St and Long Beach Blvd	EB	Outbound	3G+1HOV	6,000	4,852	0.809	D
		WB	Inbound	3G+1HOV	6,000	4,899	0.817	D
7	SR-91 between Central Ave and Wilmington Ave	EB	Inbound	4G+1HOV	8,000	5,747	0.718	C
		WB	Outbound	4G+1HOV	8,000	7,651	0.956	E
8	SR-91 between Santa Fe Ave and Long Beach Blvd	EB	Outbound	5G+1HOV	10,000	6,446	0.645	C
		WB	Inbound	5G+1HOV	10,000	8,321	0.832	D
9	I-710 between Firestone Blvd and Abbott Rd	NB	Outbound	4G	8,000	6,032	0.754	C
		SB	Inbound	4G	8,000	4,131	0.516	B
10	I-710 between Del Amo Blvd and Long Beach Blvd	NB	Inbound	5G	10,000	5,817	0.582	C
		SB	Outbound	4G	8,000	7,605	0.951	E
PM Peak Hours								
1	I-110 between Century Blvd and 109th St	NB	Outbound	4G+2E	8,000	7,693	0.962	E
		SB	Inbound	5G+2E	10,000	8,144	0.814	D
2	I-110 between 135th St and Rosecrans Ave	NB	Inbound	4G+1E	8,000	7,652	0.957	E
		SB	Outbound	4G+1E	8,000	7,934	0.992	E
3	I-105 between Vermont Ave and Hoover St	EB	Inbound	3G+1HOV	6,000	3,777	0.630	C
		WB	Outbound	3G+1HOV	6,000	5,619	0.937	E

No.	Location	Direction	Inbound/ Outbound	No. of Lanes	Capacity	Existing Conditions[1] (Year 2016) Hourly Volume[1]	D/C	LOS
4	I-105 between Avalon Blvd and Central Ave	EB	Inbound	3G+1HOV+1A	7,000	6,664	0.952	E
		WB	Outbound	4G+1HOV	8,000	6,490	0.811	D
5	I-105 between Compton Ave and Wilmington Ave	EB	Inbound	3G+1HOV	6,000	5,200	0.867	D
		WB	Outbound	3G+1HOV	6,000	4,824	0.804	D
6	I-105 between State St and Long Beach Blvd	EB	Outbound	3G+1HOV	6,000	4,625	0.771	D
		WB	Inbound	3G+1HOV	6,000	5,044	0.841	D
7	SR-91 between Central Ave and Wilmington Ave	EB	Inbound	4G+1HOV	8,000	6,548	0.819	D
		WB	Outbound	4G+1HOV	8,000	6,214	0.777	D
8	SR-91 between Santa Fe Ave and Long Beach Blvd	EB	Outbound	5G+1HOV	10,000	7,363	0.736	C
		WB	Inbound	5G+1HOV	10,000	6,525	0.653	C
9	I-710 between Firestone Blvd and Abbott Rd	NB	Outbound	4G	8,000	6,031	0.754	C
		SB	Inbound	4G	8,000	4,237	0.530	B
10	I-710 between Del Amo Blvd and Long Beach Blvd	NB	Inbound	5G	10,000	6,826	0.683	C
		SB	Outbound	4G	8,000	6,416	0.802	D

[1] Traffic volumes for Existing Conditions from Caltrans, 2015. Growth factor of 1% per annum applied for 2016 volumes.

SOURCE: The Mobility Group, 2017

As shown in the Table 3.12-4, five of the freeway study segments currently operate at an LOS D or better in both travel directions during the AM peak hour and six would operate at an LOS D or better in both travel directions during the PM peak hour. The following freeway segments operate at LOS E or F during one or both of the analyzed peak hours:

1. I-110 between Century Blvd and 109th Street – LOS E northbound (PM peak hour)
2. I-110 between 135th Street and Rosecrans Ave – LOS E northbound (AM and PM peak hours), and LOS F/E southbound (AM peak hour/PM peak hour)
3. I-105 between Vermont Ave and Hoover St – LOS F westbound (AM peak hour), and LOS E eastbound (PM peak hour)
4. I-105 between Avalon Blvd and Central Ave – LOS F/E eastbound (AM peak hour/PM peak hour)
7. SR-91 between Central Ave and Wilmington Ave – LOS E westbound (AM peak hour)
10. I-710 between Del Amo Blvd and Long Beach Blvd – LOS E southbound (AM peak hour)

Freeway Off-Ramp Operations

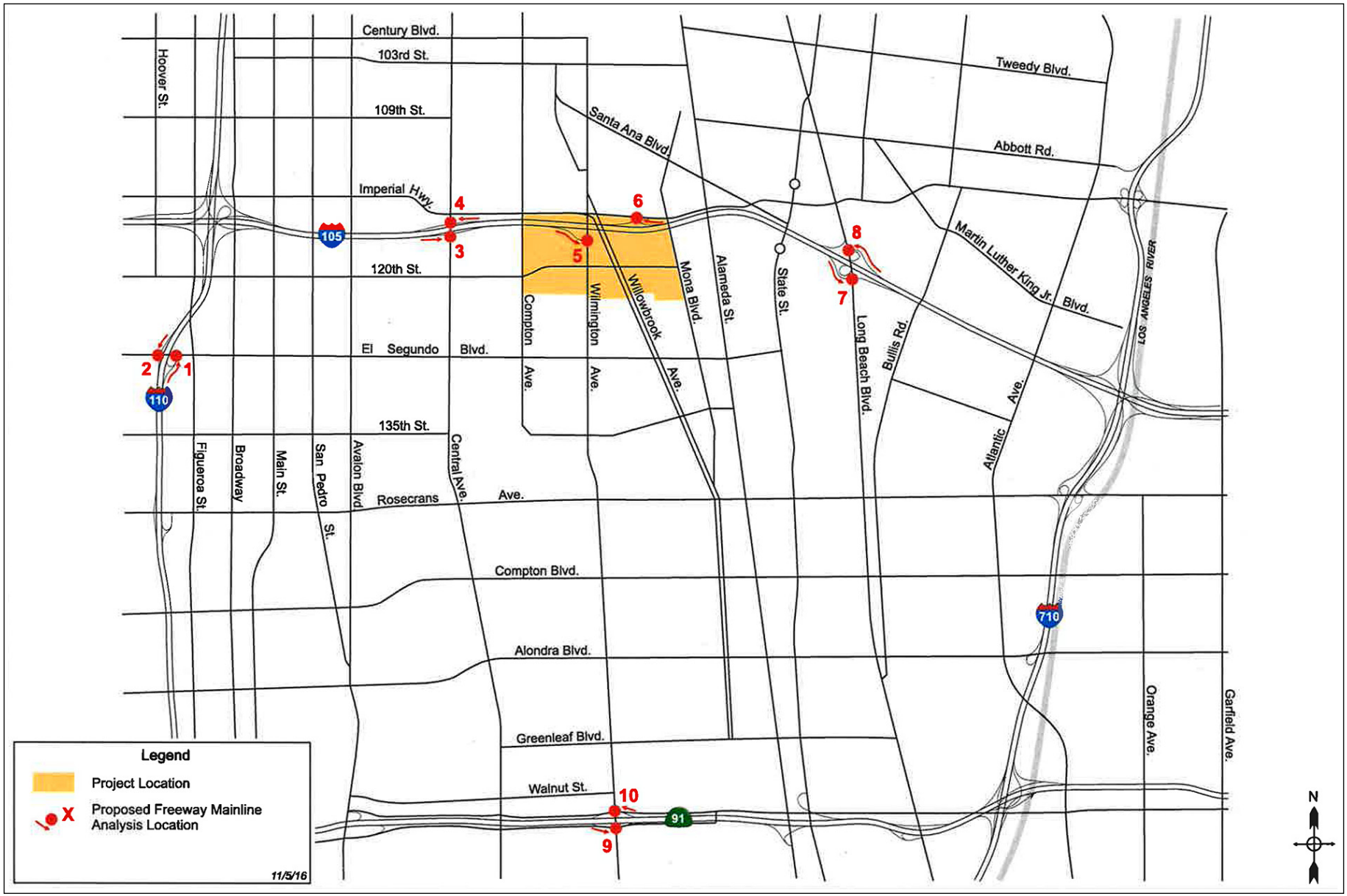
The analysis reviewed a total of ten freeway off-ramps located along the I-110, I-105, and SR-91 freeways that could potentially be used by Project traffic. **Figure 3.12-3**, Freeway Off-Ramp Study Locations, illustrates the location of the freeway off-ramp study locations**.**

Existing Traffic Volumes

Existing traffic volumes on the ten freeway off-ramp study locations were obtained from traffic counts conducted as part of the overall traffic count program described previously for the study intersections.

Methodology

The ramp analysis used operational parameters requested by Caltrans. The analysis of ramp traffic conditions is based on a queue analysis at the end of the ramp intersection, using the Highway Capacity Manual (HCM) 2010 Operations methodology, and determining the 95th percentile queue length (the vehicle queue length that would be exceeded only 5% of the time, which is a common measure used to evaluate queues). The analysis used signal timing information provided by Caltrans and the other cities in the study area. The analysis also determined the storage length capacity of an off-ramp and used 85% of the total (to include a Caltrans requested "safety" factor). It applied a passenger car equivalent (PCE) of 3.0 for heavy vehicles, used truck factors of 3% to 5% of the traffic volumes (as supplied by Caltrans), and car lengths of 30 feet. It should be noted that these are all conservative assumptions, and when combined together provide a very conservative worst case analysis.



SOURCE: Willowbrook TOD Specific Plan, 2017

Figure 3.12-3
Freeway Off-Ramp Study Locations

Existing Freeway Off-Ramp Conditions

The freeway off-ramp analysis is provided below in **Table 3.12-5**, which shows the ramp storage lengths, ramp volumes, and queue lengths for Existing Conditions for the AM and PM peak hours.

TABLE 3.12-5
EXISTING CONDITIONS – FREEWAY OFF-RAMP CONDITIONS

					Existing Conditions[1] (Year 2016)			
No.	Location	Movement	No. of Lanes	Storage Length (feet)[2]	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length
AM Peak Hours								
1	I-110 NB Off-ramp at El Segundo Blvd	NB LT/RT	2	1,646	879	C	392	No
2	I-110 SB Off-ramp at El Segundo Blvd	SB LT	1	558	511	D	546	No
		SB LT/RT	1	355	0	D	492	Yes
		SB RT	1	355	839	C	457	Yes
		RAMP TOTAL	3	1,269	1,350	D	1,495	Yes
3	I-105 EB Off-ramp at Central Ave	EB LT	1	580	664	F	842	Yes
		EB LT/TH/RT	1	580	13	F	867	Yes
		EB RT	1	803	538	C	330	No
		RAMP TOTAL	3	1,963	1,215	F	2,039	Yes
4	I-105 WB Off-ramp at Central Ave	WB LT	1	979	116	D	104	No
		WB TH/LT	1	847	4	D	101	No
		WB RT	1	847	372	F	536	No
		RAMP TOTAL	3	2,672	492	E	741	No
5	I-105 EB Off-ramp at Wilmington	EB LT	1	1,092	411	F	600	No
		EB RT	1	1,092	537	D	361	No
		RAMP TOTAL	2	2,185	948	F	961	No
6	I-105 WB Off-ramp at Imperial Hwy	NB LT	1	599	539	F	491	No
		NB TH/LT	4	540	11	F	491	No
		NB RT	1	540	137	A	4	No
		RAMP TOTAL	6	1,679	687	F	986	No
7	I-105 EB Off-ramp at Long Beach Blvd	EB LT	1	1,018	614	F	438	No
		EB TH/LT	1	620	3	F	445	No
		EB RT	1	620	346	B	172	No
		RAMP TOTAL	3	2,258	963	E	1,055	No
8	I-105 WB Off-ramp at Long Beach Blvd	WB LT	1	1,148	165	D	175	No
		WB TH/RT	1	700	27	F	500	No
		WB RT	1	700	792	F	482	No
		RAMP TOTAL	3	2,548	984	F	1,157	No

					Existing Conditions[1] (Year 2016)			
No.	Location	Movement	No. of Lanes	Storage Length (feet)[2]	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length
9	SR-91 EB Off-ramp at Wilmington Ave	EB LT	1	1,213	771	F	805	No
		EB LT/TH/RT	2	1,213	670	F	669	No
		RAMP TOTAL	3	2,426	1,441	F	1,474	No
10	SR-91 WB Off-ramp at Wilmington Ave	WB LT	1	777	175	D	218	No
		WB LT/TH/RT	2	777	666	F	497	No
		RAMP TOTAL	3	1,554	841	F	715	No
PM Peak Hours								
1	I-110 NB Off-ramp at El Segundo Blvd	NB LT/RT	2	1,646	583	C	202	No
2	I-110 SB Off-ramp at El Segundo Blvd	SB LT	1	558	437	E	437	No
		SB LT/RT	1	355	0	D	320	No
		SB RT	1	355	424	C	206	No
		RAMP TOTAL	3	1,269	861	D	963	No
3	I-105 EB Off-ramp at Central Ave	EB LT	1	580	477	F	653	Yes
		EB LT/TH/RT	1	580	240	F	703	Yes
		EB RT	1	803	378	C	303	No
		RAMP TOTAL	3	1,963	1,095	E	1,659	No
4	I-105 WB Off-ramp at Central Ave	WB LT	1	979	265	D	192	No
		WB TH/LT	1	847	0	D	192	No
		WB RT	1	847	536	F	824	No
		RAMP TOTAL	3	2,672	801	F	1,208	No
5	I-105 EB Off-ramp at Wilmington	EB LT	1	1,092	331	F	446	No
		EB RT	1	1,092	181	A	64	No
		RAMP TOTAL	2	2,185	512	F	510	No
6	I-105 WB Off-ramp at Imperial Hwy	NB LT	1	599	549	F	500	No
		NB TH/LT	4	540	8	F	495	No
		NB RT	1	540	274	C	192	No
		RAMP TOTAL	6	1,679	831	F	1,187	No
7	I-105 EB Off-ramp at Long Beach Blvd	EB LT	1	1,018	328	E	255	No
		EB TH/LT	1	620	1	E	258	No
		EB RT	1	620	215	B	75	No
		RAMP TOTAL	3	2,258	544	D	588	No
8	I-105 WB Off-ramp at Long Beach Blvd	WB LT	1	1,148	285	F	441	No
		WB TH/RT	1	700	9	F	695	No
		WB RT	1	700	987	F	677	No
		RAMP TOTAL	3	2,548	1,281	F	1,813	No

					Existing Conditions[1] (Year 2016)			
No.	Location	Movement	No. of Lanes	Storage Length (feet)[2]	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length
9	SR-91 EB Off-ramp at Wilmington Ave	EB LT	1	1,213	433	F	663	No
		EB LT/TH/RT	2	1,213	694	D	412	No
		RAMP TOTAL	3	2,426	1,127	E	1,075	No
10	SR-91 WB Off-ramp at Wilmington Ave	WB LT	1	777	197	D	274	No
		WB LT/TH/RT	2	777	1,011	F	892	Yes
		RAMP TOTAL	3	1,554	1,208	F	1,166	No

1 Traffic counts conducted in 2015 and factored to 2016 using a rate if 1% per annum.
2 Ramp storage lengths are 85% of the actual storage lengths per Caltrans "Safety" factor.

SOURCE: The Mobility Group, 2017

As shown in the table, the following off-ramps currently experience vehicle queues that exceed the total ramp ~~lane~~ storage length at the following two ~~three~~ locations during one or both of the analyzed peak hours:

2. I-110 Southbound Off-Ramp at El Segundo Blvd – AM peak hour
3. I-105 Eastbound Off-Ramp at Central Ave – AM ~~and PM peak hours~~

~~10. SR-91 Westbound Off-Ramp at Wilmington Ave – PM peak hour~~

Congestion Management Program

The Los Angeles County Congestion Management Program (CMP) requires that new development projects analyze potential project impacts on CMP monitoring locations, if an EIR is prepared for the project. When a CMP analysis is needed, the CMP methodology requires that the traffic study analyze traffic conditions at all CMP arterial monitoring intersections where the project will add 50 or more trips during either the AM or PM weekday peak hours of adjacent street traffic. The CMP also requires that traffic studies analyze mainline freeway monitoring stations where the project will add 150 or more trips in either direction during either the AM or PM peak hours.

A review of the CMP indicated the following arterial monitoring stations that are closest to the project site.

- Manchester Ave & Vermont Ave
- Manchester Ave & Avalon Blvd
- Alameda St & Firestone Blvd
- Alameda St & Imperial Hwy

- Alameda St & W Compton Blvd
- Alameda St SR-91 EB Ramps

A review of the CMP also indicated the following freeway monitoring stations that are closest to the project site.

- I-105 East of Crenshaw Blvd, West of Vermont Ave
- I-105 West of I-710, East of Harris Ave
- I-105 East of Bellflower Blvd, West of I-605
- I-110 at Manchester Blvd
- I-710 North of I-105, North of Firestone Blvd
- I-710 North of I-405, South of Del Amo Blvd
- SR-91 East of Alameda St/Santa Fe Ave

3.12.2 Regulatory Setting

Senate Bill 743

Senate Bill 743 mandated that CEQA review of transportation impacts of proposed development projects no longer be based on delay and capacity methods such as delay and level of service and instead use another methodology. The Office of Planning and Research (OPR) is currently in the process of updating CEQA guidelines to these ends and has proposed that the impact methodology be based on vehicle miles traveled. Section 3.5, Greenhouse Gas Emissions, in this EIR determined the net change in total vehicle miles traveled with the implementation of the proposed Specific Plan. This discussion is provided in Impact 3.5-1 under operational emissions. At this time, OPR is finalizing its recommendations but no official procedures have been adopted at the statewide level. In anticipation of SB 743 being implemented, the County of Los Angeles is in the process of developing procedures and methodologies but similarly has not yet finalized or adopted such procedures. The analysis in this study therefore follows the current County of Los Angeles Traffic Study Guidelines as well as methodologies used by the cities of Compton, Lynwood and Los Angeles, and Caltrans and is based on intersection level of service analysis.

Los Angeles Congestion Management Program

The Los Angeles Congestion Management Program (CMP) is a state-mandated program enacted by the State Legislature with the passage of Proposition 111 in 1990, administered by the Los Angeles County Metropolitan Transportation Authority (Metro). The purpose of the CMP is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use, and air quality planning programs throughout the County. One required element of the CMP is a process to evaluate the transportation and traffic impacts of large projects on the regional transportation system. That process is undertaken by local agencies, project applicants, and traffic consultants through a transportation impact report usually conducted as part of the CEQA project review process.

The primary goal of the CMP is to reduce traffic congestion in order to enhance the economic vitality and quality of life for all affected communities. The CMP guidelines require the evaluation of all designated CMP arterial monitoring intersections, including freeway on-ramps or off-ramps, where a project could add 50 or more trips during either the am or pm peak hour and the evaluation of mainline freeway monitoring locations where a project could add 150 or more trips, in either direction, during either the am or pm peak hour. Based upon these assessments, the CMP contains specific strategies and identifies proposed improvements to reduce traffic congestion and improve the performance of a multi-modal transportation system. Examples of strategies include increased emphasis on public transportation and rideshare programs, mitigating the impacts of new development and better coordinating land use and transportation planning decisions.

2016 - 2040 Regional Transportation Plan/Sustainable Communities Strategy

The Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) is a long-range transportation plan that is developed and updated by SCAG every four years. As the planning authority for the six counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, as well as 189 cities, SCAG is the lead agency in facilitating the development of the RTP to provide a vision for transportation investments throughout the region. Using growth forecasts and economic trends that project out over a 20-year period, the RTP/SCS considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility needs. The preparation of an RTP every four years by SCAG is required under federal and state regulations in order for transportation projects in the Southern California region to qualify for federal and state funding. The RTP is updated to reflect changes in trends, progress made on projects, and to adjust the growth forecast for population changes. The most recent RTP was adopted by SCAG's Regional Council in April 2016, and is known as the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Compared to previous RTPs, the 2016-2040 RTP/SCS places a greater emphasis on sustainability and integrated planning, and includes a strong commitment to reduce emissions from transportation sources to comply with California Senate Bill (SB) 375, improve public health, and meet the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. Overall, the 2016–2040 RTP/SCS contains a regional commitment for the broad deployment of zero- and near-zero emission transportation technologies.

Los Angeles County General Plan Mobility Element

Adopted in October 2015, the County of Los Angeles General Plan contains policies in the Mobility Element that address transportation issues relevant to the proposed Specific Plan. The County's intent is to promote and develop efficient and convenient travel by all appropriate modes (e.g., pedestrian, bicycle, regional and local bus transit and rail). The General Plan includes a Transit Oriented District Program (Program LU-2 in Chapter 16 General Plan Implementation Programs). The mobility objective of the Transit Oriented District Program is to increase walking, bicycling, and transit ridership and reduce vehicle miles traveled (VMTs). The 2035 General Plan Policies that are relevant to the proposed Specific Plan are listed below.

Policy M 1.1 Provide for the accommodation of all users, including pedestrians, motorists, bicyclists, equestrians, users of public transit, seniors, children, and persons with disabilities when requiring or planning for new, or retrofitting existing, transportation corridors/networks whenever appropriate and feasible.

Policy M 2.1 Provide transportation corridors/networks that accommodate pedestrians, equestrians and bicyclists, and reduce motor vehicle accidents through a context-sensitive process that addresses the unique characteristics of urban, suburban, and rural communities whenever appropriate and feasible.

Policy M 2.2 Accommodate pedestrians and bicyclists, and reduce motor vehicle accidents by implementing the following street designs, whenever appropriate and feasible:

- Lane width reductions to 10 or 11 feet in low speed environments with a low volume of heavy vehicles.
- Wider lanes may still be required for lanes adjacent to the curb, and where buses and trucks are expected.
- Low-speed designs.
- Access management practices developed through a community-driven process.
- Back in angle parking at locations that have available roadway width and bike lanes, where appropriate.

Policy M 2.3 Accommodate pedestrians and bicyclists, and reduce motor vehicle accidents by implementing the following intersection designs, whenever appropriate and feasible:

- Right angle intersections that reduce intersection skew.
- Smaller corner radii to reduce crossing distances and slow turning vehicles.
- Traffic calming measures, such as bulb-outs, sharrows, medians, roundabouts, and
- Narrowing or reducing the number of lanes (road diets) on streets.
- Crossings at all legs of an intersection.
- Shorter crossing distances for pedestrians.
- Right-turn channelization islands. Sharper angles of slip lanes may also be utilized.
- Signal progression at speeds that support the target speed of the corridor.

- Pedestrian push buttons when pedestrian signals are not automatically recalled.
- Walk interval on recall for short crossings.
- Left-turn phasing.
- Prohibit right turn on red.
- Signs to remind drivers to yield to pedestrians.

Policy M 2.4 Ensure a comfortable walking environment for pedestrians by implementing the following, whenever appropriate and feasible:

- Designs that limit dead-end streets and dead-end sidewalks.
- Adequate lighting on pedestrian paths, particularly around building entrances and exits, and transit stops.
- Designs for curb ramps, which are pedestrian friendly and compliant with the American Disability Act (ADA).
- Perpendicular curb ramps at locations where it is feasible.
- Pedestrian walking speed based on the latest standard for signal timing. Slower speeds should be used when appropriate (i.e., near senior housing, rehabilitation centers, etc.)
- Approved devices to extend the pedestrian clearance times at signalized intersections.
- Accessible Pedestrian Signals (APS) at signalized intersections.
- Pedestrian crossings at signalized intersections without double or triple left or right turn lanes.
- Pedestrian signal heads, countdown pedestrian heads, pedestrian phasing and leading pedestrian intervals at signalized intersections.
- Exclusive pedestrian phases (pedestrian scrambles) where turning volume conflicts with very high pedestrian volumes.
- Advance stop lines at signalized intersections.
- Pedestrian Hybrid Beacons.
- Medians or crossing islands to divide long crossings.
- High visibility crosswalks.
- Pedestrian signage.
- Advanced yield lines for uncontrolled crosswalks.
- Rectangular Rapid Flashing Beacon or other similar approved technology at locations of high pedestrian traffic.

- Safe and convenient crossing locations at transit stations and transit stops located at safe intersections.

Policy M 2.5 Ensure a comfortable bicycling environment by implementing the following, whenever appropriate and feasible:

- Bicycle signal heads at intersections.
- Bicycle signal detection at all signalized intersections.
- Wayfinding signage.
- Road diet techniques, such as lane narrowing, lane removal, and parking removal/restriction.
- Appropriate lighting on all bikeways, including those in rural areas.
- Designs, or other similar features, such as: shoulder bikeways, cycle tracks, contra flow bike lanes, shared use paths, buffered bike lanes, raised bike lanes, and bicycle boulevards.

Policy M 2.6 Encourage the implementation of future designs concepts that promote active transportation, whenever available and feasible.

Policy M 2.7 Require sidewalks, trails and bikeways to accommodate the existing and projected volume of pedestrian, equestrian and bicycle activity, considering both the paved width and the unobstructed width available for walking.

Policy M 2.8 Connect trails and pedestrian and bicycle paths to schools, public transportation, major employment centers, shopping centers, government buildings, residential neighborhoods, and other destinations.

Policy M 2.9 Encourage the planting of trees along streets and other forms of landscaping to enliven streetscapes by blending natural features with built features.

Policy M 2.10 Encourage the provision of amenities, such as benches, shelters, secure bicycle storage, and street furniture, and comfortable, safe waiting areas near transit stops.

Policy M 2.11 In urban and suburban areas, promote the continuity of streets and sidewalks through design features, such as limiting mid-block curb cuts, encouraging access through side streets or alleys, and promoting shorter block lengths.

Policy M 4.1 Expand transportation options that reduce automobile dependence.

Policy M 4.2 Expand shuttle services to connect major transit centers to community points of interest.

Policy M 4.3 Maintain transit services within the unincorporated areas that are affordable, timely, cost-effective, and responsive to growth patterns and community input.

Policy M 4.4 Ensure expanded mobility and increase transit access for underserved transit users, such as seniors, students, low income households, and persons with disabilities.

Policy M 4.5 Encourage continuous, direct routes through a connected system of streets, with small blocks and minimal dead ends (cul-de-sacs), as feasible.

Policy M 4.6 Support alternatives to LOS standards that account for a multimodal transportation system.

Policy M 4.7: Maintain a minimum LOS D, where feasible; however, allow LOS below D on a case by case basis in order to further other General Plan goals and policies, such as those related to environmental protection, infill development, and active transportation.

Policy M 4.8: Provide and maintain appropriate signage for streets, roads and transit.

Policy M 4.10: Support the linkage of regional and community-level transportation systems, including multimodal networks.

Policy M 4.11: Improve the efficiency of the public transportation system with bus lanes, signal prioritization, and connections to the larger regional transportation network.

Policy M 5.1: Facilitate transit-oriented land uses and pedestrian-oriented design, particularly in the first-last mile connections to transit, to encourage transit ridership.

Policy M 5.2: Implement parking strategies that facilitate transit use and reduce automobile dependence.

Policy M 5.3: Maintain transportation right-of-way corridors for future transportation uses, including bikeways, or new passenger rail or bus services.

Policy M 6.4: Minimize noise and other impacts of goods movement, truck traffic, deliveries, and staging in residential and mixed-use neighborhoods.

Policy M 7.1: Minimize roadway runoff through the use of permeable surface materials, and other low impact designs, wherever feasible.

Los Angeles County Bicycle Master Plan

The Los Angeles County Bicycle Master Plan, adopted in March 2012, provides policy guidance for building a comprehensive bicycle network throughout the unincorporated areas. The Bicycle Master Plan identifies bikeways and transportation systems that are available for use by bicyclists, such as roadways with bike lanes or designated bike routes, and dedicated off-road bike paths, such as bike paths along the flood protection channels. The purpose of the Bicycle Master Plan is to: 1) guide the development of infrastructure, policies and programs that improve the bicycling environment; 2) depict the general location of planned bikeway routes; and 3) provide for a system of bikeways that is consistent with the General Plan. The Bicycle Master Plan maps depict bikeways along roadways in the unincorporated areas and along rivers, creeks,

and flood protection facilities countywide. These bikeways may be used for both recreational use and commuter travel.

2011 Martin Luther King, Jr. Medical Center Campus Redevelopment EIR Mitigation Measures

The 2011 MLK Medical Campus Redevelopment EIR determined that build out of Tier II of the MLK campus would result in significant cumulative traffic impacts in the year 2020, and identified mitigation measures to reduce the impacts to a less than significant level. The Tier II Master Plan land uses are included in the proposed Specific Plan, and the mitigation measures from the 2011 EIR are applicable to development that would occur by the proposed Specific Plan within the MLK campus, and are listed below:

Measure Traffic-2

In order to address the Tier II project impacts, the County of Los Angeles shall complete the following improvements:

- Compton Avenue / Imperial Highway, County of Los Angeles / City of Los Angeles: Restripe westbound approach to provide a separate right-turn lane.
- I-105 / Imperial Highway: Provide a third northbound, left-turn lane by widening off-ramp by 10 feet for approximately 150 to 200 feet.
- Wilmington Avenue / El Segundo Boulevard: Re-stripe eastbound and westbound approaches to have separate right-turn lanes. Allow buses to go through the intersection from the right-turn lanes.
- Central Avenue / 120th Street: Re-stripe northbound approach to provide a separate right-turn lane. Also, widen the east leg by 3 feet on each curbside (i.e., reduce sidewalk along 120th Street east of Central Avenue by 3 feet for approximately 120 feet and re-stripe westbound 120th Street approach to provide a left-turn, two through lanes and a separate right-turn lane.
- Wilmington Avenue / I-105 Eastbound Ramps, County of Los Angeles: Department of Transportation: Provide an additional eastbound lane by widening (reducing the raised median on the ramp) the off-ramp. The eastbound approach shall have a left-turn lane, shared left-right turn lane, and a separate right-turn lane. The sidewalks on both sides of Wilmington Avenue (as noted above) shall be reduced by 2 feet and the Wilmington Avenue roadway shall be widened by 2 feet on both sides (a total of 4 feet) from the south leg of this intersection. Provide an additional northbound left-turn lane by widening (reducing the medians).
- Wilmington Avenue / 118th Street, County of Los Angeles: Widen Wilmington Avenue roadway by 2 feet on both sides and re-stripe to provide two through lanes, a shared through right-turn lane and dual left-turn lanes along the southbound approach. Restripe the westbound approach to provide a separate right-turn lane and a shared left through lane. Northbound approach shall have the same lane geometry as existing conditions. Under cumulative conditions, widen 118th Street roadway by 4 feet and re-stripe to provide a separate right-turn lane and shared left-through lane along the eastbound approach.

- Wilmington Avenue / 120th Street–119th Street, County of Los Angeles: Widen Wilmington Avenue roadway by 2 feet on both sides and restripe the southbound approach to provide a separate right-turn lane, three through lanes, and a left-turn lane. Re-stripe northbound approach to provide a shared through-right turn lane, two through lanes, and a left-turn lane. Remove median adjacent to northbound approach to facilitate three southbound receiving lanes. Restrict parking along Wilmington Avenue roadway during morning and evening peak periods along the eastside of Wilmington between 120th Street and MLK Community Hospital Driveway entrance. Widen 120th Street west of Wilmington Avenue for 250 feet, on the south side by 2 feet, and re-stripe the eastbound approach to provide a separate right-turn lane, dual left-turn lanes, and a through lane. The westbound approach of 119th Street would have the same lane geometry as existing conditions.
- Wilmington Avenue / MLK Community Hospital Entrance–120th Street, County of Los Angeles: Re-stripe southbound approach to provide a separate right-turn lane, two through lanes, and a left-turn lane. Provide three northbound receiving lanes and restrict on-street curb parking along the eastside of Wilmington Avenue between MLK Community Hospital Driveway and 120th Street and 120th Street and 119th Street during morning and evening peak hours. Remove the median within the hospital entrance and re-stripe the driveway to provide dual left-turn lanes, a through lane, and a separate right-turn lane along the eastbound approach. Re-stripe to provide one receiving lane.

The appropriate conceptual signing and striping plans shall be submitted to the County of Los Angeles Department of Public Works, Traffic and Lighting Division for review and approval during the planning phase.

Measure Traffic-3

In order to address the Tier II cumulative projects impacts, using County of Los Angeles traffic study guidelines, the following mitigation measures shall be implemented to alleviate the cumulative significant impacts:

- Avalon Boulevard / El Segundo Boulevard, County of Los Angeles: Widen northbound approach by 2 feet and re-stripe the approach to provide a left turn lane, two through lanes, and a separate right-turn lane (10 feet, 10 feet, 10 feet, 12 feet). The approach could be widened by narrowing the 5-foot-wide median to a 3-foot-wide median, or by reducing the 12-foot-wide sidewalk to a 10-foot-wide sidewalk. This widening would need to occur all the way to an alley located approximately 100 feet south of the intersection. The bus stop at this approach would continue to be located at the same location; however, buses would be allowed to go straight through the intersection.
- Alameda Street / El Segundo Boulevard, County of Los Angeles / Compton: Re-stripe northbound/southbound approaches and provide a southbound right-turn lane. The lanes along the north leg shall be re-striped to provide 13-foot and 11-foot receiving lanes; 10-foot, 11-foot, 10-foot, and 12-foot approach lanes for southbound left-turn lane, southbound through lanes, and southbound right-turn lanes, respectively. The lanes along the south leg would have a 13-foot shared right through-way, 11-foot through lane, 10-foot left-turn lane,

12-foot receiving lane, and a 20-foot receiving lane. Remove two on-street parking spaces along the southbound approach during peak hours.

- Alameda Street / 103rd Street, County of Los Angeles / Lynwood: Re-stripe eastbound approach to provide a 10-foot, left-turn lane and a 12-foot, left-right shared lane. The receiving lane would be re-striped for 18.5 feet.
- Central Avenue / Rosecrans Avenue, County of Los Angeles / Compton: Re-stripe westbound approach to provide a separate right-turn lane. Allow buses to go through the intersection from the right-turn lane.
- Central Avenue / El Segundo Boulevard, County of Los Angeles / Compton: Re-stripe southbound approach to provide a separate right-turn lane. Widen northbound approach by reducing median by 1 foot to 2 foot. Provide re-striping to show a separate northbound right-turn lane. Allow buses to go through the intersection from the right turn lane.
- Alameda Street / Imperial Highway, County of Los Angeles / City of Lynwood: Re-stripe southbound approach to provide the following roadway geometry: two left-turn lanes, two through lanes, and one right-turn lane.

The appropriate conceptual signing and striping plans shall be submitted to the County of Los Angeles Department of Public Works, Traffic and Lighting Division for review and approval during the planning phase.

Measure Traffic-4

Along the southbound approach of Alameda Street, the County of Los Angeles shall provide two left-turn lanes, two through lanes and one right-turn lane instead of one left-turn lane, two through lanes and a separate right-turn lane (i.e., add a second left turn lane). In addition, the County of Los Angeles shall provide the required signal hardware and supporting software to facilitate a right-turn arrow signal indication for southbound right-turn overlap with eastbound-westbound left-turns at the intersection.

3.12.3 Thresholds of Significance

In accordance with the County of Los Angeles CEQA Checklist, the project could have a significant impact on traffic and transportation if it would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (See Impact 3.12-1).
- Conflict with an applicable congestion management program (CMP), including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways (See Impact 3.12-2).

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks (See Section 5.1.14).
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (See Section 5.1.14).
- Result in inadequate emergency access (See Section 5.1.14).
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (See Section 5.1.14).

The analysis used the following thresholds for determining significant traffic impacts.

County of Los Angeles

The County of Los Angeles Department of Public Works has established threshold criteria to determine if project has a significant impact at a study intersection. According to the criteria provided by the County of Los Angeles, a project impact is considered significant if the following conditions are met:

Pre-Project Conditions		
LOS	V/C Ratio	Project-Related Increase in V/C Ratio
C	0.71 – 0.80	equal to or greater than 0.040
D	0.81 – 0.90	equal to or greater than 0.020
E, F	0.91 or more	equal to or greater than 0.010

For example, a project would not have a significant impact at an intersection if it operated at LOS D before ~~after~~ the addition of project traffic and the incremental change in the V/C ratio is less than 0.020. However, if the intersection operated at LOS F before ~~after~~ the addition of project traffic and the incremental change in the V/C ratio is 0.010 or greater, then the project would be considered to have a significant impact.

The County of Los Angeles does not have threshold criteria for determining significant impacts at unsignalized intersections. For the purposes of this study, a significant impact was assumed to occur if the Specific Plan would cause the level of service for the minor (controlled) approach to worsen to LOS F, or if already LOS F to increase the delay by more than 10%, and if installation of a traffic signal would be warranted.

City of Compton and City of Lynwood

The Cities of Compton and Lynwood do not have published thresholds criteria to determine significant impact. The County of Los Angeles threshold criteria were therefore used in the analysis of intersections in Cities of Compton and Lynwood.

City of Los Angeles

LADOT has established threshold criteria to determine if project impacts are significant at an intersection. The City of Los Angeles considers an impact to be significant if the following criteria are met:

With Project Traffic		
LOS	V/C Ratio	Project-Related Increase in V/C Ratio
C	0.701 – 0.800	equal to or greater than 0.040
D	0.801 – 0.900	equal to or greater than 0.020
E, F	> 0.900	equal to or greater than 0.010

Using these criteria, for example, a project would not have a significant impact at an intersection if it is operating at LOS C after the addition of project traffic and the incremental change in the volume/capacity (V/C) ratio is less than 0.040. However, in another example, if the intersection is operating at LOS E or LOS F and the incremental change in V/C ratio is 0.010 or greater, then the project would be considered to have a significant impact at that location.

The City of Los Angeles does not have threshold criteria for determining significant impacts at unsignalized intersections. For the purposes of this study, a significant impact was assumed to occur if the Project caused the level of service for the minor (controlled) approach to be either LOS E or LOS F and if installation of a traffic signal would be warranted.

Caltrans

Caltrans does not have published criteria for determination of significant impacts on freeway mainline segments. Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities, and to maintain the existing LOS in cases where a facility is operating at less than the target LOS. For the purposes of this study, the threshold that was used was that a significant impact would occur if the Project causes a worsening of the level of service to LOS D on a segment, or if the level of service was already LOS D that if the Project causes a change (worsening) in the level of service.

Caltrans does not have published criteria for determination of significant impacts on freeway off-ramps. Caltrans' primary concern is if peak hour traffic queues on an off-ramp exceed the storage length on the ramp and result in queues backing onto the mainline freeway.

Congestion Management Program

The Los Angeles County CMP threshold of significance states that a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C ≥ 0.02), causing LOS F (V/C > 1.00); if the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C ≥ 0.02).

Additionally, per the CMP requirements and guidelines, the following criterion was established to determine if there would be any significant transit impacts due to the Project:

- The capacity of the transit system serving the Project area would be substantially exceeded.

3.12.4 Methodology

Trip Generation

Vehicular trip generation was estimated for the existing land uses and for the projected future land uses, to determine a net increase in trip generation. For purposes of traffic analysis, the Specific Plan area was divided into 13 geographic zones, and potential changes in land uses were identified for each zone.

Trip generation from the project was estimated using trip rates from *Trip Generation Manual – 9th Edition* (Institute of Transportation Engineers, 2012). However, ITE trip rates are generally for suburban stand-alone land uses with negligible transit use. They were thus adjusted to be more representative of the existing and proposed land uses in the Specific Plan area and a transit oriented district – where the proximity to transit allows some trips to be made by transit, where the proximity of land uses allows for some trips to be made by walking rather than driving, and where some of the trips are between destinations within the Specific Plan area and thus do not leave the area. A detailed description of the methodology used to calculate trip generation for each of the three separate land use areas in the Specific Plan (i.e., MLK Medical Center, Charles R. Drew University of Medicine and Science [CDU] Master Plan, Other) is provided in **Appendix F**.

Table 3.12-6 shows the trip generation totals by key land use area. The Project would add 3,139 new AM peak hour trips in the Specific Plan area and 3,832 new PM peak hour trips. Approximately 43% of the new net trips would be generated by the MLK Medical Center, 3% by CDU, and 54% by the other land uses in the Specific Plan area. Of all new trips, approximately 23% would be from residential uses and 77% from non-residential uses.

TABLE 3.12-6
TRIP GENERATION TOTALS BY KEY LAND USE AREA

Component	AM Peak Hour	AM Peak Hour %	PM Peak Hour	PM Peak Hour %
MLK Medical Center	1,289	41%	1,684	44%
CDU	125	4%	126	3%
Specific Plan Remainder	1,725	55%	2,022	53%
Total	**3,139**	**-**	**3,832**	**-**
Residential	718	23%	887	23%
Non-Residential	2,421	77%	2,945	77%

SOURCE: The Mobility Group, 2017

Trip Distribution

The trip distribution for the analysis was derived from trip distribution information in the Los Angeles County CMP and are, therefore, consistent with County of Los Angeles guidelines and regional travel forecasting methodologies. This identified the regional distribution of trip origins and destinations. However, the regional proportion by freeway was determined by the County of Los Angeles staff as too high for the Specific Plan land uses and which are focused on revitalization for the local community rather than creating a regional destination. Consideration was also taken of the type of land uses in the project, the likely origins and destinations of project residents and visitors, and the characteristics of the street system in the area of the project. Based on these considerations, the freeway/local split was therefore adjusted to 40% freeway and 60% local street to reflect the more locally-oriented characteristics of the Specific Plan area and land uses and more locally-oriented trips. This approach is consistent with the MLK Medical Center EIR Traffic Study, which assigned approximately 35% of the trips to the freeways. The local distribution of trips to local streets was also based on the CMP distribution data, taking into account the population and employment in adjacent and nearby communities, roadway types serving the Specific Plan area, and professional judgment. These distribution percentages and patterns were developed in consultation with, and approved by, County staff.

Traffic Forecasting

In order to evaluate the potential traffic impacts of the proposed project for future conditions, it was necessary to first estimate and analyze future traffic conditions without the project. The year selected for this analysis was 2035, which is the anticipated Specific Plan build out year. Because of the long-term horizon for the proposed Specific Plan, future traffic forecasts were estimated primarily based on regional traffic forecasts, which assure consistency with the County's regional planning process. The traffic growth forecast was taken from the Los Angeles CMP, which projects an average 0.49 percent annual traffic growth from 2016 to ~~through~~ 2035 (i.e., a 9.7 percent growth in traffic to the year 2035) for the part of Los Angeles County in which

Willowbrook is located. Existing traffic volumes were increased by this growth factor to obtain background 2035 traffic forecasts in the traffic study area.

In general, the forecasts include all projected land use growth and transportation improvements in the region to 2035. However, there are specific currently known development projects planned in the local Willowbrook area that would affect local traffic volumes. A list of proposed development projects that could affect traffic conditions in the Specific Plan area by adding traffic volumes to study area intersections was prepared based on information provided by County of Los Angeles staff. The City of Los Angeles, City of Compton, and City of Lynwood were contacted for information regarding related projects and data was received from the cities of Los Angeles and Compton which were included in the study. A total of 12 potential development projects were identified within an approximately 1.5-mile radius from the Specific Plan area that are currently under construction, have received formal approval, or are under formal planning consideration and potentially could be in place by the year 2035 when the Project will be completed, and that could add traffic growth to the roadways in the study area. The locations of the cumulative projects and their associated daily and peak hour trip generation estimates are listed below in **Table 3.12-7**.

Although the traffic generated by the related project is included within the cumulative analysis, no potential street improvements or transportation mitigation measures that might be associated with any of the related projects were included in the future conditions traffic analysis.

Trip generation estimates for the related projects were prepared, as shown in Table 3.12-7. These were generally taken from the environmental and/or traffic studies prepared for the individual projects. Where the information was not available from previous reports, the trip generation was estimated using trip rates from the *ITE Trip Generation, 9th Edition*. The trips rates estimated from the ITE information are considered conservative in that they do not account for trip interaction between projects, and they do not in every case account for the possible use of non-auto modes such as transit, walk and bicycling.

Similarly, trip distribution estimates were also taken from the environmental/traffic studies conducted for the individual projects where available or were estimated based on an understanding of the type of the project, its location, the geographic distribution of population and employment from which project trips may be drawn, and the surrounding roadway and circulation system. It should be noted that because of the large geographic distribution of these projects, that not all of the related project trips would travel through all of the study area or traverse all of the study intersections.

Future Transportation System Improvements

In addition to the transportation improvements included in the Specific Plan (see Chapter 2, Project Description), a number of transportation improvements are planned by others for the future in the area of the Specific Plan.

Willowbrook Area Access Improvements

This County of Los Angeles project will implement street enhancements on Wilmington Avenue between Imperial Highway & 120th Street (West), and on 120th Street between Willowbrook Avenue & Compton Avenue. Streetscape improvements will include paved crosswalks on Wilmington Avenue. A road diet on 120th Street will add bike lanes in each direction and reduce the number of traffic lanes from four to three between Wilmington & Compton on 120th Street. Left turn lanes will be retained at intersections. This project has been included in the Specific Plan and the roadway lane and configuration changes are incorporated into the future conditions analysis.

TABLE 3.12-7
RELATED PROJECT LIST AND TRIP GENERATION ESTIMATES

	Project Name	Location / Address	Jurisdiction	Project Description			Daily Trips	AM Peak Hour			PM Peak Hour		
								In	Out	Total	In	Out	Total
1	Retail Extension R2013-02161	12726 S San Pedro St, Los Angeles	County of Los Angeles	2,100	s.f.	Retail	130	2	2	5	6	6	13
2	Condominiums TR070601	South Side of 121st St, Half Way bet. Main St and San Pedro St	County of Los Angeles	10	DU	Condominiums	58	1	4	4	3	2	5
3	Apartment Complex R2010-01629	13218 Avalon Blvd, Los Angeles	County of Los Angeles	54	DU	Apartments	359	6	22	28	22	12	33
4	Single Family Homes R2015-01957	215 & 277 E El Segundo Blvd, Los Angeles	County of Los Angeles	9	DU	Single Family Homes	86	2	5	7	6	3	9
5	Senior Housing & Library R2014-01830	11737 Wilmington Ave, Los Angeles	County of Los Angeles	109	DU	Apartments	337	7	13	20	12	12	24
				8,000	s.f.	Library	450	6	2	8	28	30	58
6	Medical Office R2006-00502	11815 Bandera St, Los Angeles	County of Los Angeles	48,000	s.f.	Medical Office	1,734	91	24	115	48	123	171
7	Housing	13024 Salinas Avenue, Willowbrook	County of Los Angeles	95	DU	Single Family Homes	904	18	53	71	60	35	95
8	Earvin "Magic" Johnson Recreation Area Redevelopment	905 E El Segundo Blvd, Los Angeles	County of Los Angeles	126	acres	Park Redevelopment	3,489	148	60	208	394	305	699
9	Movie Theater and education center 13310	10341 Graham Avenue	City of Los Angeles	1,000	seat	4 Screen Theater	1,530	0	0	0	24.6	35.4	60
				12,417	s.f.	School	290	264	5	31	17	10	27
10	COU Laundromat to 7 Eleven 42869	600 E Imperial Highway	City of Los Angeles	2,600	s.f.	Retail	849	42	43	85	30	29	59
11	Brickyard Industrial	NWC Central / Rosecrans	City of Compton	1,154,000	s.f.	Warehouse	2,350	38	11	49	38	111	149
12	Birtcher Goodmand Industrial	NEC McKinley / Rosecrans	City of Compton	102,000	s.f.	Industrial	756	54	13	67	18	53	71
Total							**13,323**	**440**	**258**	**697**	**707**	**767**	**1,474**

SOURCE: The Mobility Group, 2017

Willowbrook/Rosa Parks Station

This Metro Project is designed to improve the functionality, safety, security and circulation at the station. Metro is designing the improvements, and has conducted a separate environmental review. All improvements are on-site at the station, and includes the implementation of the Class I Bike Facility, identified in the Specific Plan, along Willowbrook Avenue West between Willowbrook/Rosa Parks Station and 119th Street. This improvement would reduce the roadway from two southbound traffic lanes to one southbound traffic lane. ~~there are no changes to street traffic movements or vehicular circulation patterns on adjacent streets. The station improvements are, therefore, not included in this study.~~

County of Los Angeles Bicycle Master Plan

This plan includes the following elements in the Specific Plan area:

Implement Class I Bike Facility in the Specific Plan area on:

- Willowbrook Avenue West between Willowbrook/Rosa Parks Station and 119th Street. This would reduce the roadway from two southbound traffic lanes to one southbound traffic lane. Incorporated in study.

Implement Class II Bike Lanes in the Specific Plan area on:

- Wilmington Avenue, south of 119th Street;
- Imperial Highway, between Compton Avenue & Wilmington Avenue; and
- 120th Street, between Compton Avenue & Wilmington Avenue.

These projects are included in the Specific Plan, and their incorporation into the traffic study is described below under Section 3.12.5, Impact Analysis.

City of Los Angeles Bicycle Master Plan

This plan includes the following elements that are adjacent to the Specific Plan area.

Implement Class II Bike Lanes in the Specific Plan area on:

- Imperial Highway, between Wilmington Avenue & Mona Avenue

This project is included in the Specific Plan, and its incorporation into the traffic study is described below under Section 3.12.5, Impact Analysis.

Implement Class III Bike Routes in the Specific Plan area on:

- Wilmington Avenue north of Imperial Highway.

This implementation would not affect the number of traffic lanes, so no roadway configuration changes are incorporated in the traffic analysis.

3.12.5 Impact Analysis

As identified in Chapter 2, Project Description, the purpose of the Specific Plan is to revitalize the community within the project area and to improve access to all modes of transportation, including transit, walking, and bicycling. The proposed Specific Plan would maintain the existing street system and add improvements related to access, circulation, and walkability as described below.

Roadway Modifications

The Specific Plan would implement roadway modifications to enhance pedestrian and bicycle circulation. The number of traffic lanes and roadway lane configurations would generally remain the same, except where road diets (which reduce the number of car lanes and add bicycle/pedestrian lanes) would be implemented. The roadway modifications included in the Specific Plan are described below. Additional detail is provided in Sections 4.4 and 4.5 of the Specific Plan.

- **Road Diet and Bicycle Lanes on 120th Street:** The section of 120th Street between Compton Avenue & Wilmington Avenue, will be reduced from four lanes to three lanes, with a bicycle lane in each direction. This is part of the Willowbrook Area Access Improvement Project.
- **Road Diet and Bicycle/Pedestrian Trail on Mona Boulevard:** Mona Boulevard from the I-105 Freeway to 124th Street will be converted from a four lane street to a three lane street, and a pedestrian/bicycle trail installed on the west side of the street.
- **Willowbrook Avenue West:** The section of Willowbrook Avenue West between the Willowbrook/Rosa Parks Station and 119th Street, will be reduced from two lanes southbound to one lane southbound, and a bike path installed on the west side of the street.

Bicycle Circulation

The Specific Plan Bicycle Network includes a combination of Class I, Class II and Class III facilities that connects activity centers and neighborhoods to the rail station, connects to adjacent communities, and provides a dedicated network for bicyclists to use safely and efficiently. The Bicycle Circulation System includes elements from, and is consistent with, the County's Bicycle Plan and the City of Los Angeles Bicycle Plan.

Class I bike paths will be implemented on Willowbrook Avenue (West) between 119th Street & Imperial Highway to provide access to the rail station, and on Mona Avenue (east side) between Imperial Highway and 124th Street. The associated lane reductions are included in the following impact analyses. Class II bike lanes will be implemented on 120th Street between Compton Avenue & Wilmington Avenue. The associated lane reductions are included in the following impact analyses. Class II Bike lanes are also proposed on Wilmington Avenue between 124th Street & 120th Street, but will not require any changes in traffic lanes. Class II Bike Lanes are also proposed on Imperial Highway between Compton Avenue & Mona Avenue. However, there are no design concepts or details available, so no changes to lane configurations have been incorporated into this study.

Not all streets can support bicycle lanes. Either there is insufficient width, or on-street parking is also an important asset to the function and economic well-being of the adjacent commercial uses or neighborhoods, so where there is insufficient roadway width to stripe bicycle lanes and to retain on-street parking, a connected network is achieved through the designation of Class Ill Bike Routes. Class III bike routes will be implemented on Compton Avenue, Willowbrook Avenue (West) south of 119th Street, 119th Street between Wilmington Avenue & Mona Avenue, and on 124th Street throughout the Specific Plan Area.

Pedestrian Circulation

The backbone of the existing pedestrian system is formed by Wilmington Avenue in the north-east direction and 120th/119th Street in the east-west direction. These corridors connect activity centers of the Willowbrook/Rosa Parks Station, the Kenneth Hahn Shopping Plaza, and the Martin Luther King Jr. (MLK) Medical Center Campus. They also cross at the intersection of Wilmington Avenue and 120/119th Street – which is the functional pedestrian hub of the Specific Plan Area. Additional key elements of the pedestrian system are 118th Street between Compton Avenue and Wilmington Avenue - which connects the CDU campus to the rest of the Specific Plan Area, Willowbrook Avenue West between 119th Street & the Willowbrook/Rosa Parks Station – providing access from residential areas to the station, and 119th Street between Willowbrook Avenue & Mona Boulevard – which provides access from the residential areas to the activity centers of the Specific Plan Area. Mona Boulevard also provides north-south pedestrian access on the east side of the Specific Plan Area including access to Mona Park, the Martin Luther King Elementary School and the Dr. Ralph Bunche Middle School.

In order to enhance the pedestrian environment and to calm traffic, a number of pedestrian oriented intersection improvements will be implemented throughout the Specific Plan Area, where feasible. These will be based on a menu of improvements that includes the following:

- Adding high visibility crosswalks at intersections.
- Adding passive pedestrian detection and pedestrian push buttons for crosswalks at traffic signals at intersections.
- Adding pedestrian countdown pedestrian signals and audio signals to crosswalks at intersections.
- Adding advance stop <u>lines</u> ~~bars~~ to intersection approaches.
- Adding sidewalk bulbouts and extensions, or reducing curb returns, on intersection corners where feasible.

These measures will facilitate pedestrian circulation by reducing the width of roadway for pedestrians to cross, providing additional sidewalk space, and making pedestrian crossings more visible to both pedestrians and motorists. The specific improvements to be implemented at each location will be determined following detailed design studies to determine applicability and feasibility and the ultimate configuration. However, curb extensions should not restrict the circulation of buses, trucks, emergency vehicles, and bicycles. As their exact nature is currently undefined, they are not included directly in this traffic study.

Improvements at Wilmington Avenue & I-105 Eastbound Ramps will add a crosswalk across Wilmington Avenue to facilitate access to the Willowbrook/Rosa Parks Station. This is included in the traffic analysis.

The Specific Plan proposes to add new traffic signals at Wilmington Avenue & 122nd Street, and at Mona Avenue & 119th Street, to facilitate pedestrian crossings on long stretches of both streets currently without signalized crosswalks. It also proposes to install a signalized pedestrian crosswalk on Mona Avenue & 120th Street to allow pedestrians crossing to the Dr. Ralph Bunche Middle School. The specific improvements will be determined following detailed design studies to determine applicability, feasibility, and if warranted. As their exact nature is currently undefined, they are not included directly in this traffic study.

Transit Service

The Specific Plan anticipates that current bus routes will continue to serve the Specific Plan area focusing on the rail station. The Specific Plan also anticipates that the existing shuttle routes that are operated by the County, the MLK Medical Center and CDU will be continued in order to facilitate alternative modes of transportation, and provide critical access to the Medical Center for those without a car. Additional shuttle routes are proposed to be added to serve new development in the Northwest Subarea and connect the land uses to the Willowbrook/Rosa Parks Station. These new shuttle services could be provided by the private sector as part of a comprehensive Transportation Demand Management Program (see below).

Transportation Demand Management

The Specific Plan identifies that a Transportation Demand Management (TDM) Program will be developed by individual projects ~~the County~~, to take advantage of the high level of transit service, and to reduce both vehicle trips and the number of parking spaces provided. However, the traffic analysis acknowledged that although a TDM Program could reduce trips, the implementation of a program is not considered to be quantifiable. Such programs would provide incentives and accommodations to encourage the use of transit, bicycling, walking, and ridesharing. These types of programs are generally most suitable and most effective for large employers and institutional uses, and office uses and could be attractive to employers in new office type land uses in the Northwest Subarea as they could reduce the capital costs needs of building parking. The Program should include the Northwest Subarea, CDU, and the MLK Medical Center.

Transportation demand management and trip reductions strategies could include but not be limited to:

- Encouraging use of transit, including subsidizing transit passes;
- Parking cash out programs;
- Encouraging rideshare;
- Providing preferential parking for carpools;
- Facilitating formation of carpools and vanpools; and

- Site and building design to facilitate use of transit, bicycling and walking.

A Transportation Management Organization (TMO) could also be established to facilitate these programs at an area wide level and support individual employers and/or buildings in participating to the fullest extent possible.

Traffic Increase

Impact 3.12.1: The proposed project could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Project-Specific

Existing Plus Project Intersection Levels of Service

The intersection level of service analysis compared the V/C ratios at each intersection for the Existing Condition and the Existing Plus Project Condition, to determine the incremental difference in V/C ratios that would be caused by the Specific Plan. The results of the analysis are summarized in **Table 3.12-8** for the AM peak hour and in **Table 3.12-9** for the PM peak hour. These tables compare the level of service for Existing Conditions and Existing Plus Project Conditions, show the increase in V/C ratios at each intersection due to the Project, and identifies if the increase constitutes a significant impact.

TABLE 3.12-8
EXISTING PLUS PROJECT CONDITIONS – INTERSECTION LEVEL OF SERVICE (AM PEAK HOUR)

			Existing Conditions		Existing + Project Conditions			
Intersection		Intersection Type	V/C or (Delay)	LOS	V/C or (Delay)	LOS	Change in V/C (Delay)	Significant Impact
County of Los Angeles								
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.726	C	0.739	C	0.013	No
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.652	B	0.667	B	0.015	No
10.	Central Ave & El Segundo Blvd[1]	Signalized	0.899	D	0.933	E	0.034	Yes
11.	Central Ave & Rosecrans Ave[1]	Signalized	0.822	D	0.844	D	0.022	Yes
12.	Slater Ave & 120th St	Signalized	0.501	A	0.604	B	0.103	No
17.	Compton Ave & Imperial Hwy[2]	Signalized	1.007	F	1.120	F	0.113	Yes
18.	Compton Ave & 118th St	Signalized	0.438	A	0.561	A	0.123	No
19.	Compton Ave & 120th St	Signalized	0.574	A	0.919	E	0.345	Yes
20.	Compton Ave & 124th St	Signalized	0.378	A	0.428	A	0.050	No
26.	Wilmington Ave & Imperial Hwy[2]	Signalized	0.657	B	0.820	D	0.163	Yes
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.848	D	1.196	F	0.348	Yes
28.	Wilmington Ave & 118th St	Signalized	0.641	B	1.161	F	0.520	Yes

Intersection		Intersection Type	Existing Conditions V/C or (Delay)	Existing Conditions LOS	Existing + Project Conditions V/C or (Delay)	Existing + Project Conditions LOS	Change in V/C (Delay)	Significant Impact
29.	Wilmington Ave & 120th St (West)	Signalized	0.840	D	0.907	E	0.067	Yes
30.	Wilmington Ave & 120th St (East)	Signalized	0.424	A	0.681	B	0.257	No
31.	Wilmington Ave & 124th St	Signalized	0.557	A	0.697	B	0.140	No
32.	Wilmington Ave & El Segundo Blvd[1]	Signalized	0.716	C	0.834	D	0.118	Yes
34.	Willowbrook Ave W & 119th Street	Signalized	0.447	A	0.478	A	0.031	No
35.	Willowbrook Ave E & 119th Street	Signalized	0.375	A	0.388	A	0.013	No
36.	Imperial Hwy & I-105 w/b Ramps[2]	Signalized	0.775	C	0.906	E	0.131	Yes
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.416	A	0.448	A	0.032	No
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.447	A	0.473	A	0.026	No
39.	Mona Blvd & Imperial Hwy[3]	Signalized	0.730	C	0.766	C	0.036	No
40.	Mona Blvd & 119th St[4]	Unsignalized[5]	(13.5)	B	(15.4)	C	(1.9)	No
41.	Mona Blvd & El Segundo Blvd	Signalized	0.512	A	0.544	A	0.032	No
43.	Alameda St & 103rd St[4]	Signalized	0.790	C	0.812	D	0.022	No ~~Yes~~
45.	Alameda St & Imperial Hwy[4]	Signalized	0.772	C	0.829	D	0.057	Yes
46.	Alameda St & El Segundo Blvd[1]	Signalized	0.765	C	0.815	D	0.050	Yes
52.	El Segundo Blvd & San Pedro St	Signalized	0.589	A	0.598	B	0.009	No
City of Compton								
13.	Slater Ave & El Segundo Blvd	Signalized	0.687	B	0.710	C	0.023	No
21.	Compton Ave & El Segundo Blvd	Signalized	0.804	C	0.925	E	0.121	Yes
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.854	D	0.927	E	0.073	Yes
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.693	B	0.721	C	0.028	No
55.	El Segundo Blvd & Santa Fe Ave	Signalized	0.592	A	0.602	B	0.010.	No
56.	Alameda St & Rosecrans Ave	Signalized	0.606	B	0.634	B	0.028	No
57.	Central Ave & W Compton Blvd	Signalized	0.758	C	0.767	C	0.009	No
58.	Wilmington Ave & W Compton Blvd	Signalized	0.702	B	0.737	D	0.035	No
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.532	A	0.536	A	0.004	No
60.	Central Ave & Alondra Blvd	Signalized	0.754	C	0.762	D	0.008	No
61.	Wilmington Blvd & Alondra Blvd	Signalized	0.825	D	0.861	D	0.036	Yes
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.797	C	0.829	E	0.032	Yes
63	Wilmington Ave & Walnut St	Signalized	0.595	A	0.627	C	0.032	No
64.	Central Ave & Greenleaf Blvd	Signalized	0.534	A	0.541	B	0.007	No
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.532	A	0.535	A	0.003	No
66.	Alameda St & Greenleaf Blvd	Signalized	0.631	B	0.641	C	0.010	No
City of Lynwood								
44.	Alameda St & Abbott Rd	Signalized	0.660	B	0.673	B	0.013	No
53.	Imperial Hwy & Fernwood Ave	Signalized	0.732	C	0.756	C	0.024	No

Intersection		Intersection Type	Existing Conditions		Existing + Project Conditions		Change in V/C (Delay)	Significant Impact
			V/C or (Delay)	LOS	V/C or (Delay)	LOS		
54.	Imperial Hwy & State St	Signalized	0.738	C	0.764	C	0.026	No
City of Los Angeles								
1.	Avalon Blvd & Imperial Hwy	Signalized	0.747	C	0.790	C	0.043	Yes
2.	Avalon Blvd & 120th St	Signalized	0.592	A	0.628	B	0.036	No
5.	Central Ave & 103rd St	Signalized	0.637	B	0.658	B	0.021	No
6.	Central Ave & Imperial Hwy	Signalized	0.737	C	0.784	C	0.047	Yes
7.	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.852	D	0.029	Yes
8.	Central Ave & I-105 e/b Ramps	Signalized	0.668	B	0.699	B	0.031	No
9.	Central Ave & 120th St	Signalized	0.753	C	0.881	D	0.128	Yes
14.	Compton Ave & 103rd St	Signalized	0.604	B	0.688	B	0.084	No
15.	Compton Ave & 108th St	Signalized	0.663	B	0.669	B	0.006	No
16.	Compton Ave & 112th St	Unsignalized[5]	(31.0)	D	(42.5)	E	(11.5)	No
22.	Wilmington Ave & 103rd St	Signalized	0.660	B	0.669	B	0.009	No
23.	Wilmington Ave & Santa Ana Blvd N	Signalized	0.473	A	0.488	A	0.015	No
24.	Wilmington Ave & 108th St	Signalized	0.593	A	0.621	B	0.028	No
25.	Wilmington Ave & 112th St	Unsignalized[5]	(44.5)	E	Overflow	F	Overflow	Yes
47.	Avalon Blvd & 103rd St	Signalized	0.441	A	0.454	A	0.010	No
48.	Avalon Blvd & 108th St	Signalized	0.564	B	0.578	A	0.014	No
49.	Imperial Hwy & Main St	Signalized	0.590	B	0.601	B	0.011	No
50.	Imperial Hwy & San Pedro St	Signalized	0.661	B	0.673	B	0.012	No
51.	San Pedro St & 120th St	Signalized	0.528	A	0.541	A	0.013	No
City of Los Angeles & Los Angeles County[6]								
17	Compton Ave & Imperial Hwy	Signalized	0.898	D	1.018	F	0.120	Yes
26	Wilmington Ave & Imperial Hwy	Signalized	0.501	A	0.670	B	0.169	No
36	Imperial Hwy & I-105 w/b Ramps	Signalized	0.690	B	0.830	D	0.140	Yes
39	Mona Blvd & Imperial Hwy	Signalized	0.601	B	0.639	B	0.038	No

1 Shares jurisdiction with City of Compton
2 Shares jurisdiction with City of Los Angeles
3 Shares jurisdiction with City of Los Angeles and City of Lynwood
4 Shares jurisdiction with City of Lynwood
5 Unsignalized intersection show delay/LOS for controlled approach
6 Analyzed per City of Los Angeles methodology

SOURCE: The Mobility Group, 2017

TABLE 3.12-9
EXISTING PLUS PROJECT CONDITIONS – INTERSECTION LEVEL OF SERVICE (PM PEAK HOUR)

Intersection		Intersection Type	Existing Conditions		Existing + Project Conditions		Change in V/C (Delay)	Significant Impact
			V/C or (Delay)	LOS	V/C or (Delay)	LOS		
County of Los Angeles								
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.844	D	0.877	D	0.033	Yes
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.804	C	0.815	D	0.011	No
10.	Central Ave & El Segundo Blvd[1]	Signalized	0.925	E	0.983	E	0.058	Yes
11.	Central Ave & Rosecrans Ave[1]	Signalized	0.761	C	0.782	C	0.021	No
12.	Slater Ave & 120th St	Signalized	0.367	A	0.480	A	0.113	No
17.	Compton Ave & Imperial Hwy[2]	Signalized	0.781	C	0.954	E	0.173	Yes
18.	Compton Ave & 118th St	Signalized	0.367	A	0.522	A	0.155	No
19.	Compton Ave & 120th St	Signalized	0.448	A	0.817	D	0.369	Yes
20.	Compton Ave & 124th St	Signalized	0.287	A	0.319	A	0.032	No
26.	Wilmington Ave & Imperial Hwy[2]	Signalized	0.654	B	0.820	D	0.166	Yes
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.680	B	0.988	E	0.308	Yes
28.	Wilmington Ave & 118th St	Signalized	0.527	A	1.019	F	0.492	Yes
29.	Wilmington Ave & 120th St (West)	Signalized	0.766	C	0.934	E	0.168	Yes
30.	Wilmington Ave & 120th St (East)	Signalized	0.426	A	0.756	C	0.330	Yes
31.	Wilmington Ave & 124th St	Signalized	0.485	A	0.608	B	0.123	No
32.	Wilmington Ave & El Segundo Blvd[1]	Signalized	0.793	C	0.923	E	0.130	Yes
34.	Willowbrook Ave W & 119th Street	Signalized	0.436	A	0.486	A	0.050	No
35.	Willowbrook Ave E & 119th Street	Signalized	0.359	A	0.377	A	0.018	No
36.	Imperial Hwy & I-105 w/b Ramps[2]	Signalized	0.792	C	0.918	E	0.126	Yes
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.508	A	0.540	A	0.032	No
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.507	A	0.535	A	0.028	No
39.	Mona Blvd & Imperial Hwy[3]	Signalized	0.825	D	0.875	D	0.050	Yes
40.	Mona Blvd & 119th St[4]	Unsignalized[5]	(17.0)	C	(21.6)	C	(4.6)	No
41.	Mona Blvd & El Segundo Blvd	Signalized	0.609	B	0.635	B	0.026	No
43.	Alameda St & 103rd St[4]	Signalized	0.852	D	0.872	D	0.020	Yes
45.	Alameda St & Imperial Hwy[4]	Signalized	0.799	C	0.818	D	0.019	No
46.	Alameda St & El Segundo Blvd[1]	Signalized	0.898	D	0.912	E	0.014	No ~~Yes~~
52.	El Segundo Blvd & San Pedro St	Signalized	0.601	B	0.612	B	0.011	No
City of Compton								
13.	Slater Ave & El Segundo Blvd	Signalized	0.649	B	0.676	B	0.027	No
21.	Compton Ave & El Segundo Blvd	Signalized	0.706	C	0.790	C	0.084	Yes
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.847	D	0.941	E	0.094	Yes
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.719	C	0.748	C	0.029	No

Intersection		Intersection Type	Existing Conditions V/C or (Delay)	Existing Conditions LOS	Existing + Project Conditions V/C or (Delay)	Existing + Project Conditions LOS	Change in V/C (Delay)	Significant Impact
55.	El Segundo Blvd & Santa Fe Ave	Signalized	0.700	B	0.717	C	0.019	No
56.	Alameda St & Rosecrans Ave	Signalized	0604	B	0.638	B	0.034	No
57.	Central Ave & W Compton Blvd	Signalized	0.802	C	0.813	D	0.011	No
58.	Wilmington Ave & W Compton Blvd	Signalized	0.844	D	0.893	D	0.049	Yes
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.453	A	0.456	A	0.003	No
60.	Central Ave & Alondra Blvd	Signalized	0.888	D	0.898	D	0.010	No
61.	Wilmington Blvd & Alondra Blvd	Signalized	0.877	D	0.924	E	0.047	Yes
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.911	D	0.924	E	0.041	Yes
63	Wilmington Ave & Walnut St	Signalized	0.785	C	0.825	D	0.040	Yes
64.	Central Ave & Greenleaf Blvd	Signalized	0.671	B	0.680	B	0.009	No
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.526	A	0.530	A	0.004	No
66.	Alameda St & Greenleaf Blvd	Signalized	0.732	C	0.748	C	0.016	No
City of Lynwood								
44.	Alameda St & Abbott Rd	Signalized	0.624	B	0.651	B	0.027	No
53.	Imperial Hwy & Fernwood Ave	Signalized	0.755	C	0.781	C	0.026	No
54.	Imperial Hwy & State St	Signalized	0.785	C	0.809	D	0.024	Yes
City of Los Angeles								
1	Avalon Blvd & Imperial Hwy	Signalized	0.713	C	0.753	C	0.040	Yes
2	Avalon Blvd & 120th St	Signalized	0.672	B	0.715	C	0.043	Yes
5	Central Ave & 103rd St	Signalized	0.664	B	0.682	B	0.018	No
6	Central Ave & Imperial Hwy	Signalized	0.757	C	0.818	D	0.061	Yes
7	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.896	D	0.073	Yes
8	Central Ave & I-105 e/b Ramps	Signalized	0.635	B	0.654	B	0.019	No
9	Central Ave & 120th St	Signalized	0.690	B	0.817	D	0.127	Yes
14	Compton Ave & 103rd St	Signalized	0.587	A	0.604	B	0.017	No
15	Compton Ave & 108th St	Signalized	0.527	A	0.573	A	0.046	No
16	Compton Ave & 112th St	Unsignalized[5]	(38.5)	E	(56.0)	F	(17.5)	No
22	Wilmington Ave & 103rd St	Signalized	0.463	A	0.477	A	0.014	No
23	Wilmington Ave & Santa Ana Blvd N	Signalized	0.441	A	0.469	A	0.028	No
24	Wilmington Ave & 108th St	Signalized	0.496	A	0.525	A	0.029	No
25	Wilmington Ave & 112th St	Unsignalized[5]	(42.1)	E	Overflow	F	Overflow	Yes
47.	Avalon Blvd & 103rd St	Signalized	0.475	A	0.491	A	0.016	No
48.	Avalon Blvd & 108th St	Signalized	0.608	A	0.627	B	0.019	No
49.	Imperial Hwy & Main St	Signalized	0.632	B	0.651	B	0.019	No
50.	Imperial Hwy & San Pedro St	Signalized	0.697	B	0.721	C	0.024	No
51.	San Pedro St & 120th St	Signalized	0.597	A	0.623	B	0.026	No

Intersection		Intersection Type	Existing Conditions V/C or (Delay)	Existing Conditions LOS	Existing + Project Conditions V/C or (Delay)	Existing + Project Conditions LOS	Change in V/C (Delay)	Significant Impact
City of Los Angeles & Los Angeles County[6]								
17	Compton Ave & Imperial Hwy	Signalized	0.663	B	0.841	D	0.178	Yes
26	Wilmington Ave & Imperial Hwy	Signalized	0.497	A	0.671	B	0.174	No
36	Imperial Hwy & I-105 w/b Ramps	Signalized	0.710	C	0.847	D	0.137	Yes
39	Mona Blvd & Imperial Hwy	Signalized	0.704	C	0.758	C	0.054	Yes

1 Shares jurisdiction with City of Compton
2 Shares jurisdiction with City of Los Angeles
3 Shares jurisdiction with City of Los Angeles and City of Lynwood
4 Shares jurisdiction with City of Lynwood
5 Unsignalized intersection show delay/LOS for controlled approach
6 Analyzed per City of Los Angeles methodology

SOURCE: The Mobility Group, 2017

Table 3.12-8 shows that for the AM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 55 of the 66 total intersections analyzed. Based on the impact thresholds by jurisdiction described in Section 3.12.3, there would be significant impacts at 21 of the 66 intersections during the AM peak hour. Table 3.12-9 shows that for the PM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at a 53 of the 66 total intersections analyzed. There would significant impacts at 26 of the 66 intersections during the PM peak hour. Below is the list of intersections where significant impacts are expected to occur at one or both analyzed peak hours:

County of Los Angeles

3. Avalon Blvd & El Segundo Blvd – LOS D (PM Peak)

10. Central Ave & El Segundo Blvd – LOS E (AM and PM peak hours)

11. Central Ave & Rosecrans Ave – LOS D (AM peak hour)

17. Compton Ave & Imperial Hwy – LOS F/E (AM peak hour/PM peak hour)

19. Compton Ave & 120th St – LOS E/D (AM peak hour/PM peak hour)

26. Wilmington Ave & Imperial Hwy – LOS D (AM and PM peak hours)

27. Wilmington Ave & I-105 e/b Ramps – LOS F/E (AM peak hour/PM peak hour)

28. Wilmington Ave & 118th St – LOS F (AM and PM peak hours)

29. Wilmington Ave & 120th St (West) – LOS E (AM and PM peak hours)

30. Wilmington Ave & 120th St (East) – LOS C (PM peak hour)

32. Wilmington Ave & El Segundo Blvd – LOS D/E (AM peak hour/PM peak hour)

36. Imperial Hwy & I-105 w/b Ramps – LOS E (AM and PM peak hours)

39. Mona Blvd & Imperial Hwy – LOS D (PM peak hour)

43. Alameda St & 103rd St – LOS D (PM peak hours)

45. Alameda St & Imperial Hwy – LOS D (AM peak hour)

46. Alameda St & El Segundo Blvd – LOS D (AM peak hour)

City of Compton

21. Compton Ave & El Segundo Blvd – LOS E/C (AM peak hour/PM peak hour)

33. Wilmington Ave & Rosecrans Ave – LOS E (AM and PM peak hours)

58. Wilmington Ave & W Compton Blvd – LOS D (PM peak hour)

61. Wilmington Blvd & Alondra Blvd – LOS D/E (AM peak hour and PM peak hours)

62. Wilmington Ave & Greenleaf Blvd – LOS E (AM peak hour and PM peak hours)

63. Wilmington Ave & Walnut St – LOS D (PM peak hour)

City of Lynwood

54. Imperial Hwy & State St – LOS D (PM peak hour)

City of Los Angeles

1. Avalon Blvd & Imperial Hwy – LOS C (AM and PM peak hours)

2. Avalon Blvd & 120th Street – LOS C (PM peak hour)

6. Central Ave & Imperial Hwy – LOS C/D (AM Peak hour/PM peak hour)

7. Central Ave & I-105 w/b Ramps – LOS D (AM and PM peak hours)

9. Central Ave & 120th St – LOS D (AM and PM peak hours)

25. Wilmington Ave & 112th St – LOS F (AM and PM peak hours)

City of Los Angeles/County of Los Angeles Shared Jurisdiction

Four of the 27 intersections located in the County of Los Angeles and analyzed above with the County's impact thresholds have common jurisdiction with the City of Los Angeles. These four intersections were also analyzed using the City of Los Angeles methodology and significant impact criteria. Below is the list of intersections where significant impacts are expected to occur at one or both analyzed peak hours:

17. Compton Ave & Imperial Hwy – LOS F/D (AM peak hour/PM peak hour)

36. Imperial Hwy & I-105 w/b Ramps – LOS D (AM and PM peak hours)

39. Mona Blvd & Imperial Hwy – LOS C (PM peak hour)

These results are the same as the analysis under the County methodology, except that whereas under the County methodology there would be a significant impact at Intersection #26 at Wilmington Avenue & Imperial Highway, there would not be a significant impact under the City of Los Angeles methodology.

Existing Plus Project Freeway Segment Level of Service

The freeway segment analysis is summarized in **Table 3.12-10** and **Table 3.12-11**, which show the levels of service and demand/capacity (D/C) ratios for Existing Conditions, and Existing Plus Project Conditions for the AM peak hour and the PM peak hour respectively. These tables also show the number of trips that would be added by the Project to each freeway segment. The following discussion refers to a location as one direction (i.e. twenty locations for ten freeway segments).

TABLE 3.12-10
EXISTING PLUS PROJECT CONDITIONS – FREEWAY SEGMENT LEVEL OF SERVICE (AM PEAK HOUR)

						Existing Conditions (Year 2016)[1]			Existing Plus Project Conditions (Year 2016)					
No.	Location	Dir	Inbound/ Outbound	No. of Lanes	Capacity	Hourly Volume	D/C	LOS	Project Trips	Hourly Volume	D/C	LOS	Increase in D/C	% Increase Volume due to Project
1	I-110 between Century Blvd and 109th St	NB	Outbound	4G+2E	8,000	6,697	0.837	D	73	6,770	0.846	D	0.008	1.1%
		SB	Inbound	5G+2E	10,000	8,811	0.881	D	131	8,942	0.894	D	0.012	1.5%
2	I-110 between 135th St and Rosecrans Ave	NB	Inbound	4G+1E	8,000	7,987	0.998	E	62	8,049	1.006	**F(0)**[2]	0.007	0.8%
		SB	Outbound	4G+1E	8,000	8,566	1.071	F(0)	40	8,606	1.076	F(0)	0.005	0.5%
3	I-105 between Vermont Ave and Hoover St	EB	Inbound	3G+1HOV	6,000	3,819	0.637	C	170	3,989	0.665	C	0.028	4.5%
		WB	Outbound	3G+1HOV	6,000	6,225	1.0375	F(0)	94	6,319	1.053	F(0)	0.015	1.5%
4	I-105 between Avalon Blvd and Central Ave	EB	Inbound	3G+1HOV+1A	7,000	7,029	1.004	F(0)	342	7,371	1.053	F(0)	0.048	4.9%
		WB	Outbound	4G+1HOV	8,000	6,846	0.856	D	196	7,042	0.88	D	0.024	2.9%
5	I-105 between Compton Ave and Wilmington Ave	EB	Inbound	3G+1HOV	6,000	5,190	0.865	D	209	5,399	0.9	D	0.035	4.0%
		WB	Outbound	3G+1HOV	6,000	4,946	0.824	D	141	5,087	0.848	D	0.023	2.9%
6	I-105 between State St and Long Beach Blvd	EB	Outbound	3G+1HOV	6,000	4,852	0.809	D	179	5,031	0.839	D	0.03	3.7%
		WB	Inbound	3G+1HOV	6,000	4,899	0.817	D	314	5,213	0.869	D	0.052	6.4%
7	SR-91 between Central Ave and Wilmington Ave	EB	Inbound	4G+1HOV	8,000	5,747	0.718	C	22	5,769	0.721	C	0.002	0.4%
		WB	Outbound	4G+1HOV	8,000	7,651	0.956	E	12	7,663	0.958	E	0.001	0.2%
8	SR-91 between Santa Fe Ave and Long Beach Blvd	EB	Outbound	5G+1HOV	10,000	6,446	0.645	C	23	6,469	0.647	C	0.002	0.4%
		WB	Inbound	5G+1HOV	10,000	8,321	0.832	D	47	8,368	0.837	D	0.004	0.6%
9	I-710 between Firestone Blvd and Abbott Rd	NB	Outbound	4G	8,000	6,032	0.754	C	35	6,067	0.758	C	0.004	0.6%
		SB	Inbound	4G	8,000	4,131	0.516	B	45	4,176	0.522	B	0.005	1.1%
10	I-710 between Del Amo Blvd and Long Beach Blvd	NB	Inbound	5G	10,000	5,817	0.582	C	48	5,865	0.587	C	0.005	0.8%
		SB	Outbound	4G	8,000	7,605	0.951	E	23	7,628	0.954	E	0.003	0.3%

[1] Traffic volumes for Existing Conditions from Caltrans, 2015. Growth factor of 1% annum applied for 2016 volumes.
[2] Bold LOS indicates a significant impact.
SOURCE: The Mobility Group, 2017

TABLE 3.12-11
EXISTING PLUS PROJECT CONDITIONS – FREEWAY SEGMENT LEVEL OF SERVICE (PM PEAK HOUR)

						Existing Conditions[1] (Year 2016)			Existing Plus Project Conditions (Year 2016)					
No.	Location	Dir	Inbound/ Outbound	No. of Lanes	Capacity	Hourly Volume	D/C	LOS	Project Trips	Hourly Volume	D/C	LOS	Increase in D/C	% Increase Volume due to Project
1	I-110 between Century Blvd and 109th St	NB	Outbound	4G+2E	8000	7693	0.962	E	150	7843	0.98	E	0.018	1.9%
		SB	Inbound	5G+2E	10000	8144	0.814	D	96	8240	0.824	D	0.009	1.2%
2	I-110 between 135th St and Rosecrans Ave	NB	Inbound	4G+1E	8000	7652	0.957	E	52	7704	0.963	E	0.006	0.7%
		SB	Outbound	4G+1E	8000	7934	0.992	E	77	8011	1.001	**F(0)**[2]	0.009	1.0%
3	I-105 between Vermont Ave and Hoover St	EB	Inbound	3G+1HOV	6000	3777	0.630	C	123	3900	0.65	C	0.02	3.3%
		WB	Outbound	3G+1HOV	6000	5619	0.937	E	195	5814	0.969	E	0.032	3.5%
4	I-105 between Avalon Blvd and Central Ave	EB	Inbound	3G+1HOV+1A	7000	6664	0.952	E	257	6921	0.989	E	0.037	3.9%
		WB	Outbound	4G+1HOV	8000	6490	0.811	D	397	6887	0.861	D	0.049	6.1%
5	I-105 between Compton Ave and Wilmington Ave	EB	Inbound	3G+1HOV	6000	5200	0.867	D	177	5377	0.896	D	0.029	3.4%
		WB	Outbound	3G+1HOV	6000	4824	0.804	D	254	5078	0.846	D	0.041	5.3%
6	I-105 between State St and Long Beach Blvd	EB	Outbound	3G+1HOV	6000	4625	0.771	D	370	4995	0.833	D	0.062	8.0%
		WB	Inbound	3G+1HOV	6000	5044	0.841	D	234	5278	0.88	D	0.039	4.6%
7	SR-91 between Central Ave and Wilmington Ave	EB	Inbound	4G+1HOV	8000	6548	0.819	D	15	6563	0.82	D	0.001	0.2%
		WB	Outbound	4G+1HOV	8000	6214	0.777	D	25	6239	0.78	D	0.003	0.4%
8	SR-91 between Santa Fe Ave and Long Beach Blvd	EB	Outbound	5G+1HOV	10000	7363	0.736	C	51	7414	0.741	C	0.004	0.7%
		WB	Inbound	5G+1HOV	10000	6525	0.653	C	30	6555	0.656	C	0.003	0.5%
9	I-710 between Firestone Blvd and Abbott Rd	NB	Outbound	4G	8000	6031	0.754	C	52	6083	0.76	C	0.006	0.9%
		SB	Inbound	4G	8000	4237	0.530	B	41	4278	0.535	B	0.005	1.0%
10	I-710 between Del Amo Blvd and Long Beach Blvd	NB	Inbound	5G	10000	6826	0.683	C	32	6858	0.686	C	0.003	0.5%
		SB	Outbound	4G	8000	6416	0.802	D	53	6469	0.809	D	0.007	0.8%

1 Traffic volumes for Existing Conditions from Caltrans, 2015. Growth factor of 1% annum applied for 2016 volumes.
2 Bold LOS indicates a significant impact.
SOURCE: The Mobility Group, 2017

In the AM peak hour, the Project would add between 12 and 342 trips to the freeway segments analyzed depending on location and direction. The highest volume increases (ranging from 141 to 342 trips) would occur at seven locations on I-105 between Avalon Boulevard and Long Beach Boulevard. At nine of the remaining fourteen locations the volume increase would be less than 50 trips. The level of service would not change at any mainline freeway segment due to the Project, except at one location – the I-110 southbound between 135th St & Rosecrans Ave where it would change from LOS E to LOS F. The Project would, therefore, cause one significant freeway mainline segment impact in the AM peak hour under Existing Plus Project Conditions.

In the PM peak hour, the Project would add between 15 and 397 trips to the freeway segments analyzed depending on location and direction. The highest volume increases (ranging from 177 to 397 trips) would occur at seven locations on I-105 between Avalon Boulevard and Long Beach Boulevard. At eleven of the remaining fourteen locations the volume increase would be less than 100 trips. The level of service would not change at any mainline freeway segment due to the Project, except at I-110 southbound between 135th St & Rosecrans Ave where it would change from LOS E to LOS F. The Project would, therefore, cause one significant freeway mainline segment impact in the PM peak hour under Existing Plus Project Conditions.

Existing Plus Project Off-Ramp Analysis

The freeway off-ramp analysis for the Existing Plus Project Conditions is summarized in **Table 3.12-12** for the AM peak hour and in **Table 3.12-13** for the PM peak hour. These tables show the ramp storage lengths, the ramp volumes, and queue lengths for the Existing Condition and the Existing Plus Project Condition.

TABLE 3.12-12
EXISTING PLUS PROJECT CONDITIONS – FREEWAY OFF-RAMP ANALYSIS (AM PEAK HOUR)

					Existing Conditions[1] (Year 2016)				Existing Plus Project Conditions (Year 2016)				
No.	Location	Movement	No. of Lanes[2]	Storage Length (feet)	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length
1	I-110 NB Off-ramp at El Segundo Blvd	NB LT/RT	2	1,646	879	C	392	No	15	894	C	400	No
2	I-110 SB Off-ramp at El Segundo Blvd	SB LT	1	558	511	D	546	No	6	517	D	557	No
		SB LT/RT	1	355	0	D	492	Yes	0	0	D	492	Yes
		SB RT	1	355	839	C	457	Yes	0	839	C	457	Yes
		RAMP TOTAL	*3*	*1,269*	*1,350*	*D*	*1,495*	*Yes*	*6*	*1,356*	*D*	*1,506*	*Yes*
3	I-105 EB Off-ramp at Central Ave	EB LT	1	580	664	F	842	Yes	56	720	F	958	Yes
		EB LT/TH/RT	1	580	13	F	867	Yes	0	13	F	958	Yes
		EB RT	1	803	538	C	330	No	77	615	D	458	No
		RAMP TOTAL	*3*	*1,963*	*1,215*	*F*	*2,039*	*Yes*	*133*	*1,348*	*F*	*2,374*	*Yes*
4	I-105 WB Off-ramp at Central Ave	WB LT	1	979	116	D	104	No	0	116	D	104	No
		WB TH/LT	1	847	4	D	101	No	0	4	D	101	No
		WB RT	1	847	372	F	536	No	0	372	F	564	No
		RAMP TOTAL	*3*	*2,672*	*492*	*E*	*741*	*No*	*0*	*492*	*F*	*769*	*No*
5	I-105 EB Off-ramp at Wilmington	EB LT	1	1,092	411	F	600	No	4	415	D	499	No
		EB RT	1	1,092	537	D	361	No	204	741	D	907	No
		RAMP TOTAL	*2*	*2,185*	*948*	*F*	*961*	*No*	*208*	*1,156*	*D*	*1,406*	*No*
6	I-105 WB Off-ramp at Imperial Hwy	NB LT	1	599	539	F	491	No	294	833	F	757	Yes
		NB TH/LT	4	540	11	F	491	No	9	20	F	761	Yes
		NB RT	1	540	137	A	4	No	12	149	A	14	No
		RAMP TOTAL	*6*	*1,679*	*687*	*F*	*986*	*No*	*315*	*1,002*	*F*	*1,532*	*No*

					Existing Conditions[1] (Year 2016)				Existing Plus Project Conditions (Year 2016)				
No.	**Location**	**Movement**	**No. of Lanes[2]**	**Storage Length (feet)**	**Ramp Volume**	**Ramp LOS**	**95% Queue Length (feet)**	**Exceed Storage Length**	**Project Added Volume**	**Ramp Volume**	**Ramp LOS**	**95% Queue Length (feet)**	**Exceed Storage Length**
7	I-105 EB Off-ramp at Long Beach Blvd	EB LT	1	1,018	614	F	438	No	0	614	F	438	No
		EB TH/LT	1	620	3	F	445	No	0	3	F	445	No
		EB RT	1	620	346	B	172	No	0	346	B	172	No
		RAMP TOTAL	*3*	*2,258*	*963*	*E*	*1,055*	*No*	*0*	*963*	*E*	*1,055*	*No*
8	I-105 WB Off-ramp at Long Beach Blvd	WB LT	1	1,148	165	D	175	No	0	165	D	175	No
		WB TH/RT	1	700	27	F	500	No	0	27	F	502	No
		WB RT	1	700	792	F	482	No	5	797	F	488	No
		RAMP TOTAL	*3*	*2,548*	*984*	*F*	*1,157*	*No*	*0*	*984*	*F*	*1,165*	*No*
9	SR-91 EB Off-ramp at Wilmington Ave	EB LT	1	1,213	771	F	805	No	22	793	F	817	No
		EB LT/TH/RT	2	1,213	670	F	669	No	0	670	F	686	No
		RAMP TOTAL	*3*	*2,426*	*1441*	*F*	*1,474*	*No*	*0*	*1,441*	*F*	*1,503*	*No*
10	SR-91 WB Off-ramp at Wilmington Ave	WB LT	1	777	175	D	218	No	0	175	D	218	No
		WB LT/TH/RT	2	777	666	F	497	No	47	713	F	558	No
		RAMP TOTAL	*3*	*1,554*	*841*	*F*	*715*	*No*	*0*	*841*	*F*	*776*	*No*

1 Traffic counts conducted in 2015 and factored to 2016 using a rate of 1% per annum.

2 Ramp storage lengths are 85% of the actual storage lengths per Caltrans "Safety" factor.

SOURCE: The Mobility Group, 2017.

TABLE 3.12-13
EXISTING PLUS PROJECT CONDITIONS – FREEWAY OFF-RAMP ANALYSIS (PM PEAK HOUR)

					Existing Conditions[1] (Year 2016)				Existing Plus Project Conditions (Year 2016)				
No.	Location	Movement	No. of Lanes[2]	Storage Length (feet)	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length
1	I-110 NB Off-ramp at El Segundo Blvd	NB LT/RT	2	1,646	583	C	202	No	11	594	C	204	No
2	I-110 SB Off-ramp at El Segundo Blvd	SB LT	1	558	437	E	437	No	4	441	E	435	No
		SB LT/RT	1	355	0	D	320	No	0	0	D	319	No
		SB RT	1	355	424	C	206	No	0	424	C	231	No
		RAMP TOTAL	*3*	*1,269*	*861*	*D*	*963*	*No*	*4*	*865*	*D*	*985*	*No*
3	I-105 EB Off-ramp at Central Ave	EB LT	1	580	477	F	653	Yes	36	513	F	712	Yes
		EB LT/TH/RT	1	580	240	F	703	Yes	0	240	F	780	Yes
		EB RT	1	803	378	C	303	No	44	422	C	377	No
		RAMP TOTAL	*3*	*1,963*	*1095*	*E*	*1659*	*No*	*80*	*1175*	*F*	*1,869*	*No*
4	I-105 WB Off-ramp at Central Ave	WB LT	1	979	265	D	192	No	0	265	D	192	No
		WB TH/LT	1	847	0	D	192	No	0	0	D	192	No
		WB RT	1	847	536	F	824	No	0	536	F	856	Yes
		RAMP TOTAL	*3*	*2,672*	*801*	*F*	*1208*	*No*	*0*	*801*	*F*	*1,240*	*No*
5	I-105 EB Off-ramp at Wilmington	EB LT	1	1,092	331	F	446	No	3	334	C	346	No
		EB RT	1	1,092	181	A	64	No	173	354	B	240	No
		RAMP TOTAL	*2*	*2,185*	*512*	*F*	*510*	*No*	*176*	*688*	*C*	*586*	*No*
6	I-105 WB Off-ramp at Imperial Hwy	NB LT	1	599	549	F	500	No	217	766	F	697	Yes
		NB TH/LT	4	540	8	F	495	No	7	15	F	695	Yes
		NB RT	1	540	274	C	192	No	10	284	C	208	No
		RAMP TOTAL	*6*	*1,679*	*831*	*F*	*1187*	*No*	*234*	*1065*	*F*	*1,600*	*No*

					Existing Conditions[1] (Year 2016)				Existing Plus Project Conditions (Year 2016)				
No.	**Location**	**Movement**	**No. of Lanes[2]**	**Storage Length (feet)**	**Ramp Volume**	**Ramp LOS**	**95% Queue Length (feet)**	**Exceed Storage Length**	**Project Added Volume**	**Ramp Volume**	**Ramp LOS**	**95% Queue Length (feet)**	**Exceed Storage Length**
7	I-105 EB Off-ramp at Long Beach Blvd	EB LT	1	1,018	328	E	255	No	0	328	F	255	No
		EB TH/LT	1	620	1	E	258	No	0	1	F	258	No
		EB RT	1	620	215	B	75	No	0	215	B	75	No
		RAMP TOTAL	*3*	*2,258*	*544*	*D*	*588*	*No*	*0*	*544*	*D*	*588*	*No*
8	I-105 WB Off-ramp at Long Beach Blvd	WB LT	1	1,148	285	F	441	No	0	285	F	441	No
		WB TH/RT	1	700	9	F	695	No	0	9	F	695	No
		WB RT	1	700	987	F	677	No	3	990	F	682	No
		RAMP TOTAL	*3*	*2,548*	*1281*	*F*	*1813*	*No*	*3*	*1284*	*F*	*1,818*	*No*
9	SR-91 EB Off-ramp at Wilmington Ave	EB LT	1	1,213	433	F	663	No	15	448	F	672	No
		EB LT/TH/RT	2	1,213	694	D	412	No	0	694	D	452	No
		RAMP TOTAL	*3*	*2,426*	*1127*	*E*	*1075*	*No*	*15*	*1142*	*E*	*1124*	*No*
10	SR-91 WB Off-ramp at Wilmington Ave	WB LT	1	777	197	D	274	No	0	197	D	274	No
		WB LT/TH/RT	2	777	1011	F	892	Yes	30	1041	F	920	Yes
		RAMP TOTAL	*3*	*1,554*	*1208*	*F*	*1166*	*No*	*30*	*1238*	*F*	*1,194*	*No*

[1] Traffic counts conducted in 2015 and factored to 2016 using a rate of 1% per annum.

[2] Ramp storage lengths are 85% of the actual storage lengths per Caltrans "Safety" factor.

SOURCE: The Mobility Group, 2017.

The Project would add between 133 and 315 trips to three ramps in the AM peak hour, and 0 to 47 trips at the other off-ramps analyzed. For the Existing Plus Project Conditions, the queues would not exceed the total ramp storage lengths at any of the ramps, except at the same two locations where storage lengths are currently exceeded under existing conditions:

2. I-110 SB Off-ramp at El Segundo Blvd
3. I-105 EB Off-ramp at Central Ave.

At these two off-ramps, the Project would not cause storage capacities to be exceeded, but would increase the queue lengths. At a third location, at the I-105 WB Off-ramp at Imperial Hwy, the queue for one movement would exceed the storage length for that movement with the Project, but the overall ramp storage length would not be exceeded.

The Project would add between 80 to 234 trips to three off-ramps in the PM peak hour, and 0 to 30 trips at the other off-ramps analyzed. For the Existing Plus Project Conditions, the queues would not exceed the total ramp storage lengths at any of the ramps. For the I-105 EB off-ramp at Central Avenue, the queue for two of the ramp movements would exceed the storage length for those movements, but the overall queue length would not exceed the overall ramp storage capacity. For the I-105 WB off-ramp at Central Avenue, the queue for one movement would exceed the storage length for that movement, but the Project would not add any trips to that movement and the overall queue length would not exceed the overall ramp storage capacity. For the I-105 WB off-ramp at Imperial Hwy, the queue for would exceed the storage length for that movement, but the overall queue length for the ramp would not exceed the overall ramp storage capacity. For the SR-91 WB off-ramp at Wilmington Avenue, the queue for one movement would exceed the storage length for that movement (as it would for the existing condition without the Project), but the overall queue length for the ramp would not exceed the overall ramp storage capacity.

As the Project would not cause the overall queue lengths to exceed the overall storage capacity of any ramps during the AM or PM peak periods, the impact of the Project for the Existing Plus Project Conditions would be *less than significant*.

Cumulative

Existing Plus Project Plus Cumulative Intersection Levels of Service

The intersection level of service analysis compared the V/C ratios at each intersection for the Existing Condition and the Existing Plus Project Plus Cumulative Condition, to determine the incremental difference in V/C ratios caused by the Project. The results of the analysis are summarized in **Table 3.12-14** and **Table 3.12-15** for the AM peak hour and in **Table 3.12-16 and Table 3.12-17** for the PM peak hour. These tables compare the level of service for Existing Conditions and Existing Plus Project Plus Cumulative Conditions, show the increase in V/C ratios at each intersection due to the Project, and identify if the increase constitutes a significant impact.

TABLE 3.12-14
EXISTING PLUS PROJECT PLUS CUMULATIVE CONDITIONS
LOS ANGELES COUNTY, CITY OF COMPTON AND CITY OF LYNWOOD INTERSECTION LEVELS OF SERVICE (AM PEAK HOUR)

			Existing Conditions		Existing + Project Conditions				Existing + Project + Cumulative Conditions			
No.	Intersection	Intersection Type	V/C or (Delay)	LOS	V/C or (Delay)	LOS	Change in V/C (Delay)	Significant Impact	V/C or (Delay)	LOS	Change in V/C (Delay)	Significant Impact
Los Angeles County												
3	Avalon Blvd & El Segundo Blvd	Signalized	0.726	C	0.739	C	0.013	No	0.757	C	0.031	No
4	Avalon Blvd & Rosecrans Ave	Signalized	0.652	B	0.667	B	0.015	No	0.684	B	0.032	No
10	Central Ave & El Segundo Blvd [1]	Signalized	0.899	D	0.933	E	0.034	Yes	0.971	E	0.072	Yes
11	Central Ave & Rosecrans Ave[1]	Signalized	0.822	D	0.844	D	0.022	Yes	0.87	D	0.048	Yes
12	Slater Ave & 120th St	Signalized	0.501	A	0.604	B	0.103	No	0.609	B	0.108	No
17	Compton Ave & Imperial Hwy[2]	Signalized	1.007	F	1.12	F	0.113	Yes	1.127	F	0.12	Yes
18	Compton Ave & 118th St	Signalized	0.438	A	0.561	A	0.123	No	0.579	A	0.141	No
19	Compton Ave & 120th St	Signalized	0.574	A	0.713	C	0.139	Yes	0.926	E	0.352	Yes
20	Compton Ave & 124th St	Signalized	0.378	A	0.428	A	0.05	No	0.432	A	0.054	No
26	Wilmington Ave & Imperial Hwy[2]	Signalized	0.657	B	0.82	D	0.163	Yes	0.832	D	0.175	Yes
27	Wilmington Ave & I-105 e/b Ramps	Signalized	0.848	D	1.196	F	0.348	Yes	1.128	F	0.28	Yes
28	Wilmington Ave & 118th St	Signalized	0.641	B	1.161	F	0.52	Yes	1.208	F	0.567	Yes
29	Wilmington Ave & 120th St (West)	Signalized	0.84	D	1.024	F	0.184	Yes	0.916	E	0.076	Yes
30	Wilmington Ave & 120th St (East)	Signalized	0.424	A	0.681	B	0.257	No	0.684	B	0.26	No
31	Wilmington Ave & 124th St	Signalized	0.557	A	0.697	B	0.14	No	0.705	C	0.148	No
32	Wilmington Ave & El Segundo Blvd[1]	Signalized	0.716	C	0.834	D	0.118	Yes	0.847	D	0.131	Yes
34	Willowbrook Ave W & 119th Street	Signalized	0.447	A	0.47	A	0.023	No	0.478	A	0.031	No
35	Willowbrook Ave E & 119th Street	Signalized	0.375	A	0.388	A	0.013	No	0.388	A	0.013	No
36	Imperial Hwy & I-105 w/b Ramps[2]	Signalized	0.775	C	0.906	E	0.131	Yes	0.91	E	0.135	Yes
37	Willowbrook Ave W & El Segundo Blvd	Signalized	0.416	A	0.448	A	0.032	No	0.454	A	0.038	No
38	Willowbrook Ave E & El Segundo Blvd	Signalized	0.447	A	0.473	A	0.026	No	0.479	A	0.032	No

No.	Intersection	Intersection Type	Existing Conditions V/C or (Delay)	Existing Conditions LOS	Existing + Project Conditions V/C or (Delay)	Existing + Project Conditions LOS	Change in V/C (Delay)	Significant Impact	Existing + Project + Cumulative Conditions V/C or (Delay)	Existing + Project + Cumulative Conditions LOS	Change in V/C (Delay)	Significant Impact
39	Mona Blvd & Imperial Hwy[3]	Signalized	0.73	C	0.766	C	0.036	No	0.772	C	0.042	Yes
40	Mona Blvd & 119th St[4]	Unsignalized[5]	(13.5)	B	(15.4)	C	(1.9)	No	(15.4)	C	(1.9)	No
41	Mona Blvd & El Segundo Blvd	Signalized	0.512	A	0.544	A	0.032	No	0.55	A	0.038	No
43	Alameda St & 103rd St[4]	Signalized	0.79	C	0.812	D	0.022	Yes	0.821	D	0.031	No
45	Alameda St & Imperial Hwy[4]	Signalized	0.772	C	0.829	D	0.057	Yes	0.837	D	0.065	Yes
46	Alameda St & El Segundo Blvd[1]	Signalized	0.765	C	0.815	D	0.05	Yes	0.827	D	0.062	Yes
52	El Segundo & San Pedro St	Signalized	0.589	A	0.598	A	0.009	No	0.611	B	0.022	No
City of Compton												
13	Slater Ave & El Segundo Blvd	Signalized	0.687	B	0.71	C	0.023	No	0.717	C	0.03	No
21	Compton Ave & El Segundo Blvd	Signalized	0.804	C	0.925	E	0.121	Yes	0.94	E	0.136	Yes
33	Wilmington Ave & Rosecrans Ave	Signalized	0.854	D	0.927	E	0.073	Yes	0.935	E	0.081	Yes
42	Willowbrook Ave & Rosecrans Ave	Signalized	0.693	B	0.721	C	0.028	No	0.727	C	0.034	No
55	El Segundo & Santa Fe[4]	Signalized	0.592	A	0.602	B	0.010	No	0.607	B	0.015	No
56	Alameda St & Rosecrans Ave	Signalized	0.606	B	0.634	B	0.028	No	0.634	B	0.028	No
57	Central Ave & W Compton Blvd	Signalized	0.758	C	0.767	C	0.009	No	0.774	C	0.016	No
58	Wilmington Ave & W Compton Blvd	Signalized	0.702	B	0.737	C	0.035	No	0.738	C	0.036	No
59	Willowbrook Ave & W Compton Blvd	Signalized	0.532	A	0.536	A	0.004	No	0.537	A	0.005	No
60	Central Ave & Alondra Blvd	Signalized	0.754	C	0.762	C	0.008	No	0.769	C	0.015	No
61	Wilmington Blvd & Alondra Blvd	Signalized	0.825	D	0.61	D	0.036	Yes	0.862	D	0.037	Yes
62	Wilmington Ave & Greenleaf Blvd	Signalized	0.797	C	0.829	D	0.032	Yes	0.831	D	0.035	Yes
63	Wilmington Ave & Walnut St	Signalized	0.595	A	0.627	B	0.032	No	0.628	B	0.033	No
64	Central Ave & Greenleaf Blvd	Signalized	0.534	A	0.541	A	0.007	No	0.548	A	0.014	No
65	Willowbrook Ave & Alondra Blvd	Signalized	0.532	A	0.535	A	0.003	No	0.535	A	0.003	No
66	Alameda St & Greenleaf Blvd	Signalized	0.631	B	0.641	B	0.010	No	0.641	B	0.010	No

No.	Intersection	Intersection Type	Existing Conditions V/C or (Delay)	Existing Conditions LOS	Existing + Project Conditions V/C or (Delay)	Existing + Project Conditions LOS	Change in V/C (Delay)	Significant Impact	Existing + Project + Cumulative Conditions V/C or (Delay)	Existing + Project + Cumulative Conditions LOS	Change in V/C (Delay)	Significant Impact
City of Lynwood												
44	Alameda St & Abbott Rd	Signalized	0.66	B	0.673	B	0.013	No	0.679	B	0.019	No
53	Alameda St & Abbott Rd	Signalized	0.732	C	0.756	C	0.024	No	0.764	C	0.032	No
54	Imperial Hwy & State St	Signalized	0.738	C	0.764	C	0.026	No	0.773	C	0.035	No

[1] Shares Jurisdiction with City of Compton
[2] Shares Jurisdiction with City of Los Angeles
[3] Shares Jurisdiction with City of Los Angeles and City of Lynwood
[4] Shares Jurisdiction with City of Lynwood
[5] Unsignalized intersection shows delay/LOS for controlled approach

SOURCE: The Mobility Group, 2017.

TABLE 3.12-15
EXISTING PLUS PROJECT PLUS CUMULATIVE CONDITIONS
CITY OF LOS ANGELES AND COMBINED LOS ANGELES COUNTY/CITY OF LOS ANGELES INTERSECTION LEVELS OF SERVICE (AM PEAK HOUR)

			Existing Conditions		Existing + Ambient + Cumulative Conditions		Existing + Project + Ambient + Cumulative Conditions			
No.	**Intersection**	**Intersection Type**	**V/C or Delay**	**LOS**	**V/C or Delay**	**LOS**	**V/C or Delay**	**LOS**	**Change in V/C (Delay)**	**Significant Impact**
	City of Los Angeles									
1	Avalon Blvd & Imperial Hwy	Signalized	0.747	C	0.813	D	0.856	D	0.043	Yes
2	Avalon Blvd & 120th St	Signalized	0.592	A	0.641	B	0.677	B	0.036	No
5	Central Ave & 103rd St	Signalized	0.637	B	0.687	B	0.708	C	0.021	No
6	Central Ave & Imperial Hwy	Signalized	0.737	C	0.796	C	0.843	D	0.047	Yes
7	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.881	D	0.911	E	0.030	Yes
8	Central Ave & I-105 e/b Ramps	Signalized	0.668	B	0.724	C	0.755	C	0.031	No
9	Central Ave & 120th St	Signalized	0.753	C	0.825	D	0.959	E	0.134	Yes
14	Compton Ave & 103rd St	Signalized	0.604	B	0.643	B	0.662	B	0.019	No
15	Compton Ave & 108th St	Signalized	0.663	B	0.707	C	0.732	C	0.025	No
16	Compton Ave & 112th St	Unsignalized[1]	(31.0)	D	(41.4)	E	(61.6)	F	(20.2)	No
22	Wilmington Ave & 103rd St	Signalized	0.660	B	0.714	C	0.723	C	0.009	No
24	Wilmington Ave & Santa Ana Blvd N	Signalized	0.473	A	0.503	A	0.517	A	0.014	No
25	Wilmington Ave & 108th St	Signalized	0.593	A	0.633	B	0.661	B	0.028	No
47	Wilmington Ave & 112th St	Unsignalized[1]	(44.5)	E	(78.0)	F	Overflow	F	Overflow	Yes
48	Avalon Blvd & 108th St	Signalized	0.564	A	0.604	B	0.617	B	0.013	No
49	Imperial Hwy & Main St	Signalized	0.590	A	0.632	B	0.643	B	0.011	No
50	Imperial Hwy & San Pedro St	Signalized	0.661	B	0.708	C	0.720	C	0.012	No
51	San Pedro St & 120th St	Signalized	0.528	A	0.561	A	0.575	A	0.014	No

No.	Intersection	Intersection Type	Existing Conditions		Existing + Ambient + Cumulative Conditions		Existing + Project + Ambient + Cumulative Conditions		Change in V/C (Delay)	Significant Impact
			V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS		
	City of Los Angeles & Los Angeles County[2]									
17	Compton Ave & Imperial Hwy	Signalized	0.898	D	0.969	E	1.089	F	0.120	Yes
26	Wilmington Ave & Imperial Hwy	Signalized	0.501	A	0.539	A	0.708	C	0.169	Yes
36	Imperial Hwy & I-105 w/b Ramps	Signalized	0.690	B	0.739	C	0.879	D	0.140	Yes
39	Mona Blvd & Imperial Hwy	Signalized	0.601	B	0.644	B	0.682	B	0.038	No

[1] Unsignalized intersection show delay/LOS for controlled approach
[2] Analyzed per City of Los Angeles methodology.

SOURCE: The Mobility Group, 2017.

TABLE 3.12-16
EXISTING PLUS PROJECT PLUS CUMULATIVE CONDITIONS
LOS ANGELES COUNTY, CITY OF COMPTON AND CITY OF LYNWOOD INTERSECTION LEVELS OF SERVICE (PM PEAK HOUR)

			Existing Conditions		Existing + Project Conditions				Existing + Project + Cumulative Conditions			
No.	Intersection	Intersection Type	V/C or (Delay)	LOS	V/C or (Delay)	LOS	Change in V/C (Delay)	Significant Impact	V/C or (Delay)	LOS	Change in V/C (Delay)	Significant Impact
Los Angeles County												
3	Avalon Blvd & El Segundo Blvd	Signalized	0.844	D	0.877	D	0.033	Yes	0.957	E	0.113	Yes
4	Avalon Blvd & Rosecrans Ave	Signalized	0.804	C	0.815	D	0.011	No	0.842	D	0.038	No
10	Central Ave & El Segundo Blvd[1]	Signalized	0.925	E	0.983	E	0.058	Yes	1.014	F	0.089	Yes
11	Central Ave & Rosecrans Ave[1]	Signalized	0.761	C	0.782	C	0.021	No	0.816	D	0.055	Yes
12	Slater Ave & 120th St	Signalized	0.367	A	0.48	A	0.113	No	0.494	A	0.127	No
17	Compton Ave & Imperial Hwy[2]	Signalized	0.781	C	0.954	E	0.173	Yes	0.967	E	0.186	Yes
18	Compton Ave & 118th St	Signalized	0.367	A	0.522	A	0.155	No	0.562	A	0.195	No
19	Compton Ave & 120th St	Signalized	0.448	A	0.634	B	0.186	No	0.843	D	0.395	Yes
20	Compton Ave & 124th St	Signalized	0.287	A	0.319	A	0.032	No	0.324	A	0.037	No
26	Wilmington Ave & Imperial Hwy[2]	Signalized	0.654	B	0.82	D	0.166	Yes	0.84	D	0.186	Yes
27	Wilmington Ave & I-105 e/b Ramps	Signalized	0.68	B	0.988	E	0.308	Yes	1.01	F	0.33	Yes
28	Wilmington Ave & 118th St	Signalized	0.527	A	1.019	F	0.492	Yes	1.119	F	0.592	Yes
29	Wilmington Ave & 120th St (West)	Signalized	0.766	C	1.022	F	0.256	Yes	0.956	E	0.19	Yes
30	Wilmington Ave & 120th St (East)	Signalized	0.426	A	0.756	C	0.33	Yes	0.767	C	0.341	Yes
31	Wilmington Ave & 124th St	Signalized	0.485	A	0.608	B	0.123	No	0.614	B	0.129	No
32	Wilmington Ave & El Segundo Blvd[1]	Signalized	0.793	C	0.923	E	0.13	Yes	0.948	E	0.155	Yes
34	Willowbrook Ave W & 119th Street	Signalized	0.436	A	0.468	A	0.032	No	0.486	A	0.05	No
35	Willowbrook Ave E & 119th Street	Signalized	0.359	A	0.377	A	0.018	No	0.377	A	0.018	No
36	Imperial Hwy & I-105 w/b Ramps[2]	Signalized	0.792	C	0.918	E	0.126	Yes	0.928	E	0.136	Yes
37	Willowbrook Ave W & El Segundo Blvd	Signalized	0.508	A	0.54	A	0.032	No	0.551	A	0.043	No
38	Willowbrook Ave E & El Segundo Blvd	Signalized	0.507	A	0.535	A	0.028	No	0.546	A	0.039	No
39	Mona Blvd & Imperial Hwy[3]	Signalized	0.825	D	0.875	D	0.05	Yes	0.885	D	0.06	Yes
40	Mona Blvd & 119th St[4]	Unsignalized[5]	(17.0)	C	(21.6)	C	(4.6)	No	(21.6)	C	(4.6)	No

No.	Intersection	Intersection Type	Existing Conditions		Existing + Project Conditions				Existing + Project + Cumulative Conditions			
			V/C or (Delay)	LOS	V/C or (Delay)	LOS	Change in V/C (Delay)	Significant Impact	V/C or (Delay)	LOS	Change in V/C (Delay)	Significant Impact
41	Mona Blvd & El Segundo Blvd	Signalized	0.609	B	0.635	B	0.026	No	0.646	B	0.037	No
43	Alameda St & 103rd St[4]	Signalized	0.852	D	0.872	D	0.02	Yes	0.884	D	0.032	Yes
45	Alameda St & Imperial Hwy[4]	Signalized	0.799	C	0.818	D	0.019	No	0.828	D	0.029	No
46	Alameda St & El Segundo Blvd[1]	Signalized	0.898	D	0.912	E	0.014	Yes	0.931	E	0.033	Yes
52	El Segundo & San Pedro St	Signalized	0.601	B	0.612	B	0.011	No	0.646	B	0.045	No
City of Compton												
13	Slater Ave & El Segundo Blvd	Signalized	0.649	B	0.676	B	0.027	No	0.69	B	0.041	No
21	Compton Ave & El Segundo Blvd	Signalized	0.706	C	0.79	C	0.084	Yes	0.812	D	0.106	Yes
33	Wilmington Ave & Rosecrans Ave	Signalized	0.847	D	0.941	E	0.094	Yes	0.962	E	0.115	Yes
42	Willowbrook Ave & Rosecrans Ave	Signalized	0.719	C	0.748	C	0.029	No	0.76	C	0.041	Yes
55	El Segundo & Santa Fe[4]	Signalized	0.700	B	0.717	C	0.017	No	0.735	C	0.035	No
56	Alameda St & Rosecrans Ave	Signalized	0.604	B	0.638	B	0.034	No	0.641	B	0.037	No
57	Central Ave & W Compton Blvd	Signalized	0.802	C	0.813	D	0.011	No	0.836	D	0.034	Yes
58	Wilmington Ave & W Compton Blvd	Signalized	0.844	D	0.893	D	0.049	Yes	0.897	D	0.053	Yes
59	Willowbrook Ave & W Compton Blvd	Signalized	0.453	A	0.456	A	0.003	No	0.457	A	0.004	No
60	Central Ave & Alondra Blvd	Signalized	0.888	D	0.898	D	0.010	No	0.918	E	0.030	Yes
61	Wilmington Blvd & Alondra Blvd	Signalized	0.877	D	0.924	E	0.047	Yes	0.928	E	0.051	Yes
62	Wilmington Ave & Greenleaf Blvd	Signalized	0.911	E	0.952	E	0.041	Yes	0.956	E	0.045	Yes
63	Wilmington Ave & Walnut St	Signalized	0.785	C	0.825	D	0.040	Yes	0.829	D	0.044	Yes
64	Central Ave & Greenleaf Blvd	Signalized	0.671	B	0.680	B	0.009	No	0.701	B	0.030	No
65	Willowbrook Ave & Alondra Blvd	Signalized	0.526	A	0.530	A	0.004	No	0.530	A	0.004	No
66	Alameda St & Greenleaf Blvd	Signalized	0.732	C	0.748	C	0.016	No	0.751	C	0.019	No

No.	Intersection	Intersection Type	Existing Conditions V/C or (Delay)	Existing Conditions LOS	Existing + Project Conditions V/C or (Delay)	Existing + Project Conditions LOS	Change in V/C (Delay)	Significant Impact	Existing + Project + Cumulative Conditions V/C or (Delay)	Existing + Project + Cumulative Conditions LOS	Change in V/C (Delay)	Significant Impact
City of Lynwood												
44	Alameda St & Abbott Rd	Signalized	0.624	B	0.651	B	0.027	No	0.657	B	0.033	No
53	Alameda St & Abbott Rd	Signalized	0.755	C	0.781	C	0.026	No	0.794	C	0.039	No
54	Imperial Hwy & State St	Signalized	0.785	C	0.809	D	0.024	Yes	0.823	D	0.038	Yes

[1] Shares Jurisdiction with City of Compton
[2] Shares Jurisdiction with City of Los Angeles
[3] Shares Jurisdiction with City of Los Angeles and City of Lynwood
[4] Shares Jurisdiction with City of Lynwood
[5] Unsignalized intersection shows delay/LOS for controlled approach

SOURCE: The Mobility Group, 2017.

TABLE 3.12-17
EXISTING PLUS PROJECT PLUS CUMULATIVE CONDITIONS
CITY OF LOS ANGELES AND COMBINED LOS ANGELES COUNTY/CITY OF LOS ANGELES INTERSECTION LEVELS OF SERVICE (PM PEAK HOUR)

			Existing Conditions		Existing + Ambient + Cumulative Conditions		Existing + Project + Ambient + Cumulative Conditions			
Intersection		**Intersection Type**	**V/C or Delay**	**LOS**	**V/C or Delay**	**LOS**	**V/C or Delay**	**LOS**	**Change in V/C (Delay)**	**Significant Impact**
City of Los Angeles										
1	Avalon Blvd & Imperial Hwy	Signalized	0.713	C	0.787	C	0.827	D	0.040	Yes
2	Avalon Blvd & 120th St	Signalized	0.672	B	0.744	C	0.787	C	0.043	Yes
5	Central Ave & 103rd St	Signalized	0.664	B	0.725	C	0.743	C	0.018	No
6	Central Ave & Imperial Hwy	Signalized	0.757	C	0.831	D	0.893	D	0.062	Yes
7	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.894	D	0.967	E	0.073	Yes
8	Central Ave & I-105 e/b Ramps	Signalized	0.635	B	0.716	C	0.735	C	0.019	No
9	Central Ave & 120th St	Signalized	0.690	B	0.825	D	0.935	E	0.110	Yes
14	Compton Ave & 103rd St	Signalized	0.587	A	0.625	B	0.643	B	0.018	No
15	Compton Ave & 108th St	Signalized	0.527	A	0.559	A	0.605	B	0.046	No
16	Compton Ave & 112th St	Unsignalized[1]	(38.5)	E	(51.5)	F	(84.1)	F	(32.6)	No
22	Wilmington Ave & 103rd St	Signalized	0.463	A	0.513	A	0.527	A	0.014	No
23	Wilmington Ave & Santa Ana Blvd N	Signalized	0.441	A	0.477	A	0.504	A	0.027	No
24	Wilmington Ave & 108th St	Signalized	0.496	A	0.538	A	0.567	A	0.029	No
25	Wilmington Ave & 112th St	Unsignalized[1]	(42.1)	E	(67.2)	F	Overflow	F	Overflow	Yes
47	Avalon Blvd & 103rd St	Signalized	0.475	A	0.511	A	0.528	A	0.017	No
48	Avalon Blvd & 108th St	Signalized	0.608	B	0.657	B	0.677	B	0.020	No
49	Imperial Hwy & Main St	Signalized	0.632	B	0.691	B	0.710	C	0.019	No
47	Avalon Blvd & 103rd St	Signalized	0.475	A	0.511	A	0.528	A	0.017	No
48	Avalon Blvd & 108th St	Signalized	0.608	B	0.657	B	0.677	B	0.020	No
50	Imperial Hwy & San Pedro St	Signalized	0.697	B	0.752	C	0.776	C	0.024	No
51	San Pedro St & 120th St	Signalized	0.597	A	0.647	B	0.672	B	0.025	No
City of Los Angeles & Los Angeles County[2]										
17.	Compton Ave & Imperial Hwy	Signalized	0.663	B	0.714	C	0.893	D	0.179	Yes
26.	Wilmington Ave & Imperial Hwy	Signalized	0.497	A	0.543	A	0.718	C	0.175	Yes
36.	Imperial Hwy & I-105 w/b Ramps	Signalized	0.710	C	0.767	C	0.904	E	0.137	Yes
39.	Mona Blvd & Imperial Hwy	Signalized	0.704	C	0.760	C	0.814	D	0.054	Yes

[1] Unsignalized intersection show delay/LOS for controlled approach
[2] Analyzed per City of Los Angeles methodology.
SOURCE: The Mobility Group, 2017.

Table 3.12-14 and Table 3.12-15 show that for the AM peak hour, with the addition of Project and Cumulative traffic the level of service would remain LOS D or better at 53 of the 66 total intersections analyzed. Based on the impact thresholds by jurisdiction described in Section 3.12.3, there would significant impacts at 22 of 66 intersections during the AM peak hour. Table 3.12-16 and Table 3.12-17 show that for the PM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at a 49 of the 66 total intersections analyzed. There would significant impacts at 31 of 66 intersections during the PM peak hour. Below is the list of intersections where significant impacts are expected to occur at one or both analyzed peak hours:

County of Los Angeles

3. Avalon Blvd & El Segundo Blvd – LOS E (PM peak hour)
10. Central Ave & El Segundo Blvd – LOS E/F (AM peak hour/PM peak hour)
11. Central Ave & Rosecrans Ave – LOS D (AM and PM peak hours)
17. Compton Ave & Imperial Hwy – LOS F/E (AM peak hour/PM peak hour)
19. Compton Ave & 120th St – LOS E/D (AM peak hour/PM peak hour)
26. Wilmington Ave & Imperial Hwy – LOS D (AM and PM peak hours)
27. Wilmington Ave & I-105 e/b Ramps – LOS F (AM and PM peak hours)
28. Wilmington Ave & 118th St – LOS F (AM and PM peak hours)
29. Wilmington Ave & 120th St (West) – LOS E (AM and PM peak hours)
30. Wilmington Ave & 120th St (East) – LOS C (PM peak hour)
32. Wilmington Ave & El Segundo Blvd – LOS D/E (AM peak hour/PM peak hour)
36. Imperial Hwy & I-105 w/b Ramps – LOS E (AM and PM peak hours)
39. Mona Blvd & Imperial Hwy – LOS C/D (AM peak hour/PM peak hour)
43. Alameda St & 103rd St – LOS D (PM peak hours)
45. Alameda St & Imperial Hwy – LOS D (AM peak hours)
46. Alameda St & El Segundo Blvd – LOS D/E (AM peak hour/PM peak hour)

City of Compton

21. Compton Ave & El Segundo Blvd – LOS E/C (AM peak hour/PM peak hour)
33. Wilmington Ave & Rosecrans Ave – LOS E (AM and PM peak hours)
42. Willowbrook Ave & Rosecrans Ave – LOS C (PM peak hour)
57. Central Ave & W Compton Blvd LOS D (PM peak hour)
60. Central Ave & Alondra Blvd – LOS E (PM peak hour)
61. Wilmington Ave & Alondra Blvd – LOS D/E (AM and PM peak hours)

62. Wilmington Ave & Greenleaf Blvd - LOS D/E (AM and PM peak hours)

63. Wilmington Ave & Walnut St – LOS D (PM peak hour)

City of Lynwood

54. Imperial Hwy & State St – LOS D (PM peak hour)

City of Los Angeles

1. Avalon Blvd & Imperial Hwy – LOS D (AM and PM peak hours)

2. Avalon Blvd & 120th Street – LOS C (PM peak hour)

6. Central Ave & Imperial Hwy – LOS D (AM and PM peak hours)

7. Central Ave & I-105 w/b Ramps – LOS E (AM and PM peak hours)

9. Central Ave & 120th St – LOS E (AM and PM peak hours)

25. Wilmington Ave & 112th St – LOS F (AM and PM peak hours)

City of Los Angeles/County of Los Angeles Shared Jurisdiction

There are 4 of the 27 intersections located in the County of Los Angeles and analyzed above with the County's impact thresholds have common jurisdiction with the City of Los Angeles. These intersections were also analyzed using the City of Los Angeles methodology and significant impact criteria. Below is the list of intersections where significant impacts are expected to occur at one or both analyzed peak hours:

17. Compton Ave & Imperial Hwy – LOS F/D (AM peak hour/PM peak hour)

26. Wilmington Ave & Imperial Hwy – LOS C (AM and PM peak hours)

36. Imperial Hwy & I-105 w/b Ramps – LOS D/E (AM peak hour/PM peak hour)

39. Mona Blvd & Imperial Hwy – LOS D (PM peak hour)

These results are the same as the analysis under the County methodology.

Future Plus Project Freeway Segment Level of Service

The freeway segment analysis is summarized in **Table 3.12-18** and **Table 3.12-19**, which show the levels of service and demand/capacity (D/C) ratios for Existing Conditions, and Future Without Project (2035), and Future Plus Project (2035) conditions for the AM peak hour and the PM peak hour respectively. These tables also show the number of trips that would be added by the Project to each freeway segment.

TABLE 3.12-18
FUTURE PLUS PROJECT CONDITIONS – FREEWAY SEGMENT LEVEL OF SERVICE (AM PEAK HOUR)

						Existing Conditions (Year 2016)			Future Without Project Conditions (Year 2035)			Future With Project Conditions (Year 2035)					
No.	Location	Dir	Inbound/ Outbound	No of Lanes	Capacity	Hourly Volume[1]	D/C	LOS	Hourly Volume	D/C	LOS	Project Trips	Hourly Volume	D/C	LOS	Increase in D/C	% Increase Volume due to Project
1	I-110 between Century Blvd and 109th St	NB	Outbound	4G+2E	8,000	6,697	0.837	D	7,321	0.915	D	73	7,394	0.924	D	0.009	1.1%
		SB	Inbound	5G+2E	10,000	8,811	0.881	D	9,638	0.964	E	131	9,769	0.977	E	0.013	1.5%
2	I-110 between 135th St and Rosecrans Ave	NB	Inbound	4G+1E	8,000	7,987	0.998	E	8733	1.092	F(0)	62	8,795	1.099	F(0)	0.006	0.8%
		SB	Outbound	4G+1E	8,000	8,566	1.071	F(0)	9367	1.171	F(0)	40	9,407	1.176	F(0)	0.004	0.5%
3	I-105 between Vermont Ave and Hoover St	EB	Inbound	3G+1HOV	6,000	3,819	0.637	C	4197	0.699	C	170	4,367	0.728	C	0.029	4.5%
		WB	Outbound	3G+1HOV	6,000	6,225	1.038	F(0)	6809	1.135	F(0)	94	6,903	1.15	F(0)	0.014	1.5%
4	I-105 between Avalon Blvd and Central Ave	EB	Inbound	3G+1HOV+1A	7,000	7,029	1.004	F(0)	7702	1.1	F(0)	342	8,044	1.149	F(0)	0.048	4.9%
		WB	Outbound	4G+1HOV	8,000	6,846	0.856	D	7479	0.935	E	196	7,675	0.959	E	0.023	2.9%
5	I-105 between Compton Ave and Wilmington Ave	EB	Inbound	3G+1HOV	6,000	5,190	0.865	D	5696	0.949	E	209	5,905	0.984	E	0.035	4.0%
		WB	Outbound	3G+1HOV	6,000	4,946	0.824	D	5425	0.904	D	141	5,566	0.928	D	0.024	2.9%
6	I-105 between State St and Long Beach Blvd	EB	Outbound	3G+1HOV	6,000	4,852	0.809	D	5309	0.885	D	179	5,488	0.915	D	0.03	3.7%
		WB	Inbound	3G+1HOV	6,000	4,899	0.817	D	5372	0.895	D	314	5,686	0.948	**E**[2]	0.052	6.4%
7	SR-91 between Central Ave and Wilmington Ave	EB	Inbound	4G+1HOV	8,000	5,747	0.718	C	6274	0.784	D	22	6,296	0.787	D	0.003	0.4%
		WB	Outbound	4G+1HOV	8,000	7,651	0.956	E	8363	1.045	F(0)	12	8,375	1.047	F(0)	0.002	0.2%
8	SR-91 between Santa Fe Ave and Long Beach Blvd	EB	Outbound	5G+1HOV	10,000	6,446	0.645	C	7037	0.704	C	23	7,060	0.706	C	0.002	0.4%
		WB	Inbound	5G+1HOV	10,000	8,321	0.832	D	9094	0.909	D	47	9,141	0.914	D	0.005	0.6%
9	I-710 between Firestone Blvd and Abbott Rd	NB	Outbound	4G	8,000	6,032	0.754	C	6583	0.823	D	35	6,618	0.827	D	0.004	0.6%
		SB	Inbound	4G	8,000	4,131	0.516	B	4515	0.564	C	45	4,560	0.57	C	0.006	1.1%
10	I-710 between Del Amo Blvd and Long Beach Blvd	NB	Inbound	5G	10,000	5,817	0.582	C	6353	0.635	C	48	6,401	0.64	C	0.005	0.8%
		SB	Outbound	4G	8,000	7,605	0.951	E	8300	1.038	F(0)	23	8,323	1.04	F(0)	0.002	0.3%

1 Traffic volumes for Existing Conditions from Caltrans, 2015. Growth factor of 1% annum applied for 2016 volumes.

2 Bold LOS indicates a significant impact.

SOURCE: The Mobility Group, 2017.

TABLE 3.12-19
FUTURE PLUS PROJECT CONDITIONS – FREEWAY SEGMENT LEVEL OF SERVICE (PM PEAK HOUR)

						Existing Conditions[1] (Year 2016)			Future Without Project Conditions (Year 2035)			Future With Project Conditions (Year 2035)					
No.	Location	Dir	Inbound/ Outbound	No of Lanes	Capacity	Hourly Volume	D/C	LOS	Hourly Volume	D/C	LOS	Project Trips	Hourly Volume	D/C	LOS	Increase in D/C	% Increase Volume due to Project
1	I-110 between Century Blvd and 109th St	NB	Outbound	4G+2E	8,000	7,693	0.962	E	8437.93	1.055	F(0)	150	8,588	1.073	F(0)	0.018	1.9%
		SB	Inbound	5G+2E	10,000	8,144	0.814	D	8924.43	0.892	D	96	9,020	0.902	D	0.01	1.2%
2	I-110 between 135th St and Rosecrans Ave	NB	Inbound	4G+1E	8,000	7,652	0.957	E	8395.75	1.049	F(0)	52	8,448	1.056	F(0)	0.007	0.7%
		SB	Outbound	4G+1E	8,000	7,934	0.992	E	8689.21	1.086	F(0)	77	8,766	1.096	F(0)	0.01	1.0%
3	I-105 between Vermont Ave and Hoover St	EB	Inbound	3G+1HOV	6,000	3,777	0.630	C	4170.48	0.695	C	123	4,293	0.716	C	0.021	3.3%
		WB	Outbound	3G+1HOV	6,000	5,619	0.937	E	6183.43	1.031	F(0)	195	6,378	1.063	F(0)	0.032	3.5%
4	I-105 between Avalon Blvd and Central Ave	EB	Inbound	3G+1HOV+1A	7,000	6,664	0.952	E	7314.00	1.045	F(0)	257	7,571	1.082	F(0)	0.037	3.9%
		WB	Outbound	4G+1HOV	8,000	6,490	0.811	D	7137.45	0.892	D	397	7,534	0.942	**E**[2]	0.049	6.1%
5	I-105 between Compton Ave and Wilmington Ave	EB	Inbound	3G+1HOV	6,000	5,200	0.867	D	5734.20	0.956	E	177	5,911	0.985	E	0.029	3.4%
		WB	Outbound	3G+1HOV	6,000	4,824	0.804	D	5329.15	0.888	D	254	5,583	0.931	**E**[2]	0.043	5.3%
6	I-105 between State St and Long Beach Blvd	EB	Outbound	3G+1HOV	6,000	4,625	0.771	D	5101.06	0.85	D	370	5,471	0.912	D	0.062	8.0%
		WB	Inbound	3G+1HOV	6,000	5,044	0.841	D	5548.39	0.925	D	234	5,782	0.964	**E**[2]	0.038	4.6%
7	SR-91 between Central Ave and Wilmington Ave	EB	Inbound	4G+1HOV	8,000	6,548	0.819	D	7178.27	0.897	D	15	7,193	0.899	D	0.002	0.2%
		WB	Outbound	4G+1HOV	8,000	6,214	0.777	D	6790.50	0.849	D	25	6,816	0.852	D	0.003	0.4%
8	SR-91 between Santa Fe Ave and Long Beach Blvd	EB	Outbound	5G+1HOV	10,000	7,363	0.736	C	8067.58	0.807	D	51	8,119	0.812	D	0.005	0.7%
		WB	Inbound	5G+1HOV	10,000	6,525	0.653	C	7129.92	0.713	C	30	7,160	0.716	C	0.003	0.5%
9	I-710 between Firestone Blvd and Abbott Rd	NB	Outbound	4G	8,000	6,031	0.754	C	6599.04	0.825	D	52	6,651	0.831	D	0.006	0.9%
		SB	Inbound	4G	8,000	4,237	0.530	B	4628.89	0.579	C	41	4,670	0.584	C	0.005	1.0%
10	I-710 between Del Amo Blvd and Long Beach Blvd	NB	Inbound	5G	10,000	6,826	0.683	C	7452.32	0.745	C	32	7,484	0.748	C	0.003	0.5%
		SB	Outbound	4G	8,000	6,416	0.802	D	7014.00	0.877	D	53	7,067	0.883	D	0.006	0.8%

[1] Traffic volumes for Existing Conditions from Caltrans, 2015. Growth factor of 1% annum applied for 2016 volumes.

[2] Bold LOS indicates a significant impact.

SOURCE: The Mobility Group, 2017.

In the AM peak hour, the Project would add between 12 and 342 trips to the freeway segments analyzed depending on location and direction. The highest volume increases (ranging from 141 to 342 trips) would occur at seven~~x~~ locations on I-105 between Avalon Boulevard and Long Beach Boulevard. At nine of the remaining fourteen locations the volume increase would be less than 50 trips. The level of service would not change at any mainline freeway segment due to the Project, except at one location – I-105 westbound between State St & Long Beach Blvd where it would change from LOS D to LOS E. The Project would therefore cause one significant freeway mainline segment impact in the AM peak hour under Future Plus Project Conditions.

In the PM peak hour, the Project would add between 15 and 397 trips to the freeway segments analyzed depending on location and direction. The highest volume increases (ranging from 177 to 397 trips) would occur at seven locations on I-105 between Avalon Boulevard and Long Beach Boulevard. At eleven of the remaining fourteen locations the volume increase would be less than 100 trips. The level of service would not change at any mainline freeway segment due to the Project, except at three locations:

- I-105 westbound between Avalon Ave & Central Ave
- I-105 westbound between Compton Ave & Wilmington Ave
- I-105 westbound between State St & Long Beach Blvd

At all three locations, the level of service would change from LOS D to LOS E with the Project. The Project would, therefore, cause three significant freeway mainline impacts in the PM peak hour under Future Plus Project Conditions.

Future Plus Project Off-Ramp Analysis

The freeway off-ramp analysis for the Future Plus Project Conditions is summarized in **Table 3.12-20** for the AM peak hour and in **Table 3.12-21** for the PM peak hour. These tables show the ramp storage lengths, the ramp volumes, and queue lengths for the Existing Condition, the Future Without Project Condition, and the Future With Project Condition.

TABLE 3.12-20
FUTURE PLUS PROJECT CONDITIONS – FREEWAY OFF-RAMP ANALYSIS (AM PEAK HOUR)

					Existing Conditions[1] (Year 2016)				Future Without Project Conditions (Year 2016)				Future With Project Conditions (Year 2016)				
No.	Location	Movement	No. of Lanes	Storage Length (feet)[2]	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length
1	I-110 NB Off-ramp at El Segundo Blvd	NB LT/RT	2	1,646	879	C	392	No	970	D	492	No	15	985	D	503	No
2	I-110 SB Off-ramp at El Segundo Blvd	SB LT	1	558	511	D	546	No	574	E	648	Yes	6	580	E	656	Yes
		SB LT/RT	1	355	0	D	492	Yes	0	D	571	Yes	0	0	D	572	Yes
		SB RT	1	355	839	C	457	Yes	916	D	532	Yes	0	916	D	532	Yes
		RAMP TOTAL	*3*	*1,269*	*1,350*	*D*	*1,495*	*Yes*	*1,490*	*D*	*1,751*	*Yes*	*6*	*1,496*	*D*	*1,760*	*Yes*
3	I-105 EB Off-ramp at Central Ave	EB LT	1	580	664	F	842	Yes	727	F	951	Yes	56	783	F	1,052	Yes
		EB LT/TH/RT	1	580	13	F	867	Yes	14	F	960	Yes	0	14	F	1,063	Yes
		EB RT	1	803	538	C	330	No	599	E	513	No	77	676	F	647	No
		RAMP TOTAL	*3*	*1,963*	*1,215*	*F*	*2,039*	*Yes*	*1,340*	*F*	*2,424*	*Yes*	*133*	*1,473*	*F*	*2,762*	*Yes*
4	I-105 WB Off-ramp at Central Ave	WB LT	1	979	116	D	104	No	151	D	126	No	0	151	D	126	No
		WB TH/LT	1	847	4	D	101	No	4	D	126	No	0	4	D	127	No
		WB RT	1	847	372	F	536	No	406	F	651	No	0	406	F	654	No
		RAMP TOTAL	*3*	*2,672*	*492*	*E*	*741*	*No*	*561*	*F*	*903*	*No*	*0*	*561*	*F*	*907*	*No*
5	I-105 EB Off-ramp at Wilmington	EB LT	1	1,092	411	F	600	No	449	D	564	No	4	453	D	572	No
		EB RT	1	1,092	537	D	361	No	604	C	554	No	204	808	E	1,035	No
		RAMP TOTAL	*2*	*2,185*	*948*	*F*	*961*	*No*	*1,053*	*D*	*1,118*	*No*	*208*	*1,261*	*E*	*1,607*	*No*
6	I-105 WB Off-ramp at Imperial Hwy	NB LT	1	599	539	F	491	No	591	F	538	No	294	885	F	803	Yes
		NB TH/LT	4	540	11	F	491	No	12	F	538	No	9	21	F	808	Yes
		NB RT	1	540	137	A	4	No	150	A	15	No	12	162	A	24	No
		RAMP TOTAL	*6*	*1,679*	*687*	*F*	*986*	*No*	*753*	*F*	*1,091*	*No*	*315*	*1,068*	*F*	*1,635*	*No*
7	I-105 EB Off-ramp at Long Beach Blvd	EB LT	1	1,018	614	F	438	No	670	F	448	No	0	670	F	488	No
		EB TH/LT	1	620	3	F	445	No	3	F	490	No	0	3	F	490	No
		EB RT	1	620	346	B	172	No	378	C	239	No	0	378	C	239	No
		RAMP TOTAL	*3*	*2,258*	*963*	*E*	*1,055*	*No*	*1,051*	*F*	*1,177*	*No*	*0*	*1,051*	*F*	*1,217*	*No*

					Existing Conditions[1] (Year 2016)				Future Without Project Conditions (Year 2016)				Future With Project Conditions (Year 2016)				
No.	**Location**	**Movement**	**No. of Lanes**	**Storage Length (feet)[2]**	**Ramp Volume**	**Ramp LOS**	**95% Queue Length (feet)**	**Exceed Storage Length**	**Ramp Volume**	**Ramp LOS**	**95% Queue Length (feet)**	**Exceed Storage Length**	**Project Added Volume**	**Ramp Volume**	**Ramp LOS**	**95% Queue Length (feet)**	**Exceed Storage Length**
8	I-105 WB Off-ramp at Long Beach Blvd	WB LT	1	1,148	165	D	175	No	180	D	190	No	0	180	D	190	No
		WB TH/RT	1	700	27	F	500	No	30	F	581	No	0	30	F	586	No
		WB RT	1	700	792	F	482	No	864	F	563	No	5	869	F	566	No
		RAMP TOTAL	*3*	*2,548*	*984*	*F*	*1,157*	*No*	*1,074*	*F*	*1,334*	*No*	*0*	*1,074*	*F*	*1,342*	*No*
9	SR-91 EB Off-ramp at Wilmington Ave	EB LT	1	1,213	771	F	805	No	841	F	895	No	22	863	F	907	No
		EB LT/TH/RT	2	1,213	670	F	669	No	732	F	753	No	0	732	F	770	No
		RAMP TOTAL	*3*	*2,426*	*1,441*	*F*	*1,474*	*No*	*1,573*	*F*	*1,648*	*No*	*0*	*1,573*	*F*	*1,677*	*No*
10	SR-91 WB Off-ramp at Wilmington Ave	WB LT	1	777	175	D	218	No	191	D	254	No	0	191	D	254	No
		WB LT/TH/RT	2	777	666	F	497	No	726	F	573	No	47	773	F	630	No
		RAMP TOTAL	*3*	*1,554*	*841*	*F*	*715*	*No*	*917*	*F*	*827*	*No*	*0*	*917*	*F*	*884*	*No*

[1] Traffic counts conducted in 2015 and factored to 2016 using a rate of 1% per annum.

[2] Ramp storage lengths are 85% of the actual storage lengths per Caltrans "Safety" factor.

SOURCE: The Mobility Group, 2017.

TABLE 3.12-21
FUTURE PLUS PROJECT CONDITIONS – FREEWAY OFF-RAMP ANALYSIS (PM PEAK HOUR)

					Existing Conditions[1] (Year 2016)				Future Without Project Conditions (Year 2016)				Future With Project Conditions (Year 2016)				
No.	Location	Movement	No. of Lanes	Storage Length (feet)[2]	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed Storage Length
1	I-110 NB Off-ramp at El Segundo Blvd	NB LT/RT	2	1,646	583	C	202	No	667	C	246	No	11	678	C	263	No
2	I-110 SB Off-ramp at El Segundo Blvd	SB LT	1	558	437	E	437	No	520	F	508	No	4	524	F	512	No
		SB LT/RT	1	355	0	D	320	No	0	D	405	Yes	0	0	D	408	Yes
		SB RT	1	355	424	C	206	No	463	D	343	No	0	463	D	362	No
		RAMP TOTAL	*3*	*1,269*	*861*	*D*	*963*	*No*	*983*	*E*	*1,256*	*No*	*4*	*987*	*F*	*1,282*	*Yes*
3	I-105 EB Off-ramp at Central Ave	EB LT	1	580	477	F	653	Yes	524	F	757	Yes	36	560	F	826	Yes
		EB LT/TH/RT	1	580	240	F	703	Yes	262	F	820	Yes	0	262	F	893	Yes
		EB RT	1	803	378	C	303	No	441	D	505	No	44	485	E	571	No
		RAMP TOTAL	*3*	*1,963*	*1,095*	*E*	*1,659*	*No*	*1,227*	*F*	*2,082*	*Yes*	*80*	*1,307*	*F*	*2,290*	*Yes*
4	I-105 WB Off-ramp at Central Ave	WB LT	1	979	265	D	192	No	330	D	234	No	0	330	D	234	No
		WB TH/LT	1	847	0	D	192	No	0	D	235	No	0	0	D	235	No
		WB RT	1	847	536	F	824	No	585	F	989	Yes	0	585	F	1,013	Yes
		RAMP TOTAL	*3*	*2,672*	*801*	*F*	*1,208*	*No*	*915*	*F*	*1,458*	*No*	*0*	*915*	*F*	*1,482*	*No*
5	I-105 EB Off-ramp at Wilmington	EB LT	1	1,092	331	F	446	No	361	D	378	No	3	364	D	383	No
		EB RT	1	1,092	181	A	64	No	207	A	101	No	173	380	B	270	No
		RAMP TOTAL	*2*	*2,185*	*512*	*F*	*510*	*No*	*568*	*C*	*479*	*No*	*176*	*744*	*C*	*653*	*No*
6	I-105 WB Off-ramp at Imperial Hwy	NB LT	1	599	549	F	500	No	603	F	549	No	217	820	F	744	Yes
		NB TH/LT	4	540	8	F	495	No	9	F	543	Yes	7	16	F	744	Yes
		NB RT	1	540	274	C	192	No	299	D	235	No	10	309	D	253	No
		RAMP TOTAL	*6*	*1,679*	*831*	*F*	*1,187*	*No*	*911*	*F*	*1,327*	*No*	*234*	*1,145*	*F*	*1,741*	*Yes*
7	I-105 EB Off-ramp at Long Beach Blvd	EB LT	1	1,018	328	E	255	No	358	F	283	No	0	358	F	283	No
		EB TH/LT	1	620	1	E	258	No	1	F	285	No	0	1	F	285	No
		EB RT	1	620	215	B	75	No	235	B	107	No	0	235	B	107	No
		RAMP TOTAL	*3*	*2,258*	*544*	*D*	*588*	*No*	*594*	*E*	*675*	*No*	*0*	*594*	*E*	*675*	*No*

					Existing Conditions[1] (Year 2016)				Future Without Project Conditions (Year 2016)				Future With Project Conditions (Year 2016)				
No.	**Location**	**Movement**	**No. of Lanes**	**Storage Length (feet)[2]**	**Ramp Volume**	**Ramp LOS**	**95% Queue Length (feet)**	**Exceed Storage Length**	**Ramp Volume**	**Ramp LOS**	**95% Queue Length (feet)**	**Exceed Storage Length**	**Project Added Volume**	**Ramp Volume**	**Ramp LOS**	**95% Queue Length (feet)**	**Exceed Storage Length**
8	I-105 WB Off-ramp at Long Beach Blvd	WB LT	1	1,148	285	F	441	No	311	F	483	No	3	311	F	483	No
		WB TH/RT	1	700	9	F	695	No	10	F	797	Yes	0	10	F	798	Yes
		WB RT	1	700	987	F	677	No	1,077	F	780	Yes	0	1,077	F	783	Yes
		RAMP TOTAL	*3*	*2,548*	*1,281*	*F*	*1,813*	*No*	*1,398*	*F*	*2,060*	*No*	*0*	*1,398*	*F*	*2,064*	*No*
9	SR-91 EB Off-ramp at Wilmington Ave	EB LT	1	1,213	433	F	663	No	473	F	742	No	15	488	F	750	No
		EB LT/TH/RT	2	1,213	694	D	412	No	746	E	509	No	0	746	E	545	No
		RAMP TOTAL	*3*	*2,426*	*1,127*	*E*	*1,075*	*No*	*1,219*	*E*	*1,251*	*No*	*15*	*1,234*	*E*	*1,295*	*No*
10	SR-91 WB Off-ramp at Wilmington Ave	WB LT	1	777	197	D	274	No	215	E	313	No	0	215	E	313	No
		WB LT/TH/RT	2	777	1,011	F	892	Yes	1,103	F	986	Yes	30	1,133	F	1,014	Yes
		RAMP TOTAL	*3*	*1,554*	*1,208*	*F*	*1,166*	*No*	*1,318*	*F*	*1,299*	*No*	*30*	*1,348*	*F*	*1,327*	*No*

1 Traffic counts conducted in 2015 and factored to 2016 using a rate of 1% per annum.

2 Ramp storage lengths are 85% of the actual storage lengths per Caltrans "Safety" factor.

SOURCE: The Mobility Group, 2017.

The Project would add between 133 and 315 trips to three ramps in the AM peak hour, and 0 to 47 trips at the other off-ramps analyzed. For the Future plus project conditions, the queues would not exceed the total ramp storage lengths at any of the ramps, except at the same two locations where storage lengths are exceeded under Existing Conditions and Future Without Project Conditions:

2. I-110 SB Off-ramp at El Segundo Blvd
3. I-105 EB Off-ramp at Central Ave.

At these two off-ramps, the Project would not cause storage capacities to be exceeded (as they would already by exceeded under Future Without Project Conditions), but would increase the queue lengths. At a third location, at the I-105 WB off-ramp at Imperial Hwy, the queue for two movements would exceed the storage length for those movements with the Project, but the overall ramp storage length would not be exceeded.

The Project would add between 80 to 234 trips to three off-ramps in the PM peak hour, and 0 to 30 trips at the other off-ramps analyzed. For the Future Plus Project conditions, the queues would not exceed the total ramp storage lengths at any of the ramps, except at three locations:

2. I-110 SB Off-ramp at El Segundo Blvd
3. I-105 EB Off-ramp at Central Ave
6. I-105 WB Off-ramp at Imperial Hwy

For the I-105 SB off-ramp at El Segundo Blvd, the queue in the Future Without Project Conditions would be very close to the storage capacity. The Project would increase the overall queue length by only 2%, and would cause the queue length for the Future Plus Project Condition to be very slightly over the overall storage capacity. This would constitute a significant impact.

For the I-105 EB off-ramp at Central Avenue, the queue length for the Future Plus Project Condition would exceed the overall storage capacity as it would for the Future Without Project Condition. The Project would therefore not cause the overall storage capacity to be exceeded but would increase the queue length.

For the I-105 WB off-ramp at Imperial Highway, the Project would cause the overall queue length for the Future Plus Project Condition to exceed the overall storage capacity. The capacity would be exceeded by about 4%. This would constitute a significant impact.

At the I-105 WB Off-ramp at Central Ave, for the Future Plus Project Condition the queue for one movement would exceed the storage length for that movement, and it would also exceed the storage length in the Future Without Condition, but the Project would not add any trips to that movement and the overall queue length for the ramp would not exceed the overall ramp storage capacity.

At the I-105 WB Off-ramp at Long Beach Blvd., for the Future Plus Project Condition the queue for two westbound movements would exceed the storage length for those movements (as it also

would for the Future Without Condition), but the overall queue length for the ramp would not exceed the overall ramp storage capacity.

Also, at the SR-91 WB Off-ramp at Wilmington Ave., for the Future Plus Project Condition the queue for one movement would exceed the storage length for that movement (as it also would for the Future Without Condition), but the overall queue length for the ramp would not exceed the overall ramp storage capacity.

The Project would therefore be the cause of the overall queue lengths exceeding the overall storage capacity of two ramps, and the Project would cause two significant impacts in the PM peak period for the Future Plus Project Conditions.

Mitigation Measures

Project-Specific

Existing Plus Project Intersection LOS

As noted previously, the Specific Plan focuses on enhancing alternatives to the car and improving access to transit and improving circulation for bicycles and pedestrians in the Specific Plan area. The Specific Plan includes a range of improvements to the bicycle and pedestrian networks in the Specific Plan area, including the installation of road diets to reduce traffic lanes in certain locations. These non-vehicular transportation improvements are consistent with the Los Angeles County General Plan land use policies. These policies include Policy 4.1 - expand transportation options that reduce automobile dependence, Policy 4.10 - support the linkage of regional and community-level transportation systems, including multi-modal networks and Policy 5.1 - the facilitation of transit-oriented land uses and pedestrian-oriented design, particularly in the first-mile connections to transit, to encourage transit ridership. The implementation of increasing the roadway curb-to-curb widths to accommodate additional vehicular traffic is not consistent with the County's non-vehicular policies because increasing road widths within existing rights-of-way would reduce the potential for wider sidewalks for pedestrian and installation of bicycle lanes. Because the increase in roadway curb-to-curb widths is not consistent with the County's policies, they would not be considered feasible. Therefore, if restriping of traffic lanes within the existing curb-to-curb roadway cross section is adequate to improve the operation of the transportation facility, it would be considered feasible and would not conflict with County's policies to encourage multi-modal and non-vehicular transportation facilities.

The feasibility of physical intersection improvements was investigated for all intersection locations where the Project would cause significant traffic impacts. This evaluation, which was conducted in conjunction with County staff, looked at the feasibility of re-striping traffic lanes and/or adding traffic lanes to modify intersection lane configurations, roadway widenings, and potential changes to signal timing and phasing. Roadway widenings were generally not feasible (due to the lack of available right-of-way because of existing buildings or lack of control over adjacent right-of-way, or because of inconsistency with the County General Plan policies); lane re-stripings were considered to be feasible if they would not result in inadequate lane widths (minimum lane widths of 10' and 12' for curb lanes was maintained); and signal timing/phasing changes were considered to be feasible as long as they would improve and not worsen

intersection operations or potentially cause other problems and/or impacts elsewhere. A TDM Program is considered to be a realistic option to reduce vehicle trips, but is not considered to be a quantifiable mitigation measure by the County of Los Angeles.

The MLK Medical Campus Tier 2 Expansion is included in the Specific Plan and the traffic study. The Martin Luther King Jr. Medical Campus EIR identified a number of traffic mitigations. All of these mitigations were evaluated in this current analysis, and included where they continue to be feasible (i.e., consistent with the current County General Plan land use policies). In the Specific Plan area, a number of those mitigations that involved roadway widening are considered to be now infeasible because the existing curb-to-curb roadway cross sections are not adequate to accommodate the recommended improvements. F and so are not included in the following list of mitigation measures for this study.

County of Los Angeles

The proposed project would result in significant impacts at 16 intersections within the County of Los Angeles. Because the existing curb-to-curb roadway widths do not allow for additional improvements at the following four intersections located in the jurisdiction of the County of Los Angeles and additional rights-of-way would be required for additional improvements which would not be consistent with the County General Plan land use policies discussed above, the County determined that there are no feasible mitigation measures at these intersections.

19. Compton Ave & 120th St – LOS E/D (AM peak hour/PM peak hour)
26. Wilmington Ave & Imperial Hwy – LOS D (AM and PM peak hours)
29. Wilmington Ave & 120th St (West) – LOS E (AM and PM peak hours)
39. Mona Blvd & Imperial Hwy – LOS D (PM peak hour)

As such, impacts at these four intersections would be *significant and unavoidable*.

At the remaining 12 intersections in the County of Los Angeles where significant impacts were identified, the following mitigation measures are proposed to address impacts in the Existing Plus Project Conditions.

Mitigation Measure TRAF-1: Avalon Blvd & El Segundo Blvd (#3)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in the PM peak hour at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the northbound approach to add a right turn lane prior to an individual project exceeding the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one

left turn lane, two through lanes and a separate right turn lane. This can be accomplished by narrowing the median to 3 feet. This would need to occur all the way to an alley located approximately 100 feet south of the intersection. The bus stop at this approach would continue to be located at the same location; however, buses would be allowed to go straight through the intersection. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. In addition, the County of Los Angeles shall ensure the restriping of the southbound approach to provide a separate right turn lane by narrowing the median to 2 feet prior to an individual project exceeding the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane.

For the Existing Plus Project Condition, this mitigation measure would fully mitigate the PM peak hour impact at this location.

Significance after Mitigation: Less than Significant

Mitigation Measure TRAF-2: Central Ave & El Segundo Blvd (#10)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the southbound approach to provide a separate right-turn lane and restriping the northbound approach by reducing the median to 2 feet before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify both approaches from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. Buses would be allowed to go through the intersection from the right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. In addition, the County of Los Angeles shall ensure the restriping of the westbound approach to provide a separate right turn lane by narrowing the median to 2 feet prior to an individual project exceeding the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane.

For the Existing Plus Project Conditions this mitigation measure would fully mitigate the impacts in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

Mitigation Measure TRAF-3: Central Ave & Rosecrans Ave (#11)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in the AM Peak hour at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the westbound approach to provide a separate right-turn lane by narrowing the median to 2 feet before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. Buses would be allowed to go through the intersection from the right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

For the Existing Plus Project Condition this mitigation measure would fully mitigate the AM peak hour impact.

Significance after Mitigation: Less than Significant

Mitigation Measure TRAF-4: Compton Ave & Imperial Hwy (#17)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the westbound approach to provide a separate right-turn lane before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

For the Existing Plus Project Condition, the proposed restriping would partially mitigate the impacts in both the AM and PM peak hours. In the AM peak hour the level of service would remain at LOS F. In the PM peak hour it would remain at LOS E. Additional improvements to improve the AM and PM peak hours would be required so that there is not an exceedance of the County's significant impact criteria. However, additional improvements would require the acquisition of additional right-of-way. Because the widening of roadways is not consistent with the County's General Plan land use policies

as discussed above, additional improvements requiring right-of-way acquisition at this intersection are considered not feasible.

Significance after Mitigation: Significant and Unavoidable. Because the existing curb-to-curb roadway width does not allow for additional improvements at this intersection located in the jurisdiction of the County of Los Angeles and additional rights-of-way would be required for additional improvements, the County determined that there are no feasible mitigation measures at this intersection.

Mitigation Measure TRAF-5: Wilmington Ave & I-105 e/b Ramps (#27)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions there is a significant impact in both the AM and PM peak hours at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure that an additional eastbound lane will be installed by widening (reducing the raised median on the ramp) the off-ramp before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a left-turn lane and a right-turn lane to a left-turn lane, shared left-right turn lane and a separate right-turn lane. In addition, the County of Los Angeles shall ensure that an additional northbound left-turn lane is provided by reducing the median width. This improvement would modify the approach from a left-turn lane and three through lanes to dual left-turn lanes and three through lanes. These were mitigation measures in the Martin Luther King Jr. Medical Campus EIR.

For the Existing Plus Project Condition, these mitigation measures would fully mitigate the impacts in both the AM and PM peak hours.

Significance after Mitigation: Significant and Unavoidable. Although the above improvements would fully mitigate the impacts, the required installation of an additional eastbound lane is proposed on the off-ramp that is not under the jurisdiction of the County of Los Angeles. Therefore, the County cannot guarantee that the timing of implementing this off-ramp improvement would occur prior to the intersection exceeding the County's significant impact criteria. As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-6: Wilmington Ave & 118th St (#28)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the eastbound approach of 118th Street to provide a separate right-turn lane before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the eastbound approach from a shared left-through-right lane to a shared left-through lane and a right turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

For the Existing Plus Project Condition, this improvement would partially mitigate the impacts in both the AM and PM peak hours. In the AM peak hour the level of service would remain at LOS F. In the PM peak hour it would improve to LOS E. Additional improvements to improve the AM and PM peak hours would be required so that there is not an exceedance of the County's significant impact criteria. However, additional improvements would require the acquisition of additional right-of-way. Because the widening of roadways is not consistent with the County's General Plan land use policies as discussed above, additional improvements requiring right-of-way acquisition at this intersection are considered not feasible.

Significance after Mitigation: Significant and Unavoidable. Because the existing curb-to-curb roadway width does not allow for additional improvements at this intersection located in the jurisdiction of the County of Los Angeles and additional rights-of-way would be required for additional improvements, the County determined that there are no feasible mitigation measures at this intersection beyond the proposed restriping improvement.

Mitigation Measure TRAF-7: Wilmington Ave & 120th St (East) (#30)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in the PM peak hour at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure that 120th Street west of Wilmington Avenue (the driveway to the MLK Medical Campus) is widened for 250 feet, on the south side by 2 feet and the eastbound approach is restriped to provide dual left-turn lanes before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a left-through lane and a right-turn lane to dual left-turn lanes, a through lane, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

For the Existing Plus Project Condition, this mitigation measure would fully mitigate the PM peak hour impact.

Significance after Mitigation: Less than Significant

Mitigation Measure TRAF-8: Wilmington Ave & El Segundo Blvd (#32)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the eastbound and westbound approaches to add separate right-turn lanes before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would allow buses to go through the intersection from the right-turn lanes. This improvement would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

For the Existing Plus Project Conditions, the proposed restriping would partially mitigate the impact in the AM peak hour (the level of service would improve to LOS C), and would fully mitigate the impact in the PM peak hour. Additional improvements to improve the AM peak hour would be required so that there is not an exceedance of the County's significant impact criteria. However, additional improvements would require the acquisition of additional right-of-way. Because the widening of roadways is not consistent with the County's General Plan land use policies as discussed above, additional improvements requiring right-of-way acquisition at this intersection are considered not feasible.

Significance after Mitigation: Significant and Unavoidable. Because the existing curb-to-curb roadway width does not allow for additional improvements at this intersection located in the jurisdiction of the County of Los Angeles and additional rights-of-way would be required for additional improvements, the County determined that there are no feasible mitigation measures at this intersection.

Mitigation Measure TRAF-9: Imperial Hwy & I-105 w/b Ramps (#36)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure that a third northbound left-turn lane is provided by widening the off-ramp by 10 feet for approximately 150 feet to 200 feet before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the

County. This improvement would modify the approach from a left-turn lane, a left-through lane, and a right-turn lane to dual left-turn lanes, a left-through lane, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

For the Existing Plus Project Condition, this measure would partially mitigate the impacts in both the AM and PM peak hours, and the level of service would improve to LOS D in both peak hours. Additional improvements to improve the AM and PM peak hours would be required so that there is not an exceedance of the County's significant impact criteria. However, additional improvements would require the acquisition of additional right-of-way. Because the widening of roadways is not consistent with the County's General Plan land use policies as discussed above, additional improvements requiring right-of-way acquisition at this intersection are considered not feasible.

Significance after Mitigation: Significant and Unavoidable. Although the above improvement would partially mitigate the AM and PM peak hour impacts, the required widening of the off-ramp is not under the jurisdiction of the County of Los Angeles. Therefore, the County cannot guarantee that the timing of implementing this off-ramp improvement would occur prior to the intersection exceeding the County's significant impact criteria. In addition, because the existing curb-to-curb roadway width does not allow for additional improvements at this intersection and additional rights-of-way would be required for additional improvements, the County determined that there are no feasible mitigation measures at this intersection.

Mitigation Measure TRAF-10: Alameda St & 103rd St (#43)

As shown in Table~~s 3.12-8 and~~ 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in ~~both~~ the ~~AM and~~ PM peak hour~~s~~ at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the eastbound approach for a separate left-turn lane before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a shared left/right lane to a left-turn lane and a shared left/right lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

In the Existing Plus Project Condition, this mitigation measure would fully mitigate the impacts in ~~both~~ the ~~AM and~~ PM peak hour~~s~~.

Significance after Mitigation: Less than Significant

Mitigation Measure TRAF-11: Alameda St & Imperial Hwy (#45)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in the AM peak hour at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the southbound approach for dual right-turn lanes before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a left-turn lane, two through lanes, and a right-turn lane to dual left-turn lanes, two through lanes, and a separate right-right lane. This is a modification of the mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

In the Existing Plus Project Condition, this mitigation measure would fully mitigate the impact in the AM peak hour.

Significance after Mitigation: Less than Significant

Mitigation Measure TRAF-12: Alameda St & El Segundo Blvd (#46)

As shown in Table~~s~~ 3.12-8 ~~and 3.12-9~~, in the Existing Plus Project Conditions there is a significant impact in ~~both~~ the AM ~~and PM~~ peak hour~~s~~ at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the northbound and southbound approaches to provide separate right-turn lanes before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

In the Existing Plus Project Condition, this mitigation measure would fully mitigate the impacts in ~~both~~ the AM ~~and PM~~ peak hours.

Significance after Mitigation: Less than Significant

City of Compton

The proposed project would result in significant impacts at 6 intersections within the City of Compton. The following measures are proposed to address impacts in the Existing Plus Project Condition.

Mitigation Measure TRAF-13: Wilmington Ave & Greenleaf Blvd (#62)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions there is a significant impact in both the AM and PM peak hours at this location. Because the existing curb-to-curb roadway width does not allow for additional improvements at this intersection, additional right-of-way is necessary to improve the intersection so that the project does not exceed the City of Compton's significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the additional right-of-way acquisition and improvements needed to improve this intersection are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the intersection exceeding the City of Compton's significant impact criteria. In addition, there is uncertainty if the City of Compton would establish a proportionate share funding program to acquire additional right-of-way at this intersection and to provide the necessary improvements. As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-14: Compton Ave & El Segundo Blvd (#21)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the eastbound and westbound approaches to provide separate right-turn lanes by narrowing the medians to 2 feet. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism.

In the Existing Plus Project Condition, the above restriping would partially mitigate the impact in the AM peak hour (and the level of service would improve to LOS D), and would partially mitigate the impact in the PM peak hour. Additional improvements to improve the AM peak hour would be required so that there is not an exceedance of the City of Compton's significant impact criteria. However, additional improvements would require the acquisition of additional right-of-way. To address this additional impact, the

project applicant shall provide the following in addition to the funding for the restriping improvements identified above.

Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the AM peak hour level of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the proposed improvements are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementation would occur prior to the intersection exceeding the City of Compton's significant impact criteria. In addition, there is uncertainty if the City of Compton would establish a proportionate share funding program to restripe this intersection as well as acquire additional right-of-way to provide the necessary improvements at this intersection to improve the levels of service so that the City of Compton's significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Compton, the implementation of the improvements within this mitigation measure is considered potentially significant and unavoidable.

Mitigation Measure TRAF-15: Wilmington Ave & Rosecrans Ave (#33)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound approach to provide a separate right-turn lane by narrowing the median to 2 feet. This improvement would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.

In the Existing Plus Project Condition, this mitigation measure would partially mitigate the impacts in the AM peak hour and the level of service would remain at LOS E, and would partially mitigate the impact in the PM peak hour and the level of service would improve to LOS D. Additional improvements to improve the AM and PM peak hours

would be required so that there is not an exceedance of the City of Compton's significant impact criteria. However, additional improvements would require the acquisition of additional right-of-way. To address this additional impact, the project applicant shall provide the following in addition to the funding for the restriping improvements identified above.

Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the AM and PM peak hours level of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable Because the proposed improvements are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementation would occur prior to the intersection exceeding the City of Compton's significant impact criteria. In addition, there is uncertainty if the City of Compton would establish a proportionate share funding program to restripe this intersection as well as acquire additional right-of-way to provide the necessary improvements at this intersection to improve the levels of service so that the City of Compton's significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Compton, the implementation of the improvements within this mitigation measure is considered potentially significant and unavoidable.

Mitigation Measure TRAF-16: Wilmington Ave & W Compton Blvd (#58)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is no significant impact in the AM peak hours, but there is a significant impact in the PM peak hours at this location. The proposed mitigation measure is as follows:

Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the additional right-of-way acquisition and improvements needed to improve this intersection are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that

the timing of implementing these improvements would occur prior to the intersection exceeding the City of Compton's significant impact criteria. In addition, there is uncertainty if the City of Compton would establish a proportionate share funding program to acquire additional right-of-way at this intersection and to provide the necessary improvements. As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-17: Wilmington Ave & Alondra Blvd (#61)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location.

Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the westbound approach to provide a separate right-turn lane by narrowing the median to 3 feet. This improvement would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.

In the Existing Plus Project Condition, the above restriping would fully mitigate the impact in the AM peak hour and the level of service would remain at LOS D, and would partially mitigate the impact in the PM peak hour, and the level of service would remain at LOS E. Additional improvements to improve the PM peak hour would be required so that there is not an exceedance of the City of Compton's significant impact criteria. However, additional improvements would require the acquisition of additional right-of-way. To address this additional impact, the project applicant shall provide the following in addition to the funding for the restriping improvements identified above.

Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the PM peak hour level of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the proposed improvements are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementation would occur prior to the intersection exceeding the City of Compton's significant impact criteria. In addition,

there is uncertainty if the City of Compton would establish a proportionate share funding program to restripe this intersection as well as acquire additional right-of-way to provide the necessary improvements at this intersection to improve the levels of service so that the City of Compton's significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Compton, the implementation of the improvements within this mitigation measure is considered potentially significant and unavoidable.

Mitigation Measure TRAF-18: Wilmington Ave & Walnut St (#63)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is no significant impact in the AM peak hours, but a significant impact in the PM peak hours at this location. The proposed mitigation measure is as follows:

Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping and modifying the eastbound approach from a left-turn lane, a through lane, and a right-turn lane to left-turn lane, a through lane, and a through-right lane. It requires converting Walnut Street east of the intersection from one lane eastbound to two-lanes eastbound for a minimum of 400 feet providing an 11-foot lane and a 12-foot curb lane prior to merging back to one lane, and prohibiting on-street parking for the same distance. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.

In the Existing Plus Project Condition, this mitigation measure would fully mitigate the impacts in the PM peak hour. In the PM peak hour, the level of service would improve to LOS C.

Significance after Mitigation: Significant and Unavoidable. Although the above improvements could reduce the impact at this intersection to less than significant, the proposed improvements are not located within the jurisdiction of the County of Los Angeles. Therefore, the County cannot guarantee that the timing of implementation would occur prior to the intersection exceeding the City of Compton's significant impact criteria. In addition, there is uncertainty if the City of Compton would establish a proportionate share funding program to restripe this intersection to improve the levels of service so that the City of Compton's significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Compton, the implementation of the improvements within this mitigation measure is considered potentially significant and unavoidable.

City of Lynwood

The proposed project would result in significant impacts at one intersection within the City of Lynwood. The following mitigation measure is proposed to address impacts in the Existing Plus Project Conditions.

Mitigation Measure TRAF-19: Imperial Hwy & State St (#54)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is no significant impact in the AM peak hours, but a significant impact in the PM peak hours at this location. The proposed mitigation measure is as follows:

Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound and southbound approaches to provide separate right-turn lanes. This improvement would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. These improvements require removal of two on-street parking spaces on each approach. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Lynwood. The proportionate share funding shall be provided by the project applicant if the City of Lynwood has established a proportionate share funding mechanism for the improvement at this intersection.

In the Existing Plus Project Condition, this mitigation measure would fully mitigate the impacts in the PM peak hour. In the PM peak hour, the level of service would improve to LOS C.

Significance after Mitigation: Significant and Unavoidable. Although the above improvement could reduce the impact at this intersection to less than significant, the proposed improvements are not located within the jurisdiction of the County of Los Angeles. Therefore, the County cannot guarantee that the timing of implementation would occur prior to the intersection exceeding the City of Lynwood's significant impact criteria. In addition, there is uncertainty if the City of Lynwood would establish a proportionate share funding program to restripe this intersection to improve the levels of service so that the City of Lynwood's significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Lynwood, the implementation of the improvements within this mitigation measure is considered potentially significant and unavoidable.

City of Los Angeles

The proposed project would result in a significant impact at 6 intersections within the City of Los Angeles. The following measures are proposed to address impacts in the Existing Plus Project Condition.

Mitigation Measure TRAF-20: Avalon Blvd & Imperial Hwy (#1)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. Because the existing curb-to-curb roadway width does not allow for additional improvements at this intersection, additional right-of-way is necessary to improve the intersection so that the project does not exceed the City of Los Angeles' significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the additional right-of-way acquisition and improvements needed to improve this intersection are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the intersection exceeding the City of Los Angeles' significant impact criteria. In addition, there is uncertainty if the City of Los Angeles would establish a proportionate share funding program to acquire additional right-of-way at this intersection and to provide the necessary improvements. As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-21: Avalon Blvd & 120th Street (#2)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in the PM peak hour at this location. Because the existing curb-to-curb roadway width does not allow for additional improvements at this intersection, additional right-of-way is necessary to improve the intersection so that the project does not exceed the City of Los Angeles' significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the additional right-of-way acquisition and improvements needed to improve this intersection are not located

within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the intersection exceeding the City of Los Angeles' significant impact criteria. In addition, there is uncertainty if the City of Los Angeles would establish a proportionate share funding program to acquire additional right-of-way at this intersection and to provide the necessary improvements. As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-22: Central Ave & Imperial Hwy (#6)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. Because the existing curb-to-curb roadway width does not allow for additional improvements at this intersection, additional right-of-way is necessary to improve the intersection so that the project does not exceed the City of Los Angeles' significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the additional right-of-way acquisition and improvements needed to improve this intersection are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the intersection exceeding the City of Los Angeles' significant impact criteria. In addition, there is uncertainty if the City of Los Angeles would establish a proportionate share funding program to acquire additional right-of-way at this intersection and to provide the necessary improvements. As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-23: Central Ave & I-105 WB Ramps (#7)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows:

Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the westbound approach from a left-turn lane, a through-left lane, and right-turn lane, to a left-turn lane, a through-right lane, and a right-turn lane. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County

of Los Angeles and City of Los Angeles. The proportionate share funding shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism.

In the Existing Plus Project Condition, this mitigation measure would fully mitigate the impacts in both the AM and PM peak hours.

Significance after Mitigation: Significant and Unavoidable. Although the above improvements could reduce the impact at this intersection to less than significant, the proposed improvements are not located within the jurisdiction of the County of Los Angeles. Therefore, the County cannot guarantee that the timing of implementation would occur prior to the intersection exceeding the City of Los Angeles' significant impact criteria. In addition, there is uncertainty if the City of Los Angeles would establish a proportionate share funding program to restripe this intersection to improve the levels of service so that the City of Los Angeles' significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Los Angeles, the implementation of the improvements within this mitigation measure is considered potentially significant and unavoidable.

Mitigation Measure TRAF-24: Central Ave & 120th St (#9)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows:

Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound approach to provide a separate right-turn lane. This improvement would modify the approach from a left-turn, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a separate right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. The proportionate share funding of the restriping improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.

In the Existing Plus Project Condition, this mitigation measure would partially mitigate the impacts in both the AM and PM peak hours, with the level of service remaining at LOS D in both peak hours. Additional improvements to improve the AM and PM peak hours would be required so that there is not an exceedance of the City of Los Angeles' significant impact criteria. However, additional improvements would require the acquisition of additional right-of-way. To address this additional impact, the project applicant shall provide the following in addition to the funding for the restriping improvements identified above.

Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the AM and PM peak hours level of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the proposed improvements are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementation would occur prior to the intersection exceeding the City of Los Angeles' significant impact criteria. In addition, there is uncertainty if the City of Los Angeles would establish a proportionate share funding program to restripe this intersection as well as acquire additional right-of-way to provide the necessary improvements at this intersection to improve the levels of service so that the City of Los Angeles' significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Los Angeles, the implementation of the improvements within this mitigation measure is considered potentially significant and unavoidable.

Mitigation Measure TRAF-25: Wilmington Ave & 112th St (#25)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Conditions, there is a significant impact on the stop-controlled approach of this unsignalized intersection in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows:

Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of installation of a new traffic signal at this location because the signal warrant analysis indicated that a traffic signal would be warranted. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.

In the Existing Plus Project Condition, this mitigation measure would fully mitigate the impacts in both the AM and PM peak hours.

Significance after Mitigation: Significant and Unavoidable. Although the above improvement could reduce the impact at this intersection to less than significant, the proposed improvement is not located within the jurisdiction of the County of Los Angeles. Therefore, the County cannot guarantee that the timing of implementation

would occur prior to the intersection exceeding the City of Los Angeles' significant impact criteria. In addition, there is uncertainty if the City of Los Angeles would establish a proportionate share funding program to install a new traffic signal at this intersection to improve the levels of service so that the City of Los Angeles' significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Los Angeles, the implementation of the improvement within this mitigation measure is considered potentially significant and unavoidable.

Existing Plus Project Freeway Segment LOS

The proposed project would result in a significant impact at one freeway segment. The following mitigation measure is proposed to address impacts in the Existing Plus Project Condition.

Mitigation Measure TRAF-26: I-110 southbound between 135th St & Rosecrans Ave

As shown in Tables 3.12-10 and 3.12-11, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans recommended significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR.~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway segment ~~intersection~~ exceeding Caltrans' recommended significant impact

criteria. ~~In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact is considered potentially significant and unavoidable.

Existing Plus Project Off-Ramp Analysis

No mitigation measures are required.

Cumulative

Existing Plus Project Plus Cumulative Intersection LOS

County of Los Angeles

The proposed project would result in significant impacts at 16 intersections within the County of Los Angeles. Because the existing curb-to-curb roadway widths do not allow for additional improvements at the following four intersections located in the jurisdiction of the County of Los Angeles and additional rights-of-way would be required for additional improvements which would not be consistent with the County General Plan land use policies discussed above, the County determined that there are no feasible mitigation measures at these intersections.

19. Compton Ave & 120th St – LOS E/D (AM peak hour/PM peak hour)
26. Wilmington Ave & Imperial Hwy – LOS D (AM and PM peak hours)
29. Wilmington Ave & 120th St (West) – LOS E (AM and PM peak hours)
39. Mona Blvd & Imperial Hwy – LOS D (PM peak hour)

As such, impacts at these four intersections would be *significant and unavoidable*.

At the remaining 12 intersections in the County of Los Angeles where significant impacts were identified, the following mitigation measures are proposed to address impacts in the Existing Plus Project Plus Cumulative Conditions.

Implementation of Mitigation Measures **TRAF-1** through **TRAF-12** is required.

Significance after Mitigation: Significant and Unavoidable

City of Compton

The proposed project would result in significant impacts at 9 intersections within the City of Compton. The following measures are proposed to address impacts identified in the jurisdiction of the City of Compton:

Implementation of **Mitigation Measures TRAF-13 through TRAF-18** is required.

Mitigation Measure TRAF-27: Willowbrook Ave & Rosecrans Ave (#42)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Plus Cumulative Conditions, there is no significant impact in the AM peak hour, but a significant impact in the PM peak hour at this location. Because the existing curb-to-curb roadway width does not allow for additional improvements at this intersection, additional right-of-way is

necessary to improve the intersection so that the project does not exceed the City of Los Compton's significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the additional right-of-way acquisition and improvements needed to improve this intersection are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the intersection exceeding the City of Compton's significant impact criteria. In addition, there is uncertainty if the City of Compton would establish a proportionate share funding program to acquire additional right-of-way at this intersection and to provide the necessary improvements. As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-28: Central Ave & Compton Blvd (#57)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Plus Cumulative Conditions, there is no significant impact in the AM peak hour, but a significant impact in the PM peak hour at this location. The proposed mitigation measure is as follows:

Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound approach to provide a separate right-turn lane by narrowing the median to 2 feet. This would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This improvement requires removal of five on-street parking spots on the northbound approach. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.

In the Existing Plus Project Plus Cumulative Condition, this mitigation measure would fully mitigate the impacts in the PM peak hour and the level of service would improve to LOS C.

Significance after Mitigation: Significant and Unavoidable. Although the above improvement could reduce the impact at this intersection to less than significant, the proposed improvements are not located within the jurisdiction of the County of Los Angeles. Therefore, the County cannot guarantee that the timing of implementation would occur prior to the intersection exceeding the City of Compton's significant impact criteria. In addition, there is uncertainty if the City of Compton would establish a proportionate share funding program to restripe this intersection to improve the levels of service so that the City of Compton's significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Compton, the implementation of the improvements within this mitigation measure is considered potentially significant and unavoidable.

Mitigation Measure TRAF-29: Central Ave & Alondra Blvd (#60)

As shown in Tables 3.12-8 and 3.12-9, in the Existing Plus Project Plus Cumulative Condition, there is no significant impact in the AM peak hour, but a significant impact in the PM peak hour at this location. The proposed mitigation measure is as follows:

Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound and southbound approaches to provide a separate right-turn lane by narrowing the median to 2 feet. This would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.

In the Existing Plus Project Condition, this mitigation measure would fully mitigate the impacts in the PM peak hour and the level of service would remain at LOS D.

Significance after Mitigation: Significant and Unavoidable. Although the above improvement could reduce the impact at this intersection to less than significant, the proposed improvements are not located within the jurisdiction of the County of Los Angeles. Therefore, the County cannot guarantee that the timing of implementation would occur prior to the intersection exceeding the City of Compton's significant impact criteria. In addition, there is uncertainty if the City of Compton would establish a proportionate share funding program to restripe this intersection to improve the levels of service so that the City of Compton's significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Compton, the implementation of the improvements within this mitigation measure is considered potentially significant and unavoidable.

Lynwood

The proposed project would result in a significant impact at one intersection within the City of Lynwood. The following measure is proposed to address the impact identified in the jurisdiction of the City of Lynwood:

> Implementation of Mitigation Measure **TRAF-19** is required.
>
> *Significance after Mitigation: Significant and Unavoidable.* Although the above improvement could reduce the impact at this intersection to less than significant, the proposed improvements are not located within the jurisdiction of the County of Los Angeles. Therefore, the County cannot guarantee that the timing of implementation would occur prior to the intersection exceeding the City of Lynwood's significant impact criteria. In addition, there is uncertainty if the City of Lynwood would establish a proportionate share funding program to restripe this intersection to improve the levels of service so that the City of Lynwood's significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Lynwood, the implementation of the improvements within this mitigation measure is considered potentially significant and unavoidable.

City of Los Angeles

The proposed project would result in a significant impact at 6 intersections within the City of Los Angeles. The following measures are proposed to address the impact identified in the jurisdiction of the City of Los Angeles:

> Implementation of **Mitigation Measures TRAF-20** through **TRAF-25** is required.
>
> *Significance after Mitigation: Significant and Unavoidable.*
>
> The implementation of Mitigation Measures TRAF-20 through TRAF-22 could reduce the impact at these intersections; however, because additional right-of-way acquisition and improvement are needed to improve these intersections, and these intersections are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the intersections exceeding the City of Los Angeles' significant impact criteria. In addition, there is uncertainty if the City of Los Angeles would establish a proportionate share funding program to acquire additional right-of-way at these intersections and to provide the necessary improvements. As a result, the implementation of these improvements is considered potentially significant and unavoidable.
>
> The implementation of Mitigation Measures TRAF-23 and TRAF-25 could reduce the impact at these intersections to less than significant; however, the proposed improvements are not located within the jurisdiction of the County of Los Angeles. Therefore, the County cannot guarantee that the timing of implementation would occur prior to the intersections exceeding the City of Los Angeles' significant impact criteria. In addition, there is uncertainty if the City of Los Angeles would establish a

proportionate share funding program to implement the improvements to improve the levels of service so that the City of Los Angeles' significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Los Angeles, the potential impacts at these two intersections are considered potentially significant and unavoidable.

The implementation of Mitigation Measure TRAF-24 could reduce the impact at this intersection to less than significant. Because the proposed improvements are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementation would occur prior to the intersection exceeding the City of Los Angeles' significant impact criteria. In addition, there is uncertainty if the City of Los Angeles would establish a proportionate share funding program to restripe this intersection as well as acquire additional right-of-way to provide the necessary improvements at this intersection to improve the levels of service so that the City of Los Angeles' significance criteria are not exceeded. Because of the uncertainty of the timing of implementation and the establishment of a proportionate share funding program by the City of Los Angeles, the impact at this intersection is considered potentially significant and unavoidable.

Future Plus Project Freeway Segment LOS

The proposed project would result in a significant impact at one freeway segment. The following mitigation measure is proposed to address impacts in the Future Plus Project Condition.

Mitigation Measure TRAF-30: I-105 westbound between Avalon Blvd and Central Ave

As shown in Tables 3.12-18 and 3.12-19, in the Existing Plus Project Conditions, there is a significant impact in the PM peak hour at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans recommended significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way~~

~~acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway segment exceeding Caltrans' recommended significant impact criteria. ~~In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-31: I-105 westbound between Compton Ave and Wilmington Ave

As shown in Tables 3.12-18 and 3.12-19, in the Existing Plus Project Conditions, there is a significant impact in the PM peak hour at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans recommended significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the

freeway segment exceeding Caltrans' recommended significant impact criteria. ~~In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact at this freeway segment is considered potentially significant and unavoidable.

Mitigation Measure TRAF-32: I-105 westbound between State St & Long Beach Blvd

As shown in Tables 3.12-18 and 3.12-19, in the Existing Plus Project Conditions, there is a significant impact in the AM and PM peak hours at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans recommended significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway segment exceeding Caltrans' recommended significant impact criteria. ~~In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact at this freeway segment is considered potentially significant and unavoidable.

Future Plus Project Off-Ramp Analysis

The proposed project would result in a significant impact at two off-ramps. The following mitigation measures are proposed to address impacts in the Future Plus Project Condition.

> Implementation of **Mitigation Measure TRAF-9** is required for I-105 WB off-ramp at Imperial Highway to reduce the impact in the PM peak hour.
>
> **Mitigation Measure TRAF-33:** I-110 SB off-ramp at El Segundo Blvd.
>
> As shown in Tables 3.12-20 and 3.12-21, in the Future Plus Project Conditions, there is a significant impact in the AM and PM peak hours at this location. Because the existing right-of-way is constrained along the off-ramp, additional lane improvements would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans significant impact criteria. To address this impact, the proposed mitigation measure is as follows:
>
> Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this off-ramp through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.
>
> *Significance after Mitigation: Significant and Unavoidable.* Because the additional right-of-way acquisition and improvements needed to improve this off-ramp are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the off-ramp exceeding Caltrans' significant impact criteria. In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way for this off-ramp and to provide the necessary improvements. As a result, the impact is considered potentially significant and unavoidable.

Significance Determination

Project-Specific

Existing Plus Project Intersection LOS

Significant and unavoidable impact. After the implementation of Mitigation Measures TRAF-1 through TRAF-25, a total of 18 of the 25 intersections would still exceed the significance threshold and result in significant and unavoidable adverse impacts. In addition to the 18 intersections, there are 4 additional intersections within the County jurisdiction where additional right-of-way would be required for additional improvements which would not be consistent with the County General Plan land use policies. The County determined that there are no feasible measures to implement at these 4 intersections. Therefore, there are a total of 22 intersections that

would exceed the significance standards and represent a significant and unavoidable impact. The 22 intersection are identified below along with the mitigation measure for each intersection.

- **Mitigation Measure TRAF-4**: Compton Ave & Imperial Hwy (#17)
- **Mitigation Measure TRAF-5:** Wilmington Ave & I-105 e/b Ramps (#27)
- **Mitigation Measure TRAF-6:** Wilmington Ave & 118th St (#28)
- **Mitigation Measure TRAF-8**: Wilmington Ave & El Segundo Blvd (#32)
- **Mitigation Measure TRAF-9:** Imperial Hwy & I-105 w/b Ramps (#36)
- **Mitigation Measure TRAF-13:** Wilmington Ave & Greenleaf Blvd (#62)
- **Mitigation Measure TRAF-14**: Compton Ave & El Segundo Blvd (#21)
- **Mitigation Measure TRAF-15**: Wilmington Ave & Rosecrans Ave (#33)
- **Mitigation Measure TRAF-16**: Wilmington Ave & W Compton Blvd (#58)
- **Mitigation Measure TRAF-17**: Wilmington Ave & Alondra Blvd (#61)
- **Mitigation Measure TRAF-18**: Wilmington Ave & Walnut St (#63)
- **Mitigation Measure TRAF-19**: Imperial Hwy & State St (#54)
- **Mitigation Measure TRAF-20:** Avalon Blvd & Imperial Hwy (#1)
- **Mitigation Measure TRAF-21:** Avalon Blvd & 120th Street (#2)
- **Mitigation Measure TRAF-22:** Central Ave & Imperial Hwy (#6)
- **Mitigation Measure TRAF-23**: Central Ave & I-105 WB Ramps (#7)
- **Mitigation Measure TRAF-24** Central Ave & 120th St (#9)
- **Mitigation Measure TRAF-25**: Wilmington Ave & 112th St (#25)
- **No Feasible Mitigation Measure:** Compton Ave & 120th St (#19)
- **No Feasible Mitigation Measure:** Wilmington Ave & Imperial Hwy (#26)
- **No Feasible Mitigation Measure:** Wilmington Ave & 120th St (West) (#29)
- **No Feasible Mitigation Measure:** Mona Blvd & Imperial Hwy (#39)

A specific discussion of the significance after mitigation is provided above under Mitigation Measures for each significant impact.

Existing Plus Project Freeway Segment LOS

Significant and unavoidable impact. There is one freeway segment that would exceed the significance standards and represent a significant and unavoidable impact. The freeway segment is identified below along with the mitigation measure.

- **Mitigation Measure TRAF-26:** I-110 southbound between 135th St & Rosecrans Ave

A specific discussion of the significance after mitigation is provided above under Mitigation Measures.

Existing Plus Project Off-Ramp Analysis

Less than significant impact.

Cumulative

Existing Plus Project Plus Cumulative Intersection LOS

County of Los Angeles

After the implementation of Mitigation Measures TRAF-1 through TRAF-28, a total of 26 of the 28 intersections would still exceed the significance threshold and result in significant and unavoidable adverse impacts. In addition to the 26 intersections, there are 4 additional intersections that the County has no feasible measures to implement. Therefore, there are a total of 30 intersections that would exceed the significance standards and represent a significant and unavoidable impact. The 30 intersection are identified below along with the mitigation measure for each intersection.

- **Mitigation Measure TRAF-1:** Avalon Blvd & El Segundo Blvd (#3)
- **Mitigation Measure TRAF-2:** Central Ave & El Segundo Blvd (#10)
- **Mitigation Measure TRAF-3:** Central Ave & Rosecrans Ave (#11)
- **Mitigation Measure TRAF-4:** Compton Ave & Imperial Hwy (#17)
- **Mitigation Measure TRAF-5:** Wilmington Ave & I-105 e/b Ramps (#27)
- **Mitigation Measure TRAF-6:** Wilmington Ave & 118th St (#28)
- **Mitigation Measure TRAF-8:** Wilmington Ave & El Segundo Blvd (#32)
- **Mitigation Measure TRAF-9:** Imperial Hwy & I-105 w/b Ramps (#36)
- **Mitigation Measure TRAF-11:** Alameda St & Imperial Hwy (#45)
- **Mitigation Measure TRAF-12:** Alameda St & El Segundo Blvd (#46)
- **Mitigation Measure TRAF-13:** Wilmington Ave & Greenleaf Blvd (#62)
- **Mitigation Measure TRAF-14:** Compton Ave & El Segundo Blvd (#21)
- **Mitigation Measure TRAF-15:** Wilmington Ave & Rosecrans Ave (#33)
- **Mitigation Measure TRAF-16:** Wilmington Ave & Compton Blvd (#58)
- **Mitigation Measure TRAF-17:** Wilmington Ave & Alondra Blvd (#61)

- **Mitigation Measure TRAF-18**: Wilmington Ave & Walnut St (#63)
- **Mitigation Measure TRAF-19**: Imperial Hwy & State St (#54)
- **Mitigation Measure TRAF-20:** Avalon Blvd & Imperial Hwy (#1)
- **Mitigation Measure TRAF-21:** Avalon Blvd & 120th Street (#2)
- **Mitigation Measure TRAF-22:** Central Ave & Imperial Hwy (#6)
- **Mitigation Measure TRAF-23**: Central Ave & I-105 WB Ramps (#7)
- **Mitigation Measure TRAF-24** Central Ave & 120th St (#9)
- **Mitigation Measure TRAF-25**: Wilmington Ave & 112th St (#25)
- **Mitigation Measure TRAF-27:** Willowbrook Ave & Rosecrans Ave (#42)
- **Mitigation Measure TRAF-28**: Central Ave & Compton Blvd (#57)
- **Mitigation Measure TRAF-29**: Central Ave & Alondra Blvd (#60)
- **No Feasible Mitigation Measure:** Compton Ave & 120th St (#19)
- **No Feasible Mitigation Measure:** Wilmington Ave & Imperial Hwy (#26)
- **No Feasible Mitigation Measure:** Wilmington Ave & 120th St (West) (#29)
- **No Feasible Mitigation Measure:** Mona Blvd & Imperial Hwy (#39)

A specific discussion of the significance after mitigation is provided above under Mitigation Measures for each significant impact.

Future Plus Project Freeway Segment LOS

Significant and unavoidable impact. There are 3 freeway segments that would exceed the significance standards and represent a significant and unavoidable impact. The 3 freeway segments are identified below along with the mitigation measure for each segment.

- **Mitigation Measure TRAF-30:** I-105 westbound between Avalon Blvd and Central Ave
- **Mitigation Measure TRAF-31:** I-105 westbound between Compton Ave and Wilmington Ave
- **Mitigation Measure TRAF-32:** I-105 westbound between State St & Long Beach Blvd

A specific discussion of the significance after mitigation is provided above under Mitigation Measures for each significant impact.

Future Plus Project Off-Ramp Analysis

Significant and unavoidable impact. There are 2 off-ramps that would exceed the significance standards and represent a significant and unavoidable impact. The 2 off-ramp locations are identified below along with the mitigation measure for each segment.

- **Mitigation Measure TRAF-9:** I-105 WB off-ramp at Imperial Highway
- **Mitigation Measure TRAF-33:** I-110 SB off-ramp at El Segundo Blvd.

A specific discussion of the significance after mitigation is provided above under Mitigation Measures for each significant impact.

Congestion Management Program

Impact 3.12.2: The proposed project could conflict with an applicable congestion management program (CMP), including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Project-Specific and Cumulative

A review of the CMP indicated the following arterial monitoring stations that are closest to the Project Site:

- Manchester Ave & Vermont Ave
- Manchester Ave & Avalon Blvd
- Alameda St & Firestone Blvd
- Alameda St & Imperial Hwy
- Alameda St & W Compton Blvd
- Alameda St SR-91 EB Ramps

The closest monitoring locations to the Project site are at the Alameda St & Imperial Hwy, Alameda St & Firestone Blvd, Alameda St & W Compton Blvd, and Manchester Ave & Avalon Blvd intersections which are located approximately four miles or less from the Project Site. The other monitoring locations at Alameda St & the SR-91 EB Ramps, and at Manchester Ave & Vermont Ave, are located further away from and between four and six miles from the Project Site.

A review of the CMP also indicated the following freeway monitoring stations that are nearest to the Project Site.

- I-105 East of Crenshaw Blvd, West of Vermont Ave
- I-105 West of I-710, East of Harris Ave
- I-105 East of Bellflower Blvd, West of I-605
- I-110 at Manchester Blvd
- I-710 North of I-105, North of Firestone Blvd
- I-710 North of I-405, South of Del Amo Blvd
- SR-91 East of Alameda St / Santa Fe Ave

None of these locations are located close to the Project Site. The closest (I-105 West of I-710, East of Harris Ave) is located 4.0 miles from the Project Site and the second closest (I-105 East of Crenshaw Blvd) is located about 5.0 miles from the Project Site. The remaining stations are located considerable distances from the Project Site (up to 9.8 miles).

CMP Arterial Analysis

Based on the trip generation and trip distribution characteristics of the Project as described in Section 3.12.4, Methodology, the number of Project trips that would be added to the CMP arterials identified in Section 3.12-1, Environmental Setting, was calculated. For locations further from the Project site, Project trips were dispersed onto an increasing number of roadways so the incremental addition of trips will reduce with distance from the Project. There are four of the six CMP arterial locations that were in proximity of the project site and that the project will exceed the incremental volumes of 50 trips, which would exceed the threshold to require analysis. Further analysis of these four locations in **Table 3.12-22** was therefore conducted.

The analysis was based on existing traffic counts, forecasts of Future Without Project traffic volumes, and the addition of Proposed Project trips, to analyze the Future With Project conditions. The analysis of the four CMP intersections is summarized in Table 3.12-22. As shown in the table, while the Project would increase the V/C rates at the intersections, the level of service would not change except at one location, and the incremental increase in V/C ratio would be less than the significant impact threshold of 0.02. Based on this analysis, the Project would result in less than significant traffic impacts at the four analyzed CMP monitoring intersections.

TABLE 3.12-22
CMP INTERSECTION ANALYSIS

No.	CMP Intersection	Existing Conditions (2016) V/C	Existing Conditions (2016) LOS	Future Without Project Conditions V/C	Future Without Project Conditions LOS	Future With Project Conditions V/C	Future With Project Conditions LOS	Change in V/C	Significant Impact
AM Peak Hour									
1	Alameda St & Firestone Blvd	0.899	D	0.972	E	0.981	E	0.009	No
2	Alameda St & Imperial Hwy	0.772	C	0.858	D	0.899	D	0.041	No
3	Alameda St & W Compton Blvd	0.659	B	0.716	C	0.725	C	0.009	No
PM Peak Hour									
1	Alameda St & Firestone Blvd	0.924	E	1.003	F	1.018	F	0.015	No
2	Alameda St & Imperial Hwy	0.799	C	0.876	D	0.891	D	0.015	No
3	Alameda St & W Compton Blvd	0.637	B	0.694	B	0.705	C	0.011	No

SOURCE: The Mobility Group, 2017

CMP Freeway Analysis

Existing traffic volumes on these freeway segments in the AM and PM peak hours were obtained from applying an average 0.49 percent annual traffic growth to the 2010 CMP for Los Angeles County (LACMTA). Freeway levels of service are determined by calculating demand/capacity ratios per the definitions shown in Table 3.12-3 (Section 3.12.1 Environmental Setting).

Existing Conditions levels of service were calculated for each freeway segment using a capacity of 2,000 vehicles per hour per freeway mainline lane (as per the 2010 CMP). The 2017 Future Without Project freeway traffic volumes were projected by factoring existing volumes by the regional growth factors discussed in Section 3.12.4, Methodology. Trips from the Project were assigned to the freeway system using the Project trip generation and the Project trip distribution (also discussed in Section 3.12.4). The number of Project vehicle trips expected to pass through the CMP monitoring locations closest to the Project was estimated based on the methodology described above. There are four of the seven CMP freeway locations that were in the vicinity of the project site and that the project will exceed the incremental volumes of 150 trips. The CMP freeway impact analysis at the four locations is shown in **Table 3.12-23** for the AM and PM peak hours.

TABLE 3.12-23
CMP FREEWAY ANALYSIS

				Existing Conditions[1, 2] (Year 2016)			Future Without Project Conditions (Year 2035)			Future With Project Conditions (Year 2035)					
No.	**Location**	**Dir**	**Capacity**	**Hourly Volume**	**D/C**	**LOS**	**Hourly Volume**	**D/C**	**LOS**	**Project Trips**	**Hourly Volume**	**D/C**	**LOS**	**Increase in D/C**	**Significant Impact?**
AM Peak Hour															
1	I-105 (East of Crenshaw Blvd., West of Vermont Ave.)	EB	10,000	8,711	0.871	D	9,586	0.959	E	131	9,717	0.972	E	0.013	No
		WB	10,000	12,901	1.290	F(1)	14,169	1.417	F(2)	133	14,302	1.430	F(2)	0.012	No
2	I-105 (West of I-710, East of Harris Ave.)	EB	10,000	9,042	0.904	D	9,934	0.993	E	179	10,113	1.011	F(0)	0.017	No
		WB	10,000	13,011	1.301	F(1)	14,300	1.430	F(2)	310	14,610	1.461	F(3)	0.031	Yes
3	I-105 (East of Bellflower Blvd. West of I-605)	EB	8,000	6,726	0.841	D	7,391	0.924	D	137	7,528	0.941	E	0.016	No
		WB	8,000	10,255	1.282	F(1)	11,271	1.409	F(2)	262	11,533	1.442	F(2)	0.032	Yes
4	I-110 (at Manchester Blvd.)	NB	12,000	12,625	1.052	F(0)	13,865	1.155	F(0)	73	13,938	1.161	F(0)	0.006	No
		SB	12,000	11,899	0.992	E	13,080	1.090	F(0)	131	13,211	1.101	F(0)	0.010	No
PM Peak Hour															
1	I-105 (East of Crenshaw Blvd., West of Vermont Ave.)	EB	10,000	13,122	1.312	F(1)	14,444	1.444	F(2)	158	14,602	1.460	F(3)	0.016	No
		WB	10,000	8,601	0.860	D	9,488	0.949	E	160	9,648	0.965	E	0.016	No
2	I-105 (West of I-710, East of Harris Ave.)	EB	10,000	13,673	1.367	F(2)	15,054	1.505	F(3)	370	15,424	1.542	F(3)	0.037	Yes
		WB	10,000	9,152	0.915	D	10,085	1.008	F(0)	237	10,322	1.032	F(0)	0.024	Yes
3	I-105 (East of Bellflower Blvd. West of I-605)	EB	8,000	12,791	1.599	F(3)	14,074	1.759	F(3)	304	14,378	1.797	F(3)	0.038	Yes
		WB	8,000	9,814	1.227	F(0)	10,807	1.351	F(2)	185	10,992	1.374	F(2)	0.023	Yes
4	I-110 (at Manchester Blvd.)	NB	12,000	12,791	1.066	F(0)	14,081	1.173	F(0)	150	14,231	1.186	F(0)	0.012	No
		SB	12,000	12,978	1.082	F(0)	14,281	1.190	F(0)	96	14,377	1.198	F(0)	0.008	No

[1] Existing Traffic volumes calculated using volumes from "Existing Conditions from 2010 Congestion Management Program for LA County," factored to 2016 using growth factors for Regional Statistical Area 21 (Vernon).
[2] Growth factor of 1% per annum applied for 2016 volumes.

SOURCE: The Mobility Group, 2017.

In the AM peak hour, the addition of vehicle trips generated by the Project would cause significant impacts according to CMP criteria at two freeway monitoring locations, at:

- I-105 westbound (West of I-710, East of Harris Ave)
- I-105 westbound (East of Bellflower Blvd. West of I-605)

The Project would cause an increase in V/C of 0.031 and 0.032 at these locations, slightly above the threshold of 0.020 for a significant impact.

In the PM peak hour, the addition of vehicle trips generated by the Project would cause significant impacts according to CMP criteria at four freeway monitoring locations, at:

- I-105 eastbound (West of I-710, East of Harris Ave)
- I-105 westbound (West of I-710, East of Harris Ave)
- I-105 eastbound (East of Bellflower Blvd. West of I-605)
- I-105 westbound (East of Bellflower Blvd. West of I-605)

The Project would cause an increase in V/C of between 0.023 and 0.038 at these locations, slightly above the threshold of 0.020 for a significant impact. The freeway would be operating at LOS F at these locations without the Project.

CMP Transit Analysis

The number of transit trips that would be generated by the Project was estimated based on the trip generation methodology described in Section 3.12.4, Methodology, and in **Appendix F**. The estimated number of transit trips for the CMP analysis is discussed below. In the AM peak hour the Project would generate an estimated 873 net additional transit trips (521 inbound trips and 352 outbound trips), and in the PM peak hour approximately 1,094 additional transit trips (462 inbound and 632 outbound). The highest number of additional transit trips would therefore occur in the PM peak hour.

TABLE 3.12-24
CMP TRANSIT ANALYSIS

	Transit Trips					
	AM Peak Hour			PM Peak Hour		
Project Component	**Total**	**In**	**Out**	**Total**	**In**	**Out**
MLK Medical Center	326	218	108	433	166	272
CDU	31	23	8	31	11	20
Specific Plan Remainder	516	280	236	630	290	340
Total	**873**	**521**	**352**	**1,094**	**462**	**632**
Residential	231	50	181	286	186	100
Non-Residential	642	471	171	808	276	532

SOURCE: The Mobility Group, 2017.

Based on the information presented in Section 3.12.1, Environmental Setting on the existing transit services in the Specific Plan area, the peak hour capacity of the transit system serving the Project Site is approximately 7,920 persons per direction. The highest directional volume of peak hour trips added by the Project would be 632 trips, which would represent approximately 8% of the total transit capacity during the peak hour. Based on a discussion with Metro, the project's projected increase in transit ridership of approximately 8% would not the existing capacity of the transit system and the project would result in a less than significant impact on transit services (Greene, 2017).

Mitigation Measures

Project-Specific/Cumulative

CMP Arterial Monitoring Locations

No mitigation measures are required.

CMP Mainline Freeway Monitoring Stations

The proposed project would result in a significant impact at four freeway monitoring locations. The following mitigation measures are proposed to address impacts.

Mitigation Measure TRAF-34: I-105 eastbound (West of I-710, East of Harris Ave)

As shown in Table 3.12-23, there is a significant impact in the PM peak hour at this location. Because the existing right-of-way is constrained along this freeway location, additional lane improvements would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the CMP significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the additional right-of-way acquisition and improvements needed to improve this freeway location are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway location exceeding the CMP significant impact criteria. In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way for this freeway location and to provide the necessary improvements. As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-35: I-105 westbound (West of I-710, East of Harris Ave)

As shown in Table 3.12-23, there is a significant impact in the AM and PM peak hours at this location. Because the existing right-of-way is constrained along this freeway location, additional lane improvements would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the CMP significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the additional right-of-way acquisition and improvements needed to improve this freeway location are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway location exceeding the CMP significant impact criteria. In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way for this freeway location and to provide the necessary improvements. As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-36: I-105 eastbound (East of Bellflower Blvd. West of I-605)

As shown in Table 3.12-23, there is a significant impact in the PM peak hour at this location. Because the existing right-of-way is constrained along this freeway location, additional lane improvements would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the CMP significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the additional right-of-way acquisition and improvements needed to improve this freeway location are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway location exceeding the CMP significant impact criteria. In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way for this freeway location and to provide the necessary improvements. As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-37: I-105 westbound (East of Bellflower Blvd. West of I-605)

As shown in Table 3.12-23, there is a significant impact in the AM and PM peak hours at this location. Because the existing right-of-way is constrained along this freeway location, additional lane improvements would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the CMP significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.

Significance after Mitigation: Significant and Unavoidable. Because the additional right-of-way acquisition and improvements needed to improve this freeway location are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway location exceeding the CMP significant impact criteria. In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way for this freeway location and to provide the necessary improvements. As a result, the impact is considered potentially significant and unavoidable.

CMP Transit

No mitigation measures are required.

Significance Determination

Project-Specific/Cumulative

CMP Arterial Monitoring Locations

Less than significant impact.

CMP Mainline Freeway Monitoring Stations

Significant and unavoidable impact. There are 4 freeway locations that would exceed the significance standards and represent a significant and unavoidable impact. The 4 freeway locations are identified below along with the mitigation measure for each segment.

- **Mitigation Measure TRAF-34:** I-105 eastbound (West of I-710, East of Harris Ave)
- **Mitigation Measure TRAF-35:** I-105 westbound (West of I-710, East of Harris Ave)
- **Mitigation Measure TRAF-36:** I-105 eastbound (East of Bellflower Blvd. West of I-605)
- **Mitigation Measure TRAF-37:** I-105 westbound (East of Bellflower Blvd. West of I-605)

A specific discussion of the significance after mitigation is provided above under Mitigation Measures for each significant impact.

CMP Transit

Less than significant.

References

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3.13 Utilities and Service Systems

Introduction

The purpose of this section is to assess the potential impacts of buildout of the proposed Specific Plan on water supply and service, wastewater collection and treatment, stormwater drain systems, energy utility systems, and solid waste disposal capacity. This section is based on comparisons of existing and anticipated levels of service with buildout of the proposed Specific Plan, and the ability to provide services to the net new development that would occur from the Specific Plan, in addition to other service commitments. As CEQA evaluates potential impacts on the environment, the focus of this section is to determine if new or expanded infrastructure would need to be constructed as a result of implementation of the project, and if those improvements would result in a potential physical impact to the environment. Infrastructure capacity information is sourced from the *Infrastructure Study* (JMC^2, 2015), and information related to water supplies and service is from the Liberty Utilities 2015 Urban Water Management Plan (UWMP) (Liberty, 2016), City of Los Angeles Department of Water & Power UWMP (LADWP 2016), and information provided by the Golden State Water Company (GSWC, 2016).

3.13.1 Environmental Setting

Water Supply

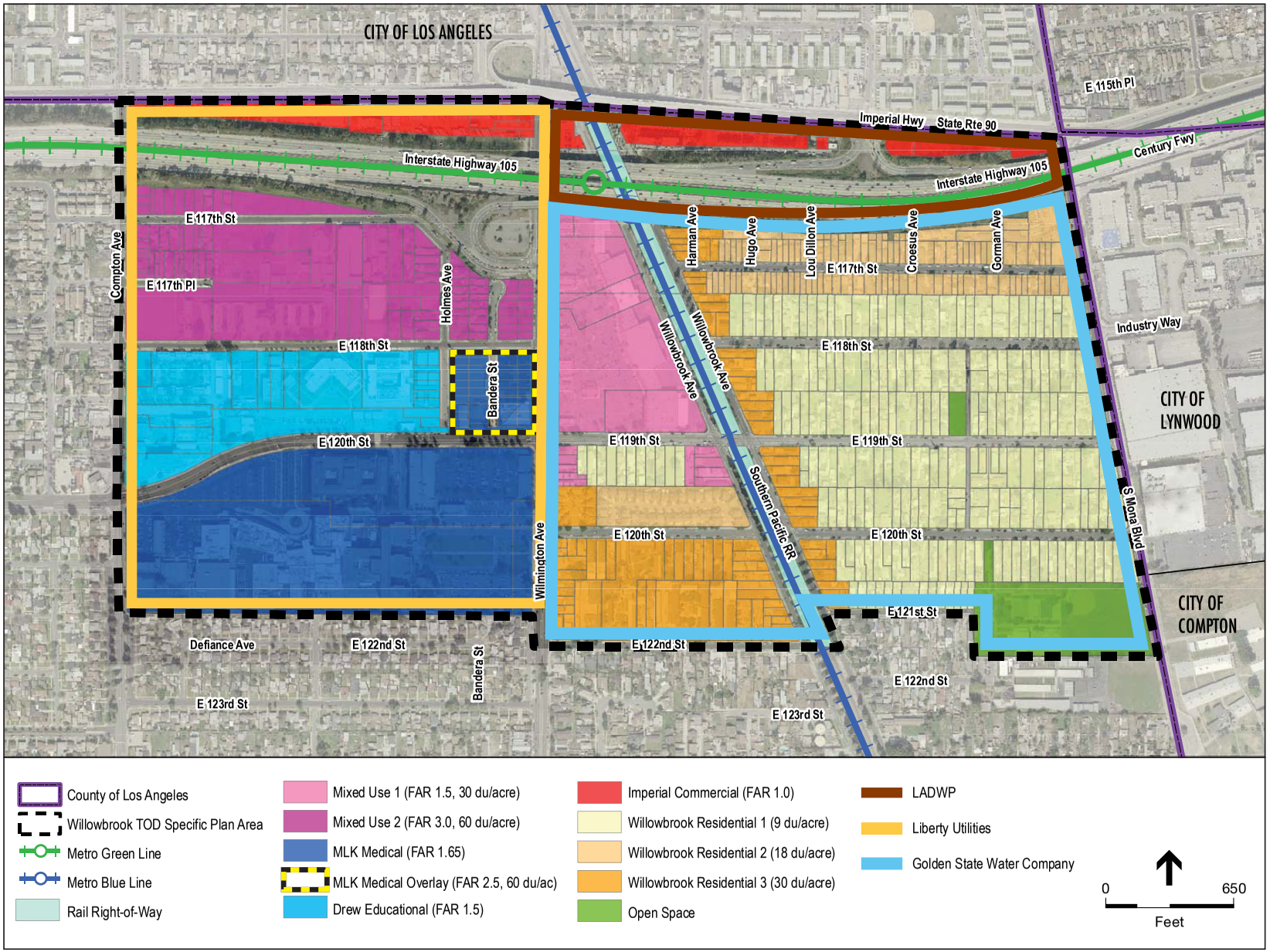
The Specific Plan area is served by three different water purveyors, Liberty Utilities, Golden State Water Company, and the City of Los Angeles Department of Water and Power (LADWP). As shown on **Figure 3.13-1**, Water Service Areas, within the Specific Plan area, Liberty Utilities provides water supply south of the Imperial Highway and west of Wilmington Avenue; Golden State Water Company provides water supply south of the I-105 freeway and east of Wilmington Avenue; and LADWP provides water supply north of the I-105 freeway and east of Wilmington Avenue.

Liberty Utilities

Liberty Utilities provides retail water service to approximately 27,353 connections in three non-contiguous water systems in southeast Los Angeles County. These systems are designated as the Compton/Willowbrook (Compton West) Water System, the Lynwood (Compton East) Water System, and the Bellflower/Norwalk Water System (Liberty, 2016). The Specific Plan area is served by Liberty's Compton/Willowbrook (Compton West) Water System.

Liberty Utilities water supplies are obtained from the Central Basin groundwater (that is managed by the Water Replenishment District of Southern California [WRD]), imported water purchased from the Central Basin Municipal Water District from the Metropolitan Water District (MWD), and recycled water (Liberty, 2016). The water supply to the Compton West Water System (that serves that Specific Plan area) is provided by two groundwater wells, two potable purchase water connections, and two reservoirs.

Liberty currently owns 822.3 acre-feet per year (AFY) of groundwater rights from the Central Groundwater Basin and leases between 2,500-3,571 AFY of groundwater from the Basin per year



SOURCE: Willowbrook TOD Specific Plan

Figure 3-13-1
Water Service Areas

in the past five years. Liberty plans to increase its purchases of groundwater in future years and reduce its purchases of MWD imported water (Liberty, 2016).

Liberty uses recycled water to augment valuable groundwater and imported water within its service area. In 2015, Liberty provided 224 AF of recycled water to its 29 locations within Liberty's service area for landscape and golf course irrigation. Landscape irrigation will continue to be the leading users of recycled water in Liberty's service area. **Table 3.13-1** shows Liberty's projected water supplies through 2035.

TABLE 3.13-1
PROJECTED AVERAGE YEAR LIBERTY WATER SUPPLIES (AFY)

Water Supply Source	2020	2025	2030	2035
Groundwater	5,030	5,030	5,030	5,030
Imported Water	7,039	6,523	6,077	5,761
Recycled Water	224	241	260	280
Total Supply	**12,293**	**11,794**	**11,367**	**11,701**

SOURCE: Liberty, 2016.

In 2015, Liberty supplied a total of 9,579 acre feet (AF) of water to meet the service area demand of 10,791 in 2035, as shown in **Table 3.13-2** (Liberty, 2016). The service provider anticipates water demand to remain approximately the same as growth occurs within its service area. This is because Liberty anticipates water demand meeting the required 20 percent water use reduction in gallons per capita per day (GPCD) by year 2020. Liberty has based the anticipated growth within the district on the SCAG RTP/SCS Growth Forecast, and has determined that it has adequate water supplies to service its existing connections, plus the anticipated growth as defined by SCAG (Liberty, 2016).

TABLE 3.13-2
CURRENT AND PROJECTED AVERAGE YEAR LIBERTY WATER DEMAND (AFY)

Service Type	2015	2020	2025	2030	2035
Single-Family	6,264	7,415	7,030	6,696	6,461
Multi-Family	901	1,353	1,276	1,209	1,162
Commercial	1,044	1,491	1,470	1,454	1,441
Industrial	87	113	114	114	115
Institutional/Government	511	775	778	781	784
Other	39	69	69	69	70
Losses	733	853	816	783	760
Total Demand	**9,579**	**12,069**	**11,553**	**11,107**	**10,791**

SOURCE: Liberty, 2016.

Table 3.13-3 provides a comparison of the Liberty projected water supply and demand between 2020 and 2035. As shown, Liberty would have a surplus of supply throughout the period and would have a surplus of 910 AFY in 2035.

TABLE 3.13-3
LIBERTY PROJECTED AVERAGE YEAR WATER SUPPLY AND DEMAND COMPARISON (AFY)

	2020	2025	2030	2035
Supply	12,293	11,794	11,367	11,701
Demand	12,069	11,553	11,107	10,791
Surplus Supply	**224**	**241**	**260**	**910**

SOURCE: Liberty, 2016.

Golden State

Golden State Water Company (GSWC) provides water to approximately 20,000 customers in its Central Basin West Service area, which stretches across South Los Angeles County and includes portions of Bell, Bell Gardens, Cudahy, Hollydale, Huntington Park, Paramount, South Gate, Vernon, Willowbrook and adjacent county territory (GSWC, 2015). Separate water systems serve different geographical areas within the Central Basin West Service area. The Golden State Willowbrook water system serves 1,411 connections (GSWC, 2015).

Within the Specific Plan area, GSWC provides water supply south of the I-105 freeway and east of Wilmington Avenue. Water delivered to customers in the Willowbrook System is a blend of groundwater pumped from two wells that extract supplies from the Central Groundwater Basin and imported water from MWD (GSWC, 2015).

GSWC's annual adjudicated amount of groundwater is 16,439.2 AF from the Central Basin, which is use to serve all of Golden State's Central Basin water systems. In addition, GSWC has carry over rights to any groundwater supplies that are not used. In 2015, GSWC had 3,166.58 AF carry over rights (GSWC, 2016). Approximately, 687AF of this groundwater supply is used to serve the Willowbrook service area (GSWC, 2016).

Table 3.13-4 provides a breakdown of the GSWC's existing and projected water supplies. As shown, the total water supply is anticipated to increase by 224 AF between 2015 and 2035.

TABLE 3.13-4
CURRENT AND PROJECTED AVERAGE YEAR GOLDEN STATE WATER COMPANY WATER SUPPLY (AFY) THAT SERVES THE WILLOWBROOK SERVICE AREA

Water Supply Source	2015	2020	2025	2030	2035
Groundwater	687	687	687	687	687
Imported Water	184	353	371	389	408
Total Supply	**871**	**1,040**	**1,058**	**1,076**	**1,095**

SOURCE: GSWC, 2016

Table 3.13-5 provides a breakdown of the GSWC's existing and projected water demands. As shown by comparing Tables 3.13-4 and 3.13-5, GSWC's projected supply is expected to meet its anticipated demand, and GSWC has determined that it has adequate water supplies to service its existing connections, plus the anticipated growth (GSWC, 2016).

TABLE 3.13-5
CURRENT AND PROJECTED AVERAGE YEAR GOLDEN STATE WATER COMPANY WATER DEMAND (AFY)

Service Type	2015	2020	2025	2030	2035
Single-Family	303	382	389	396	403
Multi-Family	444	561	570	580	590
Commercial	28	36	36	37	38
Irrigation	7	9	9	10	10
Losses	88	52	53	54	55
Total Demand	**871**	**1,040**	**1,058**	**1,076**	**1,095**

SOURCE: GSWC, 2016.

City of Los Angeles Department of Water and Power

LADWP provides water supply to the portion of the Specific Plan that is located north of the I-105 freeway, west of Wilmington Avenue, and south of the Specific Plan northern boundary. Primary sources of water supply for the LADWP service area are the Los Angeles Aqueducts (imported water), local groundwater, and imported water from MWD. In addition, recycled water is also used for irrigation purposes. Supplies in 2015 totaled 513,540 AF with 10 percent from the Los Angeles Aqueducts, 17 percent from local groundwater, 71 percent from MWD, and 2 percent from recycled water (LADWP, 2016).

As shown in **Table 3.13-6**, the five-year (2010 - 2015) average of water supply sources are: 29 percent from the Los Angeles Aqueducts, 12 percent from local groundwater, 57 percent from MWD, and 2 percent from recycled waters (LADWP, 2016). The imported water (Los Angeles Aqueducts water plus MWD water) supplied over the last five years totaled, on average, approximately 87 percent of the City's demands. Groundwater supplies in 2040 are anticipated to be increased; however, a large portion of water would continue to be obtained from the Los Angeles Aqueducts and MWD.

TABLE 3.13-6
LADWP WATER SUPPLY SOURCES

	Groundwater	Los Angeles Aqueducts	MWD	Recycled Water
2010 – 2015 Average	12%	29%	57%	2%
2040 Depending on Rain Conditions	23% – 24%	7% – 42%	11% – 44 %	6% – 7%

SOURCE: LADWP, 2016

Groundwater: Groundwater is obtained from the Central Basin, and LADWP currently has entitlement of 16,546 AF. In addition to its annual entitlement, the LADWP can carryover unused water rights for up to a maximum of 40 percent of its annual pumping allocation. In 2015, LADWP only utilized 6,948 AF of its annual pumping allocation; and thus, had unused water rights to carryover. In 2015, LADWP had 11,270 AF of groundwater in storage (LADWP, 2016). Additionally, the LADWP can also extract an additional 20 percent under emergency situations that would be debited against the following year's entitlement.

Los Angeles Aqueducts: Water supply from the Los Angeles Aqueducts is dependent on snowfall in the eastern Sierra Nevada. Years with abundant snowpack provide for larger water deliveries from the Los Angeles Aqueducts, and typically reduced purchases of supplemental water from MWD. Conversely, low Los Angeles Aqueducts deliveries in dry years increase the demand for supplemental water from MWD. The variable related to precipitation is shown in Table 3.13-6 above.

MWD: As shown in Table 3.13-6 above, LADWP obtains a large portion of existing and water supply from MWD. LADWP purchases MWD water to make up the deficit between demand and other supplies. Hence, LADWP's water supply reliability is dependent on MWD's water supply. As described in the LADWP 2015 UWMP and shown in **Table 3.13-7**, with both the current capacity and future capacity (with implementation of planned water supply projects) MWD would have a surplus of water supply to meet water supply needs.

TABLE 3.13-7
MWD WATER DEMAND AND SUPPLY CAPACITY (AFY)

	2020	2025	2030	2035
MWD Current Capacity	3,653	3,755	3,925	4,055
MWD Future Capacity with Future Supply Programs	3,716	3,855	4,268	4,440
Total Demands on MWD	**1,860**	**1,918**	**1,959**	**2,008**
Surplus with Current Capacity	1,793	1,837	1,966	2,047
Surplus with Future Capacity with Future Supply Programs	1,856	1,937	2,309	2,432

SOURCE: LADWP, 2016

Additionally, the LADWP 2015 UWMP states that a total production capacity of 709,500 AFY is anticipated, and as shown in **Table 3.13-8**, LADWP supplied an average of 566,990 AF annually between 2011 and 2014, and anticipates an annual demand of 661,848 AF in 2035. Therefore, LADWP has an additional supply of 47,652 AFY in 2035.

TABLE 3.13-8
RECENT AND PROJECTED LADWP WATER DEMAND (AFY)

Water Supply Source	2011-2014 Average	2020	2025	2030	2035
Single-Family	209,651	222,958	224,729	226,770	231,776
Multi-Family	165,364	184,679	206,065	211,454	216,071
Commercial/Govt.	141,537	148,600	155,994	156,788	156,186
Industrial	17,663	18,869	19,235	18,701	18,104
Other	32,774	36,709	38,682	39,173	39,711
Total Demand	**566,990**	**611,815**	**644,706**	**652,886**	**661,848**

SOURCE: LADWP, 2016

As described in the LADWP 2015 UWMP, LADWP has performed an analysis of future water demand and supply based on SCAG population projections and has determined that adequate water supplies exist through 2040 with the projected growth considered, and that developments that are consistent with the most recent SCAG projections are also assumed to have adequate future water supply (LADWP, 2016).

Water Infrastructure

Liberty Utilities

Liberty Utilities owns and maintains the water supply network west of Wilmington Avenue within the Specific Plan area. Water lines within the Liberty service area are located in almost all streets and alleys within this area, and consist of steel pipe that range from 4-inches to 20-inches in diameter. No deficiencies have been observed within Liberty's Willowbrook service area and no upgrades of existing water lines are planned. However, a new 2,000 gallons-per-minute water-pumping well is planned to be installed in 2016 within the City of Compton, which will also serve the Willowbrook area (JMC^2, 2015).

Golden State Water Company

Golden State Water Company owns and maintains the water supply network east of Wilmington Avenue and south of I-105 freeway within the Specific Plan area, and water lines are located in almost all streets and alleys within this area. The Golden State water infrastructure within the Willowbrook Specific Plan area is mostly older water pipes made of asbestos cement, with some made of ductile iron, cast iron steel pipes. The pipe diameter sizes range from 4-inches to 12-inches. There are no major planned upgrades or expansions of the existing water system serving the Willowbrook area (JMC^2, 2015).

City of Los Angeles Department of Water and Power

LADWP provides water service to a small portion of the Specific Plan area that is located north of I-105 freeway, east of Wilmington Avenue, and south of the Specific Plan's northern boundary. This area is served by an 8 to 10-inch water main that is located in Imperial Highway that connects to a 10-inch water line that runs in 118th Street to the south.

Wastewater Infrastructure

There is a comprehensive network of sewer lines in the Willowbrook Specific Plan area. The existing sewer system in the unincorporated area of Willowbrook is owned and maintained by the County of Los Angeles Department of Public Works (LACDPW) and Sanitation Districts of Los Angeles County (LACSD).

There are several major LACSD sewer trunks crossing the Willowbrook Specific Plan area that are located in Compton Avenue, 118th Street, Mona Boulevard, and Willowbrook Avenue. The LACSD keeps a clearance record of the some of the sewer trunks, which is a comparison chart of the sewage flow at peak hours versus the design capacity of the sewer trunk. According to the latest available sewage clearance record, the Compton Creek trunk which is along Compton Avenue, and the Holmes-Willowbrook trunk in Mona Boulevard have a low sewage flow, when compared to their design capacity. At maximum recorded flow, the sewage flow at Compton Creek trunk is at 12 percent of the maximum capacity and the Holmes-Willowbrook trunk is at 25 percent. Per LACSD, the sewage flow in the Willowbrook Specific Plan area has been slightly reduced in recent years, and there are no planned upgrades of the sewer trunk system. Furthermore, the Compton Creek trunk was rehabilitated in 2005, and is in good condition (JMC^2, 2017).

Wastewater Treatment

Wastewater from the Specific Plan area is collected and treated at the Joint Water Pollution Control Plant (JWPCP) in Carson. The JWPCP is located in the City of Carson just east of the I-110 freeway. The plant provides primary and secondary treatment for approximately 280 MGD and has a total permitted capacity of 400 MGD serving a population of 3.5 million in Los Angeles County. Effluent from JWPCP is disinfected and discharged into the Pacific Ocean through a network of outfalls (LACSD, 2015a).

Storm Water Drainage

The main lines of the storm drain system in the unincorporated Willowbrook area are owned and maintained by the County of Los Angeles Flood Control District (LACFCD). The storm drain main lines within the Specific Plan area consist of reinforced concrete pipe and reinforced concrete box. The general topography of the Willowbrook Specific Plan area slopes from north to south and west to east; therefore, the drainage from the Specific Plan area runs from northwest to southeast and eventually discharges into the Los Angeles River east of the Specific Plan area next to the I-710 freeway. Storm drain pipes range in size, and generally increase in diameter from north to south. Currently, there are no storm drain capacity concerns, and no plans to upgrade the existing storm drain system within the Specific Plan area (JMC^2, 2015).

Solid Waste

The LACSD operates solid waste collection facilities in the Willowbrook community and surrounding areas. LACSD solid waste management sites provide about half of the countywide solid waste management needs. The District operates two sanitary landfills, three ~~four~~ landfill

energy recovery facilities, one ~~two~~ recycle center~~s~~, and three materials recovery/transfer facilities, and participate in the operation of two refuse-to-energy facilities (LACSD, 2015b).

Solid waste in the community of Willowbrook may be ~~is~~ taken to either of two recycling and transfer facilities: the Downey Area Recycling and Transfer facility or ~~and~~ the South Gate Transfer Station facility. The Downey Area Recycling & Transfer facility is located at 9770 Washburn Road in the City of Downey, which is located approximately 7 miles east of the proposed Specific Plan area, and has a daily maximum permitted capacity of 5,000 tons of waste per day and in 2015 accepted an average of 800 tons of waste per day (LACSD, 2016). The South Gate Transfer Station is located at 530 South Garfield Avenue in the City of South Gate, approximately 4 miles northeast of the Specific Plan area, and has a daily maximum permitted capacity of 1,000 tons of waste per day and in 2015 accepted a projected average of approximately 370 tons of waste per year (LACSD 2015c).

After separation of recyclable materials, the remaining solid waste is transported to a permitted landfill. The landfills within the County of Los Angeles that are available to accept waste from these transfer station facilities include the Sunshine Canyon Landfill, Antelope Valley Landfill and the Lancaster Landfill. As shown in **Table 3.13-9**, the Sunshine Canyon Landfill has a maximum permitted daily capacity of 12,100 tons, an average daily tonnage of 7,701, and a remaining daily capacity of 4,399 tons. The Sunshine Canyon Landfill is projected to remain open until 2047. The Antelope Valley Landfill has a maximum permitted daily capacity of 1,800 tons, an average daily tonnage of 1,567, and a remaining daily capacity of 233 tons. The Antelope Valley Landfill is projected to remain open until 2038. The Lancaster Landfill has a maximum permitted daily capacity of 3,000 tons, an average daily tonnage of 364, and a remaining daily capacity of 2,636 tons. The Lancaster Landfill is projected to remain open until 2041. Solid waste from the transfer stations can also be transported to other non-County landfills such as landfills within Orange, Riverside, Ventura, and Kern counties.

TABLE 3.13-9
LANDFILLS IN THE PROJECT REGION

Landfill	Distance from Specific Plan	Maximum Permitted Daily Tons	Average Daily Tonnage in 2014	Average Remaining Daily Capacity 2014 (tons)	Expected Closure Date
Sunshine Canyon Landfill	46 miles	12,100	7,701	4,399	2037
Antelope Valley Landfill	51 miles	1,800	1,567	233	2038
Lancaster Landfill	51 miles	3,000	364	2,636	2041

SOURCE: LACDPW, 2016.

3.13.2 Regulatory Setting

Federal

Safe Drinking Water Act

The United States Environmental Protection Agency (USEPA) administers the Safe Drinking Water Act, which is the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The Department of Health Services (DHS) implements the requirements of the Act and oversees public water system quality statewide. DHS establishes legal drinking water standards for contaminates that could threaten public health.

National Pollution Discharge Elimination System Permits

The NPDES permit system was established in the CWA to regulate both point source discharges (a municipal or industrial discharge at a specific location or pipe) and nonpoint source discharges (diffuse runoff of water from adjacent land uses) to surface waters of the United States. For point source discharges, such as sewer outfalls, each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge.

Clean Water Act

The Clean Water Act established the basic structure for regulating discharges of pollutants into "waters of the U.S." The act specifies a variety of regulatory and non-regulatory tools to manage stormwater runoff. Clean Water Act Section 402 is relevant to drainage in the proposed Specific Plan.

Section 402 regulates point- and nonpoint-source discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program. In California, the State Water Resources Control Board (SWRCB) oversees the NPDES program, which is administered by the RWQCBs. The NPDES program provides for both general permits (those that cover a number of similar or related activities) and individual permits.

State

California Urban Water Management Planning Act

Section 10610 of the California Water Code established the California Urban Water Management Planning Act (CUWMPA), requires urban water suppliers to initiate planning strategies to ensure an appropriate level of reliability in its water service. CUWMPA states that every urban water supplier that provides water to 3,000 or more customers, or that annually provides more than 3,000 acre-feet of water service, should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple-dry years. The CUWMPA describes the contents of Urban Water Management Plans as well as methods for urban water suppliers to adopt and implement the plans.

SBx7-7 Requirements

In February 2008, the California legislature introduced a seven-part comprehensive plan for improving the Sacramento-San Joaquin Delta. As part of that effort, several state agencies were directed to develop a plan to reduce per capita water use state-wide by 20 percent by the year 2020. Legislation titled the "Water Conservation Act of 2009" (SBx7-7) enacted the 20 x 2020 concept. As part of the 20 x 2020 plan, all retail water agencies in the state are required to detail how they plan to achieve the mandatory reductions through their UWMP. Retail water agencies who have either 3,000 or more connections or provide 3,000 AF or more of water per year, are required to be in compliance with SBx7-7.

CalGreen Building Code

California Code of Regulations Title 24, Part 11, establishes the California Green Building Code or CALGreen. The CALGreen Code was recently updated in 2013 and went into effect January 1, 2014. CALGreen sets forth water efficiency standards (i.e., maximum flow rates) for all new federally-regulated plumbing fittings and fixtures.

Governor Brown's Executive Order B-29-15

On April 1, 2015, Governor Brown issued Executive Order B-29-15, finding that, among other things, "…conditions of extreme peril to the safety of persons and property continue to exist in California due to water shortage and drought conditions…" and ordering that, among other things, the "State Water Resources Control Board shall impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 28, 2016. These restrictions will require water suppliers to California's cities and towns to reduce usage as compared to the amount used in 2013. These restrictions should consider the relative per capita water usage of each water suppliers' service area, and require that those areas with high per capita use achieve proportionally greater reductions than those with low use." On July 15, 2015, the State Water Resources Control Board released the water-use-reduction targets that were imposed on each individual urban water supplier. Then based on rainfall the reduction targets were revised and the new targets became effective March 1, 2016.

State Water Resources Control Board Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems

The Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SWRCB Order No 2006-0003-DWQ) applies to sanitary sewer systems that are greater than one-mile-long and collect or convey untreated or partially treated wastewater to a publicly owned treatment facility. The goal of Order No. 2006-0003 is to provide a consistent statewide approach for reducing Sanitary Sewer Overflows (SSOs), accidental releases of untreated or partially treated wastewater from sanitary sewer systems, by requiring that:

1. In the event of an SSO, all feasible steps must be taken to control the released volume and prevent untreated wastewater from entering storm drains, creeks, etc.
2. If an SSO occurs, it must be reported to the SWRCB using an online reporting system developed by the SWRCB.

3. All publicly owned collection system agencies with more than one mile of sewer pipe in the State must develop a Sewer System Management Plan (SSMP), which must be updated every five years.

Construction General Permit

The State of California adopted a Statewide NPDES Permit for General Construction Activity (Construction General Permit) on September 2, 2009 (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ). The last Construction General Permit amendment became effective on February 16, 2012. The Construction General Permit regulates construction site storm water management. Dischargers whose projects disturb one or more acres of soil, or whose projects disturb less than one acre, but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the general permit for discharges of storm water associated with construction activity. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

To obtain coverage under this permit, project operators must electronically file Permit Registration Documents, which include a Notice of Intent, a Storm Water Pollution Prevention Plan (SWPPP), and other compliance-related documents. The SWPPP is required to identify specific BMPs that would be implemented to control drainage from project sites.

California Water Resources Control Board Low Impact Development Policy

The SWRCB adopted the Low Impact Development (LID) Policy which, at its core, promotes the idea of "sustainability" as a key parameter to be prioritized during the design and planning process for future development. The SWRCB has directed its staff to consider sustainability in all future policies, guidelines, and regulatory actions. LID is a proven approach to manage stormwater. The RWQCBs are advancing LID in California in various ways, including provisions for LID requirements in renewed Phase I municipal stormwater NPDES permits.

California Integrated Waste Management Act of 1989 (AB 939)

The California Integrated Waste Management Act of 1989 (AB 939) redefined solid waste management in terms of both objectives and planning responsibilities for local jurisdictions and the state. AB 939 was adopted in an effort to reduce the volume and toxicity of solid waste that is landfilled and incinerated by requiring local governments to prepare and implement plans to improve the management of waste resources. AB 939 required each of the cities and unincorporated portions of the counties to divert a minimum of 25 percent of the solid waste sent to landfills by 1995 and 50 percent by the year 2000. To attain goals for reductions in disposal, AB 939 established a planning hierarchy utilizing new integrated solid waste management practices. These practices include source reduction, recycling and composting, and environmentally safe landfill disposal and transformation. Other state statutes pertaining to solid waste include compliance with the California Solid Waste Reuse and Recycling Act of 1991 (AB 1327), which requires adequate areas for collecting and loading recyclable materials within a

project site. As a new waste generator, the proposed project would be subject to the requirements of these solid waste provisions, as enforced by the County of Los Angeles.

California Assembly Bill 341

On October 6, 2011, Governor Brown signed AB 341 establishing a state policy goal that no less than 75 percent of solid waste generated be source reduced, recycled, or composted by 2020, and requiring CalRecycle to provide a report to the Legislature that recommends strategies to achieve the policy goal by January 1, 2014. The bill also mandates local jurisdictions to implement commercial recycling by July 1, 2012.

Regional

Regional Municipal Separate Storm Sewer System (MS4) Permits

The County of Los Angeles is a co-permittee under the NPDES stormwater permit covering Los Angeles County (NPDES No. CAS614001). The LARWQCB completed a revision of the NPDES permit for the Los Angeles region in 1996 and 2001. The MS4 Permit requires permittees to reduce the discharge of storm water pollutants to the maximum extent practicable and ensure MS4 discharges do not cause or contribute to violations of water quality standards. The MS4 Permit also requires implementation of various site design best management practices (BMPs) and treatment control BMPs to reduce the possibility of pollutants stored or produced on-site from entering surface water or sewer system.

Regional Water Quality Control Board

Each RWQCB is required to develop, adopt, and implement a Basin Plan for its respective region. The Basin Plan is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in each region. Basin Plans identify beneficial uses of surface waters and groundwater within the corresponding region; specify water quality standards, known as water quality objectives, for both surface water and groundwater; and develop the actions necessary to maintain the standards to control nonpoint and point sources of pollutants to the state's waters. All discretionary projects requiring permits from the RWQCB (i.e., waste and pollutant discharge permits) must implement Basin Plan requirements (i.e., water quality standards), taking into consideration the beneficial uses to be protected.

The Specific Plan Area is located within the jurisdiction of LARWQCB, and the proposed Specific Plan is subject to the LARWQCB's Water Quality Control Plan.

Los Angeles County Standard Urban Storm Water Mitigation Plan

The Los Angeles County Standard Urban Storm Water Mitigation Plan (SUSMP) provides drainage regulations for specific types of development projects, which include:

- Ten or more unit homes (includes single-family homes, multi-family homes, condominiums, and apartments);
- Automotive service facilities (SIC codes 5013, 5014, 5541, 7532-7534, and 7536-7539);
- Restaurants (SIC code 5812);

- 100,000 square feet or more of impervious surface in industrial/commercial
- Retail gasoline outlet;
- Parking lot 5,000 square feet or more of surface area or with 25 or more parking spaces;
- Redevelopment projects in subject categories that meet redevelopment thresholds (SUSWMP 2000).

Development projects, included in the list above would be required to comply with the County SUSMP submittal requirements, as listed below:

- Provide a hydrology analysis to determine the design flow rate (QPM) or Volume (VM) for the first 3/4-inch of rainfall that must be treated.
- Submit site specific hydraulic calculations along with the recommended structural BMP manufacturer's product specifications to verify the BMP will adequately handle the minimum design flow required for treatment.
- Show locations of BMPs on building/drainage plans.
- Determine and provide the pre and post development pervious and impervious areas created by the proposed development.
- Submit Operation and Maintenance Guidelines that include the designated responsible party to manage the SUSMP devices, employee's training program and duties, operating schedule, maintenance frequency, routine service schedule, specific maintenance activities, copies of resource agency permits. Inspection and servicing of all SUSMP devices must occur on an annual basis at a minimum.

The County includes example BMPs within the Standard Urban Storm Water Mitigation Plan (SUSWMP) to be implemented on sites that would aid in stormwater drainage; examples of these include using minimum pavement widths and permeable pavement, directing of rooftop runoff to pervious areas, and including vegetated swales and strips and infiltration basins throughout the development (LARWQCB 2000).

Local

County of Los Angeles Hydrology Manual

The County of Los Angeles Hydrology Manual provides information relevant to conducting hydrologic study within the County of Los Angeles. This manual provides examples and methods to explain the steps involved in converting rainfall to runoff flow rates and volumes using Public Works' standards. In addition, this manual contains procedures and standards developed and revised by the Water Resources Division of the County Department of Public Works based on historic rainfall and runoff data collected within the County. The techniques in this manual apply to the design of local storm drains, retention and detention basins, pump stations, and major channel projects. The techniques also apply to storm drain deficiency and flood hazard evaluations. Low flow hydrology methods related to water quality standards are also discussed.

Los Angeles County Integrated Waste Management Plan

The California Integrated Waste Management Act of 1989 (AB 939) requires that the responsibility for solid waste management be shared between state and local governments. The State of California has directed the County to prepare and implement a local integrated waste management plan in accordance with AB 939. The Los Angeles County Integrated Waste Management Plan Executive Summary presents the County-wide goals and objectives for integrated solid waste management and describes the County's system of governmental solid waste management infrastructure and the current system of solid waste management in the cities and unincorporated areas of the County. This document also summarizes the types of programs planned for individual jurisdictions and describes countywide programs that could be consolidated.

The Los Angeles County Integrated Waste Management Plan, 2015 Annual Report on the Countywide Summary Plan and Countywide Siting Element, describes the County's approach to dealing with a broad range of solid waste issues, including processing capacity; markets for recovered materials; waste reduction mandates; waste disposed at Class I (i.e., hazardous waste–only landfills) and Class II (i.e., landfills that accept specified hazardous waste and non-hazardous wastes) disposal facilities; allocation of "orphan" waste (waste that comes from an unknown origin); the accuracy of the State Disposal Reporting System (DRS); and the California Integrated Waste Management Board (CIWMB) enforcement policy. This document also includes the Los Angeles County Integrated Waste Management strategies to maintain adequate solid waste disposal capacity through 2030. The proposed project would be subject to the Los Angeles County Integrated Waste Management Plan. (LACDWP, 2016).

Los Angeles County General Plan

The following goals and policies in the General Plan address are applicable to the proposed Specific Plan.

Effective Service and Facilities Planning and Maintenance

Goal 1: A coordinated, reliable, and equitable network of public facilities that preserves resources, ensures public health and safety, and keeps pace with planned development.

Policy 1.1: Discourage development in areas without adequate public services and facilities.

Policy 1.2: Ensure that adequate services and facilities are provided in conjunction with development through phasing or other mechanisms.

Policy 1.5: Focus infrastructure investment, maintenance and expansion efforts where the General Plan encourages growth, such as TODs.

Drinking Water

Goal 2: Increased water conservation efforts.

Policy 2.1: Implement water conservation measures, such as drought tolerant landscaping and restrictions on water used for landscaping.

Policy 3.2: Support the increased production, distribution and use of recycled water, gray water, and rainwater harvesting to provide for groundwater recharge, seawater intrusion barrier injection, irrigation, industrial processes and other beneficial uses.

Solid Waste

Policy 5.1: Maintain an efficient, safe and responsive waste management system that reduces waste while protecting the health and safety of the public.

Policy 5.7: Encourage the recycling of construction and demolition debris generated by public and private projects.

Policy 6.7: Encourage projects that incorporate onsite renewable energy systems.

3.13.3 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the *CEQA Guidelines* and the County of Los Angeles Environmental Checklist. Impacts on utilities and service systems could result in a significant impact if it would:

- Exceed wastewater treatment requirements of either the Los Angeles or Lahontan Regional Water Quality Control Boards (See Impact 3.13-1, below);
- Create water or wastewater system capacity problems, or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (See Impact 3.13-2, below);
- Create drainage system capacity problems, or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (See Impact 3.13-3, below);
- Have sufficient reliable water supplies available to serve the project demands from existing entitlements and resources, considering existing and projected water demands from other land uses (See Impact 3.13-4, below);
- Create energy utility (electricity, natural gas, propane) system capacity problems, or result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (See Impact 3.13-5, below);
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs (See Impact 3.13-6, below); or
- Not comply with federal, state, and local statutes and regulations related to solid waste (See Impact 3.13-7, below).

3.13.4 Methodology

The potential for adverse impacts on utilities and service systems has been evaluated based on information concerning current service levels and the ability of the service providers to accommodate the increased demand created by the proposed Specific Plan.

Wastewater Treatment Regulations: The analysis related to wastewater treatment requirements identifies the types of wastewater that is anticipated to be generated by implementation of the Specific Plan, and regulations related to wastewater. Impacts would be considered significant if implementation of the Specific Plan would not comply, would be in conflict with, or would exceed regulations related to wastewater, such that an impact on the environment could result. This analysis only addressed wastewater treatment requirements of the Los Angeles Regional Water Quality Control Board (RWQCB) because the project site is not within the Lahontan RWQCB service area.

Water/Sewer Capacity: The analysis of water and sewer infrastructure capacity focuses on the magnitude of the change in demand for water supplies and wastewater treatment from buildout of the Specific Plan, based on the projected increase in water demand and wastewater generation over the 20-year horizon of the Specific Plan. From the estimated increase in water demand and wastewater generation and location of dense planned uses, an analysis of whether any infrastructure improvements, beyond those proposed as part of the Specific Plan, would be necessary to provide service to the project area over the life of the proposed Specific Plan was determined. Impacts are considered significant if buildout of the Specific Plan would result in the need for construction of water and wastewater facilities that could result in a significant impact on the environment.

Water Supply: The analysis of water supply is focused on the nature and magnitude of the change in levels of water use from buildout of the Specific Plan. The primary resources used for this analysis include the Liberty Utilities 2015 UWMP, LADWP UWMP (LADWP, 2016), and information provided by the Golden State Water Company. The projected increase in water demand over the 20-year horizon of the Specific Plan is compared to future available supplies. The demand generated by the proposed Specific Plan at buildout compared to water supplies available determines whether an impact from implementation of proposed Specific Plan would occur. If buildout of the Specific Plan would result in new or expanded water supply entitlements, a significant impact could occur.

In addition, if the projected water demand associated with the proposed project is accounted for in the most recently adopted UWMP, the analysis incorporates the supporting information from the UWMP. If the water demand within a service area is not accounted for in a UWMP, the EIR includes a discussion with regard to whether the public water system's total projected available water supplies will meet the proposed project’s water demand.

Energy System Capacity: A number of factors are considered when weighing whether a project would use a proportionately large amount of energy that could result in energy capacity problems to existing infrastructure and requiring the expansion of infrastructure or energy supplies. Factors

such as the use of on-site renewable energy features and energy conservation features or programs are considered.

Energy usage during project operation would be considered to have a potential impact on energy infrastructure or supplies if the project were to violate federal, state, and/or local energy standards, including Title 24 of the California Code of Regulations, CALGREEN standards, preclude use of onsite renewable energy systems, inhibit the use of solar energy, or otherwise conserve energy. Impacts would be considered significant if the project would result in a substantial increase in energy demand that would result in the need to construct or expand energy facilities (electricity and natural gas) that could cause a significant impact on the environment.

Stormdrain Capacity: The analysis of the proposed Specific Plan's impact on storm water drainage facilities identifies the general increase or decrease in stormwater that is anticipated to occur from buildout of the proposed Specific Plan, and identifies the existing drainage infrastructure that serves the Specific Plan area. Impacts would be considered significant if the project would result in a substantial increase in stormwater that would result in the need to construct or expand drainage facilities that could cause a significant impact on the environment.

Landfill Capacity: The analysis of the proposed Specific Plan's impact on landfill facilities identifies solid waste that is anticipated to be generated during both construction and operation of the Specific Plan. The analysis identifies the anticipated amount of non-hazardous construction debris and operational solid waste that would be generated from implementation of the Specific Plan and the amount that would be disposed of in landfills after compliance with recycling/diversion requirements. It was assumed that demolition and construction activities would occur throughout implementation of the 20-year plan. In addition, the maximum development that would occur was multiplied by the per capita solid waste generation.

The results (i.e., solid waste after recycling/diversion) are compared with the available capacity of the landfill serving the Specific Plan areas to assess the significance of the Plan's solid waste generation during construction and at buildout. Impacts would be considered significant if the project would result in a substantial increase in solid waste that would affect landfill capacity, such that a new or expanded landfill facility would be required; the development of which could result in an impact on the environment.

Solid Waste Regulations: The analysis of the proposed Specific Plan's impact related to solid waste regulations identifies the non-hazardous solid waste that is anticipated to be generated during both construction and operation of the Specific Plan, and how the Plan would implement the regulations related to disposal of that solid waste.

Impacts would be considered significant if implementation of the Specific Plan would not comply or would be in conflict with federal state, or local statutes or regulations related to solid waste, such that an impact on the environment could result.

3.13.5 Impact Analysis

Wastewater Treatment Requirements

Impact 3.11-1: The proposed project would not exceed wastewater treatment requirements of the Los Angeles Regional Water Quality Control Board.

Project-Specific

The project would introduce 2,666,035 square feet of non-residential uses and 1,952 new residential units within the Specific Plan area, which would result in increased generation of wastewater. Wastewater generated by the proposed Specific Plan development would be treated at the JWPCP, for which wastewater treatment requirements have been established by the LARWQCB NPDES Permit CA0053813 ~~CA0053911~~. Waste discharge requirements for the facilities are based on all applicable state and federal regulations, policies and guidelines, and include limitations on effluent discharge and receiving water. In general, waste effluent discharge requirements include specifications for adequate disinfection treatment and limitations on radioactivity, pollutant concentrations, sediments, pH, temperature, and toxicity. Receiving water requirements include limitations related to temperature, sediments, pH, dissolved oxygen, fecal coliform and other pollutant concentrations, water clarity and color, turbidity, and toxicity.

The land uses proposed by the Specific Plan include residential, mixed-use, medical, educational and commercial uses that would not discharge wastewater that contains harmful levels of toxins beyond the regulations of the LARWQCB and all effluent would comply with the wastewater treatment standards of the RWQCB. The Specific Plan would not facilitate any industrial use development that would generate hazardous wastewater flows, which generally has more adverse impacts on wastewater treatment. Furthermore, discussed in Impact 3.13-2 below, wastewater generated by the Specific Plan would not exceed the existing capacity of wastewater treatment facilities serving the Specific Plan area. Therefore, the project would result in less than significant impacts related to the wastewater treatment requirements of the LARWQCB.

Cumulative

Cumulative wastewater treatment requirements impacts are considered on a system wide basis and are associated with the operation of the wastewater disposal at the JWPCP. Cumulative developments within the urban and developed areas that are served by the JWPCP would consist of infill and redevelopment projects that could include similar to those that would be implemented by the proposed Specific Plan. These similar land uses are not expected to discharge wastewater that contains harmful levels of toxins beyond the regulations of the LARWQCB and all effluent would comply with the wastewater treatment standards of the RWQCB. Cumulative development could also include industrial uses. Any industrial facilities that have the potential to discharge hazardous wastewater would require specific permitting by the RWQCB prior to connecting to the sewer system, which would ensure that flows are within the regulations of the LARWQCB. Therefore, impacts related to the potential for cumulative projects to exceed wastewater treatment requirements of the LARQCB would be less than significant.

As described above, implementation of the proposed Specific Plan would not generate wastewater that contains harmful levels of toxins and all effluent would comply with the wastewater treatment standards of the LARWQCB. Therefore, the Specific Plan would not

generate wastewater that could combine with wastewater from related projects to result in an exceedance of the LARWQCB regulations. The Specific Plan would result in a less than cumulatively considerable impact to wastewater treatment requirements of the LARWQCB.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Water or Wastewater Treatment Facilities

Impact 3.13-2: The proposed project would not create water system or wastewater treatment capacity problems or result in the construction of new water or wastewater treatment facilities that would cause significant environmental effects; however, the proposed project would create wastewater system capacity problems that would result in the need for new or expanded wastewater facilities, the construction of which could cause significant environmental effects.

Project-Specific

Water Infrastructure

The proposed Specific Plan land uses would contribute to an increase in residential, mixed use, medical, educational and commercial uses within the Specific Plan area. The proposed Specific Plan would introduce 2,666,035 square feet of non-residential uses and 1,952 new residential units within the Specific Plan area at buildout.

As described in Section 2.0, Project Description, the Specific Plan proposes improvements to the existing water system to accommodate buildout of the proposed Specific Plan. Most of the existing water pipelines in the Specific Plan area are eight-inches in diameter and above, and have the capacity to accommodate the increase in water demand/load at buildout of the proposed Specific Plan (JMC^2, 2015). However, several lines that are smaller than eight-inches would need to be improved to accommodate buildout of the proposed Specific Plan. Proposed water system improvements include:

- Replace existing six-inch water line in the alley between Holmes Avenue and Bandera Street, north of 118th Street, with an eight-inch line.

- Upgrade existing four-inch water line on 117th Street from Compton Avenue to Holmes Avenue and the existing four-inch water line in 117th Place, east of Compton Avenue, with eight-inch lines.
- Upgrade existing six and four-inch water lines in 119th Street to eight-inch lines from Willowbrook Avenue to Mona Boulevard.
- Replace existing six and four-inch water lines in 118th Street with eight-inch lines from Willowbrook Avenue to Mona Boulevard.

These water infrastructure improvements are included as part of the proposed Specific Plan. There are no additional areas of water infrastructure that would need to be improved to serve the Specific Plan area at buildout. Therefore, the Specific Plan would result in no impacts related to water infrastructure expansion beyond the improvements that are part of the project.

Wastewater Infrastructure

The proposed Specific Plan would intensify land uses within the Specific Plan area and would result an increased generation of wastewater flows. As shown below in **Table 3.13-10,** buildout of the proposed Specific Plan would result in wastewater generation of approximately 1,421,112 gallons per day (gpd) which is approximately 1.4 million gpd (mgd).

TABLE 3.13-10
ESTIMATED INCREASE IN WASTEWATER GENERATION

	Increase at Buildout	Wastewater Generation Factor (gpd)[1]	Estimated Wastewater Generated (gpd)
Residential	1,952 du units	250/du	488,000
Non-Residential	2,666,035 sf	350 gpd/1,000 sf	933,112
		Total:	**1,421,112**

[1] SOURCE: Sanitation Districts of Los Angeles County. http://www.lacsd.org/civica/filebank/blobdload.asp?BlobID=3531
[2] Average rate used due to the range in existing development (i.e. commercial, institutional, etc.).

du=dwelling unit
sf = square feet

As described above, the trunk sewers that serve the Specific Plan area are flowing at 12 – 25 percent of their maximum capacity. In addition, the JWPCP has a 400 mgd capacity for primary and secondary treatment and treated an average of 264 mgd in 2013 (County of Los Angeles, 2014). Therefore, the JWPCP has excess treatment capacity of approximately 136 mgd and would have sufficient capacity to process the additional average wastewater flow of approximately 1.4 mgd that would be generated by the Specific Plan at buildout.

Therefore, the proposed Specific Plan would not increase wastewater generation such that the existing capacity at JWPCP would be exceeded, and would, therefore, not require the construction or expansion of existing wastewater treatment facilities, which could cause significant environmental effects. An evaluation of the projected wastewater flow from the proposed land uses to the existing sewer trunk sewers within the Specific Plan was conducted

(JM^2, 2017). The evaluation identified projected wastewater generated by proposed land uses in the northern and central portions of the Specific Plan would exceed the existing capacities in the trunk sewers along Wilmington Avenue and Mona Boulevard in the northern portions of the Specific Plan and along Willowbrook Avenue in the central portion of the Specific Plan. Therefore, the implementation of the Specific Plan would result in the need to upgrade the existing trunk sewers which could cause significant environmental effects associated with air quality and greenhouse gas emissions, noise and traffic safety during construction activities.

Cumulative

Water Infrastructure

Cumulative water infrastructure impacts are considered on a system-wide basis and are associated with the capacity of existing and planned infrastructure. The cumulative system evaluated includes the Liberty Utilities, Golden State, and Los Angeles Department of Water and Power infrastructure systems that are serving the Willowbrook area and adjacent land uses. Non-contiguous Liberty Utilities, Golden State, and LADWP service areas are not part of the geographical area of cumulative analysis.

Cumulative development within the water service areas would include infill and redevelopment projects. These cumulative projects could result in the need for new or upgraded water infrastructure. The construction activities associated with new or upgraded water facilities could result in significant environmental impacts. The Specific Plan has evaluated infrastructure needs for water service and has included improvements to existing water service pipelines to ensure that buildout of the Specific Plan would be served by adequate infrastructure. Because the project would not require the construction of water facilities beyond the improvements that are part of the project, the Specific Plan would not have a cumulatively considerable contribution to potential significant cumulative impacts associated with water infrastructure.

Wastewater Infrastructure

Cumulative wastewater infrastructure impacts are considered on a system-wide basis and are associated with the capacity of existing and planned infrastructure. The cumulative system discussed below includes Willowbrook sewer system and the conveyance system through wastewater disposal at the JWPCP.

As described above, the trunk sewers that serve the Specific Plan area are flowing at 12 – 25 percent of their maximum capacity, and the JWPCP has an excess treatment capacity of approximately 136 mgd, respectively. Although the trunk sewers that are located within the Specific Plan area currently have excess capacity, wastewater from the proposed Specific Plan land uses is projected to exceed the existing capacities of the trunk sewers within the Specific Plan area. In addition, downstream trunk sewers to the JWPCP could require upgrades or expansions as cumulative development occurs. These improvements could result in significant environmental impacts associated with air quality and greenhouse gas emissions, noise and traffic safety during construction activities. Therefore, cumulative development could result in significant cumulative impacts associated with upgrading trunk sewers. Because the proposed project could also result in significant impacts associated with upgrading trunk sewers within the

Specific Plan area, the project's contribution to cumulative impacts associated with wastewater infrastructure upgrades would be cumulatively considerable.

Mitigation Measures

Project-Specific

Mitigation Measure USS-1: Prior to the issuance of a building permit, the individual project applicants shall submit a sewer study that confirms that the existing trunk sewers have adequate capacity to accommodate the projected wastewater flow from the proposed individual project as well as cumulative projects. If the projected wastewater flow exceeds the existing sewer capacity, the sewer trunk(s) shall be upgraded to accommodate the projected wastewater. Construction activities shall use best management practices to reduce (1) noise levels and limit construction in accordance with the County Code, (2) air quality and greenhouse gas emissions in accordance with the thresholds identified by the South Coast Air Quality Management District (see Section 3.2, Air Quality and Section 3.5, Greenhouse Gas Emissions in this EIR) and (3) traffic safety issues through the implementation of a traffic control plan that includes features such as signage, land closures, flaggers, detours and notifications to surrounding property owners.

Cumulative

Implementation of Mitigation Measure USS-1 is required.

Significance Determination

Project-Specific

Less than significant impact. After the implementation of Mitigation Measures USS-1, construction impacts associated with wastewater infrastructure upgrades would be reduced to less than significant.

Cumulative

Less than significant impact. After the implementation of Mitigation Measures USS-1, the proposed project's contribution to cumulative construction impacts associated with wastewater infrastructure upgrades would be reduced to less than cumulatively considerable.

Stormwater Drainage Facilities

Impact 3.13-3: The proposed project would not create drainage capacity problems, or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.

Project-Specific

The Specific Plan area is a developed urban area that is primarily covered with impervious surfaces. No surface streams or rivers pass through the area. Stormwater run-off sheet flows across impervious surfaces, and is collected by curbs and gutters and conveyed to storm drains.

The infill development and redevelopment projects pursuant to the Specific Plan would consist of residential, mixed use, medical, educational, and commercial uses that would not generate an

increase in the amount of runoff. Implementation of the Specific Plan would develop pervious areas to retain and infiltrate stormwater on development sites pursuant to the County's SUSWMP and LID requirements that reduce and manage drainage. County SUSWMP requirements provide that projects conduct a drainage hydrologic/hydraulic analysis that details the site's anticipated runoff calculations. From these calculations, a WQMP is prepared to ensure that a net increase in stormwater runoff would not occur from implementation of the development. Development projects are required through implementation of a project-specific WQMP to retain and treat the storm water quality volume generated by the project. In addition, the County requires LID standards to reduce runoff by using smart growth practices, stormwater infiltration, evapotranspiration, biofiltration, and rainfall harvest and use.

Additionally, implementation of development under the Specific Plan would install landscaping along streets and within outdoor courtyards and gathering spaces within the Specific Plan area. These vegetated areas would help to capture, retain, and utilize some surface water runoff for irrigation, which would reduce the amount of surface runoff in the storm drain pipelines. Overall, with implementation of the new pervious areas and compliance with applicable regulatory requirements, impacts related to the need to construct or expand stormwater drainage facilities would be less than significant.

Cumulative

The geographic scope for cumulative impacts on stormwater drainage includes the existing stormwater infrastructure that serves the Specific Plan areas (i.e., the drainage lines that extend to Compton Creek and the Compton Creek to the Los Angeles River Reach 1 located near the interchange of I-710 and I-405). These facilities include pipelines and culverts that are owned and maintained by the Los Angeles County Flood Control District (LACFCD). Because the cumulative area is urban, developed, and is generally covered with impervious surfaces, development of cumulative projects would not result in a substantial increase in impervious surfaces in the area or substantially increase stormwater and runoff flows through the stormwater drainage system. In accordance with state and regional MS4, LID, and County SUSWMP regulations, development projects are required to maintain pre-project hydrology, such that no net increase of offsite stormwater flows would occur. RWQCB Permit conditions require a hydrology study/drainage to demonstrate that all runoff would be appropriately conveyed and not leave the project sites at rates exceeding pre-project conditions, prior to receipt of necessary permits. As a result, increases of runoff from cumulative projects that could cumulatively combine to impact stormwater drainage capacity would be less than cumulatively significant.

The Specific Plan area is generally covered with impervious surfaces and development of projects pursuant to the Specific Plan would not substantially increase the amount of impervious surfaces and runoff, such that existing storm drains would be overwhelmed because all development projects would be required to comply with the same SUSWMP, LID, and RWQCB permit requirements to retain the difference between the volume pre- and post-construction runoff volume. In addition, implementation of the Specific Plan would include installation of landscaping along streets and within open space areas. The new landscaping areas would help to capture, retain, and utilize some surface water runoff for irrigation, which would reduce the amount of surface runoff in the storm drain pipelines. Overall, with implementation of the new

pervious areas and compliance with applicable regulatory requirements, the project's contribution to cumulative impacts related to stormwater drainage capacity would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Water Supplies

Impact 3.13-4: The proposed project would have sufficient water supplies available to serve the project demands from existing entitlements and resources, and would not require new or expanded entitlements.

Project-Specific

The proposed Specific Plan would increase the amount of development within the existing Specific Plan area. The proposed Specific Plan would introduce 2,666,035 square feet of non-residential uses and 1,952 new residential units within the Specific Plan area at buildout, which would result in a net increase in population of approximately 5,778 residents and 5,632 employees. The development under the proposed Plan is expected to increase the demand for potable water. As described above three water purveyors provide services within the Specific Plan area; including Liberty Utilities, Golden State, and LADWP. The Specific Plan includes 1,590 residential units and 4,706 residents within the Liberty Utility service area, 362 residential units and 1,072 residents within the Golden State service area, and no residential units or residents within the LADWP service area.

Each of the three water purveyors forecasted water demand within their service areas based on SCAG demographic data for the year 2035. Because the Economic Development Strategy and Capital Improvement Program for the Willowbrook TOD Specific Plan identified SCAG baseline net employment growth for the Specific Plan area, this baseline net employment growth was subtracted from the projected growth within the Specific Plan resulting in the amount of employees proposed within the Specific Plan that exceed the SCAG baseline employment growth for the Specific Plan area. The baseline SCAG growth was identified for the Specific Plan area as 2,690 employees (Hoffman, 2015). Based on the ratio of non-residential square footage proposed

within each of the water service areas, the amount of employees that exceed the SCAG baseline employment growth within the Specific Plan area are as follows: the Liberty Utilities service area would include an increase of 2,818 employees, Golden State service area would include an increase of 63 employees, and LADWP would include an increase of 61 employees.

In addition, SCAG projected a net housing unit growth for the Willowbrook TOD Specific Plan area. This net increase is 887 units. Based on the number of units proposed within each of the water service areas, the amount of housing units that exceed the SCAG baseline housing unit growth within the Specific Plan area are as follows: the Liberty Utilities service area would include an exceedance of the SCAG projected housing growth (722 units) by 868 units, Golden State service area would include an exceedance of the SCAG projected housing growth (165 units) by 197 units and LADWP would not include an increase of residential units.

Liberty Utilities

Within the Specific Plan area, Liberty Utility Service provides water supply south of Imperial Highway and west of Wilmington Avenue. The net increase in development at buildout of the Specific Plan within the Liberty Utilities service area is approximately 1,590 residential units and 2,553,496 square feet on non-residential development. This would result in an exceedance of the SCAG residential unit growth (722 units) for this service area by 868 residential units. The Specific Plan would result in a net increase in residential population of approximately 4,706 additional residents which would exceed the SCAG residential population growth (2,137 residents) for this area by 2,569 residents. The Specific Plan would also result in a net increase in employees (jobs) of approximately 5,394 jobs which would exceed the SCAG job growth (2,576 jobs) for this area by 2,818 jobs.

As described in the Draft 2015 Liberty Utilities UWMP, the average base daily water use per capita since 1998 (17 years) is 99 gallons per day. However, neither the Liberty Utilities UWMP nor County's General Plan EIR provides a water demand rate for employees or employment uses. Because a substantial portion of the Specific Plan area would be developed for employment uses (such as mixed use, medical, educational, and commercial), the water demand rate of 84 gallons per employee per day (as used in the East Los Angeles 3rd Street Specific Plan EIR [County 2014]) was utilized to identify the water demand from the number of employees that exceeded the SCAG employment growth. Both the East Los Angeles and proposed TOD Specific Plan projects are located within an urban developed portion of Los Angeles County and would implement similar residential mixed uses and employment generation infill and redevelopment projects near Metro stations. Thus, the use of this demand factor is appropriate to use for analysis of the net water demand that would occur from implementation of the proposed Specific Plan.

As shown in **Table 3.13-11**, it is anticipated that an increased water demand of 1,029 AFY would result from buildout of the Specific Plan within the Liberty Utilities water service area. Because Liberty Utility has included water demand projections for 2035 within its service area, these projections are subtracted from the total increase water demand for the Specific Plan area. These projections are based on SCAG growth projections. Therefore, the proposed Specific Plan would result in an exceedance of Liberty's projection by approximately 527 AFY. As shown previously in Table 3.13-3, including anticipated growth, the Liberty UWMP anticipates having a surplus

water supply of 910 AFY in 2035. Because the Liberty Utilities would have an excess water supply of 910 AFY in excess of their growth projections based on SCAG projected growth, the Specific Plan's increased demand of 527 AFY is able to be accommodated. The proposed project would not require or result in the need for new or expanded water supply entitlements. Therefore, buildout of the proposed Specific Plan would result in a less than significant impact to Liberty Utilities water supply entitlements for an average year.

TABLE 3.13-11
NET WATER DEMAND AND WATER DEMAND IN EXCESS OF 2035 BUILDOUT PROJECTIONS WITHIN LIBERTY UTILITIES SERVICE AREA OF THE SPECIFIC PLAN AREA

	Net Increase at Buildout	Demand Rate	Net Increased Water Demand at Buildout
Residents			
Specific Plan Total	4,706 residents	99 gpd[3]	465,894 gpd
SCAG Total	-2,137 residents	99 gpd[3]	-211,563 gpd
Net Subtotal[1]	*2,569 residents*		*254,331 gpd*
Employees			
Specific Plan Total	5,394 employees	84 gpd[4]	453,096 gpd
SCAG Total	-2,818 employees	84 gpd[4]	-236,712 gpd
Net Subtotal[2]	*2,576 employees*		*216,384 gpd*
Total Increased Demand			
Specific Plan Total Demand			918,990 gpd (1,029 AFY)
SCAG Total 2035 Projected Demand			-448,275 gpd (502 AFY)
Total Demand in Excess of Liberty Utility's 2035 Projected Demand for Specific Plan Site			**470,715 gpd (527 AFY)**

gpd = gallons per day
AFY = acre feet per year

1 The net subtotal in residents is the number of residents in excess of the SCAG residential population projections for the Specific Plan area because Liberty Utilities water demand projections already includes water use by projected residential population based on SCAG's population forecast. Therefore, the net increase in water demand at buildout is the amount of water demand in excess of Liberty's projected water demand for the Specific Plan area based on SCAG growth projections.
2 The net subtotal in employees is the number of employees in excess of the SCAG employment growth projections for the Specific Plan area because Liberty Utilities water demand projections already includes water use by projected employment growth based on SCAG's employment forecast.
3 SOURCE: Liberty, 2016.
4 SOURCE: County of Los Angeles, 2014.

Golden State

Within the Specific Plan area, Golden State Water Company (GSWC) provides water supply south of the I-105 freeway and east of Wilmington Avenue. The net increase in development at buildout of the Specific Plan within the GSWC service area is approximately 362 residential units and 57,259 square feet on non-residential development. This would result in an increase of 121 additional employees within the GSWC service area. The average monthly residential water usage in the Willowbrook service area is 8,416 gallons per month per residence (GSWC, 2016), (280 gallons per day per residence assuming 30 days per month). Additionally, as described

above, the water demand rate of 84 gallons per employee per day (as used in the East Los Angeles 3rd Street Specific Plan EIR [County of Los Angeles, 2014]) is used.

As shown in **Table 3.13-12**, the buildout of the Specific Plan within the GSWC's water service area would result in the water demand of approximately 125 AFY. Because GSWC has included water demand projections for 2035 within its service area, these projections are subtracted from the total increase water demand for the Specific Plan area. These projections are based on SCAG growth projections. Therefore, the proposed Specific Plan would result in an exceedance of GSWC's projection by approximately 68 AFY.

TABLE 3.13-12
NET WATER DEMAND AND WATER DEMAND IN EXCESS OF 2035 BUILDOUT PROJECTIONS WITHIN GOLDEN STATE WATER COMPANY'S SERVICE AREA OF THE SPECIFIC PLAN AREA

	Net Increase at Buildout	Demand Rate	Net Increased Water Demand at Buildout
Residential Units			
Specific Plan Total	362 units	280 gpd[3]	101,360 gpd
SCAG Total	-165 units	280 gpd[3]	-46,200 gpd
Net Subtotal[1]	*197 units*		*55,160 gpd*
Employees			
Specific Plan Total	121 employees	84 gpd[4]	10,164 gpd
SCAG Total	-58 employees	84 gpd[4]	-4,872 gpd
Net Subtotal[2]	*63 employees*		*5,292 gpd*
Total Increased Demand			
Specific Plan Total Demand			111,524 gpd (125 AFY)
SCAG Total 2035 Projected Demand			-51,072 gpd (57 AFY)
Total Demand in Excess of GSWC's 2035 Projected Demand for Specific Plan Site			**60,452 gpd (68 AFY)**

gpd – gallons per day
AFY - acre feet per year

1 The net subtotal in residents is the number of residents in excess of the SCAG residential population projections for the Specific Plan area because GSWC water demand projections already includes water use by projected residential population based on SCAG's population forecast. Therefore, the net increase in water demand at buildout is the amount of water demand in excess of GSWC's projected water demand for the Specific Plan area based on SCAG growth projections.
2 The net subtotal in employees is the number of employees in excess of the SCAG employment growth projections for the Specific Plan area because GSWC water demand projections already includes water use by projected employment growth based on SCAG's employment forecast.
3 SOURCE: GSWC, 2016.
4 SOURCE: County of Los Angeles, 2014.

As shown previously in Table 3.13-4, GSWC anticipates an increased demand and supply of 224 AF between 2015 and 2035 to accommodate growth projections. According to GSWC staff, the increase in water demand resulting from the development of the Specific Plan would not result in a water supply issue because GSWC has an adjudicated amount of groundwater available from the Central Basin of 16,439 AFY. Therefore, the proposed project would not require or result in the need for new or expanded water supply entitlements within the GSWC service area, and

buildout of the proposed Specific Plan would result in a less than significant impact to GSWC water supply entitlements.

LADWP

The existing uses include a Metro parking lot and vacant site. The development capacity for the vacant site is approximately 55,281 square feet of commercial uses. This would result in approximately 56 additional employees in the LADWP service area at buildout. Using the 84 gpd per employee water demand rate described above, buildout of the proposed Specific Plan within the LADWP water service area would result in an increased water demand of 11 AFY as shown in **Table 3.13-13**. Because LADWP has included water demand projections for 2035 within its service area, these projections are subtracted from the total increase water demand for the Specific Plan area. These projections are based on SCAG growth projections. Therefore, the proposed Specific Plan would result in an exceedance of LADWP's projection by approximately 6 AFY.

TABLE 3.13-13
NET WATER DEMAND AND WATER DEMAND IN EXCESS OF 2035 BUILDOUT PROJECTIONS WITHIN THE LOS ANGELES DEPARTMENT OF WATER & POWER'S SERVICE AREA OF THE SPECIFIC PLAN AREA

	Net Increase at Buildout	Demand Rate	Net Increased Water Demand at Buildout
Residential Units			
Specific Plan Total	0 units	154 gpd[3]	0 gpd
SCAG Total	0 units	154 gpd[3]	0 gpd
Net Subtotal[1]	0 units		0 gpd
Employees			
Specific Plan Total	117 employees	84 gpd[4]	9,828 gpd
SCAG Total	-56 employees	84 gpd[4]	-4,704 gpd
Net Subtotal[2]	61 employees		5,124 gpd
Total Increased Demand			
Specific Plan Total Demand			9,828 gpd (11 AFY)
SCAG Total 2035 Projected Demand			-4,704 gpd (5 AFY)
Total Demand in Excess of LADWP's 2035 Projected Demand for Specific Plan Site			**5,124 gpd (6 AFY)**

gpd – gallons per day
AFY - acre feet per year

1 The net subtotal in residents is the number of residents in excess of the SCAG residential population projections for the Specific Plan area because GSWC water demand projections already includes water use by projected residential population based on SCAG's population forecast. Therefore, the net increase in water demand at buildout is the amount of water demand in excess of LADWP's projected water demand for the Specific Plan area based on SCAG growth projections.
2 The net subtotal in employees is the number of employees in excess of the SCAG employment growth projections for the Specific Plan area because LADWP water demand projections already includes water use by projected employment growth based on SCAG's employment forecast.
3 Based on ten-year average reported in 2015 Urban Water Management Plan for LADWP.
4 Source: County of Los Angeles, 2014.

As described previously, including anticipated growth, the LADWP UWMP anticipates having a surplus water supply of 47,652 AFY in 2035. The LADWP water supply would be able to accommodate the proposed Specific Plan's exceedance of LADWP's 2035 water demand of 6

AFY. Therefore, the proposed project would not require or result in the need for new or expanded water supply entitlements within the LADWP service area, and buildout of the proposed Specific Plan would result in a less than significant impact to GSWC water supply entitlements.

Combined Water Use

Based on the individual water demand projections identified above for each service area, the total water demand by the proposed Specific Plan is 1,165 AFY (1,029 AFY within Liberty service area, 125 AFY within GSWC service area and 11 AFY within LADWP service area). Because a portion of this future water demand is already accounted for within water demand projections by the three water purveyors, the total water demand in excess of 2035 projections is 601 AFY (527 AFY within Liberty service area, 68 AFY within GSWC service area, and 6 AFY within LADWP service area). As discussed above, buildout of the proposed Specific Plan would result in a less than significant impact on existing water supply entitlements.

Cumulative

Cumulative water supply impacts are considered on a purveyor service area basis and are associated with the adequacy of the primary sources of water that include groundwater, imported water, and recycled water.

As described above groundwater rights are adjudicated in the Basin, which has regulated groundwater supplies. The Watermaster management of the adjudicated basin and the prescriptive allowable pumping rights for each agency that accesses the groundwater basin reduces the potential of incremental increases to groundwater pumping that could result in a cumulatively considerable impact on the groundwater supplies.

In addition, as described previously, each of the water purveyors provides projections for water supply and demand through 2035 that includes imported water and recycled water sources, and shows that with anticipated growth per SCAG projections, each water purveyor would have a water surplus. Furthermore, all development is required to meet water conservation goals including a 20 percent reduction in per capita demand statewide by 2020. As a result, cumulative development would result in less than significant cumulative impacts to water supply.

Because the proposed project as well as cumulative projects would result in less than significant impacts, the implementation of the proposed project would result in less than cumulatively considerable impacts to water supply.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Energy Facilities

Impact 3.13-5: The proposed project would not create energy utility system capacity problems, or result in the construction of new energy facilities or expansion of existing facilities, or would it require or result in the new or expanded entitlements.

Project-Specific

Once operational, site-specific developments that would occur pursuant to the Specific Plan would include residential, mixed use, medical, educational and commercial uses that generate demand for electricity, natural gas, as well as gasoline for motor vehicle trips. However, these types of land uses would involve energy consumption quantities that are typical for urban infill development, and no operational activities or land uses would occur that would result in extraordinary energy consumption.

New development under the proposed Specific Plan would be required to meet Title 24 energy and CALGREEN efficiency standards. According to the California Energy Commission, the CALGREEN/Title 24 standards are 25 percent more efficient than previous standards for residential construction and 30 percent better for nonresidential construction (CEC, 2012).Typical CALGREEN measures include: insulation; use of energy-efficient heating, ventilation and air conditioning equipment (HVAC); solar-reflective roofing materials; energy-efficient indoor and outdoor lighting systems; reclamation of heat rejection from refrigeration equipment to generate hot water; incorporation of skylights, etc.

In complying with these standards, impacts to peak energy usage periods that could result in the need to expand the energy infrastructure system would be minimized, and impacts on the existing energy system would be reduced. Additionally, the infill development that would occur by the proposed Specific Plan would be within an urbanized area where infrastructure exists for new development to connect to; therefore, implementation of the proposed Specific Plan would not result in the need to develop or extend infrastructure to serve buildout. Furthermore, buildout of the proposed Specific Plan would not create energy utility system capacity problems, or require new or expanded entitlements. Thus, impacts related to energy infrastructure and services would be less than significant.

Cumulative

The geographic context for analysis of cumulative impacts regarding energy includes past, present, and future development within southern California because energy (including electricity, natural gas, and petroleum) are generated and distributed by regional utility providers throughout the southern California region.

All development projects throughout the region would be required to comply with the energy efficiency standards in CALGREEN/Title 24 and LID requirements; additionally, some of the developments could provide for additional reductions in energy consumption by use of solar

panels, sky lights, or other LEED type energy efficiency infrastructure. With implementation of the existing energy conservation regulations, cumulative energy utility system capacity problems would not result, and the construction of new or expanded energy facilities would not be required from the related infill development within the urban and developed region. Therefore, impacts from cumulative projects associated with energy would be less than significant.

Development pursuant to the proposed Specific Plan would incrementally contribute to the need for regional energy. As discussed above, the Specific Plan would include uses that would involve energy consumption quantities that are typical for urban infill development, and no operational activities or land uses would occur that would result in extraordinary energy consumption. Overall, implementation of the proposed Specific Plan would not result in a significant demand on regional energy infrastructure, and would not create energy utility system capacity problems, or result in the construction of new energy facilities or expansion of existing facilities or entitlements. As a result, the project's contribution to cumulative impacts related to the energy infrastructure system and entitlements would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Landfill Capacity

Impact 3.13-6: The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Project-Specific

Construction

As described in Section 3.0 Project Description, the proposed Specific Plan would result in development of 1,952 residential units and 2,666,035 square feet of non-residential uses. Construction activities would occur over the 20-year plan implementation period.

Demolition and construction activities generate solid waste, including cardboard, wood, metals, glass, plastics, concrete, asphalt, and other building materials. The average estimate of overall demolition waste from residential is 50 pounds per square foot, and demolition waste from non-

residential is estimated to be 158 pounds per square foot (USEPA, 2003). The average estimate of overall construction waste from new residential development is 4.39 pounds per square foot, and construction waste from non-residential is estimated to be 4.34 pounds per square foot (USEPA 2003). As shown in **Table 3.13-14**, it is estimated that demolition and construction would generate approximately 35,622 tons of solid waste over the 20-year buildout of the proposed Specific Plan prior to compliance with the Los Angeles County Code Chapter 20.87 which requires diversion of construction and demolition debris away from landfills. Prior to compliance with Chapter 20.87 and based on an assumption that demolition and construction waste would be generated approximately 50 percent of the 20-year buildout period, the Specific Plan could result approximately 4,783 ~~3,562~~ tons in one year or approximately 15 ~~11~~ tons in one day (based on a 6 day per week landfill schedule). As shown below, after compliance with Chapter 20.87, approximately 14,350 tons of solid waste would be sent to landfills over the 20-year buildout period. Based on the generation of demolition and construction waste over approximately 50 percent of the 20-year buildout period, the Specific Plan could contribute approximately 1,435 tons of solid waste to landfills in one year or approximately 5 tons in one day (based on 6 day per week landfill schedule).

TABLE 3.13-14
ESTIMATED CONSTRUCTION SOLID WASTE

	Construction Waste (lbs per sf)	Net Square Footage Demolished or Constructed	Total Solid Waste Generation over 20 Years
Demolition			
Residential	50[1]	152 du	11,400,000 lbs[2]
Non-Residential	158[1]	378,764 sf	59,844,712 lbs
Subtotal			71,244,712 lbs (35,622 tons)
Construction			
Residential	4.39[1]	1,952 du	12,853,420 lbs[2]
Non-Residential	4.34[1]	2,666,035 sf	11,570,591 lbs
Subtotal			24,424,511 lbs (12,212 tons)
Total Solid Waste (Prior to Compliance with Los Angeles County Code Chapter 20.87 – 70% Diversion)			**95,669,223 lbs or 47,834 tons**
Total Solid Waste (After Compliance with Los Angeles County Code Chapter 20.87 – 70% Diversion)			**28,700,766 lbs or 14,350 tons**

lbs – pounds
sf – square foot
du – dwelling unit

[1] SOURCE: USEPA, 2003
[2] Based on an average residential square footage of 1,500 for each dwelling unit.

As described previously, the landfills that can serve the Specific Plan area has an average remaining daily capacity of 4,399 tons (Sunshine Canyon Landfill), 233 tons (Antelope Valley Landfill, and 2,636 tons (Lancaster Landfill). These landfills are projected to remain open until at

least the year 2037 (see Table 3.13-9 above). Based on the available capacity, these landfills would have the capacity to dispose of the approximately 5 ~~11~~ tons per day (after compliance with Chapter 20.87) over approximately 10 years of construction related solid waste that would occur from buildout of the proposed Specific Plan. Construction of the proposed Specific Plan would not result in the need to expand the existing landfill facilities or construct a new landfill facility. As a result, construction activities would result in less than significant impacts related to landfill facilities.

Operation

The Specific Plan buildout would result in the net development of 1,952 residential units and 2,666,035 square feet of non-residential uses. The increased development that would occur from buildout of the proposed Specific Plan would result in increased generation of solid waste. As shown in **Table 3.13-15**, buildout of the proposed Specific Plan would generate an estimated 39,869 pounds (20 tons) per day. Based on the current recycling requirements, this would result in approximately 10 tons of solid waste from operation of the proposed Specific Plan at buildout. In 2020, when AB 341 becomes effective diversion of 75 percent of solid waste from landfills would be required, and solid waste landfill disposal from operation of the Specific Plan at buildout would be reduced to approximately 5 tons per day.

TABLE 3.13-15
SOLID WASTE GENERATION AND DISPOSAL FROM OPERATION OF THE PLAN AT BUILDOUT

	Generation Factor[1,2]	Increase at Buildout	Solid Waste Generated
Residential	12.23 lbs/du/day	1,952	23,873 lbs/day
Non-Residential	6 lbs/1,000 sf/day	2,666,035	15,996 lbs/day
Total			**39,869 lbs/day** **20 tons/day**
Daily Landfill Disposal Amount Per Current Regulations			10 tons/day
Daily Landfill Disposal Amount in 2020 Per AB 341			5 tons/day

[1] Derived from a list of generation rates maintained by CalRecyle (CalRecycle, 2017).
[2] These factors are estimates prior to recycling, composting or other waste diversion programs.

Waste generated within the Specific Plan area would continue to be hauled to the Downey Area Recycling and Transfer facility and the South Gate Transfer Station facility and then transported to the Sunshine Canyon Landfill, Antelope Valley Landfill, and the Lancaster Landfill for disposal. As described above, these landfills have an average remaining daily capacity of 4,399 tons (Sunshine Canyon Landfill), 233 tons (Antelope Valley Landfill, and 2,636 tons (Lancaster Landfill) Savage Canyon Landfill. These landfills are also projected to remain open until at least the year 2037 (see Table 3.13-9 above). Based on the available capacity, these landfills would have the capacity to dispose of the approximately 5 tons per day of solid waste at buildout. Therefore, the increase in solid waste from operation of the proposed Specific Plan at buildout would not require construction of a new landfill or expansion of the existing landfill to meet

capacity needs. As a result, operational impacts related to capacity of landfill facilities would be less than significant.

Cumulative

The geographic scope of cumulative analysis for landfill capacity is the service area for the Sunshine Canyon Landfill, Antelope Valley Landfill and Lancaster Landfill which serve the Specific Plan area. The projections of future landfill capacities are based on the projected waste stream going to these landfills. As described above, these landfills are projected to remain open until at least 2037. The lifespan of these landfills include the existing and projected solid waste that is anticipated from the growth in the County (County of Los Angeles, 2015). As a result, impacts from future growth on landfill capacity would be less than cumulatively significant. Although the proposed project would contribute solid waste to the landfills, the addition of up to 5 ~~11~~ tons of demolition and construction solid waste per day and up to 5 tons of operational solid waste per day would not substantially impact the permitted capacity of the landfills. Therefore, the increase in solid waste from operation of the proposed Specific Plan in combination with planned growth within the County would not require construction of a new landfill or expansion of the existing landfill to meet capacity needs. As a result, the project's contribution to cumulative impacts on the capacities of the landfill facilities would be less than cumulatively considerable.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

Less than significant impact.

Cumulative

Less than significant impact.

Compliance with Solid Waste Regulations and Statutes

Impact 3.13-7: The proposed project would comply with federal, state, and local statutes and regulations related to solid waste.

Project-Specific

The proposed Specific Plan would result in new development, infill and redevelopment of land uses that would generate solid waste. All solid waste-generating activities within the County of Los Angeles are subject to the requirements set forth in AB 939 that requires diversion of a minimum of 50 percent of construction and demolition debris. In addition, after 2020

development projects pursuant to the Specific Plan would be required to divert 75 percent of solid waste pursuant to AB 341. Disposal of waste generated from implementation of the proposed Specific Plan would be consistent with all state regulations and the policies within the Los Angeles County Integrated Waste Management Plan. Future development under the proposed Specific Plan would comply with all solid waste statutes and regulations. Therefore, impacts associated with conflict with federal, state, or local statutes or regulations related to solid waste would not occur from implementation of the proposed Specific Plan, and there would be no impacts.

Cumulative

The geographic scope of cumulative analysis for compliance related to solid waste regulations is the service area for the landfills that serve the Los Angeles County region. Disposal of solid waste generated by cumulative development would be subject to the requirements set forth in AB 939, AB 341, and the policies within the Los Angeles County Integrated Waste Management Plan. Therefore, cumulative development would comply with all solid waste statutes and regulations, and cumulative development would result in no impacts.

Because disposal of solid waste generated by the Specific Plan would comply with all solid waste statutes and regulations, the proposed Specific Plan would not contribute impacts related to conflicts with solid waste regulations. Therefore, the project would not contribute to cumulative impacts associate with compliance with solid waste statutes and regulations.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Significance Determination

Project-Specific

No impact.

Cumulative

No impact.

3.13.6 References

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CHAPTER 4
Alternatives

In accordance with CEQA Guidelines Section 15126.6, this Final ~~Draft~~ Environmental Impact Report (Final ~~Draft~~ EIR) contains a comparative impact assessment of alternatives to the project. The primary purpose of this section is to provide decision makers and the public with a reasonable range of feasible project alternatives that could attain most of the basic project objectives, but would avoid or substantially lessen any of the significant effects of the project.

CEQA Guidelines Section 15126.6 states:

> *Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.*

Analysis of four alternatives to the project is guided by the following considerations set forth under CEQA Guidelines Section 15126.6:

- An EIR need not consider every conceivable alternative to a project;
- An EIR should identify alternatives that were considered by the lead agency, but rejected as infeasible during the scoping process;
- Reasons for rejecting alternative include:
  - Failure to meet most of the basic project objectives;
  - Infeasibility; or
  - Inability to avoid significant effects.

Alternatives to a project must be considered even if they would impede, to some degree, the attainment of project objectives or be more costly (CEQA Guidelines Section 15126.6(b)). However, the range of alternatives addressed in an EIR need not be exhaustive, and is governed by a "rule of reason," which requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. Of the alternatives considered, the EIR need examine in detail only those that the lead agency determines could feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project. An EIR need not consider an alternative whose effects cannot be reasonably ascertained, whose implementation is remote and speculative, or an alternative that would not substantially lessen or avoid the significant effects of the project. CEQA Guidelines Section 15126.6(d) states that if an

alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternatives shall be discussed, but "in less detail than the significant effects of the project as proposed."

CEQA Guidelines Section 15364 defines feasibility as "capable of being accomplished in a successful manner with a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." The determination of the feasibility of project alternatives may include, but is not limited to, factors such as: site suitability, economic viability, infrastructure availability, general plan consistency, regulatory and jurisdictional limitations, and whether the project proponent can reasonably acquire, control or otherwise have access to an alternative project site (CEQA Guidelines Section 15126.6(f)(1)).

A comparison of impacts associated with the project and alternatives is provided herein. In several cases, the description and severity of the impact may be the same under each scenario when compared with the CEQA Thresholds of Significance (i.e., both scenarios would result in a less than significant impact). However, the actual degree of impact may be slightly different under each scenario, and this relative difference is the basis for a conclusion of greater or lesser impacts. In addition, the alternatives analysis includes the assumption that all applicable mitigation measures associated with the project would be implemented with a given project alternative.

An evaluation of a No Project Alternative is required by CEQA Guidelines Section 15126.6(e) and is included in this section as Alternative 1, No Project/Development in Accordance with Existing Zoning. Three additional alternatives, Alternative 2, Modified Land Use Along 119th Street; Alternative 3, Reduced MLK Tier 2 Development Set Forth in MLK Medical Center Campus EIR; and, Alternative 4, Construct All Physical Traffic Measures Set Forth in MLK Medical Center Campus EIR are also analyzed and compared to the project.

4.1 Alternative Descriptions

Alternative 1: No Project/Development in Accordance with Existing Zoning: The No Project/Development in Accordance with Existing Zoning would result in the development of the project area up to 80 percent of the development allowed under existing zoning. The recent updates as part of the General Plan Update/Zoning Consistency Program rezoned portions of Specific Plan Area to the Mixed Use Zone which allows for a significantly higher residential density and a commercial mixed-use component. This rezoning was applied to County-owned properties with the understanding that implementation would be refined through a TOD Specific Plan. As new development on the rezoned parcels is subject to County authorization and contingent on the full complement of TOD Specific Plan components, it is unlikely that the potential 1,106 residential units and 2,174,344 square feet of non-residential uses afforded solely through the rezoning along would be realized in the foreseeable future. However, for the purpose of this alternatives analysis, development in accordance with existing zoning is compared to the potential effects of implementing the proposed Specific Plan.

Alternative 2: Modified Land Use along 119th Street: Development under this alternative would result in the implementation of Mixed Use 1 zoning on the south side of E. 119th Street between S. Wilmington Avenue to W. Willowbrook Avenue. The proposed Specific Plan includes 19 single-family residential units along the south side of E. 119th Street. Under this alternative, the parcels with 19 single-family residential units would be rezoned to permit 66 multiple family residential units and 49,555 square feet of non-residential uses. This alternative would include all other land uses under the proposed Specific Plan. Therefore, development under this alternative would result in net increases of 1,999 residential units and 2,715,591 square feet of non-residential uses within the Specific Plan area. In comparison to the proposed Specific Plan, this alternative would result in 47 more residential units and 49,555 square feet of more non-residential uses.

Alternative 3: Reduced MLK Tier 2 Development Set Forth in MLK Medical Center Campus EIR: This reduced development alternative includes the same land uses as the proposed project, except for the MLK Hospital Center. This alternative includes a 50 percent reduction in non-residential square footage compared to the uses approved as part of the Tier 2 development set forth in the MLK Medical Center Campus EIR. This alternative includes the development of 832,348 square feet of MLK Hospital uses compared to the 1,248,522 square feet of MLK Hospital uses currently proposed as part of the Specific Plan. Therefore, development under this alternative would result in net increases of 1,952 residential units and 2,249,862 square feet of non-residential uses. In comparison to the proposed Specific Plan, this alternative would result in the same number of residential units and 416,174 square feet of fewer non-residential uses.

Alternative 4: Construct All Physical Traffic Measures Set Forth in MLK Medical Center Campus EIR: This alternative includes the implementation of all the physical traffic improvements proposed as mitigation measures as set forth on the MLK Medical Center Campus EIR. Not all of these improvements were included in the proposed Specific Plan improvements because roadway widenings were considered generally not feasible due to the lack of available right-of-way because of existing buildings or lack of control over adjacent right-of-way, or because of inconsistency with Specific Plan goals and objectives; lane re-stripings were considered to be feasible if they would not result in inadequate lane widths; and signal/phasing changes were considered to be feasible as long as they would improve and not worsen intersection operations or potentially cause other problems and/or impacts elsewhere. The improvements that are part of this alternative that are not included in the proposed Specific Plan include the following:

- **I-105 / Imperial Highway:** Provide a third northbound, left-turn lane by widening off-ramp by 10 feet for approximately 150 to 200 feet.

- **Wilmington Avenue / I-105 Eastbound Ramps, County of Los Angeles / California Department of Transportation:** Provide an additional eastbound lane by widening (reducing the raised median on the ramp) the off-ramp. The eastbound approach shall have a left-turn lane, shared left-right turn lane, and a separate right-turn lane. The sidewalks on both sides of Wilmington Avenue (as noted above) shall be reduced by 2 feet and the Wilmington Avenue roadway shall be widened by 2 feet on both sides (a total of 4 feet) from the south leg

of this intersection. Provide an additional northbound left-turn lane by widening (reducing the medians).

- **Wilmington Avenue / 118th Street, County of Los Angeles:** Widen Wilmington Avenue roadway by 2 feet on both sides and re-stripe to provide two through lanes, a shared through right-turn lane and dual left-turn lanes along the southbound approach. Restripe the westbound approach to provide a separate right-turn lane and a shared left through lane. Northbound approach shall have the same lane geometry as existing conditions.

- **Wilmington Avenue / 120th Street–119th Street, County of Los Angeles:** Widen Wilmington Avenue roadway by 2 feet on both sides and restripe the southbound approach to provide a separate right-turn lane, three through lanes, and a left-turn lane.

  Re-stripe northbound approach to provide a shared through-right turn lane, two through lanes, and a left-turn lane. Remove median adjacent to northbound approach to facilitate three southbound receiving lanes. Restrict parking along Wilmington Avenue roadway during morning and evening peak periods along the eastside of Wilmington between 120th Street and Martin Luther King, Jr. (MLK) Community Hospital Driveway entrance.

  Widen 120th Street west of Wilmington Avenue for 250 feet, on the south side by 2 feet, and re-stripe the eastbound approach to provide a separate right-turn lane, dual left-turn lanes, and a through lane. The westbound approach of 119th Street would have the same lane geometry as existing conditions.

- Wilmington Avenue / Martin Luther King, Jr. Community Hospital Entrance–120th Street, County of Los Angeles: Re-stripe southbound approach to provide a separate right-turn lane, two through lanes, and a left-turn lane. Provide three northbound receiving lanes an restrict on-street curb parking along the eastside of Wilmington Avenue between Martin Luther King, Jr. Community Hospital Driveway and 120th Street and 120th Street and 119th Street during morning and evening peak hours. Remove the median within the hospital entrance and re-stripe the driveway to provide dual left-turn lanes, a through lane, and a separate right-turn lane along the eastbound approach. Re-stripe to provide one receiving lane.

4.2 Significant, Adverse, and Unavoidable Impacts

The proposed project would result in the following project and cumulative significant impacts which cannot be reduced to less than significant, even with the implementation of feasible mitigation measures.

Air Quality

- Conflict with or obstruct implementation of Air Quality Plan
- Air Quality Standards/Violations related to regional construction ROG, NO_x and CO emissions, regional operational ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$ emissions, localized construction NO_x, CO, PM_{10} and $PM_{2.5}$ emissions, and criteria pollutants related to ozone precursors (ROG and NO_x), PM_{10}, and $PM_{2.5}$.

Cultural Resources

- Impacts to historical resources.

Greenhouse Gas Emissions

- Generation of greenhouse gas emissions.

Traffic

- Increase in vehicular traffic at intersections, freeway segments and off-ramps within the jurisdictions of the County of Los Angeles, City of Compton, City of Lynwood, City of Los Angeles and Caltrans.

- Increase in vehicular traffic at Congestion Management Program Mainline Freeway Monitoring Stations.

4.3 Project Objectives

The County of Los Angeles developed the following objectives for the proposed project:

- Provide a transit-oriented development near the Willowbrook/Rosa Parks Station.
- Improve bicycle and pedestrian mobility and safety as well as access to the Willowbrook/Rosa Parks Station.
- Preserve and enhance Willowbrook's economic base and character.
- Provide additional housing for Willowbrook's varied income groups.
- Revitalize the health care services at Martin Luther King, Jr. (MLK) Medical Center.
- Revitalize the services at Charles R. Drew University of Medicine and Science (CDU).
- Preserve the character of the existing residential neighborhoods.
- Create an attractive environment for pedestrians, bicyclists, Metro riders, and local transit users through streetscape improvements.

4.4 Alternatives Considered and Withdrawn

Alternative Sites

Alternative sites were not selected for evaluation because the primary purpose of the proposed project is to guide redevelopment of the services of the MLK Medical Center Campus and CDU as well as the area around the Willowbrook/Rosa Parks Station. This purpose cannot be met by redeveloping another site.

4.5 Alternatives Further Evaluated

This section analyzes the following alternatives: Alternative 1, No Project/Development in Accordance with Zoning. Three additional alternatives, Alternative 2, Modified Land Use Along 119th Street; Alternative 3, Reduced MLK Tier 2 Development Set Forth in MLK Medical Center Campus EIR; and, Alternative 4, Construct All Physical Traffic Measures Set Forth in MLK Medical Center Campus EIR. **Table 4-1** provides a summary comparison, by individual issue area, for each alternative to the project.

TABLE 4-1
ALTERNATIVE COMPARISON

Environmental Issue	Proposed Project	Alternative 1: No Project/ Development in Accordance with Existing Zoning	Alternative 2: Modified Land Use Along 119th St.	Alternative 3: Reduced MLK Tier 2 Development Set Forth in MLK Medical Center Campus EIR	Alternative 4: Construct All Physical Traffic Measures Set Forth in MLK Medical Center Campus EIR
Aesthetics					
Scenic Vista	NI	NI (E)	NI (E)	NI (E)	NI (E)
Light and Glare	LS	LS (L)	LS (G)	LS (L)	LS (E)
Air Quality					
Air Quality Plan	SU	SU (L)	SU (G)	SU (L)	SU (E)
Air Quality Standards/Violations					
Regional Construction CO Emissions	SU	LS (L)	SU (G)	LS (L)	SU (G)
Regional Construction ROG and NOx Emissions	SU	SU (L)	SU (G)	SU (L)	SU (G)
Regional Operational ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$ Emissions	SU	SU (L)	SU (G)	SU (L)	SU (G)
Localized Construction Emissions	SU	SU (L)	SU (G)	SU (L)	SU (G)
Localized Operational Emissions	LS	LS (L)	LS (G)	LS (L)	LS (G)
Criteria Pollutant	SU	SU (L)	SU (G)	SU (L)	SU (G)
Sensitive Receptors	LSM	LSM (L)	LSM (G)	LSM (L)	LSM (G)
Cultural Resources					
Historical Resources	SU	SU (L)	SU (G)	SU (L)	SU (E)
Archaeological Resources	LSM	LSM (L)	LSM (G)	LSM (L)	LSM (E)
Paleontological Resources	LSM	LSM (L)	LSM (G)	LSM (L)	LSM (E)
Human Remains	LSM	LSM (L)	LSM (G)	LSM (L)	LSM (E)
Tribal Cultural Resources	LSM	LSM (L)	LSM (G)	LSM (L)	LSM (E)

Geology and Soils					
Strong Seismic Ground Shaking	LS	LS (L)	LS (G)	LS (L)	LS (E)
Liquefaction and Lateral Spreading	LS	LS (L)	LS (G)	LS (L)	LS (E)
Soil Erosion or Topsoil Loss	LS	LS (L)	LS (G)	LS (L)	LS (E)
Geologic Instability	LS	LS (L)	LS (G)	LS (L)	LS (E)
Greenhouse Gases					
Greenhouse Gas Emissions	SU	LS (L)	SU (G)	LS (L)	SU (G)
Conflict with Plan, Policy, or Regulation that Reduces Greenhouse Gas Emissions	LS	LS (L)	LS (G)	LS (L)	LS (G)
Hazards and Hazardous Materials					
Accident Conditions	LS	LS (L)	LS (G)	LS (L)	LS (E)
Schools	LS	LS (L)	LS (G)	LS (L)	LS (E)
Hazardous Materials Site Listing	LS	LS (L)	LS (G)	LS (L)	LS (E)
Hydrology and Water Quality					
Water Quality Standards/Waste Discharge Requirements	LS	LS (L)	LS (G)	LS (L)	LS (E)
Groundwater Supplies and Recharge	LS	LS (L)	LS (G)	LS (L)	LS (E)
Erosion/Siltation	LS	LS (L)	LS (G)	LS (L)	LS (E)
Stormwater Drainage Capacity	LS	LS (L)	LS (G)	LS (L)	LS (E)
Surface Water and Groundwater Quality	LS	LS (L)	LS (G)	LS (L)	LS (E)
Degrade Water Quality	LS	LS (L)	LS (G)	LS (L)	LS (E)

Land Use and Planning					
Divide an Established Community	NI	NI (E)	NI (E)	NI (E)	NI (E)
Conflict with Applicable Plans, Policies, or Regulations	LS	SM (G)	LS (G)	LS (L)	LS (E)
Conflict with County Zoning Ordinance	LS	NI (L)	LS (G)	NI (L)	LS (E)
Visual Character	LS	LS (G)	LS (G)	LS (L)	LS (E)
Noise and Vibration					
Noise Levels in Excess of Standards	LSM	LSM (L)	LSM (G)	LSM (L)	LSM (E)
Excessive Ground-Borne Vibration	LSM	LSM (L)	LSM (G)	LSM (L)	LSM (E)
Permanent Increase in Ambient Noise Levels	LS	LS (L)	LS (G)	LS (L)	LS (E)
Temporary or Periodic Increase in Ambient Noise Levels	LS	LS (L)	LS (G)	LS (L)	LS (E)
Population and Housing					
Population Growth	LS	LS (L)	LS (G)	LS (L)	LS (E)
Public Services and Recreation					
Fire Protection Services	NI	NI (E)	NI (E)	NI (E)	NI (E)
Police Protection Services	NI	NI (E)	NI (E)	NI (E)	NI (E)
School Facilities	LS	LS (L)	LS (G)	LS (E)	LS (E)
Parks	NI	NI (E)	NI (E)	NI (E)	NI (E)
Library Facilities	NI	NI (E)	NI (E)	NI (E)	NI (E)
Other Public Facilities	NI	NI (E)	NI (E)	NI (E)	NI (E)
Increase Use of Recreational Facilities	LS	LS (L)	LS (G)	LS (E)	LS (E)
Recreational Facilities Physical Effect on the Environment	NI	NI (E)	NI (E)	NI (E)	NI (E)
Transportation and Traffic					
Traffic Increase	SU	SU (L)	SU (G)	SU (L)	SU (L)
Congestion Management Program	SU	SU (L)	SU (G)	SU (L)	SU (L)

Utilities					
Wastewater Treatment Requirements	LS	LS (L)	LS (G)	LS (L)	LS (E)
Water or Wastewater Treatment Facilities	LSM	LSM (L)	LSM (G)	LSM (L)	LSM (E)
Stormwater Drainage Facilities	LS	LS (L)	LS (G)	LS (L)	LS (E)
Water Supplies	LS	LS (L)	LS (G)	LS (L)	LS (E)
Energy Facilities	LS	LS (L)	LS (G)	LS (L)	LS (E)
Landfill Capacity	LS	LS (L)	LS (G)	LS (L)	LS (E)
Compliance with Solid Waste Regulations and Statutes	LS	LS (L)	LS (G)	LS (L)	LS (E)

NOTES:
NI = No Impact
LS = Less than Significant
LSM = Less than Significant with Mitigation
SU = Significant and Unavoidable
(L) = Less than Project
(G) = Greater than Project
(E) = Equivalent to Project

4.5.1 Alternative 1: No Project/Buildout According to Existing Zoning

The following discusses the impacts associated with the No Project Alternative (Buildout According to Existing Zoning), Alternative 1, in comparison to the impacts of the proposed Specific Plan.

Aesthetics

Under the No Project/Build Out According to Existing Zoning Alternative, fewer residential units and less non-residential uses would be implemented compared to the proposed project.

Development under this Alternative would not affect identified or designated scenic views or a scenic vista because neither exists in the project vicinity. Therefore, similar to the proposed project, the implementation of this Alternative would not impact a scenic view or scenic vista.

Development under this Alternative would include new lighting throughout the development and involve exterior lighting for streetlights, parking lots, signs, walkways, and interior lighting, which could be visible through windows to the outside similar to the proposed project. Because there is a substantial amount of ambient nighttime light that exists in the Specific Plan area, limited views of stars and the nighttime sky are provided. Thus, the increase in light that would occur from implementation of this Alternative would not significantly impact nighttime views of the sky (ability to see the stars) because such views are already limited in an urban setting. Less new lighting would be generated under this Alternative compared to the proposed project, and new uses would be required to either use low-scaled lighting or shielded lighting to focus lighting and prevent lighting from spilling onto adjacent sensitive uses, such as residential. The requirements of Section 22.44.1270, Exterior Lighting, of the Los Angeles County Code related to lighting and shielding would limit the potential of increased lighting on sensitive uses. These regulations state that lighting shall be the minimum necessary in order to achieve the purpose of the light and that all lights shall be directed, oriented and shielded to prevent light from shining onto adjacent properties, onto public rights-of-way, and into driveway areas in a manner that would obstruct motorists' vision. Similar to the proposed project, this Alternative assumes that the Performance Standards would ensure sensitive uses would not be adversely affected by light and glare. These light and glare performance standards state that all outdoor lighting shall be designated to minimize light trespass; that existing residential uses should be buffered from light and glare effects from new development; and that parking lot and building security lighting shall not impact surrounding properties. Because compliance with the County Code would be checked by the County through the development plan check process, impacts associated with this Alternative related to increased sources of light would be less than significant similar to the proposed project.

Similar to the proposed project, the land uses proposed under this Alternative would be typical institutional, commercial, residential, and mixed use structures. Typically, these structures would be designed with non-reflective textured surfaces on building exteriors (such as stucco, brick, stone, wood). Windows included as part of the design of the building exteriors would be require

to comply with Section 22.44.1320 (Construction Colors, Materials, and Design) of the County Code that requires windows to be comprised of non-glare/non-reflective glass. In addition, the Performance Standards included in the proposed Specific Plan would also be implemented as part of this Alternative and require that new development preclude generation of direct glare by ensuring that no surfaces reflect direct glare onto adjoining property, streets, or skyward. Because compliance with the County Code would be checked by the County through the development plan check process, impacts associated with this Alternative related to increased sources of glare would be less than significant similar to the proposed project.

Air Quality

The No Project/Buildout in Accordance with Existing Zoning Alternative would not result in changes to existing zoning. Based on a review of SCAG growth projections for the project area which include 3,447 residents, 887 residential units, and 615 jobs, the proposed growth for this Alternative which is 3,274 residents, 1,106 residential units and 4,618 jobs is not consistent with the SCAG growth projections because the combined growth under this alternative would exceed the combined growth under the SCAG projections. Because SCAG growth projections form the basis of the land use and transportation control portions of the Air Quality Management Plan (AQMP), this Alternative would conflict with and obstruct implementation of the AQMP. This Alternative would have less impact to the AQMP compared to the proposed project. The proposed project would also not be consistent with SCAG growth projection and therefore would conflict and obstruct implementation of the AQMP. There are mitigation measures proposed to reduce the proposed project's impact on the AQMP and these measures can be implemented as part of this Alternative; however, after the implementation of the mitigation measures, impacts to the AQMP would remain significant.

Because this Alternative would result in fewer residential units and less non-residential square feet compared to the proposed project, this Alternative would result in daily maximum construction activities that are less than the proposed project. In addition, with less development, this Alternative would result in less operational air pollutant emissions. Because this Alternative would result in 43 percent less residential units and 18 percent less non-residential square footage compared to the proposed project, this Alternative would not exceed regional construction emission threshold for CO, unlike the proposed project which exceeded the CO threshold by approximately 14 percent. However, this Alternative would exceed the regional construction thresholds for ROG and NO_x and result in significant impacts similar to the proposed project. Although less operational criteria pollutants would be generated under this Alternative, it would result in significant ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$ operational emissions similar to the proposed project. Also similar to the proposed project, the project mitigation measures could reduce the regional construction emissions; however, this alternative would still result in significant regional ROG and NOx construction emissions and significant regional NO_x, CO, PM_{10}, and $PM_{2.5}$ operational emissions.

With less development and less average daily trips, this Alternative would result in less localized construction and operational criteria pollutants. However, this Alternative, similar to the proposed project, would result in significant construction emissions of NO_x, PM_{10} and $PM_{2.5}$ and less than

significant localized criteria pollutant emissions during operational activities. With the implementation of the recommended project mitigation measures, emissions from this Alternative, similar to the proposed project, would be reduced, but emissions would still remain significant during construction activities, but less than significant localized emission impacts would occur during operational activities.

As with the proposed project, this Alternative would expose existing and future sensitive receptors to toxic air contaminates (TACs) in the forms of diesel particulate matter (DPM) during construction and TACs from solvents, cleaners, and motor vehicle emissions during operational activities. Construction activities would occur under this Alternative over an approximate 20-year time period similar to the proposed project. Because construction activities would be short-term and limited, this Alternative's exposure of DPM by sensitive receptors would be less than significant similar to the proposed project. During operational activities associated with this Alternative, TACs generated from the use of solvents and cleaners would not occur in an appreciable quantity similar to the proposed project. Stationary sources of TACs would be subject to the rules and regulations of the SCAQMD (i.e., Rule 1401). Because stationary sources of TAC are required to operate in accordance with applicable regulations, the Alternative's TAC emissions impact would be less than significant similar to the proposed project. Residential development under this Alternative are proposed to be located within 500 feet of the I-105 Freeway and within 300 feet of the railroad. Similar to the proposed project, this Alternative's placement of residential units near the freeway and railroad which are sources of TACs would represent a significant impact similar to the proposed project. The mitigation measures identified for the proposed project could also be implemented for this Alternative and the resulting impact would be less than significant similar to the proposed project.

Cultural Resources

Implementation of this Alternative has the potential to result in demolition or modification of existing or future eligible state or local historic resources similar to the proposed project. The project area includes an existing state eligible historic district (Martin Luther King, Jr. Medical Campus). There are also numerous residential and commercial buildings that are older than 50 years or buildings that could be older than 50 years prior to construction activities. With the implementation of measures similar to the project mitigation measures, potential impacts on historic resources would be reduced; however, because the measures describe a reduction of the impacts to the maximum extent practicable and not guarantee full mitigation, impacts to eligible historic resources could remain significant similar to the proposed project.

Construction activities associated with this Alternative could unearth previously unknown and unrecorded archaeological and tribal cultural resources and potential paleontological resources that could be located in the subsurface older Quaternary deposits that are known to contain vertebrate fossils similar to the proposed project. The implementation of the mitigation measures identified for the proposed project would reduce potential archaeological and paleontological impacts associated with this Alternative to less than significant similar to the proposed project.

In addition, construction activities associated with this Alternative could uncover unknown human remains similar to the proposed project. The implementation of the project mitigation measure would reduce the potential impact on human remains to less than significant similar to the proposed project.

Geology and Soils

Implementation of development in accordance with this Alternative would expose people and structures to strong seismic ground shaking. However, similar to the proposed project, conformance with the CBC and UBC would reduce impacts to strong seismic ground shaking to the maximum extent possible under currently accepted engineering practices. Therefore, similar to the proposed project, this Alternative would result in less than significant impacts related to exposing people or structures to strong seismic ground shaking. Development in the project area could also be exposed to geologic hazards; however, compliance with the County building code requirements would reduce potential hazards such as unstable soils, liquefaction, lateral spreading, settlement, subsidence, and collapse to less than significant similar to the proposed project. In addition, construction and operational activities associated with this Alternative could result in soil erosion or loss of top soil; however, compliance with the Construction General Permit, MS4 Permit and the County's LID Standards would reduce soil erosion and loss of topsoil during construction and operational activities to less than significant similar to the proposed project.

Greenhouse Gas Emissions

This Alternative would result in fewer residential units and non-residential square footage compared to the proposed project. Therefore, GHG emissions that would result from this Alternative would be less than would occur from implementation of the proposed Specific Plan. Because this Alternative would result in approximately 43 percent less residential units and 18 percent less non-residential uses compared to the proposed project which exceeded the 2035 GHG threshold by approximately 5 percent, this Alternative would not exceed the 2035 annual greenhouse gas threshold, and therefore, would result in a less than significant GHG emissions impact unlike the proposed project. The proposed project resulted in a significant impact before and after the implementation of mitigation measures.

Similar to the proposed project, this Alternative would not exceed the 2020 GHG threshold which would achieve the AB 32 GHG reduction goals. In addition, this Alternative would be consistent with the CARB Scoping Plan and could be consistent with the SCAG SCS GHG emissions reduction policies. Therefore, similar to the proposed project, this Alternative would result in less than significant impacts related to compliance with AB 32, CARB Scoping Plan, and the SCAG SCS GHG emissions reduction policies.

Hazards and Hazardous Materials

Development in accordance with this Alternative would involve demolition that could include asbestos, lead-based paints or PCB-containing materials similar to the proposed project. Hazardous materials released as a result of construction activities would be required to comply with existing laws and regulations, and therefore, potential impacts would be less than significant

similar to the proposed project. Operational activities associated with this Alternative would include the use, storage and disposal of hazardous materials. The proposed residential and commercial uses would include the use of and storage of common hazardous materials such as paints, solvents, and cleaning products. Building mechanical systems and grounds and landscape maintenance could also use a variety of products formulated with hazardous materials, including fuels, cleaners, lubricants, adhesives, sealers and pesticides/herbicides. This Alternative also includes the expansion of the Medical Center and Drew University. This expansion would include the generation of hazardous materials such as waste oil and mixed oil; oxygenated solvents including acetone, butanol, and ethyl acetate; spent halogenated solvents; and other hazardous materials including batteries, lamps, pesticides, thermostats, mercury, silver and polychlorinated biphenyls. The medical center as well as Drew University generates biomedical and radiological wastes. Residential and commercial uses would typically use or store small quantities of household hazardous materials. Because the hazardous materials associated with residential and commercial uses are generally in the form of routinely used common chemicals, potential hazard impacts from reasonable foreseeable upset and accident conditions is less than significant. Businesses or facilities that use or generate hazardous materials in excess of the threshold such as the Medical Center and Drew University are required to obtain a handler permit. Amounts less than the threshold would pose a less than significant effect. Amounts greater than the threshold are required to comply with existing regulations that would reduce potential hazard impacts from reasonable upset and accident conditions to less than significant similar to the proposed project.

Because the uses under this Alternative that generate, use or store hazardous materials in excess of thresholds would require to comply with existing regulations to reduce potential impacts of the site where the hazardous materials are located, hazard impacts at nearby schools would be less than significant similar to the proposed project.

Similar to the proposed project, this Alternative would experience less than significant impacts associated with hazardous materials site listed on the Cortese List because the existing site located on the List and located within the Specific Plan site is currently being remediated per federal and state regulations and oversight. Compliance with the existing regulations would result in a less than significant impact on public safety and the environment similar to the proposed project.

Hydrology and Water Quality

Development under this Alternative would include demolition and grading activities that could expose and loosen sediment and building materials that could mix with storm water and urban runoff. Because each individual project would be required to comply with the NPDES and implement a SWPPP if the project disturbs more than one acre, the potential for pollutants to substantially degrade downstream surface water quality would be less than significant. Projects disturbing less than an acre of ground surface during construction would not be required to prepare a SWPPP, but would be required to implement the minimum BMPs required by the Los Angeles County MS4 Permit to prevent water quality degradation and therefore, impacts would be less than significant. Construction impacts related to water quality standards or waste

discharge requirements from implementation of this Alternative would be less than significant similar to the proposed project.

Operational activities associated with this Alternative would be required to meet MS4 Permit requirements through compliance with the County LID Standards Manual. Compliance with the MS4 Permit regulations would minimize pollutants being transported offsite into downstream receiving waters, and projects implemented in accordance with this Alternative would not violate water quality standards or waste discharge requirements.

Similar to the proposed project, this Alternative includes infill and redevelopment and would increase population; thereby increase demand on water supplies. Because the water purveyors that serve the project site have pumping rights to obtain their groundwater from the Central Groundwater Basin, compliance with the judgment that set pumping rights in the Basin would eliminate the potential for the water agencies to substantially impact groundwater supplies. Therefore, similar to the proposed project, the implementation of this Alternative would result in less than significant impacts on the Central Groundwater Basin from groundwater use.

The project site does not have much groundwater recharge potential, and this Alternative would not include excavation activities that would reach the existing groundwater level of approximately 155 feet below ground surface. Therefore, this Alternative would result in less than significant impacts to the existing groundwater levels similar to the proposed project.

Construction and operational activities associated with this Alternative would result in the potential for erosion and siltation impacts. However, construction activities would be required to implement BMP required by the County Pollution Control Requirements for Construction Activities. Operational activities would be required to implement the County LID Standards Manuel. With compliance with these regulations, the implementation of development in accordance with this Alternative would result in a less than significant erosion and siltation impact during project construction and operational activities.

Development in accordance with this Alternative would result in the generation of little to no increase in runoff to the existing drainage system because the majority of the site is developed and approximately 80 to 90 percent of the site is impervious. Development under this Alternative would not trigger the need for upgrades to the County's existing storm drain major backbone facilities mainly due to the LID Ordinance requirements for percolation and on-site detention for new development. Therefore, similar to the proposed project, this Alternative would result in less than significant impacts on existing and planned storm drains. Furthermore, as stated above, this Alternative's compliance with NPDES requirements, County Stormwater Pollution Control Requirements for Construction Activities, and the requirements of the County LID Standards Manual would result in less than significant impacts related to the creation of polluted runoff similar to the proposed project.

Land Use and Planning

Under this Alternative, the project area would increase the density/intensity of development as well as the presence of pedestrians throughout the area. Similar to the proposed project, this Alternative would not create physical barriers within the area and therefore, would not physically divide the established community in the project area.

Development in accordance with this Alternative would not include transit-oriented development that provides for cohesive development throughout the project area. With the absence of a Specific Plan, this Alternative would need to implement TOD features on a project-by-project basis which would not provide for a cohesive future land use plan that would maximize TOD land use and circulation opportunities. This alternative would not implement the pedestrian and bicycle circulation patterns identified in the proposed Specific Plan to improve access to the Willowbrook/Rosa Parks Station. In addition, this alternative would not implement SCAG policies to the extent that the proposed project is implementing these policies that encourage greater densities in areas with TOD opportunities and less dependence on the automobile. This alternative would, however, be consistent with the General Plan land uses, unlike the proposed project. Overall, this Alternative would result in greater inconsistency with land use policies compared to the proposed project, and this Alternative would have a potential significant impact on land use policies. Mitigation measures that include the implementation of TOD features would reduce this Alternative's potential impact on land use policies to less than significant.

Because this Alternative would implement the County zoning for the project area, this Alternative would not conflict with the Zoning Ordinance.

Furthermore, the implementation of development in accordance with this Alternative would enhance the visual character and quality of the project area by following existing zoning regulations. Although the character of the area would be visually enhanced, it would not be as visually enhanced as the proposed project because the project would include comprehensive design guidelines for the entire Specific Plan area. Implementation of this Alternative, similar to the proposed project, would result in less than significant impacts relating to the existing visual character and quality of the area.

Noise

This Alternative would result in less development compared to the proposed project. The land uses that would be implemented under this Alternative would be similar to those that would be implemented with the proposed project. These land uses include residential, mixed-use, medical, educational and commercial uses. Because this Alternative would result in fewer residential units and less non-residential square feet compared to the proposed project, this Alternative would result in less construction and operational noise levels. This alternative would exceed noise standards and potentially expose sensitive uses to significant ground-borne vibrations; however, this alternative's significant noise and vibration impacts would be less compared to the proposed project and would be reduced to less than significant with the implementation of the project mitigation measures.

Population and Housing

Under this Alternative, 846 fewer residential units and 491,691 fewer square feet of non-residential space than buildout of the proposed Specific Plan would occur. The increase in residential and employment population that would be generated by this Alternative would not be consistent with the SCAG growth forecasts for the site. The increase in population that would be generated by the proposed project would also not be consistent with SCAG forecasts. With the increase in jobs in the project area under this Alternative, the majority of the jobs created within the project area would be skilled or managerial, and a majority of these jobs are expected to be filled by persons outside of the project area similar to the proposed project. Jobs are anticipated to be filled by people within the County due to the accessibility to the Willowbrook/Rosa Parks Station and multiple freeways, and the larger available labor force within the County. Therefore, the implementation of this Alternative would not substantially increase residential and employment population growth, and therefore, impacts would be less than significant similar to the proposed project.

Public Services and Recreation

Under this Alternative, 846 fewer residential units and 491,691 fewer square feet of non-residential space than buildout of the proposed Specific Plan would occur. Because the proposed project which has more development compared to this Alternative and the County fire stations serving the project area could increase staffing and equipment required for buildout of the proposed project by utilizing the existing fire stations, the development in accordance with this Alternative would also be accommodated by the existing fire stations without altering the existing facilities. Therefore, physical impacts to the environment related to the development of or expansion of fire department facilities would not occur.

Development of this Alternative would increase the need for additional officers to respond to additional calls for sheriff services. The increase in additional officers would be less than required for the proposed project. Because the proposed project's need for additional officers could be accommodated at existing Sheriff Department facilities, the demand for additional officers under this Alternative would not require the alteration of existing sheriff facilities. Therefore, physical impacts to the environment related to the development of or expansion of sheriff department facilities would not occur.

This Alternative would increase the number of students in the project area; however, this increase would be less than the increase anticipated under the proposed Specific Plan because fewer residential units are proposed. Because the proposed project would result in a less than significant impact on school facilities and this Alternative would result in the generation of less students, this Alternative would result less impacts to school facilities compared to the proposed project and would result in a similar less than significant impacts to school facilities as the proposed project.

Implementation of this Alternative would increase the population in the project area and thereby increase a demand for parks and recreation, library, and other public (i.e., hospitals and post office) facilities. Because the proposed project would result in a greater population compared to this Alternative and that the proposed project would not result in the need for new or altered parks

and recreation, library, and other public (i.e., hospitals and post office) facilities, this alternative would also not result in the need for new or altered facilities. Therefore, the implementation of this Alternative would result in no impacts caused by construction impacts associated with new or altered parks and recreation, library, and other public (i.e., hospitals and post office) facilities.

The implementation of this Alternative would result in less development and residential population compared to the proposed project. This reduced population would also result in a reduced demand for and use of recreational facilities. Because the Willowbrook Community includes adequate parkland for recreational use and the County has an annual assessment of fees as new development is proposed, this Alternative would result in less than significant impacts related to physical deterioration of existing parks and recreational facilities. In addition, because the Willowbrook Community contains adequate parkland to accommodate buildout of this Alternative, similar to the proposed project, this Alternative would not result in the need to construct new or physically alter recreational facilities.

Traffic

This Alternative would result in less development compared to the proposed project. The land uses that would be implemented under this Alternative would be similar to those that would be implemented with the proposed project. These land uses include residential, mixed-use, medical, educational and commercial uses. Because this Alternative would result in fewer residential units and less non-residential square feet compared to the proposed project, this Alternative would result in less vehicular traffic and less impacts at County, city and Caltrans traffic facilities and congestion management facilities. With the implementation of the project mitigation measures, this Alternative would continue to result in significant traffic impacts, but would be less than the impacts associated with the proposed project.

Utilities and Service Systems

This Alternative would result in less development compared to the proposed project. The land uses that would be implemented under this Alternative would be similar to those that would be implemented with the proposed project. These land uses include residential, mixed-use, medical, educational and commercial uses, and these uses would not discharge wastewater that contains harmful levels of toxins beyond the regulations of the LARWQCB. In addition, all effluent would comply with the wastewater treatment standards of the RWQCB. Furthermore, the existing capacity of the wastewater treatment facilities serving the project area would not be exceeded under this Alternative similar to the proposed project. Therefore, this Alternative would result in less than significant impacts related to the wastewater treatment requirements of the LARWQCB similar to the proposed project.

This Alternative would increase development in the project area and increase the need for water and sewer services. Because the implementation of this Alternative would generate a lower demand for water and the existing water infrastructure is adequate to accommodate the proposed project, this Alternative would be accommodated by the existing water infrastructure. In addition, although this Alternative would generate less wastewater compared to the proposed project, this Alternative is still anticipated to exceed existing sewer capacities within the Specific Plan area. Implementation of

the project mitigation measure would reduce impacts associated with this Alternative to less than significant. Overall, this Alternative would result in less impacts on existing sewer capacity compared to the proposed project.

Development in accordance with this Alternative would include infill development and redevelopment. This Alternative would develop pervious areas to retain and infiltrate stormwater on development sites pursuant to the County's SUSWMP and LID requirements that reduce and manage drainage. County SUSWMP requirements provide that projects conduct a drainage hydrologic/hydraulic analysis that details the site's anticipated runoff calculations. From these calculations, a WQMP is prepared to ensure that a net increase in stormwater runoff would not occur from implementation of the development. Development projects in accordance with this Alternative, similar to the proposed project, are required through implementation of a project-specific WQMP to retain and treat the storm water quality volume generated by the project. In addition, the County requires LID standards to reduce runoff by using smart growth practices, stormwater infiltration, evapotranspiration, biofiltration, and rainfall harvest and use. With implementation of new pervious areas and compliance with applicable regulatory requirements, this Alternative's impacts related to the need to construct or expand stormwater drainage facilities would be less than significant similar to the proposed project.

This Alternative would increase water demand from the three water purveyors servicing the project site. These water purveyors include Liberty, Golden State Water Company, and LADWP. Because less residential units and less non-residential square feet would occur under this Alternative compared to the proposed project, this alternative would demand less water. Because the proposed project would not require or result in the need for new or expanded water supply entitlements within the service areas of the three water purveyors, this Alternative would also not require the need for new or expanded water entitlements. Therefore, similar to the proposed project, this alternative would result in less than significant impact to water supply entitlements of the three project area water purveyors.

This Alternative would increase the use of energy resources such as electricity and natural gas; however, this increase would be less than the proposed project because less residential and non-residential development is proposed under this Alternative. Because the proposed project would not result in the need to develop or extend infrastructure to serve proposed buildout and this Alternative would result in less demand for energy resources, the implementation of this Alternative would result in less than significant impacts on energy infrastructure similar to the proposed project.

Solid waste generation under this Alternative would be less compared to the proposed project because less development is proposed. Similar to the proposed project, this Alternative would be required to comply with existing and future recycling requirements that are 50 percent reduction to 2020 and then 75 percent reduction after 2020. Because the proposed project's generation of solid waste would not require expansion of existing landfill facilities or construct a new landfill, the implementation of this Alternative would result in less than significant impacts to landfill facilities similar to the proposed project.

Conclusion

Potential impacts associated with the implementation of development under Alternative 1 are compared to the potential impacts of development in accordance with the proposed Specific Plan. Compared to the proposed project, impacts associated with light and glare, air quality, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, population and housing, noise, schools, transportation facilities and utilities would result in fewer impacts. The impacts related to the Air Quality Management Plan (AQMP), regional construction CO emissions would be substantially reduced from significant and unavoidable under the proposed project to no impact (AQMP) and to less than significant impact (regional CO emissions) under this Alternative. Compared to the proposed project, this Alternative would result in greater impacts to land use policies that provide for TOD opportunities and less dependence of the automobile, provision of pedestrian and bicycle circulation patterns and cohesive future development. This Alternative would result in the same no impacts related to scenic vista, division of an established community, public services, and existing wastewater treatment plants.

The implementation of this Alternative would result in less environmental impacts compared to the proposed project. This Alternative would not meet the objectives of providing a transit-oriented development in the project area and providing an attractive environment for pedestrian, bicyclists, Metro riders, and local transit users through streetscape improvements because these improvements would not be comprehensively and cohesively implemented in accordance with a uniform design guideline such as the proposed Specific Plan.

4.5.2 Alternative 2: Modified Land Uses Along 119th Street

The following discusses the impacts associated with Alternative 2, Modified Land Uses Along 119th Street, in comparison to the impacts of the proposed Specific Plan.

Aesthetics

Under the Modified Land Uses Along 119th Street Alternative, 47 more residential units and 49,555 square feet of more non-residential uses would be implemented compared to the proposed project.

Development under this Alternative would not affect identified or designated scenic views or a scenic vista because neither exists in the project vicinity. Therefore, similar to the proposed project, the implementation of this Alternative would not impact a scenic view or scenic vista.

Development under this Alternative would include new lighting throughout the development and involve exterior lighting for streetlights, parking lots, signs, walkways, and interior lighting, which could be visible through windows to the outside similar to the proposed project. Because there is a substantial amount of ambient nighttime light that exists in the Specific Plan area, limited views of stars and the nighttime sky are provided. Thus, the increase in light that would occur from implementation of this Alternative would not significantly impact nighttime views of the sky (ability to see the stars) because such views are already limited in an urban setting. More

new lighting would be generated under this Alternative compared to the proposed project, and new uses would be required to either use low-scaled lighting or shielded lighting to focus lighting and prevent lighting from spilling onto adjacent sensitive uses, such as residential. The requirements of Section 22.44.1270, Exterior Lighting, of the County Code related to lighting and shielding would limit the potential of increased lighting on sensitive uses. These regulations state that lighting shall be the minimum necessary in order to achieve the purpose of the light and that all lights shall be directed, oriented and shielded to prevent light from shining onto adjacent properties, onto public rights-of-way, and into driveway areas in a manner that would obstruct motorists' vision. Similar to the proposed project, this Alternative assumes that the Performance Standards would ensure sensitive uses would not be adversely affected by light and glare. These light and glare performance standards state that all outdoor lighting shall be designated to minimize light trespass; that existing residential uses should be buffered from light and glare effects from new development; and that parking lot and building security lighting shall not impact surrounding properties. Because compliance with the County Code and the Specific Plan Performance Standards would be checked by the County through the development plan check process, impacts associated with this Alternative related to increased sources of light would be less than significant similar to the proposed project.

Similar to the proposed project, the land uses proposed under this Alternative would be typical institutional, commercial, residential, and mixed use structures. Typically, these structures would be designed with non-reflective textured surfaces on building exteriors (such as stucco, brick, stone, wood). Windows included as part of the design of the building exteriors would be require to comply with Section 22.44.1320 (Construction Colors, Materials, and Design) of the Los Angeles County Code that requires windows to be comprised of non-glare/non-reflective glass. In addition, the Performance Standards included in the proposed Specific Plan would also be implemented as part of this Alternative and require that new development preclude generation of direct glare by ensuring that no surfaces reflect direct glare onto adjoining property, streets, or skyward. Because compliance with the Specific Plan Performance Standards would be checked by the County through the development plan check process, impacts associated with this Alternative related to increased sources of glare would be less than significant similar to the proposed project.

Air Quality

This Alternative would include proposed growth this is not accounted for within the SCAG growth projections similar to the proposed project. Because SCAG growth projections form the basis of the land use and transportation control portions of the Air Quality Management Plan (AQMP), this Alternative would conflict with and obstruct implementation of the AQMP. This Alternative would have greater impact to the AQMP compared to the proposed project because this Alternative includes a greater amount of development. There are mitigation measures proposed to reduce potential impacts on the AQMP associated with this Alternative; however, after the implementation of the mitigation measures, impacts to the AQMP would remain significant similar to the proposed project.

Because this Alternative would result in greater residential units and greater non-residential square feet compared to the proposed project, this Alternative would result in daily maximum construction activities that are more than the proposed project. In addition, with more development, this Alternative would result in more operational air pollutant emissions. Because this Alternative would result in approximately 2 percent more residential units and 1.8 percent more non-residential square footage compared to the proposed project, this Alternative would exceed regional construction emission threshold for CO, similar to the proposed project which exceeded the CO threshold by approximately 14 percent. This Alternative would also exceed the regional construction thresholds for ROG and NO_x and result in significant impacts similar to the proposed project. Because more operational criteria pollutants would be generated under this Alternative, it would result in significant ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$ operational emissions similar to the proposed project. Also similar to the proposed project, the project mitigation measures could reduce the regional construction emissions; however, this Alternative would still result in significant regional ROG and NOx construction emissions and significant regional NO_x, CO, PM_{10}, and $PM_{2.5}$ operational emissions.

With more development and more average daily trips, this Alternative would result in more localized construction and operational criteria pollutants. This Alternative, similar to the proposed project, would result in significant construction emissions of NO_x, PM_{10} and $PM_{2.5}$ and less than significant localized criteria pollutant emissions during operational activities. With the implementation of the recommended project mitigation measures, emissions from this Alternative, similar to the proposed project, would be reduced, but emissions would still remain significant during construction activities, but less than significant localized emission impacts would occur during operational activities.

As with the proposed project, this Alternative would expose existing and future sensitive receptors to toxic air contaminates (TACs) in the forms of diesel particulate matter (DPM) during construction and TACs from solvents, cleaners, and motor vehicle emissions during operational activities. Construction activities would occur under this Alternative over an approximate 20-year time period similar to the proposed project. Because construction activities would be short-term and limited, this Alternative's exposure of DPM by sensitive receptors would be less than significant similar to the proposed project. During operational activities associated with this Alternative, TACs generated from the use of solvents and cleaners would not occur in an appreciable quantity similar to the proposed project. Stationary sources of TACs would be subject to the rules and regulations of the SCAQMD (i.e., Rule 1401). Because stationary sources of TAC are required to operate in accordance with applicable regulations, the Alternative's TAC emissions impact would be less than significant similar to the proposed project. Residential development under this Alternative are proposed to be located within 500 feet of the I-105 Freeway and within 300 feet of the railroad. Similar to the proposed project, this Alternative's placement of residential units near the freeway and railroad which are sources of TACs would represent a significant impact similar to the proposed project. The mitigation measures identified for the proposed project could also be implemented for this Alternative and the resulting impact would be less than significant similar to the proposed project.

Cultural Resources

Implementation of this Alternative has the potential to result in demolition or modification of existing or future eligible state or local historic resources similar to the proposed project. The project area includes an existing state eligible historic district (Martin Luther King, Jr. Medical Campus). There are also numerous residential and commercial buildings that are older than 50 years or buildings that could be older than 50 years prior to construction activities. With the implementation of the project mitigation measures, potential impacts on historic resources would be reduced; however, because the measures describe a reduction of the impacts to the maximum extent practicable and not guarantee full mitigation, impacts to eligible historic resources could remain significant similar to the proposed project.

Construction activities associated with this Alternative could unearth previously unknown and unrecorded archaeological and tribal cultural resources and potential paleontological resources that could be located in the subsurface older Quaternary deposits that are known to contain vertebrate fossils similar to the proposed project. The implementation of the mitigation measures identified for the proposed project would reduce potential archaeological and paleontological impacts associated with this Alternative to less than significant similar to the proposed project.

In addition, construction activities associated with this Alternative could uncover unknown human remains similar to the proposed project. The implementation of the project mitigation measure would reduce the potential impact on human remains to less than significant similar to the proposed project.

Geology and Soils

Implementation of development in accordance with this Alternative would expose people and structures to strong seismic ground shaking. However, similar to the proposed project, conformance with the CBC and UBC would reduce impacts to strong seismic ground shaking to the maximum extent possible under currently accepted engineering practices. Therefore, similar to the proposed project, this Alternative would result in less than significant impacts related to exposing people or structures to strong seismic ground shaking. Development in the project area could also be exposed to geologic hazards; however, compliance with the County building code requirements would reduce potential hazards such as unstable soils, liquefaction, lateral spreading, settlement, subsidence, and collapse to less than significant similar to the proposed project. In addition, construction and operational activities associated with this Alternative could result in soil erosion or loss of top soil; however, compliance with the Construction General Permit, MS4 Permit and the County's LID Standards would reduce soil erosion and loss of topsoil during construction and operational activities to less than significant similar to the proposed project.

Greenhouse Gas Emissions

This Alternative would result in more residential units and more non-residential square footage compared to the proposed project. Therefore, GHG emissions that would result from this Alternative would be more than would occur from implementation of the proposed Specific Plan. Similar to the proposed project, this Alternative would exceed the 2035 annual greenhouse gas

threshold, and therefore, would result in a significant GHG emissions impact similar to the proposed project. Both this Alternative and the proposed project would implement the project mitigation measures, however, GHG impacts would remain significant.

Similar to the proposed project, this Alternative would not exceed the 2020 GHG threshold which would achieve the AB 32 GHG reduction goals. In addition, this Alternative would be consistent with the CARB Scoping Plan and could be consistent with the SCAG SCS GHG emissions reduction policies. Therefore, similar to the proposed project, this Alternative would result in less than significant impacts related to compliance with AB 32, CARB Scoping Plan, and the SCAG SCS GHG emissions reduction policies.

Hazards and Hazardous Materials

Development in accordance with this Alternative would involve demolition that could include asbestos, lead-based paints or PCB-containing materials similar to the proposed project. Hazardous materials released as a result of construction activities would be required to comply with existing laws and regulations, and therefore, potential impacts would be less than significant similar to the proposed project. Operational activities associated with this Alternative would include the use, storage and disposal of hazardous materials. The proposed residential and commercial uses would include the use of and storage of common hazardous materials such as paints, solvents, and cleaning products. Building mechanical systems and grounds and landscape maintenance could also use a variety of products formulated with hazardous materials, including fuels, cleaners, lubricants, adhesives, sealers and pesticides/herbicides. This Alternative also includes the expansion of the Medical Center and Drew University. This expansion would include the generation of hazardous materials such as waste oil and mixed oil; oxygenated solvents including acetone, butanol, and ethyl acetate; spent halogenated solvents; and other hazardous materials including batteries, lamps, pesticides, thermostats, mercury, silver and polychlorinated biphenyls. The medical center as well as Drew University generates biomedical and radiological wastes. Residential and commercial uses would typically use or store small quantities of household hazardous materials. Because the hazardous materials associated with residential and commercial uses are generally in the form of routinely used common chemicals, potential hazard impacts from reasonable foreseeable upset and accident conditions is less than significant. Businesses or facilities that use or generate hazardous materials in excess of the threshold such as the Medical Center and Drew University are required to obtain a handler permit. Amounts less than the threshold would pose a less than significant effect. Amounts greater than the threshold are required to comply with existing regulations that would reduce potential hazard impacts from reasonable upset and accident conditions to less than significant similar to the proposed project.

Because the uses under this Alternative that generate, use or store hazardous materials in excess of thresholds would require to comply with existing regulations to reduce potential impacts of the site where the hazardous materials are located, hazard impacts at nearby schools would be less than significant similar to the proposed project.

Similar to the proposed project, this Alternative would experience less than significant impacts associated with hazardous materials site listed on the Cortese List because the existing site

located on the List and located within the Specific Plan site is currently being remediated per federal and state regulations and oversight. Compliance with the existing regulations would result in a less than significant impact on public safety and the environment similar to the proposed project.

Hydrology and Water Quality

Development under this Alternative would include demolition and grading activities that could expose and loosen sediment and building materials that could mix with storm water and urban runoff. Because each individual project would be required to comply with the NPDES and implement a SWPPP if the project disturbs more than one acre, the potential for pollutants to substantially degrade downstream surface water quality would be less than significant. Projects disturbing less than an acre of ground surface during construction would not be required to prepare a SWPPP, but would be required to implement the minimum BMPs required by the Los Angeles County MS4 Permit to prevent water quality degradation and therefore, impacts would be less than significant. Construction impacts related to water quality standards or waste discharge requirements from implementation of the proposed Specific Plan development would be less than significant.

Operational activities associated with this Alternative would be required to meet MS4 Permit requirements through compliance with the County LID Standards Manual. Compliance with the MS4 Permit regulations would minimize pollutants being transported offsite into downstream receiving waters, and projects implemented in accordance with this Alternative would not violate water quality standards or waste discharge requirements.

Similar to the proposed project, this Alternative includes infill and redevelopment and would increase population; thereby increase demand on water supplies. Because the water purveyors that serve the project site have pumping rights to obtain their groundwater from the Central Groundwater Basin, compliance with the judgment that set pumping rights in the Basin would eliminate the potential for the water agencies to substantially impact groundwater supplies. Therefore, similar to the proposed project, the implementation of this Alternative would result in less than significant impacts on the Central Groundwater Basin from groundwater use.

The project site does not have much groundwater recharge potential, and this Alternative would not include excavation activities that would reach the existing groundwater level of approximately 155 feet below ground surface. Therefore, this Alternative would result in less than significant impacts to the existing groundwater levels similar to the proposed project.

Construction and operational activities associated with this Alternative would result in the potential for erosion and siltation impacts. However, construction activities would be required to implement BMP required by the County Pollution Control Requirements for Construction Activities. Operational activities would be required to implement the County LID Standards Manuel. With compliance with these regulations, the implementation of development in accordance with this Alternative would result in a less than significant erosion and siltation impact during project construction and operational activities.

Development in accordance with this Alternative would result in the generation of little to no increase in runoff to the existing drainage system because the majority of the site is developed and approximately 80 to 90 percent of the site is impervious. Development under this Alternative would not trigger the need for upgrades to the County's existing storm drain major backbone facilities mainly due to the LID Ordinance requirements for percolation and on-site detention for new development. Therefore, similar to the proposed project, this Alternative would result in less than significant impacts on existing and planned storm drains. Furthermore, as stated above, this Alternative's compliance with NPDES requirements, County Stormwater Pollution Control Requirements for Construction Activities, and the requirements of the County LID Standards Manual would result in less than significant impacts related to the creation of polluted runoff similar to the proposed project.

Land Use and Planning

Under this Alternative, the project area would increase the density/intensity of development as well as the presence of pedestrians throughout the area. Similar to the proposed project, this Alternative would not create physical barriers within the area and therefore, would not physically divide the established community in the project area.

Development in accordance with this Alternative includes transit-oriented development that provides for cohesive development throughout the project area similar to the proposed project. This alternative would implement the pedestrian and bicycle circulation patterns identified in the proposed Specific Plan to improve access to the Willowbrook/Rosa Parks Station. In addition, this alternative would implement SCAG policies that encourage greater densities in areas with TOD opportunities and less dependence on the automobile. This alternative would, however, not be consistent with the General Plan land uses similar to the proposed project. Overall, this Alternative would result in less than significant impacts related to land use policies similar to the proposed project.

Because the proposed Specific Plan would implement the County's plans and planning concepts of implementing a TOD in the project area, this Alternative, similar to the proposed project, would result in less than significant environmental impacts related to consistency with establish development regulations.

Furthermore, the implementation of development in accordance with this Alternative would enhance the visual character and quality of the project area by following the proposed comprehensive design guidelines that are part of the Specific Plan. These guidelines were intentionally included to enhance the aesthetics and land use massing, character and urban pattern. The proposed development standards, design guidelines and streetscape improvements would provide a unifying and identifying character to the project area. This Alternative, similar to the proposed project, would result in less than significant impacts related to the existing visual character and quality of the area.

Noise

This Alternative would result in more development compared to the proposed project. The land uses that would be implemented under this Alternative would be similar to those that would be implemented with the proposed project. These land uses include residential, mixed-use, medical, educational and commercial uses. Because this Alternative would result in more residential units and more non-residential square feet compared to the proposed project, this Alternative would result in more construction and operational noise levels. This alternative would exceed noise standards and potentially expose sensitive uses to significant ground-borne vibrations. These potential noise and vibration impacts would be greater than the proposed project's impacts; however, this alternative's significant noise and vibration impacts would be reduced to less than significant with the implementation of the project mitigation measures.

Population and Housing

Under this Alternative, 47 more residential units and 49,555 more square feet of non-residential space than buildout of the proposed Specific Plan would occur. The increase in population that would be generated by this Alternative would not be within the SCAG growth forecasts for the site similar to the proposed project. With the increase in jobs in the project area under this Alternative, the majority of the jobs created within the project area would be skilled or managerial, and a majority of these jobs are expected to be filled by persons outside of the project area similar to the proposed project. Jobs are anticipated to be filled by people within the County due to the accessibility to the Willowbrook/Rosa Parks Station and multiple freeways, and the larger available labor force within the County. Therefore, the implementation of this Alternative would not substantially induce population growth, and therefore, impacts would be less than significant similar to the proposed project.

Public Services and Recreation

Under this Alternative, 47 more residential units and 49,555 more square feet of non-residential space than buildout of the proposed Specific Plan would occur. Although this Alternative would have slightly more development compared to the proposed project, the County fire stations serving the project area could increase staffing and equipment required for buildout of this Alternative similar to the proposed project. This increase in staffing and equipment is expected to occur by utilizing the existing fire stations. Development in accordance with this Alternative as well as the proposed project would be accommodated by the existing fire stations without altering the existing facilities. Therefore, physical impacts to the environment related to the development of or expansion of fire department facilities would not occur.

Development of this Alternative would increase the need for additional officers to respond to additional calls for sheriff services. The increase in additional officers would be slightly more than required for the proposed project. Development under this Alternative is expected to require additional officers that could be accommodated at existing Sheriff Department facilities. The demand for additional officers under this Alternative would not require the alteration of existing sheriff facilities. Therefore, physical impacts to the environment related to the development of or expansion of sheriff department facilities would not occur.

This Alternative would increase the number of students in the project area, and this increase would be slightly more than the increase anticipated under the proposed Specific Plan because 47 more residential units are proposed. Although slightly more students would be generated under this Alternative, the additional students would result in similar less than significant impacts to school facilities as the proposed project.

Implementation of this Alternative would increase the population in the project area and thereby increase a demand for parks and recreation, library, and other public (i.e., hospitals and post office) facilities. Although this Alternative would result in slightly greater population compared to the proposed project, this Alternative would also not require new or altered parks and recreation, library, and other public (i.e., hospitals and post office) facilities similar to the proposed project. Therefore, the implementation of this Alternative would result in no impacts caused by construction impacts associated with new or altered parks and recreation, library, and other public (i.e., hospitals and post office) facilities.

The implementation of this Alternative would result in more development and residential population compared to the proposed project. This increased population would also result in an increased demand for and use of recreational facilities. Because the Willowbrook Community includes adequate parkland for recreational use and the County has an annual assessment of fees as new development is proposed, this Alternative would result in less than significant impacts related to physical deterioration of existing parks and recreational facilities. In addition, because the Willowbrook Community contains adequate parkland to accommodate buildout of this Alternative, similar to the proposed project, this Alternative would not result in the need to construct new or physically alter recreational facilities.

Traffic

This Alternative would result in slightly more development compared to the proposed project. The land uses that would be implemented under this Alternative would be similar to those that would be implemented with the proposed project. These land uses include residential, mixed-use, medical, educational and commercial uses. Because this Alternative would result in greater residential units and non-residential square feet compared to the proposed project, this Alternative would result in greater vehicular traffic and greater impacts at County, city and Caltrans traffic facilities and congestion management facilities. With the implementation of the project mitigation measures, this Alternative would continue to result in significant traffic impacts, and would be greater than the impacts associated with the proposed project.

Utilities and Service Systems

This Alternative would result in slightly more development compared to the proposed project. The land uses that would be implemented under this Alternative would be similar to those that would be implemented with the proposed project. These land uses include residential, mixed-use, medical, educational and commercial uses, and these uses would not discharge wastewater that contains harmful levels of toxins beyond the regulations of the LARWQCB. In addition, all effluent would comply with the wastewater treatment standards of the RWQCB. Furthermore, the existing capacity of the wastewater treatment facilities serving the project area would not be

exceeded under this Alternative similar to the proposed project. Therefore, this Alternative would result in less than significant impacts related to the wastewater treatment requirements of the LARWQCB similar to the proposed project.

This Alternative would increase development in the project area and increase the need for water and sewer services. The implementation of this Alternative would generate a slightly greater demand for water compared to the proposed project. The existing water infrastructure is anticipated to be adequate to accommodate this slight increase compared to the proposed project. Therefore, although this Alternative would result in a slightly greater demand for water, impacts would be less than significant. In addition, this Alternative would generate greater wastewater compared to the proposed project; however, the implementation of the project mitigation measure would reduce impacts associated with this Alternative to less than significant. Overall, this Alternative would result in greater impacts on existing sewer capacity compared to the proposed project.

Development in accordance with this Alternative would include infill development and redevelopment. This Alternative would develop pervious areas to retain and infiltrate stormwater on development sites pursuant to the County's SUSWMP and LID requirements that reduce and manage drainage. County SUSWMP requirements provide that projects conduct a drainage hydrologic/hydraulic analysis that details the site's anticipated runoff calculations. From these calculations, a WQMP is prepared to ensure that a net increase in stormwater runoff would not occur from implementation of the development. Development projects in accordance with this Alternative, similar to the proposed project, are required through implementation of a project-specific WQMP to retain and treat the storm water quality volume generated by the project. In addition, the County requires LID standards to reduce runoff by using smart growth practices, stormwater infiltration, evapotranspiration, biofiltration, and rainfall harvest and use. With implementation of new pervious areas and compliance with applicable regulatory requirements, this Alternative's impacts related to the need to construct or expand stormwater drainage facilities would be less than significant similar to the proposed project.

This Alternative would increase water demand from the three water purveyors servicing the project site. These water purveyors include Liberty, Golden State Water Company, and LADWP. This Alternative would slightly increase (approximately 2 percent) water demand compared to the proposed project. Because the proposed project would not require or result in the need for new or expanded water supply entitlements within the service areas of the three water purveyors, it is anticipated that this Alternative would also not require the need for new or expanded water entitlements. Therefore, similar to the proposed project, this alternative would result in less than significant impact to water supply entitlements of the three project area water purveyors.

This Alternative would increase the use of energy resources such as electricity and natural gas, and this increase would be slightly greater (approximately 2 percent greater) compared to the proposed project. Because the proposed project would not result in the need to develop or extend infrastructure to serve proposed buildout, it is anticipated that this Alternative would also not require the development of new or extended infrastructure. Therefore, the implementation of this Alternative would result in less than significant impacts on energy infrastructure similar to the proposed project.

Solid waste generation under this Alternative would be slightly more compared to the proposed project because approximately 2 percent more development is proposed. Similar to the proposed project, this Alternative would be required to comply with existing and future recycling requirements that are 50 percent reduction to 2020 and then 75 percent reduction after 2020. Because the proposed project's generation of solid waste would not require expansion of existing landfill facilities or construct a new landfill, the implementation of this Alternative would also not require expansion of existing landfill facilities. Therefore, implementation of this Alternative would result in less than significant impacts to landfill facilities similar to the proposed project.

Conclusion

Potential impacts associated with the implementation of development under Alternative 2 are compared to the potential impacts of development in accordance with the proposed Specific Plan. Compared to the proposed project, impacts associated with light and glare, air quality, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use plans, policies and ordinances, population and housing, noise, schools, transportation facilities and utilities would result in greater impacts. This Alternative would result in the same no impacts related to scenic vista, division of an established community, public services, and existing wastewater treatment plants.

The implementation of this Alternative would result in slightly greater environmental impacts compared to the proposed project. This Alternative would meet all of the objectives of the proposed project including the provision of a transit-oriented development in the project area and provision of an attractive environment for pedestrian, bicyclists, Metro riders, and local transit users through streetscape improvements.

4.5.3 Alternative 3: Reduced MLK Tier 2 Development Set Forth in MLK Medical Center Campus EIR Alternative

The following discusses the impacts associated with the Alternative 3, Reduced MLK Tier 2 Development Set Forth in MLK Medical Center Campus EIR Alternative in comparison to the impacts of the proposed Specific Plan.

Aesthetics

Under this Alternative, the same amount of residential units is proposed and 416,173 less non-residential square feet would be implemented compared to the proposed project. The decrease in non-residential square feet is related to a decrease in MLK Medical Center uses.

Development under this Alternative would not affect identified or designated scenic views or a scenic vista because neither exists in the project vicinity. Therefore, similar to the proposed project, the implementation of this Alternative would not impact a scenic view or scenic vista.

Development under this Alternative would include new lighting throughout the development and involve exterior lighting for streetlights, parking lots, signs, walkways, and interior lighting, which could be visible through windows to the outside similar to the proposed project. Because there is a substantial amount of ambient nighttime light that exists in the Specific Plan area,

limited views of stars and the nighttime sky are provided. Thus, the increase in light that would occur from implementation of this Alternative would not significantly impact nighttime views of the sky (ability to see the stars) because such views are already limited in an urban setting. Less new lighting would be generated under this Alternative compared to the proposed project, and new uses would be required to either use low-scaled lighting or shielded lighting to focus lighting and prevent lighting from spilling onto adjacent sensitive uses, such as residential. The requirements of Section 22.44.1270, Exterior Lighting, of the County Code related to lighting and shielding would limit the potential of increased lighting on sensitive uses. These regulations state that lighting shall be the minimum necessary in order to achieve the purpose of the light and that all lights shall be directed, oriented and shielded to prevent light from shining onto adjacent properties, onto public rights-of-way, and into driveway areas in a manner that would obstruct motorists' vision. Similar to the proposed project, this Alternative assumes that the Performance Standards would ensure sensitive uses would not be adversely affected by light and glare. These light and glare performance standards state that all outdoor lighting shall be designated to minimize light trespass; that existing residential uses should be buffered from light and glare effects from new development; and that parking lot and building security lighting shall not impact surrounding properties. Because compliance with the County Code and the Specific Plan Performance Standards would be checked by the County through the development plan check process, impacts associated with this Alternative related to increased sources of light would be less than significant similar to the proposed project.

Similar to the proposed project, the land uses proposed under this Alternative would be typical institutional, commercial, residential, and mixed use structures. Typically, these structures would be designed with non-reflective textured surfaces on building exteriors (such as stucco, brick, stone, wood). Windows included as part of the design of the building exteriors would be require to comply with Section 22.44.1320 (Construction Colors, Materials, and Design) of the County Code that requires windows to be comprised of non-glare/non-reflective glass. In addition, the Performance Standards included in the proposed Specific Plan would also be implemented as part of this Alternative and require that new development preclude generation of direct glare by ensuring that no surfaces reflect direct glare onto adjoining property, streets, or skyward. Because compliance with the County Code and the Specific Plan Performance Standards would be checked by the County through the development plan check process, impacts associated with this Alternative related to increased sources of glare would be less than significant similar to the proposed project.

Air Quality

Based on a review of SCAG growth projections for the project area, the proposed growth for this Alternative is not consistent with the SCAG growth projections. Because SCAG growth projections form the basis of the land use and transportation control portions of the Air Quality Management Plan (AQMP), this Alternative would conflict with and obstruct implementation of the AQMP. This Alternative would have less impact to the AQMP compared to the proposed project. The proposed project would also not be consistent with SCAG growth projection and therefore would conflict and obstruct implementation of the AQMP. There are mitigation measures proposed to reduce the proposed project's impact on the AQMP and these measures can

be implemented as part of this Alternative; however, after the implementation of the mitigation measures, impacts to the AQMP would remain significant.

Because this Alternative would result in less non-residential square feet compared to the proposed project, this Alternative would result in daily maximum construction activities that are less than the proposed project. In addition, with less development, this Alternative would result in less operational air pollutant emissions. Because this Alternative would result in 16 percent less non-residential square footage compared to the proposed project, this Alternative would not exceed regional construction emission threshold for CO, unlike the proposed project which exceeded the CO threshold by approximately 14 percent. However, this Alternative would exceed the regional construction thresholds for ROG and NO_x and result in significant impacts similar to the proposed project. Although less operational criteria pollutants would be generated under this Alternative, it would result in significant ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$ operational emissions similar to the proposed project. Also similar to the proposed project, the project mitigation measures could reduce the regional construction emissions; however, this alternative would still result in significant regional ROG and NOx construction emissions and significant regional NO_x, CO, PM_{10}, and $PM_{2.5}$ operational emissions.

With less development and less average daily trips, this Alternative would result in less localized construction and operational criteria pollutants. However, this Alternative, similar to the proposed project, would result in significant construction emissions of NO_x, PM_{10} and $PM_{2.5}$ and less than significant localized criteria pollutant emissions during operational activities. With the implementation of the recommended project mitigation measures, emissions from this Alternative, similar to the proposed project, would be reduced, but emissions would still remain significant during construction activities, but less than significant localized emission impacts would occur during operational activities.

As with the proposed project, this Alternative would expose existing and future sensitive receptors to toxic air contaminates (TACs) in the forms of diesel particulate matter (DPM) during construction and TACs from solvents, cleaners, and motor vehicle emissions during operational activities. Construction activities would occur under this Alternative over an approximate 20-year time period similar to the proposed project. Because construction activities would be short-term and limited, this Alternative's exposure of DPM by sensitive receptors would be less than significant similar to the proposed project. During operational activities associated with this Alternative, TACs generated from the use of solvents and cleaners would not occur in an appreciable quantity similar to the proposed project. Stationary sources of TACs would be subject to the rules and regulations of the SCAQMD (i.e., Rule 1401). Because stationary sources of TAC are required to operate in accordance with applicable regulations, the Alternative's TAC emissions impact would be less than significant similar to the proposed project. Residential development under this Alternative are proposed to be located within 500 feet of the I-105 Freeway and within 300 feet of the railroad. Similar to the proposed project, this Alternative's placement of residential units near the freeway and railroad which are sources of TACs would represent a significant impact similar to the proposed project. The mitigation measures identified

for the proposed project could also be implemented for this Alternative and the resulting impact would be less than significant similar to the proposed project.

Cultural Resources

Implementation of this Alternative has the potential to result in demolition or modification of existing or future eligible state or local historic resources similar to the proposed project. The project area includes an existing state eligible historic district (Martin Luther King, Jr. Medical Campus). Because less development would occur at the MLK Campus under this Alternative compared to the proposed project, this Alternative would result in less potential impacts on eligible historic resources. There are also numerous residential and commercial buildings that are older than 50 years or buildings that could be older than 50 years prior to construction activities. With the implementation of the project mitigation measures, potential impacts on historic resources would be reduced; however, because the measures describe a reduction of the impacts to the maximum extent practicable and not guarantee full mitigation, impacts to eligible historic resources could remain significant similar to the proposed project. However, because there would be less development within the MLK Medical Center, this Alternative would result in less impacts on the four existing eligible historic resources.

Construction activities associated with this Alternative could unearth previously unknown and unrecorded archaeological and tribal cultural resources and potential paleontological resources that could be located in the subsurface older Quaternary deposits that are known to contain vertebrate fossils similar to the proposed project. The implementation of the mitigation measures identified for the proposed project would reduce potential archaeological and paleontological impacts associated with this Alternative to less than significant similar to the proposed project.

In addition, construction activities associated with this Alternative could uncover unknown human remains similar to the proposed project. The implementation of the project mitigation measure would reduce the potential impact on human remains to less than significant similar to the proposed project.

Geology and Soils

Implementation of development in accordance with this Alternative would expose people and structures to strong seismic ground shaking. However, similar to the proposed project, conformance with the CBC and UBC would reduce impacts to strong seismic ground shaking to the maximum extent possible under currently accepted engineering practices. Therefore, similar to the proposed project, this Alternative would result in less than significant impacts related to exposing people or structures to strong seismic ground shaking. Development in the project area could also be exposed to geologic hazards; however, compliance with the County building code requirements would reduce potential hazards such as unstable soils, liquefaction, lateral spreading, settlement, subsidence, and collapse to less than significant similar to the proposed project. In addition, construction and operational activities associated with this Alternative could result in soil erosion or loss of top soil; however, compliance with the Construction General Permit, MS4 Permit and the County's LID Standards would reduce soil erosion and loss of

topsoil during construction and operational activities to less than significant similar to the proposed project.

Greenhouse Gas Emissions

This Alternative would result in less non-residential square footage compared to the proposed project. Therefore, GHG emissions that would result from this Alternative would be less than would occur from implementation of the proposed Specific Plan. Because this Alternative would result in approximately 16 percent less non-residential uses compared to the proposed project which exceeded the 2035 GHG threshold by approximately 5 percent, this Alternative would not exceed the 2035 annual greenhouse gas threshold, and therefore, would result in a less than significant GHG emissions impact unlike the proposed project. The proposed project resulted in a significant impact before and after the implementation of mitigation measures.

Similar to the proposed project, this Alternative would not exceed the 2020 GHG threshold which would achieve the AB 32 GHG reduction goals. In addition, this Alternative would be consistent with the CARB Scoping Plan and could be consistent with the SCAG SCS GHG emissions reduction policies. Therefore, similar to the proposed project, this Alternative would result in less than significant impacts related to compliance with AB 32, CARB Scoping Plan, and the SCAG SCS GHG emissions reduction policies.

Hazards and Hazardous Materials

Development in accordance with this Alternative would involve demolition that could include asbestos, lead-based paints or PCB-containing materials similar to the proposed project. Hazardous materials released as a result of construction activities would be required to comply with existing laws and regulations, and therefore, potential impacts would be less than significant similar to the proposed project. Operational activities associated with this Alternative would include the use, storage and disposal of hazardous materials. The proposed residential and commercial uses would include the use of and storage of common hazardous materials such as paints, solvents, and cleaning products. Building mechanical systems and grounds and landscape maintenance could also use a variety of products formulated with hazardous materials, including fuels, cleaners, lubricants, adhesives, sealers and pesticides/herbicides. This Alternative also includes the expansion of the Medical Center; however, the expansion is to a lesser extent under this Alternative compared to the proposed project. This expansion would include the generation of hazardous materials such as waste oil and mixed oil; oxygenated solvents including acetone, butanol, and ethyl acetate; spent halogenated solvents; and other hazardous materials including batteries, lamps, pesticides, thermostats, mercury, silver and polychlorinated biphenyls. The medical center as well as Drew University generates biomedical and radiological wastes. Residential and commercial uses would typically use or store small quantities of household hazardous materials. Because the hazardous materials associated with residential and commercial uses are generally in the form of routinely used common chemicals, potential hazard impacts from reasonable foreseeable upset and accident conditions is less than significant. Businesses or facilities that use or generate hazardous materials in excess of the threshold such as the Medical Center and Drew University are required to obtain a handler permit. Amounts less than the threshold would pose a less than significant effect. Amounts greater than the threshold are

required to comply with existing regulations that would reduce potential hazard impacts from reasonable upset and accident conditions to less than significant similar to the proposed project.

Because the uses under this Alternative that generate, use or store hazardous materials in excess of thresholds would require to comply with existing regulations to reduce potential impacts of the site where the hazardous materials are located, hazard impacts at nearby schools would be less than significant similar to the proposed project.

Similar to the proposed project, this Alternative would experience less than significant impacts associated with hazardous materials site listed on the Cortese List because the existing site located on the List and located within the Specific Plan site is currently being remediated per federal and state regulations and oversight. Compliance with the existing regulations would result in a less than significant impact on public safety and the environment similar to the proposed project.

Hydrology and Water Quality

Development under this Alternative would include demolition and grading activities that could expose and loosen sediment and building materials that could mix with storm water and urban runoff. Because each individual project would be required to comply with the NPDES and implement a SWPPP if the project disturbs more than one acre, the potential for pollutants to substantially degrade downstream surface water quality would be less than significant. Projects disturbing less than an acre of ground surface during construction would not be required to prepare a SWPPP, but would be required to implement the minimum BMPs required by the Los Angeles County MS4 Permit to prevent water quality degradation and therefore, impacts would be less than significant. Construction impacts related to water quality standards or waste discharge requirements from implementation of the proposed Specific Plan development would be less than significant.

Operational activities associated with this Alternative would be required to meet MS4 Permit requirements through compliance with the County LID Standards Manual. Compliance with the MS4 Permit regulations would minimize pollutants being transported offsite into downstream receiving waters, and projects implemented in accordance with this Alternative would not violate water quality standards or waste discharge requirements.

Similar to the proposed project, this Alternative includes infill and redevelopment and would increase population; thereby increase demand on water supplies. Because the water purveyors that serve the project site have pumping rights to obtain their groundwater from the Central Groundwater Basin, compliance with the judgment that set pumping rights in the Basin would eliminate the potential for the water agencies to substantially impact groundwater supplies. Therefore, similar to the proposed project, the implementation of this Alternative would result in less than significant impacts on the Central Groundwater Basin from groundwater use.

The project site does not have much groundwater recharge potential, and this Alternative would not include excavation activities that would reach the existing groundwater level of

approximately 155 feet below ground surface. Therefore, this Alternative would result in less than significant impacts to the existing groundwater levels similar to the proposed project.

Construction and operational activities associated with this Alternative would result in the potential for erosion and siltation impacts. However, construction activities would be required to implement BMP required by the County Pollution Control Requirements for Construction Activities. Operational activities would be required to implement the County LID Standards Manuel. With compliance with these regulations, the implementation of development in accordance with this Alternative would result in a less than significant erosion and siltation impact during project construction and operational activities.

Development in accordance with this Alternative would result in the generation of little to no increase in runoff to the existing drainage system because the majority of the site is developed and approximately 80 to 90 percent of the site is impervious. Development under this Alternative would not trigger the need for upgrades to the County's existing storm drain major backbone facilities mainly due to the LID Ordinance requirements for percolation and on-site detention for new development. Therefore, similar to the proposed project, this Alternative would result in less than significant impacts on existing and planned storm drains. Furthermore, as stated above, this Alternative's compliance with NPDES requirements, County Stormwater Pollution Control Requirements for Construction Activities, and the requirements of the County LID Standards Manual would result in less than significant impacts related to the creation of polluted runoff similar to the proposed project.

Land Use and Planning

Under this Alternative, the project area would increase the density/intensity of development as well as the presence of pedestrians throughout the area. Similar to the proposed project, this Alternative would not create physical barriers within the area and therefore, would not physically divide the established community in the project area.

Development in accordance with this Alternative includes transit-oriented development that provides for cohesive development throughout the project area similar to the proposed project. This alternative would implement SCAG policies that encourage greater densities in areas with TOD opportunities and a reduced dependence on the automobile. Similar to the proposed project, this Alternative would be consistent with the greenhouse gas reduction policies within the regional and local plans similar to the proposed project.

Because the proposed Specific Plan would implement the County's plans and planning concepts of implementing a TOD in the project area, this Alternative, similar to the proposed project, would result in less than significant environmental impacts related to consistency with establish development regulations.

Furthermore, the implementation of development in accordance with this Alternative would enhance the visual character and quality of the project area by following the proposed comprehensive design guidelines that are part of the Specific Plan. This Alternative, similar to the

proposed project, would result in less than significant impacts related to the existing visual character and quality of the area.

Noise

This Alternative would result in less development compared to the proposed project. The land uses that would be implemented under this Alternative would be similar to those that would be implemented with the proposed project. These land uses include residential, mixed-use, medical, educational and commercial uses. Because this Alternative would result in less non-residential square feet compared to the proposed project, this Alternative would result in less construction and operational noise levels. This alternative would exceed noise standards and potentially expose sensitive uses to significant ground-borne vibrations; however, this alternative's significant noise and vibration impacts would be less compared to the proposed project and would be reduced to less than significant with the implementation of the project mitigation measures.

Population and Housing

Under this Alternative, the same residential units and 416,173 fewer square feet of non-residential space than buildout of the proposed Specific Plan would occur. The increase in population that would be generated by this Alternative would not be consistent with SCAG growth forecasts for the site similar to the proposed project. With the increase in jobs in the project area under this Alternative, the majority of the jobs created within the project area would be skilled or managerial, and a majority of these jobs are expected to be filled by persons outside of the project area similar to the proposed project. Jobs are anticipated to be filled by people within the County due to the accessibility to the Willowbrook/Rosa Parks Station and multiple freeways, and the larger available labor force within the County. Therefore, the implementation of this Alternative would not substantially induce population growth, and therefore, impacts would be less than significant similar to the proposed project.

Public Services and Recreation

Under this Alternative, 416,173 fewer square feet of non-residential space than buildout of the proposed Specific Plan would occur. Because the proposed project which has more development compared to this Alternative and the County fire stations serving the project area could increase staffing and equipment required for buildout of the proposed project by utilizing the existing fire stations, the development in accordance with this Alternative would also be accommodated by the existing fire stations without altering the existing facilities. Therefore, physical impacts to the environment related to the development of or expansion of fire department facilities would not occur.

Development of this Alternative would increase the need for additional officers to respond to additional calls for sheriff services. The increase in additional officers would be less than required for the proposed project. Because the proposed project's need for additional officers could be accommodated at existing Sheriff Department facilities, the demand for additional officers under this Alternative would not require the alteration of existing sheriff facilities. Therefore, physical impacts to the environment related to the development of or expansion of sheriff department facilities would not occur.

This Alternative would increase the number of students in the project area; however, this increase would be the same as the proposed project because the same number of residential units is proposed. Because the proposed project would result in a less than significant impact on school facilities, this Alternative would also result in less than significant impacts to school facilities.

Implementation of this Alternative would increase the population in the project area and thereby increase a demand for parks and recreation, library, and other public (i.e., hospitals and post office) facilities. Because the proposed project would result in the same population compared to this Alternative and that the proposed project would not result in the need for new or altered parks and recreation, library, and other public (i.e., hospitals and post office) facilities, this alternative would also not result in the need for new or altered facilities. Therefore, the implementation of this Alternative would result in no impacts caused by construction impacts associated with new or altered parks and recreation, library, and other public (i.e., hospitals and post office) facilities.

The implementation of this Alternative would result in the same number of residential units and population as the proposed project. Because the Willowbrook Community includes adequate parkland for recreational use and the County has an annual assessment of fees as new development is proposed, this Alternative would result in less than significant impacts related to physical deterioration of existing parks and recreational facilities. In addition, because the Willowbrook Community contains adequate parkland to accommodate buildout of this Alternative, similar to the proposed project, this Alternative would not result in the need to construct new or physically alter recreational facilities.

Traffic

This Alternative would result in less development compared to the proposed project. The land uses that would be implemented under this Alternative would be similar to those that would be implemented with the proposed project. These land uses include residential, mixed-use, medical, educational and commercial uses. Because this Alternative would result in less non-residential square feet compared to the proposed project, this Alternative would result in less vehicular traffic and less impacts at County, city and Caltrans traffic facilities and congestion management facilities. With the implementation of the project mitigation measures, this Alternative would continue to result in significant traffic impacts, but would be less than the impacts associated with the proposed project.

Utilities and Service Systems

This Alternative would result in less development compared to the proposed project. The land uses that would be implemented under this Alternative would be similar to those that would be implemented with the proposed project. These land uses include residential, mixed-use, medical, educational and commercial uses, and these uses would not discharge wastewater that contains harmful levels of toxins beyond the regulations of the LARWQCB. In addition, all effluent would comply with the wastewater treatment standards of the RWQCB. Furthermore, the existing capacity of the wastewater treatment facilities serving the project area would not be exceeded under this Alternative similar to the proposed project. Therefore, this Alternative would result in less than

significant impacts related to the wastewater treatment requirements of the LARWQCB similar to the proposed project.

This Alternative would increase development in the project area and increase the need for water and sewer services. Because the implementation of the proposed project would generate a higher demand for water and higher generation of wastewater and the existing water and sewer infrastructure is adequate to accommodate the proposed project, this Alternative would be accommodated by the existing water and sewer facilities. Similar to the proposed project, this Alternative would result in no impacts related to water or sewer infrastructure expansion beyond the improvements that are part of the proposed project.

Development in accordance with this Alternative would include infill development and redevelopment. This Alternative would develop pervious areas to retain and infiltrate stormwater on development sites pursuant to the County's SUSWMP and LID requirements that reduce and manage drainage. County SUSWMP requirements provide that projects conduct a drainage hydrologic/hydraulic analysis that details the site's anticipated runoff calculations. From these calculations, a WQMP is prepared to ensure that a net increase in stormwater runoff would not occur from implementation of the development. Development projects in accordance with this Alternative, similar to the proposed project, are required through implementation of a project-specific WQMP to retain and treat the storm water quality volume generated by the project. In addition, the County requires LID standards to reduce runoff by using smart growth practices, stormwater infiltration, evapotranspiration, biofiltration, and rainfall harvest and use. With implementation of new pervious areas and compliance with applicable regulatory requirements, this Alternative's impacts related to the need to construct or expand stormwater drainage facilities would be less than significant similar to the proposed project.

This Alternative would increase water demand from the three water purveyors servicing the project site. These water purveyors include Liberty, Golden State Water Company, and LADWP. Because less non-residential square feet would occur under this Alternative compared to the proposed project, this alternative would demand less water. Because the proposed project would not require or result in the need for new or expanded water supply entitlements within the service areas of the three water purveyors, this Alternative would also not require the need for new or expanded water entitlements. Therefore, similar to the proposed project, this alternative would result in less than significant impact to water supply entitlements of the three project area water purveyors.

This Alternative would increase the use of energy resources such as electricity and natural gas; however, this increase would be less than the proposed project because less non-residential development is proposed under this Alternative. Because the proposed project would not result in the need to develop or extend infrastructure to serve proposed buildout and this Alternative would result in less demand for energy resources, the implementation of this Alternative would result in less than significant impacts on energy infrastructure similar to the proposed project.

Solid waste generation under this Alternative would be less compared to the proposed project because less development is proposed. Similar to the proposed project, this Alternative would be required to comply with existing and future recycling requirements that are 50 percent reduction to 2020 and then 75 percent reduction after 2020. Because the proposed project's generation of solid waste would not require expansion of existing landfill facilities or construct a new landfill, the

implementation of this Alternative would result in less than significant impacts to landfill facilities similar to the proposed project.

Conclusion

Potential impacts associated with the implementation of development under Alternative 3 are compared to the potential impacts of development in accordance with the proposed Specific Plan. Compared to the proposed project, impacts associated with light and glare, air quality, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use plans and policies, population and housing, noise, transportation facilities and utilities would result in fewer impacts. This Alternative would result in the same no impacts related to scenic vista, division of an established community, public services, and existing wastewater treatment plants.

The implementation of this Alternative would result in less environmental impacts compared to the proposed project. This Alternative would meet most of the objectives of providing a transit-oriented development in the project area and providing an attractive environment for pedestrian, bicyclists, Metro riders, and local transit users through streetscape improvements. This Alternative would partially meet the objective of revitalizing health care services at MLK with the reduced improvements at MLK.

4.5.4 Alternative 4: Construct All Physical Traffic Measures Set Forth in MLK Medical Center Campus EIR Alternative

The following discusses the impacts associated with the Alternative 4 ~~3~~, Construct All Physical Traffic Measures Set Forth in MLK Medical Center Campus EIR Alternative in comparison to the impacts of the proposed Specific Plan.

Aesthetics

Under this Alternative, the same amount of residential units and non-residential square feet would be implemented in the same locations as the proposed project.

Development under this Alternative would not affect identified or designated scenic views or a scenic vista because neither exists in the project vicinity. Therefore, similar to the proposed project, the implementation of this Alternative would not impact a scenic view or scenic vista.

Development under this Alternative would include the same amount of new lighting as the proposed project. The increase in light that would occur from implementation of this Alternative would not significantly impact nighttime views of the sky (ability to see the stars) similar to the proposed project. New uses would be required to either use low-scaled lighting or shielded lighting to focus lighting and prevent lighting from spilling onto adjacent sensitive uses, such as residential. The requirements of Section 22.44.1270, Exterior Lighting, of the County Code related to lighting and shielding would limit the potential of increased lighting on sensitive uses. Similar to the proposed project, this Alternative assumes that the Performance Standards would

ensure sensitive uses would not be adversely affected by light and glare. These light and glare performance standards state that all outdoor lighting shall be designated to minimize light trespass; that existing residential uses should be buffered from light and glare effects from new development; and that parking lot and building security lighting shall not impact surrounding properties. Because compliance with the County Code and the Specific Plan Performance Standards would be checked by the County through the development plan check process, impacts associated with this Alternative related to increased sources of light would be less than significant similar to the proposed project.

Similar to the proposed project, the land uses proposed under this Alternative would be typical institutional, commercial, residential, and mixed use structures. Typically, these structures would be designed with non-reflective textured surfaces on building exteriors (such as stucco, brick, stone, wood). The Performance Standards included in the proposed Specific Plan would also be implemented as part of this Alternative and require that new development preclude generation of direct glare by ensuring that no surfaces reflect direct glare onto adjoining property, streets, or skyward. Because compliance with the Specific Plan Performance Standards would be checked by the County through the development plan check process, impacts associated with this Alternative related to increased sources of glare would be less than significant similar to the proposed project.

Air Quality

Similar to the proposed project, this Alternative would include proposed growth this is not accounted for within the SCAG growth projections. Because SCAG growth projections form the basis of the land use and transportation control portions of the Air Quality Management Plan (AQMP), this Alternative would conflict with and obstruct implementation of the AQMP. This Alternative would have the same impact to the AQMP compared to the proposed project. There are mitigation measures proposed to reduce potential impacts on the AQMP associated with this Alternative; however, after the implementation of the mitigation measures, impacts to the AQMP would remain significant similar to the proposed project.

Because this Alternative would result in the same residential units and the same non-residential square feet compared to the proposed project, this Alternative would result in the same construction air emissions as the proposed project. Therefore, this Alternative would exceed the regional and localized construction thresholds for ROG, NO_X and CO similar to the proposed project. This alternative would result in slightly higher daily traffic volumes because the street improvements to accommodate vehicular traffic would not allow the pedestrian and bicycle improvements that are part of the proposed project and encourage residents and employees to use alternative means of transportation compared to the automobile. With a slightly greater increase in vehicular traffic, the regional and localized operational emissions would be slightly greater than the proposed project.

With the provision of roadway improvements to accommodate vehicular traffic, there would be a greater potential for mobile TAC emissions to impact adjacent sensitive receptors compared to the proposed project. This Alternative would result in potential impacts to future sensitive

receptors that are located 500 feet from the I-105 Freeway and 300 feet from the railroad tracks similar to the proposed project. Project mitigation measures would be implemented with this Alternative to reduce potential impacts to less than significant.

Cultural Resources

Implementation of this Alternative includes the same amount of development as the proposed project and therefore, impacts to historical, archaeological and tribal cultural, paleontological, and human remain resources would be the same as the proposed project. The project mitigation measures for each of these resources would be implemented with this Alternative. After implementation of the mitigation measures, historical resources would remain significant and impacts to archaeological, paleontological and human remain resources would be reduced to less than significant similar to the proposed project.

Geology and Soils

Implementation of development in accordance with this Alternative would expose people and structures to strong seismic ground shaking. Similar to the proposed project, conformance with the CBC and UBC would reduce impacts to strong seismic ground shaking to the maximum extent possible under currently accepted engineering practices. Therefore, similar to the proposed project, this Alternative would result in less than significant impacts related to exposing people or structures to strong seismic ground shaking. Development in the project area could also be exposed to geologic hazards; however, compliance with the County building code requirements would reduce potential hazards such as unstable soils, liquefaction, lateral spreading, settlement, subsidence, and collapse to less than significant similar to the proposed project. In addition, construction and operational activities associated with this Alternative could result in soil erosion or loss of top soil; however, compliance with the Construction General Permit, MS4 Permit and the County's LID Standards would reduce soil erosion and loss of topsoil during construction and operational activities to less than significant similar to the proposed project.

Greenhouse Gas Emissions

This alternative would result in slightly higher daily traffic volumes because the street improvements to accommodate vehicular traffic would not allow the pedestrian and bicycle improvements that are part of the proposed project and encourage residents and employees to use alternative means of transportation compared to the automobile. With a slightly greater increase in vehicular traffic, a greater amount of greenhouse gas emissions would occur compared to the proposed project. Project mitigation measures would be implemented; however, this Alternative would still result in significant greenhouse gas emissions impacts similar to the proposed project.

Similar to the proposed project, this Alternative would not exceed the 2020 GHG threshold which would achieve the AB 32 GHG reduction goals. In addition, this Alternative would be consistent with the CARB Scoping Plan and could be consistent with the SCAG SCS GHG emissions reduction policies. Therefore, similar to the proposed project, this Alternative would result in less than significant impacts related to compliance with AB 32, CARB Scoping Plan, and the SCAG SCS GHG emissions reduction policies.

Hazards and Hazardous Materials

Development in accordance with this Alternative would involve the same demolition, construction and operational activities as the proposed project and therefore, the same potential for the release of hazardous materials. Similar to the proposed project, this Alternative would result in less than significant hazard impacts from reasonable upset and accident conditions, less than significant hazard impacts at nearby schools, and less than significant impacts associated with hazardous material sites listed on the Cortese List.

Hydrology and Water Quality

Development under this Alternative would include the same demolition, grading, construction and operational activities as the proposed project. Therefore, surface and groundwater quality impacts would be the same as the proposed project. Impacts on groundwater supplies and groundwater recharge would be the same as the proposed project. Erosion, siltation and stormwater drainage capacity impacts would also be the same as the proposed project. Each of these impacts would be less than significant similar to the proposed project.

Land Use and Planning

Under this Alternative, the project area would increase the density/intensity of development as well as the presence of pedestrians throughout the area. Similar to the proposed project, this Alternative would not create physical barriers within the area and therefore, would not physically divide the established community in the project area.

Development in accordance with this Alternative includes transit-oriented development that provides for cohesive development throughout the project area similar to the proposed project. This alternative would implement the pedestrian and bicycle circulation patterns where they could, but would be limited due to the desire to implement improvements for motor vehicles improvements and not implement pedestrian and bicycle improvements. This alternative would implement SCAG policies that encourage greater densities in areas with TOD opportunities and a reduced dependence on the automobile. Similar to the proposed project, this Alternative would be consistent with the greenhouse gas reduction policies within the regional and local plans similar to the proposed project.

Because the proposed Specific Plan would implement the County's plans and planning concepts of implementing a TOD in the project area, this Alternative, similar to the proposed project, would result in less than significant environmental impacts related to consistency with establish development regulations.

Furthermore, the implementation of development in accordance with this Alternative would enhance the visual character and quality of the project area by following the proposed comprehensive design guidelines that are part of the Specific Plan. This Alternative, similar to the proposed project, would result in less than significant impacts related to the existing visual character and quality of the area.

Noise

This Alternative would result in the same residential units and the same non-residential square feet compared to the proposed project. As a result, this Alternative would result in the same construction noise levels as the proposed project. Similar to the proposed project, this Alternative would exceed noise standards and potentially expose sensitive uses to significant ground-borne vibrations. However, similar to the proposed project, this alternative would result in significant noise and vibration impacts. The implementation of the project mitigation measures would reduce potential noise and vibration impacts to less than significant.

Population and Housing

Under this Alternative, the amount of development in the project area would be the same as the proposed project. The same number of residential units, population, non-residential square footage, and employment as the proposed project would occur. Similar to the proposed project, the increase in population that would be generated by this Alternative would not be within the SCAG growth forecasts for the site. With the increase in jobs in the project area under this Alternative, the majority of the jobs created within the project area would be skilled or managerial, and a majority of these jobs are expected to be filled by persons outside of the project area similar to the proposed project. Jobs are anticipated to be filled by people within the County due to the accessibility to the Willowbrook/Rosa Parks Station and multiple freeways, and the larger available labor force within the County. Therefore, the implementation of this Alternative would not substantially increase population growth, and therefore, impacts would be less than significant similar to the proposed project.

Public Services and Recreation

Under this Alternative, the amount of development in the project area would be the same as the proposed project. The same number of residential units, population, non-residential square footage, and employment as the proposed project would occur. Therefore, impacts on public services and recreational facilities would be the same under this Alternative as the proposed project. With the development of this Alternative, there would be no physical impacts to the environment related to the development of or expansion of fire, sheriff, parks and recreation, library, and other public (i.e., hospitals and post office) facilities similar to the proposed project. In addition, as with the proposed project, potential impacts to school facilities would be less than significant with this Alternative.

Traffic

Under this Alternative, the amount of development in the project area would be the same as the proposed project. The land uses that would be implemented under this Alternative would be the same as those proposed under the proposed project. These land uses include residential, mixed-use, medical, educational and commercial uses. Because this Alternative would result in the same amount of residential and non-residential square feet compared to the proposed project, this Alternative would result in the same amount of vehicular traffic. This Alternative includes more traffic improvements to County facilities and would result in fewer unavoidable adverse impacts, but the same impacts at city and Caltrans traffic facilities and congestion management facilities

would still result. With the implementation of the project mitigation measures, this Alternative would continue to result in significant traffic impacts, but would be less than the impacts associated with the proposed project.

Utilities and Service Systems

Under this Alternative, the amount of development in the project area would be the same as the proposed project. The same number of residential units, population, non-residential square footage, and employment as the proposed project would occur. Therefore, potential impacts to wastewater, water, stormwater drainage, energy, and landfill facilities and water supplies would be less than significant similar to the proposed project. In addition, this Alternative would not impact wastewater treatment facilities similar to the proposed project.

Conclusion

Potential impacts associated with the implementation of development under Alternative 3 are compared to the potential impacts of development in accordance with the proposed Specific Plan. Compared to the proposed project, impacts associated with scenic vistas, light and glare, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use plans and policies, population and housing, public services, and utilities would result in the same impacts.

Due to the implementation of street improvements to accommodate vehicular traffic, less pedestrian and bicycle improvements would be implemented under this Alternative compared to the proposed project. With less pedestrian and bicycle improvements, fewer residents and employees would be encouraged to use alternative means of transportation compared to the automobile. Therefore, slightly greater vehicle trips would occur under this alternative and would result in greater air quality, greenhouse gas and noise impacts as well as impacts on transportation facilities outside of the Specific Plan. Overall, this alternative would result in more environmental impacts compared to the proposed project.

This Alternative would meet the majority of the project objectives; however, it would not meet the objective to provide an attractive environment for pedestrian and bicyclists through streetscape improvements because some of these improvements cannot occur in favor of street improvement to accommodate motor vehicles.

4.6 Environmentally Superior Alternative

As required by CEQA Guideline Section 15126.6, one of the alternatives must be identified as an Environmentally Superior Alternative. The Environmentally Superior Alternative is the one that would result in the fewest or least significant impacts. If the Environmentally Superior Alternative is the No Project Alternative, then an Environmentally Superior Alternative must be selected from the remaining alternatives.

Alternative 3, Reduced MLK Tier 2 Development Set Forth in MLK Medical Center Campus EIR Alternative would result in less environmental effects compared to each of the alternatives. While this alternative would lessen the project's environmental impacts in areas such as light and

glare, air quality, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use plans and policies, population and housing, noise, transportation facilities and utilities, it would not eliminate any of the significant unavoidable impacts of the proposed project. Because the impacts would be incrementally reduced as compared to the proposed project, the Reduced MLK Tier 2 Development Set Forth in MLK Medical Center Campus EIR Alternative would be the environmentally superior alternative. This Alternative would meet most of the objectives of providing a transit-oriented development in the project area and providing an attractive environment for pedestrian, bicyclists, Metro riders, and local transit users through streetscape improvements. This Alternative would partially meet the objective of revitalizing health care services at MLK with the reduced improvements at MLK.

CHAPTER 5
Other CEQA Considerations

5.1 Environmental Effects Found not to be Significant

As required by Section 15128 of the CEQA Guidelines, an EIR shall contain a brief discussion stating the reasons why various possible significant effects of a project were determined not significant and are, therefore, not discussed in detail in the EIR. In accordance with the CEQA Guidelines, this section discusses the environmental issue areas where impacts were found to not be significant. These discussions address the CEQA Guidelines Appendix G and County of Los Angeles Environmental Checklist Form questions for each of the environmental topic areas where the proposed Willowbrook TOD Specific Plan would result in either a less than significant impact or no impact. Most of the discussions are the same as those provided in the Notice of Preparation/Initial Study that was distributed for public review on October 30, 2015. There are a few discussions that have been modified to substantiate the findings.

5.1.1 Aesthetics

The Specific Plan would not be visible from or obstruct views from a regional riding or hiking trail.

No Impact. The Specific Plan area is located within a fully developed urban area, and is not located in the vicinity of a County regional riding or hiking trail (County of Los Angeles, 2015a). However, the Los Angeles River Trail (a 7-mile bike path from the north side of Griffith Park at Riverside Drive along the Los Angeles River to Barclay Street, north of Downtown Los Angeles) is 3 miles to the east of the Specific Plan area. The Los Angeles River Trail is not located in the vicinity of the Specific Plan area and does not have direct or indirect views of the Specific Plan area. As a result, no impacts would occur from implementation of the proposed project.

The Specific Plan would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

No Impact. The Specific Plan area is not located within or near a designated scenic highway corridor and is not located within view of a state or federal scenic highway. Interstate Highway 105 runs east to west along the northern portion of the project area but is not designated as a scenic highway. The nearest Caltrans-designated Scenic Highway is a portion of Highway 210 (Caltrans, 2015) located approximately 20 miles north of the Specific Plan area. Thus, the Specific Plan area is not visible from this highway, and the project would not result in impacts to scenic resources within view of a state scenic highway.

5.1.2 Agricultural and Forest Resources

The Specific Plan would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

No Impact. The Willowbrook area does not contain any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (CDOC, 2010). The proposed Specific Plan area consists of a developed urban area that does not contain any farmland uses. Therefore, the proposed Specific Plan would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide importance to nonagricultural uses. No impacts related to the conversion of farmland to non-agricultural uses would occur.

The Specific Plan would not conflict with existing zoning for agricultural use, with a designated Agricultural Opportunity Area, or with a Williamson Act contract.

No Impact. The project area does not contain an agricultural zoning classification or land use designation and is not regulated by a Williamson Act Contract (CDOC, 2013). No impact would occur as a result of the proposed Specific Plan.

The Specific Plan would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220 (g)), timberland (as defined in Public Resources Code § 4526), or timberland zoned Timberland Production (as defined in Government Code § 51104(g)).

No Impact. Willowbrook is not zoned for forest land or zoned as an area designated for Timberland Protection. No impact would occur as a result of the proposed Specific Plan

The Specific Plan would not result in the loss of forest land or conversion of forest land to non-forest use.

No Impact. Willowbrook does not contain forest land and would not convert forest land to a non-forest use. Therefore, the project would not impact forest land.

The Specific Plan would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

No Impact. Because the Specific Plan area does not contain farmland or forest land as described above, the project would not result in the conversion of farmland to non-agricultural use or conversion of forest land to a non-forest use.

5.1.3 Air Quality

The Specific Plan would not create objectionable odors affecting a substantial number of people.

Less Than Significant Impact. The SCAQMD Air Quality Handbook identifies the following uses as having potential odor issues; wastewater treatment plants, food processing plants, agricultural uses, chemical plants, composting, refineries, landfills, dairies, and fiberglass moldings, none of which are proposed within the Specific Plan. The Specific Plan proposes mixed use commercial and residential development within the project area, which do not involve the types of uses that would emit objectionable odors affecting a substantial number of people. In addition, odors generated by new and existing non-residential land uses in the Specific Plan area are required to be in compliance with SCAQMD Rule 402 to prevent odor nuisances on sensitive land uses.

During construction of future projects allowed under the proposed Specific Plan, emissions from construction equipment, such as diesel exhaust, and volatile organic compounds from architectural coatings and paving activities may generate odors. However, these odors would be limited and temporary; and thus, are not expected to affect a substantial number of people. Therefore, impacts relating to both operational and construction activity odors would be less than significant.

5.1.4 Biological Resources

The Specific Plan would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS).

No Impact. No candidate, sensitive, or special-status species have been identified within or in the vicinity of the Specific Plan area by the California Natural Diversity Database (CNDDB) (CDFW, 2015). The proposed Specific Plan provides for infill development within an already highly disturbed urban environment. This development would not result in any direct impacts to special-status species or result in any habitat modifications that could indirectly result in a substantial adverse effect on any special-status species. Therefore, the proposed Specific Plan project would not result in impacts on species identified as candidate, sensitive, or special-status.

The Specific Plan would not have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations or by CDFW or USFWS.

No Impact. Riparian habitat is lowland habitat associated with the bed and banks of a river, stream, or wash. The nearest river is the Los Angeles River 4 miles east of the easternmost boundary of the Specific Plan area. Compton Creek is located 2 miles west of the westernmost boundary of the Specific Plan area. Both rivers are concrete-lined and channelized and, therefore, do not have any riparian habitat along its banks. The Specific Plan area is located in an upland area that contains an appreciable amount of impervious surfaces (i.e., asphalt and cemented

streets and parking lots and buildings) and nonnative ornamental trees, shrubs, and ground cover and, therefore, riparian habitat is not present. The proposed Specific Plan would involve infill development within an already highly disturbed urban environment and would not involve any changes or alterations to any riparian habitat or other sensitive natural community. Therefore, the proposed Specific Plan project would not result in impacts on riparian habitats.

The Specific Plan would not have a substantial adverse effect on federally or state protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States, as defined by § 404 of the federal Clean Water Act or California Fish & Game code §1600, et seq. through direct removal, filling, hydrological interruption, or other means.

No Impact. As discussed above, the Specific Plan area is a highly disturbed urban environment, and no portion of the area contains the proper vegetation (i.e., a preponderance of hydrophytes or "water-loving" plants), soils (i.e., hydric or waterlogged soils), and hydrologic conditions (i.e., inundated either permanently or periodically or saturated during the growing season of the prevalent vegetation) to be defined a wetland according to the U.S. Army Corps of Engineers' (USACE) Wetlands Delineation Manual (USACE, 1987). Compton Creek (located approximately 2 miles west of the Specific Plan area) is a concrete-lined and channelized wash. Overall, because the Specific Plan area does not contain nor is located in close proximity to a wetland, the proposed Specific Plan project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (CWA) (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Therefore, no impacts would occur.

The Specific Plan would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

No Impact. The Specific Plan area is within a fully developed urban area. It is sufficiently removed from habitat areas such that it could not provide for the movement of any native resident or migratory fish or wildlife species, nor could it provide an established native resident or migratory wildlife corridor or contain native wildlife nursery sites. Therefore, no impacts would result from implementation of the proposed Specific Plan.

The Specific Plan would not convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10% canopy cover with oaks at least 5 inch in diameter measured at 4.5 feet above mean natural grade) or otherwise contain oak or other unique native trees (junipers, Joshuas, southern California black walnut, etc.).

No Impact. No oak woodlands or other unique native trees exist within the Specific Plan area. As a result, impacts to oak woodlands or unique native trees would not occur with implementation of the proposed Specific Plan.

The Specific Plan would not conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16), the Significant Ecological Areas (SEAs) (L.A. County Code, Title 22, § 22.56.215), and Sensitive Environmental Resource Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44, Part 6).

No Impact. The only local policy or ordinance related to the protection of biological resources that would be applicable to the Specific Plan area is the Oak Tree Ordinance; which establishes that a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any tree of the oak tree genus without first obtaining a permit. The proposed Specific Plan would not affect any oak trees located in the project area. Furthermore, implementation of the proposed Specific Plan would adhere to all County ordinances applicable to the Specific Plan area, including the Los Angeles County Oak Tree Ordinance if applicable. The Specific Plan proposes new street tree designations as the project area has an inconsistent palette and pattern of street trees; none of those designations include Oak Trees. As a result, the proposed Specific Plan would not conflict with any local plans or policies protecting biological resources, and no impacts are anticipated as a result of the proposed Specific Plan.

The Specific Plan would not conflict with the provisions of an adopted state, regional, or local habitat conservation plan.

No Impact. The Specific Plan area is not located within or near a Habitat Conservation Plan, Natural Community Conservation Plan or any other approved local, regional, or state habitat conservation plan. No impact would occur.

5.1.5 Energy

The Specific Plan would not conflict with Los Angeles County Green Building Ordinance (L.A. County Code Title 22, Ch. 22.52, Part 20 and Title 21, § 21.24.440) or Drought Tolerant Landscaping Ordinance (L.A. County Code, Title 21, § 21.24.430 and Title 22, Ch. 22.52, Part 21).

No Impact. The project includes redevelopment of existing uses and is subject to the requirements of the Los Angeles County Green Building and Drought Tolerant Landscaping Ordinance. The project would comply with these ordinances, which are intended to conserve energy, water, natural resources, and promote a healthier environment (Municipal Code Section 22.52.2100). The Specific Plan incorporates sustainable design guidelines that would not conflict with the Los Angeles County Green Building Ordinance or the Drought Tolerant Landscaping Ordinance.

The Specific Plan would not involve the inefficient use of energy resources (see Appendix F of the CEQA Guidelines).

No Impact. The Specific Plan is proposed to guide future development and redevelopment in the area and implement TOD land uses. Development projects that are implemented by the proposed Specific Plan would comply with State and County regulations related to energy usage and

efficient energy design. Therefore, implementation of the proposed Specific Plan would not result in an inefficient use of energy resources.

5.1.6 Geology and Soils

The Specific Plan would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known active fault trace? Refer to Division of Mines and Geology Special Publication 42.

No Impact. Seismically-induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude, sense, and nature of fault rupture can vary for different faults or even along different strands of the same fault. Ground rupture is considered more likely along active faults. The Los Angeles Basin contains both active and potentially active faults, and is considered a region of high seismic activity. The Specific Plan area is not located within or adjacent to an Alquist-Priolo Fault Rupture Hazard Zone fault and is, therefore, unlikely to experience surface fault rupture (CDOC, 2015; County of Los Angeles, 2014). The closest active fault to the Specific Plan area is the Newport-Inglewood-Rose Canyon Fault, Strike 334, located approximately 1.8 miles southwest of the Specific Plan area (USGS, 2015). Due to the distance between the Specific Plan area and the active fault, implementation of the proposed Specific Plan would not result in impacts related to the rupture of a known earthquake fault.

ii) Landslides.

No Impact. The Specific Plan area is a flat, level area with no hills or cliffs, where the risk of landslides is very low. As a result, impacts related to landslide hazards would not result from implementation of the Specific Plan.

The Specific Plan would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Less Than Significant Impact. The Specific Plan area is underlain by young Quaternary Alluvium, which are dominated by loose to moderately dense sandy sediments (CDOC, 1998), which are not typically expansive. Non-engineered artificial fills have not been delineated or mapped in the South Gate Quadrangle. Consequently, no areas are zoned for potential liquefaction relative to artificial fill (CDOC, 1998). The County's building permit process requires submittal of soil investigation reports and structural observation programs (ALPC, 2015) and permits would not be issued unless soil suitability and appropriate construction practices for the proposed structures is confirmed. Therefore, the proposed Specific Plan would result in less than significant impacts related to expansive soils.

The Specific Plan would not have soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater.

No Impact. The Specific Plan area is served by a sewer system; septic tanks would not be utilized by the proposed Specific Plan. All development associated with the proposed Specific Plan project would connect to and be served by the existing public sewer system for wastewater discharge and treatment. No impacts would occur as a result of the proposed Specific Plan.

The Specific Plan would not conflict with the Hillside Management Area Ordinance (L.A. County Code, Title 22, § 22.56.215) or hillside design standards in the County General Plan Conservation and Open Space Element.

No Impact. The Specific Plan area is not located within a Hillside Management Area or within an area that is subject to hillside design standards. The Specific Plan area is flat land that is not in the vicinity of a hillside. As a result, the Specific Plan would not conflict with the Hillside Management Area Ordinance or any hillside standards.

5.1.7 Hazards and Hazardous Materials

The Specific Plan would not create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials.

Less Than Significant Impact. A hazardous material is defined as any material that, due to its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, and any material that a business or the local implementing agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the environment.

There are multiple state and local laws that regulate the storage, use, and disposal of hazardous materials. The Los Angeles County Health and Hazardous Materials Division was designated by the State Secretary for Environmental Protection 1997 as the Certified Unified Program Agency ("CUPA") for the County. The CUPA is the local administrative agency that coordinates the following programs regulating hazardous materials and hazardous wastes: the Hazardous Waste Generator Program, the Hazardous Materials Release Response Plans and Inventory Program, the California Accidental Release Prevention Program ("Cal-ARP"), the Aboveground Storage Tank Program and the Underground Storage Tank Program (County of Los Angeles, 2015b).

Operation of the proposed project provides for increased intensity of residential and non-residential uses on the site. Hazardous materials associated with residential and commercial uses include solvents, cleaning agents, paints, pesticides, batteries, and aerosol cans. The medical facilities and hospital is also a small- and large-quantity generator of hazardous materials such as small medical wastes such as needles to waste oil and mixed oil; oxygenated solvents including acetone, butanol, and ethyl acetate; spent halogenated solvents; and other hazardous materials including batteries, lamps, pesticides, thermostats, mercury, silver and polychlorinated biphenyls.

All of the hazardous materials that would be used by the project are subject to existing applicable federal, state, and local regulations. Because the proposed project uses would largely remain the same as under current conditions, substantial changes to the operational characteristics and types of potentially hazardous materials are not anticipated. Normal routine use of these products under project conditions would not result in a significant hazard to residents or workers.

Construction of the new development within the Specific Plan area would involve the routine use, handling, storage, transport, and disposal of hazardous materials such as fuels, paints, and solvents, consistent with applicable federal, state, and local regulations. In compliance with existing federal, state, and local regulations, the amounts of these materials present during construction would be limited and would not pose a significant adverse hazard to workers or the environment. The construction contractor would be required to implement standard BMPs regarding hazardous materials storage, handling, and disposal during construction in compliance with the State General Permit.

The Specific Plan would not be located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport. The project would not result in a safety hazard for people residing or working in the project area.

No Impact. The proposed Specific Plan area is not located within an airport land use plan or airport approach zone (ALUC, 2015). The nearest public airport is approximately 2 miles south of the Specific Plan area (Compton/Woodley Airport); the Hawthorn Municipal Airport is approximately 5 miles west of the Specific Plan area and Los Angeles International Airport is approximately 10 miles west of the Specific Plan area. Therefore, the project would not result in a safety hazard for people residing or working in the vicinity of an airport.

The Specific Plan would not be located within the vicinity of a private airstrip and would not result in a safety hazard for people residing or working in the project area.

No Impact. The nearest private airport to the Specific Plan area is approximately five miles to the southwest at the Goodyear Blimp Base Airport located in the City of Carson. Development in accordance with the Specific Plan would not be result in a safety hazard for people residing or working within the Specific Plan area.

The Specific Plan would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

Less Than Significant Impact. Existing County development standards would require new development within the Specific Plan to be designed so as not to interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

The Specific Plan would not expose people or structures to a significant risk of loss, injury or death involving fires, because the project is not located:

- **Within a Very High Fire Hazard Severity Zone (Zone 4).**

No Impact. The Specific Plan area is located within an urban area that does not contain wildlands, and is not located in an area classified as a Very High Fire Hazard Severity Zone (Cal Fire, 2012). Therefore, impacts related to wildland fires would not occur.

- **Within a high fire hazard area with inadequate access.**

No Impact. As described above, the Specific Plan area is located within an urban developed area and is not located within an identified wildland fire hazard area. Furthermore, the Specific Plan area currently has adequate access, which would be continued with further development. As a result, impacts related to high fire hazards and inadequate access would not occur

- **Within an area with inadequate water and pressure to meet fire flow standards.**

No Impact. The availability of sufficient water pressure is a basic requirement of the Fire Department (Los Angeles, 2010). Existing fire flows within and near the Specific Plan area are at or above the minimum requirements, and impacts related to fire flow would not occur.

- **Within proximity to land uses that have the potential for dangerous fire hazard.**

No Impact. The Specific Plan area is not within proximity to land uses that have the potential for a dangerous fire hazard. The Specific Plan area is developed and is not in an area with light fuels or unpredictable weather conditions. Land uses consist of residential, commercial, medical, open space, and public uses. These land uses would not generate potential impacts related to a dangerous fire hazard.

The Specific Plan does not propose a use that would constitute a potentially dangerous fire hazard.

No Impact. The proposed Specific Plan would develop and redevelop residential and commercial land uses. None of the uses related to the proposed Specific Plan would constitute a potentially dangerous fire hazard. Impacts associated with development in accordance with the Specific Plan would not occur.

5.1.8 Hydrology and Water Quality

The Specific Plan would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

Less Than Significant Impact. As stated previously, the proposed Specific Plan area is not located in a flood zone and does not contain any streams or rivers. The Specific Plan components include an expansion or reconfiguration of existing urban development in mostly paved areas; therefore, the proposed components would maintain existing drainage patterns, and would not contribute to an increase in impervious surfaces in the Specific Plan area such that a substantial increase in runoff and flooding on or offsite would result. Impacts related to flooding would be less than significant.

The Specific Plan would not conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84 and Title 22, Ch. 22.52).

No Impact. The Los Angeles County Low Impact Development (LID) ordinance was designed to manage rainfall and stormwater runoff in urban areas through the distribution of small, cost-effective landscape features throughout project sites. Such features include bio-retention/filtration landscape areas, reduced impervious surfaces, and functional landscaping and grading (DPW, 2014). The development projects implemented by the Specific Plan would develop and implement a WQMP as required by the NPDES MS4 Permit that would incorporate structural and non-structural BMPs designed to reduce volume, velocity and pollutant loading of storm water and limit dry weather flows discharging from the site. The NPDES MS4 Permit also requires implementation of LID practices to prevent non-storm water discharges and encourage proper filtration of runoff to reduce the degradation of water quality. Development within the Specific Plan area would comply with Los Angeles County's LID and would incorporate BMPs that are consistent with LID. Impacts regarding conflict with the LID ordinance would not occur.

The Specific Plan would not result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance.

No Impact. There are no Areas of Special Biological Significance ("ASBS") on-site or within close proximity to the Specific Plan area. The closest ASBS is the Laguna Point to Latigo Point which is approximately 30 miles northwest of the Specific Plan area. This ASBS is the largest of the mainland ASBS in Southern California, with 24 miles of coastline and 11,842 acres of marine habitat (SWRCB, 2013). Thus, impacts associated with discharges into an ASBS would not occur.

The Specific Plan would not use onsite wastewater treatment systems in areas with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course).

No Impact. Wastewater produced in the project area is currently transported by sewer lines to the City of Los Angeles sewer system (Los Angeles City, 2015). No wastewater treatment systems are proposed within the Specific Plan area. The proposed Specific Plan would not include an on-site wastewater treatment system and impacts would not occur.

The Specific Plan would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain.

No Impact. The Specific Plan area is not within a 100-year flood hazard area. According to Federal Emergency Management Agency's Flood Insurance Rate Map No. 06037C1815F, the Specific Plan area is not located in a flood zone (FEMA, 2008), and no existing surface drainages or rivers are located in the Specific Plan area. As a result, no adverse impacts related to flooding are expected as a result of the development of the proposed Specific Plan (DWR, 2015).

The Specific Plan would not place structures, which would impede or redirect flood flows, within a 100-year flood hazard area, floodway, or floodplain.

No Impact. As discussed above, the Specific Plan area is not located within a 100-year flood hazard area and therefore, the project would result in impacts related to placement of structures in a flood hazard area.

The Specific Plan would not place structures in areas subject to inundation by seiche, tsunami, or mudflow.

No Impact. The Specific Plan area is not subject to inundation by tsunami as it is located approximately 10.5 miles east of the Pacific Ocean. Seiches occur in semi- or fully enclosed bodies of water when strong winds and/or rapid changes in atmospheric pressure push water from one end of the body of water to the other, resulting in an oscillation back and forth of waves (NOAA, 2014). The dry, Mediterranean climate in the Specific Plan area is not prevalent to dramatic changes in pressure or strong winds such that a seiche would occur, bypassing holding walls and inundating the Specific Plan area. Mudflows are flowing masses of fine-grained earth material with a high degree of fluidity (USGS, 2014a), and happen on slopes. The Specific Plan area is developed, relatively flat and does not have enough exposed soils or topography to be a risk of mudflow. Impacts would not occur.

5.1.9 Land Use

The Specific Plan would not conflict with Hillside Management criteria, Significant Ecological Areas conformance criteria, or other applicable land use criteria.

No Impact. The Specific Plan area is within the urban and developed community of Willowbrook. The Specific Plan area is not located within any habitat conservation plan or natural community conservation plan. Therefore, no impact would occur.

5.1.10 Mineral Resources

The Specific Plan would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

No Impact. No significant mineral deposits have been identified within the Specific Plan area (USGS, 2014b). As a result, the proposed Specific Plan would not cause a loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. No impacts to mineral resources would occur.

The Specific Plan would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

No Impact. Based on a review of the Los Angeles County General Plan, the County has not designated any locally-important mineral recovery site in the Willowbrook area. Therefore, implementation of the Specific Plan would result in no impacts on the loss of availability of a locally-important mineral resource recovery site (County of Los Angeles DRP, 2015)

5.1.11 Noise

The Specific Plan is not located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The project would not expose people residing or working in the project area to excessive noise levels.

No Impact. The Specific Plan area is not located in the jurisdiction of an airport land use compatibility plan, nor is it in an airport approach zone (ALUC, 2015). The nearest public airport is approximately 2 miles south of the Specific Plan area (Compton/Woodley Airport); the Hawthorn Municipal Airport is approximately 5 miles west of the Specific Plan area and Los Angeles International Airport is approximately 10 miles west of the Specific Plan area. Therefore, the proposed Specific Plan would not expose people to excessive noise from an airport.

The Specific Plan would not be within the vicinity of a private airstrip and would not expose people residing or working in the project area to excessive noise levels.

No Impact. The nearest private airport to the Specific Plan area is approximately five miles to the southwest at the Goodyear Blimp Base Airport located in the City of Carson. Development in accordance with the Specific Plan would not be exposed to noise levels from operations at this private airport.

5.1.12 Population and Housing

The Specific Plan would not displace substantial numbers of existing housing, especially affordable housing, necessitating the construction of replacement housing elsewhere.

No Impact. The proposed Specific Plan would not result in the permanent displacement of substantial number of existing housing, nor would it result in the displacement of substantial numbers of people. The proposed Specific Plan provides for infill development and redevelopment would include a mix of residential, commercial, industrial, and public uses. Build out of the Specific Plan would provide 1,952 additional residential units within the Specific Plan area. Development projects implemented by the proposed Specific Plan may result in temporary displacement of residents during construction activities. However, development projects would occur sporadically at a parcel by parcel project level, the potential displacement of persons residing on an infill or redevelopment parcel would be short-term, and the project would result in a greater number of residential units to house residents of the area. Therefore, impacts related to displacement of housing or persons that would require replacement housing elsewhere would not occur.

Implementation of the proposed Specific Plan would result in demolition of 152 dwelling units in order to implement infill and redevelopment of projects. However, the Willowbrook CDP has a vacancy rate of 7 percent and the County has a vacancy rate of 6.3 percent in 2014, which indicates that both areas provide a range of available housing. Thus, units are available in the existing housing market for residents of the units to be demolished. Additionally, the proposed project would result in development of 1,952 new residential units. Therefore, adequate residential units could be available to fill the needs of residents in the Specific Plan area.

In addition, the demolition of existing housing and displacement of residents would not result in the need for construction of replacement housing above the amount of housing to be provided under the proposed Specific Plan. As a result, impacts related to the displacement of housing or people, necessitating the construction of replacement housing elsewhere would not occur. In contrast, the proposed project would encourage infill development that would result in additional residential units within the Specific Plan area.

The Specific Plan would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

No Impact. As discussed above, substantially more residential units are proposed within the Specific Plan area compared to the number of units proposed to be demolished. Therefore, no substantial number of people would require the construction of replacement housing elsewhere.

5.1.13 Public Services and Recreation

The Specific Plan would not interfere with regional open space connectivity.

No Impact. The proposed Specific Plan would not interfere with regional open space connectivity. There is very little open space in the Specific Plan area, and the project would enhance open space connectivity by encouraging new development to provide public open space. Open space connectivity would occur by the Specific Plan from implementation of pedestrian connections, common open space areas, plazas and courtyards, and public sidewalks. The open space provided by the Specific Plan would not interfere with any regional open space connectivity. Therefore, project impacts related to open space connectivity would not occur.

5.1.14 Transportation and Traffic

The Specific Plan would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

No Impact. The Specific Plan area is not located in the jurisdiction of an airport land use compatibility plan, nor is it in an airport approach zone (ALUC, 2015). The nearest public airport is approximately 2 miles south of the project area (Compton/Woodley Airport); the Hawthorne Municipal Airport is approximately 5 miles west of the project area and Los Angeles International Airport is approximately 10 miles west of the project area. The proposed Specific Plan components would not result in changes to air traffic patterns or a change in air traffic locations. Therefore, there would be no impact.

The Specific Plan would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Less Than Significant Impact. The Specific Plan proposes to redesign some intersections and implement road diets that would generally result in lane reduction to add a bicycle lane. A Road Diet could involve converting an existing four-lane undivided roadway segment to a three-lane segment consisting of two through lanes and a center two-way left-turn lane. The reduction of lanes allows the roadway cross section to be reallocated for other uses such as bike lanes,

pedestrian refuge islands, transit stops, or parking (FHWA, 2014). All development within the Specific Plan would be required to meet Los Angeles County design standards in relation to protection of pedestrian and bicycle traffic. In addition, the proposed uses within the Specific Plan would be compatible with the surrounding mixed uses in the urban environment. As a result, less than significant impacts would occur from implementation of the proposed Specific Plan.

The Specific Plan would not result in inadequate emergency access.

Less Than Significant Impact. The Specific Plan proposes to redesign some intersections and implement road diets. The number of traffic lanes and roadway lane configurations would generally remain the same, except where road diets would be implemented. Roadway diets, described above would generally result in lane reduction to add a bicycle lane. The proposed Specific Plan would involve the reconfiguration of roadways and driveways to residential and commercial properties, and would require the presence of construction equipment and materials adjacent to roadways. The Specific Plan requires that the design of newly configured roadways and development sites to provide adequate emergency access. The changes to roadway patterns and driveways within the Specific Plan area would require construction permits from the County's Public Works Department, which would not allow development activities to result in potential impacts related to emergency access. As a result, impacts would be less than significant.

The Specific Plan would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Less than Significant Impact. The proposed Specific Plan itself is based on the encouragement of TOD. Therefore, the development of the proposed components would support alternative transportation, and would be consistent with and further adopted policies, plans, and programs supporting alternative transportation (e.g., taking the Metro, bus turnouts, bicycle racks). A number of pedestrian oriented intersection improvements would be implemented throughout the Specific Plan area. These would be based on a menu of improvements that includes adding high visibility crosswalks at intersections; adding passive pedestrian detection and pedestrian push buttons for crosswalks at traffic signals at intersections; adding countdown pedestrian signals and audio signals to crosswalks at intersections; adding advance stop bars to intersection approaches; adding sidewalk bulb-outs and extensions, or reducing curb returns, on intersection corners where feasible; adding median nose/crossing islands where advantageous and feasible. These measures would facilitate pedestrian circulation, by reducing the width of roadway for pedestrians to cross, providing additional sidewalk space, and making pedestrian crossings more visible to both pedestrians and motorists. Impacts would be less than significant.

5.2 Growth Inducement

CEQA Guidelines Section 15126.2(d) requires that an environmental impact report (EIR) evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by CEQA Guidelines Section 15126.2 (d) as follows:

> *the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth…Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also…the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.*

There are two types of growth-inducing impacts a project may have: direct and indirect. To assess the potential for growth-inducing impacts, the project features that may encourage and facilitate activities that individually or cumulatively may affect the environment must be evaluated.

Direct growth-inducing impacts occur when the development of a project imposes new burdens on a community that directly induces population growth or the construction of additional developments in the same area of the proposed project, thereby triggering related growth-associated impacts.

Included in this analysis are projects that would remove physical obstacles to population growth (such as a new road into an undeveloped area or a wastewater treatment plant that could allow more construction in the service area). Construction of these types of infrastructure projects cannot be considered isolated from the development they trigger. In contrast, projects that physically remove obstacles to growth, projects that indirectly induce growth, are those that may provide a catalyst for future unrelated development in an area (such as a new residential community that requires additional commercial uses to support residents).

A project can have a direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for instance, involved the construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. For example, a project providing an increased water supply in an area where water service historically limited growth could be considered growth inducing.

The CEQA Guidelines explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Typically, the growth-inducing potential would be considered significant if it stimulates human population growth or a population concentration above what is assumed in local and regional land use plans, or in projections made by regional planning authorities. Significant growth potential

could also occur if the project provides infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies.

As discussed below, this analysis evaluates whether the proposed project would directly or indirectly induce economic, population, or housing growth in the surrounding environment.

5.2.1 Direct and Indirect Growth-Inducing Impacts

New housing development implemented under the proposed Specific Plan would involve up to a net total increase of 1,952 residential units, as well as approximately 2,666,035 square feet of non-residential employment generating uses. This new development would result in population growth as it provides new homes and businesses in the Willowbrook Specific Plan area.

Using the County's average household size of 2.94 (see Table 3.10-4) for incremental 2035 growth within the Willowbrook TOD Specific Plan area, the addition of 1,952 residential units into the Willowbrook TOD Specific Plan would generate a population of approximately 5,739 persons. The County's incremental population growth projection for the Willowbrook TOD Specific Plan area is the addition of 4,348 persons. The project's incremental population growth represents an approximately 32 percent increase (5,739 persons/4,348 persons) or 1,391 persons over the County's population growth projection for the Specific Plan area. In addition, the project's incremental population growth represents an approximately 66 percent increase (5,739 persons/3,447 persons) or 2,292 persons over SCAG RTP/SCS's population growth projection for the Specific Plan area. In comparison to the SCAG RTP/SCS population growth projections for County of Los Angeles as a whole, the proposed Specific Plan's incremental population growth is approximately 0.5 percent (5,739 persons/1,106,612 persons) of the County's incremental population growth.

As described in Chapter 3.10, Population and Housing, the Specific Plan area currently has 968 units and approximately 3,108 residents. The proposed Specific Plan 2035 incremental increase of 1,952 residential units would represent an approximately 202 percent increase in residential units over existing residential units in 2015 for a total of 2,920 residential units. Over an approximate 20-year buildout, the growth in residential units would be approximately 98 residential units per year or a compound average residential growth of 5.7 percent annually. This growth is greater than the anticipated growth in the County's General Plan that assumed 1,479 additional residential units, an average of approximately 74 units per year over an approximate 20-year buildout, and a compound average residential growth of 4.8 percent. The project's incremental residential growth represents an approximately 32 percent increase (1,952 units/1,479 units) over the County's residential growth projection. In addition, the proposed growth is greater than the anticipated growth in the SCAG RTP/SCS that assumed 887 additional residential units, an average of approximately 44 residential units per year or a compound average residential growth of 3.3 percent annually. The project's incremental residential growth represents an approximately 120 percent increase (1,952 units/887 units) over the SCAG RTP/SCS residential growth projection for the Specific Plan area. In comparison to the SCAG RTP/SCS residential growth projections for County of Los Angeles as a whole, the proposed Specific Plan's incremental residential growth is approximately 0.6 percent (1952 units/332,282 units) of the County's incremental residential growth.

Although the project would provide greater residential growth, the project is consistent with the County's General Plan Housing Element. The project is specifically accommodated for by the Housing Element Program 6: Transit Oriented Districts Program that establishes transit oriented districts within 0.5-mile radius from Metro stations. A program outlined in the Housing Element is to create a transit-oriented district for Willowbrook that would encourage urban infill development on vacant or underutilized sites; promote and encourage transit-oriented development along major transportation corridors; encourage mixed use development to facilitate the linkage between housing and employment opportunities; and promote increased residential density in appropriately designated areas (Housing Element Policy 1.1). The Housing Element also targets areas as prime locations to accommodate the remaining RHNA allocated units for the County (Housing Element Policies 1.1 and 2.1).

As discussed above, the proposed project would exceed the County's population and housing projection for the Specific Plan area by 1,391 persons and 473 residential units. This exceedance of population and housing projection over 20 years within the region is considered nominal because the growth within the Specific Plan would represent 0.5 percent of the County's incremental population growth and 0.6 percent of the County's incremental residential growth. Therefore, the proposed Specific Plan would not induce additional population and housing growth that would result in significant impacts to the environment.

In addition, the proposed project would involve a net total of approximately 2,666,035 square feet of non-residential employment generating uses, which will result in a net increase of approximately 5,632 jobs, and therefore, by 2035 there would be a total of 6,897 jobs within the Specific Plan area. This increase in job growth is approximately 100 percent more jobs than projected in the County General Plan for the Specific Plan area. The jobs within the Specific Plan area are anticipated to include approximately 63 percent of professional office jobs, 21 percent of retail and other local services, 8 percent in industrial, and 6 percent in health and education jobs (Hoffmann 2015). Because a majority of the jobs created within the Specific Plan area would be skilled or managerial, a majority of these jobs are expected to be filled by persons outside of the Specific Plan area. The jobs are anticipated to be filled by people within the County due to the transit-oriented development nature of the proposed Specific Plan, its accessibility to the Willowbrook/Rosa Parks Station and multiple freeways, and the larger available labor force within the County. In addition, the increase in jobs within the Specific Plan represents 0.7 percent of the projected jobs within the County for 2035 and is within the job growth projected for the County. Furthermore, based on an average County of Los Angeles unemployment rate of 8.2 percent over the past 25 years, it is reasonable to assume that there will be available people living within the County to fill the increase in jobs created in the Specific Plan area. Therefore, although the proposed project would exceed residential and job growth in the Specific Plan area compared to the County General Plan projects, the increased job growth would accommodate the historical unemployed labor pool within the County. In addition, due to the site's accessibility, no substantial additional growth in the Specific Plan area or immediately adjacent to the Specific Plan area would occur. Therefore, the proposed Specific Plan would not result in a significant inducement of indirect growth from operation of the proposed uses.

Construction of projects that would occur within the Specific Plan area would include need for construction labor during short time periods. Due to the employment patterns of construction workers in southern California, and the market for construction labor, construction workers are not likely, to any significant degree, to relocate their households as a consequence of the job opportunities presented by the project. The construction industry differs from most other industry sectors in several important ways that are relevant to potential impacts on housing:

- There is no regular place of work. Construction workers commute to job sites that change many times in the course of a year. These often lengthy daily commutes are made possible by the off-peak starting and ending times of the typical construction work day.
- Many construction workers are highly specialized (e.g., crane operators, steel workers, masons), and move from job site to job site as dictated by the demand for their skills.
- The work requirements of most construction projects are also highly specialized and workers are employed on a job site only as long as their skills are needed to complete a particular phase of the construction process.

Therefore, the construction activities associated with the implementation of the proposed Specific Plan would not result in a significant inducement of indirect growth.

5.3 Significant and Irreversible Environmental Changes

Section 21100(b)(2)(B) of CEQA and Section 15126.2(c) of the CEQA Guidelines require that an EIR include a detailed statement setting forth "[a]ny significant effect on the environment that would be irreversible if the project is implemented." (Public Resources Code § 21100(b(2)(B). "Significant irreversible environmental changes" include the use of nonrenewable natural resources during the initial and continued phases of the project, should this use result in the unavailability of these resources in the future. Primary impacts and, particularly, secondary impacts generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with projects. Irretrievable commitments of these resources are required to be evaluated in an EIR to ensure that such consumption is justified (CEQA Guidelines §15126.2(c)).

Approval of the proposed project would cause irreversible environmental changes consisting of the following:

Project construction and operation would result in an irretrievable loss of, and irreversible commitment of, natural resources. The Specific Plan area is located in an existing urbanized area, but would require the commitment of resources such as lumber and steel to construct the infill development. Development projects that would be implemented in accordance with the Specific Plan would involve construction and operation that would use fossil fuels and other natural materials, such as wood and metals. Construction and operation of infill developments would also emit pollution into the air, from construction machines and vehicles, and from vehicles traveling to and from each infill development project during operation. These developments would also consume fossil fuels (petroleum and natural gas), and electricity generated by fossil fuels and other non-renewable resources during operation. As described throughout this EIR, the Specific

Plan would implement a TOD in such a manner that would reduce vehicle trips, encourage pedestrian and bicycle circulation, and promote public transit use. In addition, development projects that would be implemented by the Specific Plan would be required to comply with federal, state, and local requirements (described within each environmental resource section), such as Title 24 requirements and low impact development requirements that would reduce the irretrievable loss of, and irreversible commitment of, natural resources.

5.4 References

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CHAPTER 6
Report Preparers

6.1 Lead Agency

County of Los Angeles

Los Angeles County Department of Regional Planning
Community Studies West Section

Address: 320 West Temple Street
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Anita Gutierrez, AICP, *Supervising Regional Planner*

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6.3 EIR Consultant

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Candace Ehringer, *Senior Archaeologist*

Kyle Kim, *Noise Specialist*

Shadde Rosenblum, *Senior Traffic Expert*

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Ian Hillway, *Document Production*

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6.4 Traffic and Transportation Consultant

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Michael Bates, *Traffic Engineer*

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6.5 Economic Consultant

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Stan Hoffman, AICP, *Economist*

6.6 Infrastructure Consultant

JMC^2

John M. Cruikshank, PE, *Utility Engineer*

CHAPTER 7
Response to Comments

7.1 Introduction

7.1.1 Purpose of Response to Comments

In accordance with Section 15088 of the State of California Environmental Quality Act (CEQA) Guidelines, the County of Los Angeles as the lead agency for the proposed Willowbrook Transit Oriented District Specific Plan has evaluated the comments received on the Draft Environmental Impact Report (Draft EIR), State Clearinghouse No. 2015101106. The Draft EIR was released for public review and comment for a period of 45 days from May 12, 2017 through June 26, 2017. These Responses to Comments and Errata are used by the County of Los Angeles and responsible agencies in their review of the proposed project.

Before approving a project that may cause a significant environmental impact, CEQA requires the Lead Agency (County of Los Angeles) to prepare and certify a Final EIR. The contents of a Final EIR are specified in CEQA Guidelines Section 15132, which states:

> *The Final EIR shall consist of:*
>
> *(a) The Draft EIR or a revision of the Draft EIR.*
>
> *(b) Comments and recommendations received on the Draft EIR either verbatim or in summary.*
>
> *(c) A list of persons, organizations and public agencies commenting on the Draft EIR*
>
> *(d) The Responses of the Lead Agency to significant environmental points raised in the review and consultation process.*
>
> *(e) Any other information added by the Lead Agency.*

The County of Los Angeles as Lead Agency is required to provide each public agency that commented on the Draft EIR with a copy of the County's response to those comments at least 10 days before certifying the Final EIR. In addition, the County may also provide an opportunity for members of the public to review the Final EIR prior to certification, although this is not a requirement of CEQA.

7.1.2 Organization of Response to Comments

This Response to Comments for the Willowbrook Transit Oriented District Specific Plan presents the following organization of sections:

Section 7.1: Introduction. Provides a description of the purpose of the Response to Comments Document, organization, project summary, and intended uses of the EIR and project approvals.

Section 7.2: List of Commenters. Provides a list of agencies, organizations, and individuals that commented on the Draft EIR.

Section 7.3: Responses to Comments. Includes a copy of all of the letters received and provides responses to comments on environmental issues describing the disposition of the issues, explaining the Draft EIR analysis, supporting the Draft EIR conclusions, and/or providing clarifying information or corrections, as appropriate. This section is organized with a copy of the comment letter followed by the corresponding responses.

Section 7.4: Errata. Includes errata, clarifications, and additions to the Draft EIR.

7.1.3 Project Summary

Project Location

The Specific Plan area is approximately 312 acres and is located within the northwestern portion of the Willowbrook community. The Specific Plan area generally encompasses parcels located south of Imperial Highway, north of East 122nd Street, east of Compton Avenue, and west of South Mona Boulevard. The Specific Plan contains a range of land uses, including: residential, retail, office, educational, institutional facilities, and service facilities. Some of the key land uses that are located within the Specific Plan area include: MLK Medical Center, Charles R. Drew University of Medicine and Science (CDU), Kenneth Hahn Plaza, Willowbrook Library, and Martin Luther King, Jr. (MLK) Center for Public Health. The Specific Plan area also includes the Willowbrook/Rosa Parks Station, which is located at the intersection of the I-105 and South Wilmington Avenue.

7.1.4 Project Description

The Los Angeles County General Plan was updated in 2015 with a major focus on TOD as a priority throughout the County. The General Plan Land Use Element specifically calls for implementation of a TOD plan for the Willowbrook/Rosa Parks Station. The proposed Willowbrook TOD Specific Plan has been prepared pursuant to General Plan Implementation Program LU-2 Transit Oriented District Program, in order to 1) increase walking, bicycling, and transit ridership and reduce vehicle miles traveled (VMTs); 2) facilitate compact, mixed use development; 3) increase economic activity; 4) facilitate the public investment of infrastructure improvements; and 5) streamline the environmental review process for future infill development projects.

In addition to the General Plan Land Use Element, the Los Angeles County Housing Element Program 6: Transit Oriented Districts Program provides for transit oriented districts within 0.5 mile radius from Metro stations, and specifically requires creation of a transit-oriented district for Willowbrook that would encourage urban infill development on vacant or underutilized sites; promote and encourage transit-oriented development along major transportation corridors; encourage mixed use development to facilitate the linkage between housing and employment opportunities; and promote increased residential density in appropriately designated areas.

Consistent with these General Plan policies and programs, the County of Los Angeles prepared the Draft Willowbrook TOD Specific Plan to implement TOD development and rezone some of the land within the Specific Plan area to include mixed uses, increase housing densities, provide for additional neighborhood-serving retail uses, improve access to transit, and improve bicycle and pedestrian facilities and other public realm facilities, such as street furniture and signage.

The Specific Plan is a County-initiated, Los Angeles County Metropolitan Transit Authority (Metro) grant-funded project that is being proposed pursuant to the County General Plan to enhance the transit oriented development pattern, promote active transportation, reduce vehicle miles traveled, and improve the public realm in the Willowbrook area. In addition, the proposed Specific Plan is intended to streamline the approval process for future development projects that are consistent with the Specific Plan.

The proposed Specific Plan would amend General Plan Land Use designations of several individual parcels to provide consistency with the General Plan policy direction for mixed use parcels along transportation corridors. In addition, the proposed Specific Plan would facilitate transit oriented development by establishing a new Specific Plan zone for the project area. Within the Specific Plan zone, new designations for land uses would be implemented. In addition, as discussed in more detail below under Proposed Circulation System Improvements, minor changes/improvements to the existing street system would be implemented to improve access, circulation, and walkability between the major land uses within the Specific Plan area, such as the Martin Luther King. Jr. (MLK) Medical Center, CDU, Kenneth Hahn Plaza, Willowbrook Library, MLK Center for Public Health, and the Willowbrook/Rosa Parks Station. Key access corridors to the Specific Plan area would continue to be Willowbrook Avenue, Compton Avenue, South Mona Avenue, Wilmington Avenue, East 117th Street, East 118th Street, East 119th Street, and East 120th Street. Streetscape improvements, such as landscaping and street furniture are also provided for in the proposed Specific Plan, all of which is described in Section 2, Project Description, of the Draft EIR.

The proposed Specific Plan would also establish sustainable design guidelines and performance standards for features, such as scale and mass, building orientation, building articulation and detailing, circulation, parking, and exterior lighting. The new zoning designations would allow for infill and redevelopment TOD opportunities that can serve as catalyst to revitalizing the area.

7.1.5 Project Objectives

Section 15124(b) of the CEQA Guidelines states that the project description shall contain "a statement of the objectives sought by the proposed project." Section 15124(b) further states that "the statement of objectives should include the underlying purpose of the project."

The project objectives are to:

- Provide a transit-oriented development near the Willowbrook/Rosa Parks Station.
- Improve bicycle and pedestrian mobility and safety as well as access to the Willowbrook/Rosa Parks Station.
- Preserve and enhance Willowbrook's economic base and character.
- Provide additional housing for Willowbrook's varied income groups.
- Revitalize the health care services at Martin Luther King, Jr. (MLK) Medical Center.
- Revitalize the services at Charles R. Drew University of Medicine and Science (CDU).
- Preserve the character of the existing residential neighborhoods.
- Create an attractive environment for pedestrians, bicyclists, Metro riders, and local transit users through streetscape improvements.

7.1.6 Intended Use of the EIR and Approvals

The Final Program EIR is intended to be used by local, responsible and trustee agencies that may have review authority over components of the proposed Specific Plan. The Final Program EIR is also intended to inform the public of the environmental effects of the proposed Specific Plan. Actions and approval required from the County of Los Angeles in association with the proposed Specific Plan included the following:

- Adoption of the proposed Willowbrook TOD Specific Plan;
- Change of Zone for the Specific Plan area to "Specific Plan;"
- Amendments to the County of Los Angeles General Plan to change land use of parcels for General Plan Policy consistency;
- Amendment to the Zoning Code to incorporate the zoning provisions of the proposed Specific Plan (Chapter 3, Specific Plan Zones) into Title 22 of the County's Code (Zoning Ordinance) and Zoning Map.

The Final Program EIR may be used by various governmental decision-makers for discretionary permits and actions that are necessary or may be requested in connection with implementation of future development projects pursuant to the proposed Specific Plan. The state or local agencies that may rely upon the information contained in the Final Program EIR when considering approval of permits may include, but are not limited to, the following:

- South Coast Air Quality Management District (point source emissions permits)
- California Regional Water Quality Control Board (National Pollutant Discharge Elimination System [NPDES] permit)
- State Water Resources Control Board (General Construction Activity Stormwater Permit)

- California Department of Toxic Substance Control (provide clearance for school expansions/developments)
- Caltrans (improvements to intersections within Caltrans rights-of-way)
- Metro (approval of development within Metro's jurisdiction).

7.1.7 Summary of Findings

This Response to Comments and Errata clarify, amplify, and expand on the fully adequate analysis and significance conclusions that were already set forth in the Draft EIR for public review. CEQA Guidelines Section 15088.5 makes clear that such clarifications and amplifications are appropriate under CEQA and do not require recirculation of the EIR. Specifically, Section 15088.5 states:

> *a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation includes, for example, a disclosure showing that:*
>
> *1. A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.*
>
> *2. A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.*
>
> *3. A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project's proponents decline to adopt it.*
>
> *4. The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.*
>
> *b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.*

As set forth in more detail in these Responses to Comments and Errata, none of the clarifications or amplifications set forth herein change the significance conclusions presented in the Draft EIR or substantially alters the analysis presented for public review. Furthermore, the Draft EIR circulated for public review was fully adequate under CEQA such that meaningful public review was not precluded. Thus, the clarifications provided in this Response to Comments and Errata do not constitute significant new information that might trigger recirculation.

7.2 List of Commenters

A list of public agencies and private individuals who provided comments on the Draft EIR through June 26, 2017 is presented below. These comments are categorized as (1) comments received by letter or email and (2) oral comments received at the public hearing held on June 1, 2017 at the Hudson Auditorium on the campus of the Martin Luther King Jr., Medical Center before the County Hearing Examiner. Individual comments within each correspondence and during oral presentation have been numbered so comments can be crossed-referenced with responses. The text of the correspondence is reprinted in Section 3, Responses to Comments, immediately followed by the corresponding response.

7.2.1 Comments Received Regarding the Draft EIR

Following are the comments received on the Draft EIR during the 45-day public review period which extended from May 12, 2017 to June 26, 2017. These comments include oral and written comments received on the Draft EIR during the public meeting held on June 1, 2017 in front of the County of Los Angeles Hearing Examiner. The meeting was held at the Hudson Auditorium on the campus of the Martin Luther King Jr., Medical Center.

Letter A **State Clearinghouse (June 23, 2017)**
Scott Morgan, Director

Letter B **Department of Transportation (June 15, 2017)**
Dianna Watson, IGR/CEQA Branch Chief

Letter C **South Coast Air Quality Management District (June 15, 2017)**
Lijin Sun, Program Supervisor, CEQA IGR, Planning, Rule Development & Area Sources

Letter D **Metro (June 26, 2017)**
Elizabeth Carvajal, Sr. Manager

Letter E **County of Los Angeles Department of Parks and Recreation (May 18, 2017)**
Clement Lau, Planning and CEQA Section

Letter F **County Sanitation Districts of Los Angeles County (June 26, 2017)**
Adriana Raza, Customer Service Specialist, Facilities Planning Department

Letter G **Golden State Environmental and Social Justice Alliance (May 29, 2017)**
Joe Bourgeois, President

Letter H **Emrie F. Green (No Date)**
Resident

Comments I **Oral and Written Comments Received on the Draft EIR During the Public Meeting (June 1, 2017)**

7.3 Responses to Comments

In accordance with Section 15088 of the California Environmental Quality Act (CEQA) Guidelines, the County of Los Angeles, as the lead agency, evaluated the comments received on the Draft EIR (State Clearinghouse No. 2015101106) for the proposed Willowbrook Transit Oriented District Specific Plan and has prepared the following responses to the comments received. There are responses to the comments that include corrections and additions to the information presented in the Draft EIR. The corrections and additions are organized by page number. Additional text is shown in underline, and deleted text is shown in ~~strikethrough~~ format. Section 7.4, Errata, includes the organization of the corrections and additions by page number.

LETTER A

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

June 23, 2017

Anita Gutierrez
Los Angeles County
320 West Temple Street
Los Angeles, CA 90012

Subject: Willowbrook Transit Oriented District Specific Plan
SCH#: 2015101106

Dear Anita Gutierrez:

A - 1

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on June 22, 2017, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2015101106
Project Title Willowbrook Transit Oriented District Specific Plan
Lead Agency Los Angeles County

Type EIR Draft EIR

Description The Willowbrook TOD Specific Plan would encourage transit oriented development; promote active transportation and improve quality of life for residents; reduce vehicles miles traveled; create community benefits with improvements to the public realm; improve economic vitality and employment opportunities; and streamline the environmental review process for future projects. The specific plan is anticipated to facilitate development, especially residential and employment-generating uses, near the Willowbrook/Rosa Parks Station. Overall, the specific plan would accommodate an additional 1,952 dwelling units and 2,666,035 sf of non-residential land use. The specific plan includes pedestrian sidewalk and intersection improvements.

Lead Agency Contact

Name Anita Gutierrez
Agency Los Angeles County
Phone 213 974 6422 **Fax**
email
Address 320 West Temple Street
City Los Angeles **State** CA **Zip** 90012

Project Location

County Los Angeles
City
Region
Lat / Long 33° 55' 41" N / 118° 14' 19" W
Cross Streets I-105 and Wilmington Avenue
Parcel No. Various
Township **Range** **Section** **Base**

Proximity to:

Highways I-105
Airports Compton-Woodley
Railways Metro, UPRR
Waterways
Schools Various
Land Use Various

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Drainage/Absorption; Geologic/Seismic; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Water Quality; Water Supply; Growth Inducing; Landuse; Cumulative Effects; Other Issues

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 5; Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 7; Regional Water Quality Control Board, Region 4; Air Resources Board, Transportation Projects; Native American Heritage Commission; Public Utilities Commission

Date Received 05/09/2017 **Start of Review** 05/09/2017 **End of Review** 06/22/2017

Note: Blanks in data fields result from insufficient information provided by lead agency.

Response to Letter A

Scott Morgan, State Clearinghouse

Response to Comment A-1. This comment is noted and acknowledges the submittal of the Draft EIR to selected state agencies for their review and acknowledges the closing of the public review period for the Draft EIR. No specific comments on the Draft EIR were provided; therefore, no further response is necessary.

LETTER B

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-8391
FAX (213) 897-1337
TTY 711
www.dot.ca.gov

Serious Drought.
Making Conservation
a California Way of Life.

June 15, 2017

Ms. Anita Gutierrez, AICP
Department of Regional Planning
County of Los Angeles
320 West Temple Street
Los Angeles, CA 90012

RE: Willowbrook Transit Oriented District SP
SCH # 2015101106
Ref. IGR/CEQA No. 151108AL-NOP
GTS # LA-2017-00903-DEIR-AL
Vic. LA-101/PM 6.24 to 7.683

Dear Ms. Gutierrez:

B - 1

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The Willowbrook TOD Specific Plan would encourage transit oriented development; promote active transportation and improve quality of life for residents; reduce vehicle miles traveled; create community benefits with improvements to the public realm; improve economic vitality and employment opportunities; and streamline the environmental review process for future projects. Overall, the Specific Plan would potentially accommodate an additional 1,952 dwelling units and 2,666,035 square feet of non-residential land use. The Specific Plan includes pedestrian sidewalk and intersection improvements.

Senate Bill 743 (2013) mandated that CEQA review of transportation impacts of proposed development be modified by using Vehicle Miles Traveled (VMT) as the primary metric in identifying transportation impacts for all future development projects. However, the City may use the Level of Service (LOS) methodology until The Governor's Office of Planning and Research (OPR) complete its CEQA Guideline to implement SB743 (https://www.opr.ca.gov/s_sb743.php).

Caltrans is aware of challenges that the region faces in identifying viable solutions to alleviating congestion on State and Local facilities. With limited room to expand vehicular capacity, this development should incorporate multi-modal and complete streets transportation elements that will actively promote alternatives to car use and better manage existing parking assets. Prioritizing and allocating space to efficient modes of travel such as bicycling and public transit can allow streets to transport more people in a fixed amount of right-of-way.

Caltrans supports the implementation of complete streets and pedestrian safety measures such as road diets and other traffic calming measures. Please note the Federal Highway Administration (FHWA) recognizes the road diet treatment as a proven safety countermeasure, and the cost of a road diet can be significantly reduced if implemented in tandem with routine street resurfacing.

We have the following comments after review the environmental document: B - 2

1. Typically, CMP methodology is not adequate for analyzing the freeway. Consultation with Caltrans is necessary for the Lead Agency and traffic consultant to determine significance criteria of the State facilities for all future projects.

2. The project will generate new 3,139/3,832 AM/PM peak hour trips. There are 12 related projects in the project vicinity with 13,323 daily trips, 697/1,474 AM/PM peak hour trips. Therefore cumulative impacts on the mainline would occur. As a reminder, the decision makers should be aware of this issue and be prepared to mitigate cumulative traffic impacts in the future. B - 3

3. The traffic study has identified the following impacted State facilities. B - 4

    - Location #27 Wilmington Ave & I-105 EB ramps
    - Location #36 Imperial Hwy & I-105 WB ramps
    - Location #7 Central Ave & I-105 WB ramps
    - Location #8 Central Ave & I-105 EB ramps (possibly cumulative impact)

4. With CMP analysis on Table 6.7 (page 114 of traffic study), I-105 (west of I-710, east of Harris Ave.) and I-105 (east of Bellflower Blvd. West of I-605) are significant impacted. On Section 7 Freeway Analysis (page 119 of traffic study), many freeway segments are significant impacted as well. B - 5

5. All traffic mitigation measures listed in Section 8 of traffic study (page 143) has been noted and acknowledged. Caltrans will continue working with the lead agency to determine feasible improvements as the Specific Plan moves forward or when a specific project has been identified. B - 6

6. On June 14, 2017, Caltrans received an email from the County (see attached). We concur that "The applicant shall consult with Caltrans to determine the improvements necessary to mitigate significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of certification of the project EIR." B - 7

7. Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that projects should be designed to discharge clean run-off water. Additionally, discharge of storm water run-off is not permitted onto State highway facilities without any storm water management plan. B - 8

8. Transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways, will require a transportation permit from Caltrans. It is recommended that large size truck trips be limited to off-peak commute periods. B - 9

9. Please be reminded that any work performed within the State Right-of-way will require an Encroachment Permit from Caltrans. Any modifications to State facilities must meet all mandatory design standard and specifications. B - 10

10. In addition, a truck/traffic construction management plan is needed for this project. Traffic Management Plans involving lane closures or street detours which will impact the circulation system affecting traffic to and from freeway on/off-ramps should be coordinated with Caltrans. B - 11

Caltrans will continue to work with the Lead Agency closely in an effort to evaluate traffic impacts and identify potential improvements for all future projects within the Specific Plan. Potential traffic impact fee program would be explored and discussed with the County staff. If you have any questions, please feel free to contact Alan Lin the project coordinator at (213) 897-8391 and refer to GTS # 07-LA-2017-00903AL-DEIR. B - 12

Sincerely,

DIANNA WATSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

Attachment

Lin, Alan S@DOT

From: Anita Gutierrez <agutierrez@planning.lacounty.gov>
Sent: Wednesday, June 14, 2017 4:34 PM
To: Lin, Alan S@DOT
Cc: Leon Freeman
Subject: Willowbrook TOD

Hello Alan,

I wanted to bring to your attention an additional disclosure/mitigation measure that is part of the traffic study for the Willowbrook TOD project. It was left out as an oversight.

If the Environmental Impact Report identifies significant impacts to Caltrans facilities, the following mitigation is required:

The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of certification of the project EIR."

Please let me know if you have any additional questions.

Thanks,

Anita D. Gutierrez, MPL, AICP | Supervising Regional Planner
Community Studies West Section
Los Angeles County Department of Regional Planning
320 W. Temple Street, 13th Floor | Los Angeles, CA 90012
Phone: 213.974.6422

Response to Letter B

Dianna Watson, California Department of Transportation

Response to Comment B-1

This comment states that Caltrans supports the implementation of complete streets and pedestrian safety measures such as road diets and other traffic calming measures. The Willowbrook TOD Specific Plan incorporates multi-modal and complete street transportation elements that will actively promote alternatives to car use. No further response is necessary.

Response to Comment B-2

This comment states that the CMP methodology is not adequate for analyzing the freeway. This comment is acknowledged, and the Draft EIR includes the use of Caltrans recommended thresholds and methodology in evaluating freeway mainline segments as discussed in Section 3.12 in the Draft EIR.

Response to Comment B-3

This comment references the number of cumulative peak hour and daily trips that would occur on the freeway mainline. Tables 3.12-18 and 3.12-19 include an evaluation of cumulative impacts on the freeway mainline segments. Please see Response to Comment B-7 regarding the modifications to the mitigation measures required to reduce cumulative impacts on the freeway mainline segments.

Response to Comment B-4

This comment identifies that the traffic evaluation in the Draft EIR includes four State freeway ramp facilities that would be impacted. Page 3.12-70 in the Draft EIR identifies Locations #27 and #36 and Page 3.12-71 identifies Location #7. However, Location #8 is not identified because Table 3.12-17 illustrates that the cumulative effect at Location #8 would be less than significant because cumulative conditions that includes the Specific Plan would not degrade the level of service to less than LOS C.

Response to Comment B-5

The commenter notes that the CMP analysis in the traffic study states various freeway segments would be significantly impacted, and the freeway analysis prepared in accordance with Caltrans methodology includes additional significantly impacted freeway segments. This comment is correct and discussed in the Draft EIR on Pages 3.12-113 through 3.12-115 (CMP Analysis), Pages 3.12-52 through 3.12-55 (Existing Plus Project Conditions Freeway Segment Analysis), and Pages 3.12-71 through 3.12-74 (Future Plus Project Conditions Freeway Segment Analysis).

Response to Comment B-6

The comment stated that Caltrans will continue to work with the lead agency (County of Los Angeles) to determine feasible improvements as the Specific Plan is implemented. This comment

is acknowledged. Please see Response to Comment B-7 regarding the modifications to the mitigation measures required to reduce cumulative impacts on the freeway mainline segments.

Response to Comment B-7

The commenter concurred with the modifications to the mitigation measures identified for the freeway segments as identified below. There is one mitigation measure under the existing plus project condition and three mitigation measures under the future plus project condition. Following are the modifications to the measures.

Mitigation Measure TRAF-26 on pages ES-37 and ES-38 of the Draft EIR and included on pages ES-37 and ES-38 of the Final EIR is revised as follows:

> **TRAF-26:** Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Mitigation Measure TRAF-26 on page 3.12-99 of the Draft EIR and included on pages 3.12-99 and 3.12-100 of the Final EIR is revised as follows:

> **Mitigation Measure TRAF-26:** I-110 southbound between 135th St & Rosecrans Ave
>
> As shown in Tables 3.12-10 and 3.12-11, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans recommended significant impact criteria. To address this impact, the proposed mitigation measure is as follows:
>
> Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic.

Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR.~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway segment ~~intersection~~ exceeding Caltrans' recommended significant impact criteria.~~In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-30 on pages ES-39 and ES-40 of the Draft EIR and included on page ES-40 of the Final EIR is revised as follows:

TRAF-30: Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Mitigation Measure TRAF-30 on page 3.12-104 of the Draft EIR and included on pages 3.12-104 and 3.12-105 of the Final EIR is revised as follows:

Mitigation Measure TRAF-30: I-105 westbound between Avalon Blvd and Central Ave

As shown in Tables 3.12-18 and 3.12-19, in the Existing Plus Project Conditions, there is a significant impact in the PM peak hour at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans recommended significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway segment exceeding Caltrans' recommended significant impact criteria. ~~In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact is considered potentially significant and unavoidable.

Mitigation Measure TRAF-31 on page ES-40 of the Draft EIR and included on pages ES-40 and ES-41 of the Final EIR is revised as follows:

TRAF-31: Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies

significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Mitigation Measure TRAF-31 on pages 3.12-104 and 3.12-105 of the Draft EIR and included on pages 3.12-105 and 3.12-106 of the Final EIR is revised as follows:

Mitigation Measure TRAF-31: I-105 westbound between Compton Ave and Wilmington Ave

As shown in Tables 3.12-18 and 3.12-19, in the Existing Plus Project Conditions, there is a significant impact in the PM peak hour at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans recommended significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway segment exceeding Caltrans' recommended significant impact criteria. ~~In addition, there is uncertainty if Caltrans would establish a proportionate share funding~~

~~program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact at this freeway segment is considered potentially significant and unavoidable.

Mitigation Measure TRAF-32 on page ES-40 of the Draft EIR and included on page ES-41 of the Final EIR is revised as follows:

TRAF-32: Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Mitigation Measure TRAF-32 on pages 3.12-105 and 3.12-106 of the Draft EIR and included on page 3.12-106 of the Final EIR is revised as follows:

Mitigation Measure TRAF-32: I-105 westbound between State St & Long Beach Blvd

As shown in Tables 3.12-18 and 3.12-19, in the Existing Plus Project Conditions, there is a significant impact in the AM and PM peak hours at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans recommended significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring~~

~~additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway segment exceeding Caltrans' recommended significant impact criteria. ~~In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact at this freeway segment is considered potentially significant and unavoidable.

The above modifications provide clarifications to each of the freeway segment mitigation measures identified in Section 3.12 of the Draft EIR. No substantive revisions to the measures have been provided.

Response to Comment B-8

The commenter requested that projects should be designed to discharge clean run-off water. As discussed in Section 3.7, Hydrology and Water Quality, each individual project will be required to comply with National Pollutant Discharge Elimination System requirements during construction and the County's Municipal Separate Storm Sewer System Permit (MS4 Permit) through compliance with the County's Low Impact Development Standards Manual during operational activities.

Response to Comment B-9

The commenter noted that if oversized-transport vehicles are used for construction activities and require to be transported on the State highways, a transportation permit is required from Caltrans. This comment in acknowledged by the County.

Response to Comment B-10

This comment identified that need for an encroachment permit from Caltrans of there is any work proposed within the State right-of-way. This comment is acknowledged by the County.

Response to Comment B-11

The commenter identified a need for a truck/traffic construction management plan that may involve lane closures or street closures. The implementation of a construction traffic management plan will depend on the specific individual project. If lane or street closures are required, the County Code provides regulations and notification procedures.

Response to Comment B-12

The commenter identified that Caltrans will continue to work with the County closely in an effort to evaluate traffic impacts and identify potential improvements for future projects within the Specific Plan area. The County staff has closely coordinated with Caltrans staff during the development of the traffic evaluation.

LETTER C

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA USPS AND E-MAIL: June 15, 2017

Willowbrook@planning.lacounty.gov
Ms. Anita Gutierrez, AICP
Supervising Regional Planner
County of Los Angeles – Department of Regional Planning
Community Studies West Section
320 West Temple Street, Room 1356
Los Angeles, CA 90012

Draft Environmental Impact Report (Draft EIR) for the Willowbrook Transit Oriented District (TOD) Specific Plan ("Proposed Project") (Project No. R2015-02007-(2); Permit No. RADV201500004; Environmental Assessment No. RENV201500136) (SCH NO. 2015101106)

C - 1

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The following comment is meant as guidance for the Lead Agency and should be incorporated into the Final EIR.

On March 3, 2017, the SCAQMD's Governing Board adopted the 2016 Air Quality Management Plan (2016 AQMP), which was later approved by the California Air Resources Board of Directors on March 23rd. The 2016 AQMP[1] is a regional blueprint for achieving air quality standards and healthful air in the South Coast Air Basin (Basin). Built upon the progress in implementing the 2007 and 2012 AQMPs, the 2016 AQMP provides a regional perspective on air quality and lays out the challenges facing the Basin. The most significant air quality challenge in the Basin is to achieve an additional 45 percent reduction in nitrogen oxide (NOx) emissions in 2023 and an additional 55 percent NOx reduction beyond 2031 levels for ozone attainment. Achieving NOx emission reductions in a timely manner is critical to attaining the National Ambient Air Quality Standard (NAAQS) for ozone before the 2023 and 2031 deadlines. SCAQMD is committed to attaining the ozone NAAQS as expeditiously as practicable.

SCAQMD staff understands that one of the project objectives is to "create an attractive environment for pedestrians, bicyclists, Metro riders, and local transit users […]"[2] by integrating multimodal transportation choices with compatible, transit-oriented land use strategies. This project exemplifies the County of Los Angeles's (County or Lead Agency) leadership in promoting sustainable communities development – a commitment that is reassured by the County in its Strategic Plan 2015-2020[3]. SCAQMD staff believes that the proposed project is consistent with the goals of the 2016 AQMP by improving access to transit and encouraging more walking and biking. This will help cut emissions from mobile sources, protect public health from air pollution, and achieve healthful air in the Basin.

[1] South Coast Air Quality Management District. March 3, 2017. *2016 Air Quality Management Plan*. Accessed at: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan.
[2] Draft EIR. Section 2, *Project Description*. Page 2-29.
[3] Los Angeles County Department of Regional Planning. June 2015. *Strategic Plan 2015-2020*. Accessed at: http://planning.lacounty.gov/assets/upl/general/strategic-plan_2015-2020.pdf.

Project Description

The Lead Agency proposes to develop land use strategies to allow the future development of 1,952 residential dwelling units and 2,666,035 square feet of non-residential uses (medical, retail, commercial, office, light manufacturing, etc.) on 312 acres over a 20-year period. The proposed project is bounded by Interstate 105 (I-105), a multimodal transit facility, and the Los Angeles County Metropolitan Transportation Authority (Metro) Green Line to the north[4]; commercial uses to the east; and residential uses to the south and west. The proposed project is bisected by a railroad track that is used for the Metro Blue Line[5]. Construction is expected to begin in year 2018[6]. C - 1 (Cont.)

Air Quality and Health Risk Assessment Analyses

In Section 3.2, *Air Quality*, of the Draft EIR, the Lead Agency quantified the construction and operational emissions and compared them to SCAQMD's regional and localized air quality CEQA significance thresholds to determine the significance of air quality impacts. The Lead Agency found that the construction emissions would exceed SCAQMD's regional air quality CEQA significance thresholds for ROG, NOx, and CO, and that the localized construction emissions would exceed SCAQMD's localized air quality CEQA significance thresholds for NOx, PM10 and PM2.5. The Lead Agency also found that the operational emissions would exceed SCAQMD's regional significance thresholds for ROG, NOx, CO, PM10 and PM2.5. After mitigation, these impacts would remain significant and unavoidable[7]. For the proposed project's long-term health risks, the Lead Agency stated that the proposed project "would allow the development of residential uses to be located within 500 feet of a freeway […, and it] would have the potential to expose sensitive receptors to [toxic air contaminants] (TACs) from mobile sources to an extent that health risks could result"[8]. Moreover, the Lead Agency stated that "new sensitive receptors would be exposed to TAC emissions from Metro trains"[9]. After incorporating Mitigation Measure AIR-8, the Lead Agency found that "TAC emissions that would be exposed to sensitive uses would be reduced to less than significant"[10]. C - 2

General Comments

SCAQMD staff has concerns about the air quality and health risk assessment analyses in the Draft EIR. First, the Lead Agency did not estimate the long-term health risks to people who will live and work at the proposed project. Second, the Lead Agency's finding that the implementation of Mitigation Measure AIR-8 would reduce the long-term health risks from TAC emissions to less than significant was not supported by substantial evidence. Additional details are included in the attachment. The attachment also includes a discussion of mitigation measures.

Conclusion

In closing, SCAQMD staff encourages the County to continue creating livable, sustainable, and healthy communities that can benefit air quality and ensure that the Basin is on track to attain the NAAQS. Pursuant to the Public Resources Code Section 21092.5 and the CEQA Guidelines Section 15088, the Lead Agency is required to provide SCAQMD with written proposed responses to all comments contained herein prior to the certification of the Final EIR. C - 3

[4] The multimodal transit facility includes Metrolink train service, the Metro Green Line, six Metro bus routes, and local buses and shuttles that connect passengers with the wider Metro rail and bus network.
[5] Notice of Availability. Figure 2-3, *Specific Plan Subareas*.
[6] Draft EIR, Section 3.2 *Air Quality*, Page 3.2-26.
[7] *Ibid*, Page 3.2-33.
[8] *Ibid*, Page 3.2-36.
[9] *Ibid*.
[10] *Ibid*, Page 3.2-38.

SCAQMD staff is available to work with the Lead Agency to address any other air quality and health risk questions that may arise. Please contact Gordon Mize, Air Quality Specialist, CEQA IGR, at (909) 396-3302, if you have any questions regarding these comments.

C - 3
(Cont.)

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

Attachment
JW:LS:GM
LAC170511-09
Control Number

ATTACHMENT

Health Risk Assessment from Mobile Sources and Other Sources of Air Pollution C - 4

1. Notwithstanding the court rulings, SCAQMD staff recognizes that the Lead Agencies that approve CEQA documents retain the authority to include any additional information they deem relevant to assessing and mitigating the environmental impacts of a project. Because of SCAQMD's concern about the potential public health impacts of siting sensitive populations within close proximity of freeways, SCAQMD staff recommends that, prior to approving the project, Lead Agencies consider the impacts of air pollutants on people who will live in a new project and provide mitigation where necessary.

   Based on a review of aerial photographs, SCAQMD staff found that the proposed project be located approximately 10 feet from the I-105, which has an average daily volume of 244,000 vehicles[11] including approximately 13,128 diesel fueled trucks. Because of the close proximity to the existing freeway, residents would be exposed to diesel particulate matter (DPM), which is a toxic air contaminant and a carcinogen. Additionally, the proposed project is bisected by the Metro Blue Line railroad tracks that run north-south of the project area. A federal database[12] indicates that these railroad tracks show daily train activity including approximately six trains powered by diesel-fueled locomotive engines. Diesel particulate matter emitted from diesel powered engines (such as trucks and locomotives) has been classified by the state as a toxic air contaminant and a carcinogen. Furthermore, the proposed project is located within a manufacturing zone (M Zone), which includes four SCAQMD permitted facilities within one quarter mile[13].

   However, after a review of the Air Quality section, SCAQMD staff found that the Lead Agency did not quantify the long-term health risks[14] to sensitive receptors at the proposed project from exposure to TAC emissions to determine the level of significance. Although a mitigation measure was proposed, the Lead Agency did not quantify the level of significance after incorporating that mitigation. Therefore, the Lead Agency's finding that "after the implementation of Mitigation Measure AIR-8, TAC emissions that would expose sensitive receptors would be reduced to less than significant"[15] is not supported by substantial evidence[16] as required by the CEQA Guidelines Section 15091. Therefore, SCAQMD staff recommends that the Lead Agency provide substantial evidence in the Final EIR to support this finding by conducting a health risk assessment (HRA)[17] to disclose the potential health risks to the people who will live and work at the proposed project. The Lead Agency should compare the results to the SCAQMD's CEQA significance threshold of 10 in one million to determine the CEQA significance before and after incorporating Mitigation Measure AIR-8.

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[11] Caltrans 2015 annual average daily traffic (Annual ADT) and truck volumes: http://www.dot.ca.gov/trafficops/census/.

[12] Federal Railroad Administration Office of Safety Analysis. June 7, 2017. Accessed at: http://safetydata.fra.dot.gov/OfficeofSafety/publicsite/crossing/xingqryloc.aspx. Please see also Draft EIR, Section 3.2, *Air Quality*. Page 3.2-36.

[13] Based on a search of the SCAQMD's Facility Information Detail (FIND) database, SCAQMD staff found that the following SCAQMD permitted facilities were located in the vicinity of the proposed project: Facility IDs 800267, 108370, 164981, and 166050. The FIND database is available at: http://www.aqmd.gov/home/tools/public/find. This information is to assist the Lead Agency's evaluation of the proposed project's long-term health risks.

[14] *Ibid*, Page 3.2-35 and 36.

[15] *Ibid*, Page 3.2-38.

[16] Pursuant to the CEQA Guidelines Section 15384, substantial evidence means "[…] enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached […]." "Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts."

[17] South Coast Air Quality Management District. "*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*". Accessed at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis.

Guidance Regarding Residences Sited Near a High-Volume Freeway or Other Sources of Air Pollution

C - 4 (Cont.)

2. SCAQMD staff recognizes that there are many factors Lead Agencies must consider when making local planning and land use decisions. To facilitate stronger collaboration between Lead Agencies and SCAQMD at reducing community exposure to source-specific and cumulative air pollution impacts, SCAQMD adopted the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning in 2005. This Guidance Document provides suggested policies that local governments can use in their General Plans or through local planning to prevent or reduce potential air pollution impacts and protect public health. SCAQMD staff recommends that the Lead Agency review this Guidance Document as a tool when making local planning and land use decisions. This Guidance Document is available on SCAQMD's website at: http://www.aqmd.gov/home/library/documents-support-material/planning-guidance/guidance-document.

   Numerous health studies have demonstrated potential adverse health effects associated with living near highly travelled roadways. In traffic-related studies, the additional non-cancer health risk attributable to proximity is seen within 1,000 feet and is strongest within 300 feet[18]. California freeway studies show about a 70% drop off in particulate pollution levels at 500 feet[19]. As a result of these studies, the California Air Resources Board (CARB) developed the Air Quality and Land Use Handbook[20] that recommends avoiding new sensitive land uses (such as housing) within 500 feet of a freeway and within 300 feet of a large fueling station. Additional research has shown that the near roadway environment also contains elevated levels of many pollutants that adversely affect human health, including some pollutants that are unregulated (e.g., ultrafine particles) and whose potential health effects are still emerging[21]. Guidance[22] on strategies to reduce air pollution exposure near high-volume roadways can be found at: https://www.arb.ca.gov/ch/rd_technical_advisory_final.PDF.

SCAQMD's Air Quality CEQA Thresholds of Significance

C - 5

3. In the Air Quality section, construction activities are characterized to occur "intermittently as various development projects occur within the proposed project area throughout the 20-year buildout period"[23]. In the case of overlapping construction and operation activities, SCAQMD staff recommends adding the construction and operational emissions and comparing those emissions to SCAQMD's air quality CEQA significance thresholds for operation[24] to determine the level significance.

Mitigation Measure AIR-8 and Limits to Enhanced Filtration Units

C - 6

4. The Lead Agency proposes to include enhanced filtration units as a mitigation measure[25]. SCAQMD staff recommends that the Lead Agency consider the limitations of the enhanced filtration. For

[18] California Air Resources Board. April 2005. "*Air Quality and Land Use Handbook: A Community Health Perspective*". Page 6. Accessed at: http://www.arb.ca.gov/ch/landuse.htm.

[19] *Ibid*.

[20] *Ibid.*

[21] See Chapter 9 of the 2012 AQMP for further information. Accessed at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-2012-aqmp-(february-2013)/chapter-9-final-2012.pdf.

[22] In April 2017, CARB published a technical advisory, *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways*: *Technical Advisory*, to supplement CARB's Air Quality and Land Use Handbook: A Community Health Perspective. This Technical Advisory is intended to provide information on strategies to reduce exposures to traffic emissions near high-volume roadways to assist land use planning and decision-making in order to protect public health and promote equity and environmental justice. Accessed at: https://www.arb.ca.gov/ch/landuse.htm.

[23] Draft EIR, Section 3.2 *Air Quality*, Page 3.2-35.

[24] South Coast Air Quality Management District. *SCAQMD Air Quality Significance Thresholds*. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

[25] Mitigation Measure AIR-8. Draft EIR. Section 3.2, *Air Quality*. Page 3.2-37.

C - 6 (Cont.)

example, in a study that SCAQMD conducted to investigate filters[26], costs were expected to range from $120 to $240 per year to replace each filter. In addition, because the filters would not have any effectiveness unless the HVAC system is running, there may be increased energy costs to the resident. It is typically assumed that the filters operate 100 percent of the time while residents are indoors, and does not account for the times when the residents have their windows or doors open or are in common space areas of the project. Additionally, these filters also have no ability to filter out any toxic gases from vehicle exhaust. The presumed effectiveness and feasibility of any filtration units, if proposed as a mitigation measure, should therefore be evaluated in more detail prior to assuming that they will sufficiently alleviate near roadway exposures.

Additional Recommended Mitigation Measures to Further Reduce Construction Emissions

C - 7

5. CEQA requires that all feasible mitigation measures go beyond what is required by law to minimize any significant impacts. In addition to the mitigation measures proposed in the Draft EIR starting on page 3.2-32, SCAQMD staff recommends that the Lead Agency include additional mitigation measures provided below in the Final EIR to further reduce the significant regional and localized construction emissions for regional ROG, NOx, and CO and localized construction NOx, PM10 and PM2.5.
   a) Include in all construction contracts the requirement to use 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export). In the event that that 2010 model year or newer diesel trucks cannot be obtained, provide documentation as information becomes available and use trucks that meet EPA 2007 model year NOx emissions requirements, at a minimum.
   b) Enter into a contract that notifies all vendors and construction contractors that vehicle and construction equipment idling time will be limited to no longer than five minutes or another time-frame as allowed by the California Code of Regulations, Title 13 section 2485 - CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. For any vehicle delivery that is expected to take longer than five minutes, each project applicant, project sponsor, or public agency will require the vehicle's operator to shut off the engine. Notify the vendors of these idling requirements at the time that the purchase order is issued and again when vehicles enter the gates of the facility. To further ensure that drivers understand the vehicle and construction equipment idling requirement, post signs at each facility entry gates stating idling longer than five minutes is not permitted.
   c) Maintain vehicle and equipment maintenance records for the construction portion of the proposed project. All construction vehicles must be maintained in compliance with the manufacturer's recommended maintenance schedule. All maintenance records for each facility and their construction contractor(s) will remain on-site for a period of at least two years from completion of construction.
   d) Construction areas within the facility or construction site where electricity is and is not available must be clearly identified on a site plan. The use of non-electric onsite mobile equipment shall be prohibited in areas of the facility that are shown to have access to electricity. The use of electric on-site mobile equipment within these identified areas of the facility or construction site will be allowed.
   e) Include in all construction contracts the requirement to cover all haul trucks delivering or hauling away dirt, sand, soil, or other loose materials.
   f) Schedule construction activities that affect traffic flow on the arterial system to occur during off-peak hours to the greatest extent practicable.

[26] This study evaluated filters rated MERV 13+ while the proposed mitigation calls for less effective MERV 12 or better filters. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf. Also see the 2012 Peer Review Journal article by SCAQMD: http://d7.iqair.com/sites/default/files/pdf/Polidori-et-al-2012.pdf.

C - 7 (Cont.)

g) Require the construction contractor to install and use wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site for each trip to prevent drag-out.
h) Require the construction contractor to apply non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (e.g., previously graded areas inactive for ten days or more).
i) Require the construction contractor to replace ground cover in disturbed areas as quickly as possible to minimize dust.
j) Require the construction contractor to pave road and road shoulders.
k) Require the construction contractor to sweep streets at the end of the day using SCAQMD Rule 1186 and 1186.1 compliant sweepers if visible soil is carried onto adjacent public paved roads. In the event that water sweepers are used, recommend the use of reclaimed water by construction contractor.

Additional Recommended Mitigation Measures to Further Reduce Operational Emissions

C - 8

6. In addition to the construction mitigation measures identified above, the Lead Agency should incorporate the following operation-related mitigation measures to further reduce the proposed project's significant operational air quality impacts from ROG, NOx, CO, PM10 and PM2.5.
   a) Vehicles that can operate at least partially on electricity have the ability to substantially reduce the significant NOx impacts from this project. It is important to make this electrical infrastructure available when the project is built so that it is ready when this technology becomes commercially available. The cost of installing electrical charging equipment onsite is significantly cheaper if completed when the project is built compared to retrofitting an existing residence or a common electrical charging area. Therefore, SCAQMD staff recommends the Lead Agency require the proposed project to be constructed with the appropriate infrastructure to facilitate sufficient electric charging for vehicles to plug-in. For residences, SCAQMD staff recommends that homes be appropriately wired from the electrical panel to later allow residents to install electrical chargers, if desired. At a minimum, residential electrical panels should appropriately-sized to allow for future expanded use.
   b) Require at least 5% of all commercial vehicle parking spaces include EV charging stations. At a minimum, electrical panels should be appropriately sized to allow for future expanded use.
   c) Residential parking shall include community electric vehicle charging station(s). Recommend 5% of parking spaces

Additional Recommended Mitigation Measures to Reduce Health Risk Impacts

C - 9

7. In the event that the Lead Agency, after performing a HRA, finds that new mitigation measures in addition to Mitigation Measure AIR-8, are required, SCAQMD staff recommends that the Lead Agency incorporate the following mitigation measure to reduce health impacts to sensitive receptors.
   a) Include setbacks of at least 500 from I-105 and the railroad tracks as recommended in the CARB's guidance document described above.

Compliance with SCAQMD Rule 403(e) for Large Operations

C - 10

8. The Lead Agency included a discussion on compliance with SCAQMD Rule 403- Fugitive Dust in the Draft EIR[27]. Based on the project description[28], the proposed project is a large operation on 321 acres (50-acre sites or more of disturbed surface area; or daily earth-moving operations of 3,850 cubic yards or more on three days in any year) in the South Coast Air Basin. The Lead Agency is required

[27] Draft EIR, Section 3.2 *Air Quality*, Pages 3.2-14. See also Page 3.2-26.
[28] *Ibid*, Project Description Page 2-2 – The Specific Plan area is approximately 312 acres. Also see Section 3.2 *Air Quality*, starting on Page 3.2-27 - The worst-case construction assumptions include grading of 10-acres per day.

C - 10 (Cont.)

to comply with SCAQMD Rule 403(e) – Additional Requirements for Large Operations[29]. The requirements may include, but are not limited to, Large Operation Notification (Form 403 N), appropriate signage, additional dust control measures, and employment of a dust control supervisor that has successfully completed the Dust Control in the South Coast Air Basin training class[30]. Therefore, SCAQMD recommends that the Lead Agency include a discussion to demonstrate compliance with SCAQMD Rule 403(e) in the Final EIR.

[29] SCAQMD Rule 403. Last amended June 3, 2005. Available at: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4.

[30] SCAQMD Compliance and Enforcement Staff's contact information for Rule 403(e) Large Operations is (909) 396-2608 or by e-mail at dustcontrol@aqmd.gov.

Response to Letter C

Lijin Sun, South Coast Air Quality Management District

Response to Comment C-1

The comment identified the construction and operational emissions findings presented in Section 3.2 of the Draft EIR. No specific comment on the contents of the Draft EIR are provided. No further response is required.

Response to Comment C-2

This comment expressed concern that the air quality and health risk analysis did not estimate health risks to people who live and work at the proposed project and that there was no supporting evidence that the significant TAC emission impact identified in the Draft EIR could be reduced to less than significant.

As described in the Draft EIR, the project site is subject to elevated Toxic Air Contaminants (TACs) due to its proximity to the 105 Freeway, multimodal transit facility and Metro Lines and other TAC sources, and is a significant impact.

The California Supreme Court, in *California Building Industry Association v. Bay Area Air Quality Management District*, Case No. S213478 (December 17, 2015), held that public agencies subject to CEQA are *not* required to analyze whether existing environmental conditions may impact a proposed project's future users or residents – also known as "reverse CEQA" or "CEQA in reverse" – as opposed to the more traditional analysis of a proposed project's impact on the environment, *unless*: 1) the proposed project risks exacerbating existing environmental hazards – in which case, it is the proposed project's impact on the environment not the environment's impact on the proposed project, which compels the evaluation; or 2) a reverse CEQA analysis is already required under statute, for example, on certain airport, school and housing projects.

As discussed in Section 3.2, Air Quality in the Draft EIR, the proposed Specific Plan site is subject to elevated TACs due to its existing environmental conditions (i.e. the 105 Freeway, multimodal transit facility, Metro Green Line, and other TACs). Since the proposed project would not exacerbate these risks, the proposed project is not required to analyze whether existing environmental conditions may impact a proposed project's future users or residents. Therefore, the Lead Agency did not conduct an HRA and presented its findings in the Draft EIR for TAC exposure as significant.

The Lead Agency did not quantify the long-term health risks to sensitive receptors because they acknowledged that TAC impacts were significant. Diesel particulate matter (DPM) is the overwhelming constituent of concern for TAC exposure resulting from locations close to highways and/or railways. The California Air Resources Board (CARB) *Air Quality and Land Use Handbook* provides recommendations for siting sensitive uses near highways and railways, and CARB states that a "key air pollutant common to many of these sources is particulate matter from diesel engines. Diesel particulate matter (diesel PM) is a carcinogen identified by [CARB]

as a toxic air contaminant and contributes to particulate pollution statewide."[1] According to the SCAQMD, which is responsible for air quality planning in the South Coast Air Basin, based on the results of the fourth update to the Multiple Air Toxics Exposure Study (MATES IV), "diesel particulate was responsible for the largest contribution to cancer risk from air toxics."[2]

A key health finding of the CARB Air Quality and Land Use Handbook related to freeway emissions is that "reduced lung function in children was associated with traffic density, especially trucks."[3] Trucks are often diesel-fueled and generate DPM emissions, which as discussed above, is a key air pollutant that contributes to TAC impacts. Based on Caltrans traffic volume data for calendar year 2015, truck traffic on the I-105 freeway in the Project area (12,551 AADT) [4] is approximately the same as truck traffic along the I-101 freeway in Hollywood (12,000 AADT) for which an HRA was performed in 2015 to analyze cancer risk for on-site sensitive receptors located adjacent to the Hollywood freeway in the 5750 Hollywood Boulevard Project DEIR in the City of Los Angeles.[5] The analysis in the 5750 Hollywood Boulevard Project found that carcinogenic risk from DPM emissions for on-site receptors resulted in a maximum carcinogenic risk of 6.8 per one million for the 30 year residential exposure scenario.[6] The analysis was based on a highly conservative 30-year, 24-hours-per-day, seven-days-per-week exposure. Additionally, the analysis assumed no mitigation such as mechanical filtration and exposure with window open. As outlined in MM AIR-8 in the Willowbrook TOD Specific Plan Program EIR, the Heating Ventilation and Air Conditioning (HVAC), which typically requires mechanical filtration with a Minimum Efficiency Reporting Value (MERV) of 8 or higher, will be required to use MERV 13 filters. This would reduce typical indoor PM_{10} concentrations up to 90 percent.[7] Therefore, actual cancer risk impacts to on-site residents would be lower than the 6.8 per one million, which is less than the 10 per one million SCAQMD threshold, and it would be reasonable to assume that after implementation of MM AIR-8, impacts would be less than significant.

Additionally, as this is a Programmatic EIR, each project that includes sensitive uses that are within 500 feet from I-105 and 300 feet from the Metro tracks will have to undergo their own analysis and at that time a Health Risk Assessment to confirm that the cancer risk would be reduced to less than significant as required by MM AIR-8. As stated in MM AIR 8, disclosure to

1 California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005. https://www.arb.ca.gov/ch/handbook.pdf. Accessed July 2017.

2 South Coast Air Quality Management District, *Multiple Air Toxics Exposure Study in the South Coast Air Basin, MATES IV, Final Report*, May 2015. http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7. Accessed July 11, 2017.

3 California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005. https://www.arb.ca.gov/ch/handbook.pdf. Accessed July 2017.

4 Caltrans, 2017. *Traffic Census Program, Traffic Counts, Truck Traffic (2015).* http://www.dot.ca.gov/trafficops/census/docs/2015_aadt_truck.pdf. Accessed July 10, 2017.

5 City of Los Angeles, 2015. *2750 Hollywood Boulevard Project Draft Environmental Impact Report State Clearing House No. 2015011042, Appendix E Health Risk Assessment Technical Report*. https://planning.lacity.org/eir/5750HollywoodBlvd/deir/index.html. Accessed July 10, 2017.

6 Ibid.

7 California Air Resources Board, 2012. *Status of Research On Potential Mitigation Concepts To Reduce Exposure To Nearby Traffic Pollution.* August 23. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjCgOHjz__UAhWLOCYKHWTGB9UQFggoMAA&url=https%3A%2F%2Fwww.arb.ca.gov%2Fresearch%2Fhealth%2Ftraff-eff%2Fresearch%2520status%2520-reducing%2520exposure%2520to%2520traffic%2520pollution.pdf&usg=AFQjCNH3ZIFOangmwEROUw8Yfwjn_bYMSw. Accessed July 10, 2017

the occupants (buyers and renters) shall be required regarding the proximity of Metro tracks (within a 300-foot radius) and freeways (within a 500-foot radius), the occurrence of diesel emissions form Metro trains and freeways heavy truck traffic), and the potential increased cancer and non-cancer risks associated with the development location.

Response to Comment C-3

The commenter requested that written responses be provided to the comments prior to the certification of the Final EIR. As required by CEQA, the County of Los Angeles will be providing written responses to each of the commenters' comments provided on the contents of the Draft EIR.

Response to Comment C-4

This comment provides additional details related to the comments provided in Response to Comment C-2, above. Please see Response to Comment C-2 related to TAC emissions.

Response to Comment C-5

This comment suggests to add construction and operational emissions. As shown in Table 3.2-7 of the Draft EIR, PM10, PM2.5 and NOx would exceed the SCAQMD localized significance threshold for construction activities. These construction criteria pollutants would remain significant if additional operational emissions are added. The CO emissions during construction would not exceed the SCAQMD localized significance thresholds even if additional operational CO emissions are added. Finally, SCAQMD does not have guidance within the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning that states construction and operational emissions should be added together.

Response to Comment C-6

The commenter raised concerns regarding the limitations of enhanced filtration units in residences. The County of Los Angeles acknowledges the SCAQMD concerns about the limitation of enhanced filtration units in the residences to reduce indoor air pollution and their use by residents. The Draft EIR identifies impacts from TACs as significant prior to the implementation of mitigation. Diesel particulate matter (DPM) is the overwhelming constituent of concern for TAC exposure resulting from locations close to highways and/or railways. Although an HRA wasn't conducted in the Draft EIR, enhanced filtration units are known to substantially eliminate DPM emissions. To ensure that adequate filtration units are provided, an HRA will be conducted for each project that is located within 500 feet of the I-105 and 300 feet within the Metro tracks during its CEQA analysis. As discussed above, the HRA for the 5750 Hollywood Boulevard Project did not incorporate any reduction in air pollutants as a result of using enhanced filtration units and the cancer risk was below the SCAQMD threshold. The Draft EIR identifies the inclusion of the reduction strategy of MERV 13 for projects within the Specific Plan area that are within 500 feet of the I-105 and within 300 feet of the Metro tracks. The implementation of the enhanced filtration units would reduce PM_{10} concentrations up to 90 percent and result in less than significant impacts.

Response to Comment C-7

The commenter identified additional mitigation measures to further reduce construction emissions. The commenter identified the use of lower emitting construction equipment as well as limiting idling of construction equipment. These proposed measures are identified in Mitigation Measure AIR-1. In addition, the commenter identified the need to reduce dust and soil from leaving construction sites. Mitigation Measure AIR-2 includes sufficient watering of active construction sites. As each individual site within the Specific Plan area undertakes construction activities, each contractor will be required to comply Rule 403 which is intended to reduce the amount of particulate matter entrained in the ambient air as a result of construction activities. Specific Rule 403 control requirements include, but not limited to, applying soil binders to uncovered areas, re-establishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit a construction site, covering of trucks hauling soil with a fabric cover and maintaining a freeboard height of 12 inches, maintain effective cover over exposed areas, and include street sweepers, as applicable. Therefore, the implementation of Mitigation Measures AIR-1 and AIR-2 as well as compliance with Rule 403 would reduce construction emissions.

Response to Comment C-8

The commenter identified additional mitigation measures to further reduce operational emissions. These measures included the provision of electric vehicle charging stations within the Specific Plan area. The reduction of vehicle emissions would occur with electric vehicles. The provision of charging station would accommodate electric vehicles, but would not guarantee the increase in the use of electric vehicles. Therefore, the provision of charging stations has not been included.

Response to Comment C-9

This comment recommends the addition of a mitigation measure if additional measures are needed to reduce toxic air contaminate impacts. As described in Response to Comment C-2, Mitigation Measure AIR-8 is adequate to reduce significant toxic air contaminant impacts to less than significant. No additional measures are required.

Response to Comment C-10

The commenter identified that SCAQMD Rule 403(e) for large operations would be required for a large operation of 50 acres or more of disturbed surface area or daily earth-moving operations of 3,850 cubic yards or more on three days in any year. Based on the assumptions identified in the Appendix B, Air Quality and Greenhouse Gas Emissions Data Worksheets in the Draft EIR, a maximum of 10 acres per day would be graded among various individual projects within the Specific Plan area. Because the Specific Plan area has relatively flat terrain, individual projects would not exceed 3,850 cubic yards of daily earth-moving operations. Based on the assumptions identified in the Draft EIR, large operations as defined by SCAQMD Rule 403(e) are not expected to occur within the Specific Plan area. However, if construction activities within the Specific Plan area result in individual projects exceeding the 3,850 cubic yards of daily earth-moving operations, applicants would be required to comply with SCAQMD Rule 403(e).

Demonstration of compliance would occur during the processing of the individual projects similar to other construction activities that meet the definition of large operations.

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

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Metro

June 26, 2017

Anita Gutierrez
County of Los Angeles
Department of Regional Planning
Community Studies West Section
320 West Temple Street, Room 1356
Los Angeles, CA 90012

RE: Willowbrook Transit Oriented District Specific Plan – Notice of Completion and Availability of a Draft Environmental Impact Report

Dear Ms. Gutierrez:

D - 1

Thank you for the opportunity to comment on the Willowbrook Transit Oriented District (TOD) Specific Plan (Plan) for the unincorporated community of Willowbrook in Los Angeles County. This letter conveys recommendations from the Los Angeles County Metropolitan Transportation Authority (Metro) concerning issues that are germane to our agency's statutory responsibility in relation to our facilities and services that may be affected by the proposed project.

Metro is committed to working with stakeholders across the County to support the development of transit oriented communities (TOCs). TOCs are built by considering transit within a broader community and creating vibrant, compact, walkable, and bikeable places centered around transit stations and hubs with the goal of encouraging the use of transit and other alternatives to driving. Metro looks forward to collaborating with local municipalities, developers, and other stakeholders in their land use planning and development efforts, and to find partnerships that support TOCs across Los Angeles County.

Site Location

The Plan area is approximately ten miles south of downtown Los Angeles, at the junction of the Metro Blue and Green Lines. The Plan area is bounded by Imperial Highway to the north, Mona Blvd. to the east, 121st and 122nd streets to the south, and Compton Ave. to the west.

Project Description

The Willowbrook TOD Specific Plan would encourage transit oriented development; promote active transportation and improve quality of life for residents; reduce vehicle miles traveled; create community benefits with improvements to the public realm; improve economic vitality and employment opportunities; and streamline the environmental review process for future projects. The Plan is anticipated to facilitate development, especially residential and employment-generating uses, near the Willowbrook/Rosa Parks Station. Overall, the Plan would potentially accommodate an additional 1,952 dwelling units and 2,666,035 square feet of non-residential use. The Plan includes pedestrian sidewalk and intersection improvements.

Metro Comments

Rail Operations

D - 2

The Metro Blue and Green Light Rail Lines currently operate weekday peak service as often as every five minutes in both directions and trains may operate in and out of revenue service, 24 hours a day, seven days a week, in the Metro railroad right-of-way (ROW) within the Specific Plan. Metro has an Adjacent Construction Design Manual that describes the Metro's development project review process and considerations for project siting as it relates to Metro facilities. Metro suggests that the project sponsor include policy language or guidance in the Specific Plan that clearly denotes development occurring within 100 feet of a Metro facility will require Metro review and approval, including compliance with Metro's Development Guidelines.

D - 3

Metro is engaged in the planning and implementation of numerous significant transportation investments along the Blue Line. Given the on-going local and regional planning efforts in this area, Metro has appreciated the opportunity to be included in and contribute to the conversation regarding efforts to revitalize the area, all the while ensuring proposed projects and plans build upon the rail infrastructure and operations necessary to accommodate the transportation investments that are actively under development:

1. Blue Line Upgrades Project: Metro is implementing numerous improvements to enhance service and safety along the Blue Line, the oldest and most heavily used line in the Metro Rail system. Executed and planned work includes station rehabilitation, rail crossing improvements, and track and car replacement and refurbishments. Please visit metro.net/projects/blue-line-upgrades for more information.

2. Blue Line Improvement Study: In February 2017, the Metro Board of Directors approved a motion to study major improvements to the Blue Line. The study would analyze short-term improvements – signal optimization, priority, and preemption – and long-term enhancements – express or peak-hour service and grade separation.

3. Willowbrook/Rosa Parks Station Improvement Project: The Willowbrook/Rosa Parks Improvement Project will provide significant upgrades to this busy station, expanding its multi-modal capacity and role as a quality community resource. Metro is working in tandem with several community revitalization efforts in the area, a number of which are spearheaded by numerous LA County Departments. The following points relating to station improvements mentioned in the Specific Plan should be noted:

    a. All reference to the station as "Rosa Parks" or "Wilmington/Imperial" should be changed to "Willowbrook/Rosa Parks Station." All reference to individual Metro buildings housed in the new community plaza should be changed to "Metro Bike Hub," "Metro Transit Security Center," and "Metro Customer Service Center."

    b. Bus bays along Willowbrook Ave. West will be expanded to consolidate bus service at the station and provide a clear and direct point of access from the new community plaza. Bus bays along Willowbrook Ave. East will see minimal work and shall be left available should bus service be expanded at the station.

D - 3 (Cont.)

c. Pedestrian circulation and wayfinding will be increased through an open layout design, less so through a "Transit Hall" concept, allowing clear sightlines and direct access to the consolidated bus bays, reconfigured east Park and Ride Lot, expanded Blue Line platform and mezzanine, and new community plaza.

d. Station improvements include the addition of a Class IV bicycle path along the east side of Willowbrook Ave. West, abutting the railroad ROW, from Wilmington Ave. to E. 119th St. This stretch is currently designed to accommodate both private and transit vehicles in two southbound lanes.

e. In accordance with regional rail operator requirements, Metro will be reconfiguring pedestrian access to the Blue Line platform and constructing a new, single at-grade through crossing at the south end of the extended platform. The existing crossing at the north end of the platform has been redesigned to allow emergency egress onto Willowbrook Ave. East only.

   Moving of the pedestrian crossing from the north end of the station to the south end may have some auditory impacts to existing residential dwellings on the east side of Willowbrook Ave. East and new surrounding future development. As the new southern crossing will function in a similar fashion to the current crossing, warning devices will sound for every train. In the future, this could be as frequent as every five (5) minutes in each direction, or an average of two and a half (2.5) minutes between activations. A recorded Noise Easement Deed in favor of Metro will be required from new development, a form of which is attached. The easement recorded in the Deed will extend to successors and tenants as well.

For more information on the Willowbrook/Rosa Parks Station Improvement Project, visit metro.net/wrpstation. Please contact Wells Lawson, Metro Joint Development Sr. Director, at LawsonW@metro.net with additional questions.

Bus Operations

D - 4

Several Metro bus lines operate within the Specific Plan area (120, 202, 205, 612, 55/202/355). Metro bus stops and layover zones within the Plan area should be maintained, or relocated in close coordination with Metro. With an anticipated increase in development, Metro recommends that the Specific Plan include language that informs future development activity within the Plan area of Metro's notification procedures and considerations for projects located in close proximity to a Metro facility that may impact bus operations.

Active Transportation

D - 5

The Plan has various policies in place that support active transportation and multi-modalism. Metro encourages transit-supportive public realm improvements, such as wide sidewalks, bus shelters, comfortable seating, pedestrian-scaled lighting, landscaping (i.e., street trees that provide continuous shade along transit access routes); multi-modal way finding signage (directing people to transit stops and stations, and from transit facilities to points of interest in the surrounding neighborhood); and enhanced, ADA-compliant street crossing elements adjacent to transit stops and stations (i.e., enhanced crosswalks, crossing signals, and accessible ramps). Particular attention should be given to ensure safe, convenient, and easy-to-navigate transitions between the proposed Class IV bicycle path along Willowbrook Ave. West and its northern and southern termini at Wilmington Ave. and E. 119th St., respectively.

D - 6

Increased vehicular and pedestrian traffic at railroad grade crossings due to new development must be considered in the Specific Plan. Provisions for transit priority treatments should be considered to make developments welcoming to transit access. Metro looks forward to continuing to collaborate with the County to effectuate policies and implementation activities that promote transit supportive communities and reduce pedestrian, bike, private vehicle, and transit vehicle conflicts.

If you have any questions regarding this response, please contact Elizabeth Carvajal at 213-922-3084 or by email at DevReview@metro.net. Metro looks forward to reviewing the Final EIR. Please send it to the following address:

Metro Development Review
One Gateway Plaza MS 99-23-4
Los Angeles, CA 90012-2952

Sincerely,

Elizabeth Carvajal
Sr. Manager, Transportation Planning

Attachments: Adjacent Construction Design Manual
Noise Easement Deed

ADJACENT CONSTRUCTION DESIGN MANUAL

1.0 INTRODUCTION

1.1 Parties planning construction over, under or adjacent to a Metropolitan Transportation Authority (MTA) facility or structure are advised to submit for review seven (7) copies of their drawings and four (4) copies of their calculations showing the relationship between their project and the MTA facilities, for MTA review. The purpose of the MTA review is to reduce the chance of conflict, damage, and unnecessary remedial measures for both MTA and the parties. Parties are defined as developers, agencies, municipalities, property owners or similar organizations proposing to perform or sponsor construction work near MTA facilities.

1.2 Sufficient drawings and details shall be submitted at each level of completion such as Preliminary, In-Progress, Pre-final and Final, etc. to facilitate the review of the effects that the proposed project may or may not have on the MTA facilities. An MTA review requires internal circulation of the construction drawings to concerned departments (usually includes Construction, Operations, Maintenance, and Real Estate). Parties shall be responsible for all costs related to drawing reviews by MTA. MTA costs shall be based upon the actual hours taken for review at the hourly rate of pay plus overhead charges. Drawings normally required for review are:

A. Site Plan

B. Drainage Area Maps and Drainage Calculations

C. Architectural drawings

D. Structural drawings and calculations

E. Civil Drawings

F. Utility Drawings

G. Sections showing Foundations and MTA Structures

H. Column Load Tables

I. Pertinent Drawings and calculations detailing an impact on MTA facilities

J. A copy of the Geotechnical Report.

K. Construction zone traffic safety and detour plans: Provide and regulate positive traffic guidance and definition for vehicular and pedestrian traffic adjacent to the construction site to ensure traffic safety and reduce adverse traffic circulation impact.

L. Drawings and calculations should be sent to:

MTA Third Party Administration (Permits Administration)
Los Angeles County Metropolitan Transportation Authority
One Gateway Plaza
Los Angeles, California 90012

1.3 If uncertainty exists on the possible impacts a project may have on the MTA facilities, and before submitting a formal letter requesting a review of a construction project adjacent to the Metro System, the party or his agent may contact the MTA Third Party Administrator (Permits). The Party shall review the complexity of the project, and receive an informal evaluation of the amount of detail required for the MTA review. In those cases, whereby it appears the project will present no risk to MTA, the Third Party Administrator (Permits) shall immediately route the design documents to Construction, Operations, Maintenance, and Real Estate departments for a preliminary evaluation. If it is then confirmed that MTA risk is not present, the Administrator shall process an approval letter to the party.

1.4 A period of 30 working days should be allowed for review of the drawings and calculations. Thirty (30) work days should be allowed for each successive review as required. It is noted that preliminary evaluations are usually produced within 5 working days.

1.5 The party shall reimburse the MTA for any technical review or support services costs incurred that are associated with his/her request for access to the Metro Rail System

1.6 The following items must be completed before starting any construction:

A. Each part of the project's design may be reviewed and approved by the MTA. The prime concern of the MTA is to determine the effect of the project on the MTA structure and its transit operations. A few of the other parts of a project to be considered are overhead protection, dust protection, dewatering, and temporary use of public space for construction activities.

B. Once the Party has received written acceptance of the design of a given project then the Party must notify MTA prior to the start of construction, in accordance with the terms of acceptance.

1.7 Qualified Seismic, Structural and Geotechnical Oversight

The design documents shall note the name of the responsible Structural Engineer and Geotechnical Engineer, licensed in the State of California.

2.0 REVIEW PROCEDURE

2.1 All portions of any proposed design that will have a direct impact on an MTA facility or structure will be reviewed to assure that the MTA facility or structure is not placed in risk at any time, and that the design meets all applicable codes and criteria. Any portion of the proposed design that is to form part of an MTA controlled area shall be designed to meet the MTA Design Criteria and Standards.

2.2 Permits, where required by the local jurisdiction, shall be the responsibility of the party. City of L.A. Dept. of Bldg. and Safety and the Bureau of Engineering permit review shall remain in effect. Party shall refer to MTA Third Party Administration policies and procedures, THD5 for additional information.

2.3 Monitoring of the temporary support of excavation structures for adjacent construction shall be required in all cases for excavations within the geotechnical zone of influence of MTA structures. The extent of the monitoring will vary from case to case.

2.4 Monitoring of the inside of MTA tunnels and structures shall be required when the adjacent

excavation will unload or load the MTA structure or tunnel. Monitoring of vertical and horizontal distortions will include use of extensometers, inclinometers, settlement reference points, tiltmeters, groundwater observation wells, tape extensometer anchor points and load cells, as appropriately required. Acceptable limits of movement will depend on groundwater conditions, soil types and also the length of service the stations and tunnels have gone through. Escorts will be required for the survey parties entering the Metro operating system in accordance with MTA Operating Rules and Procedures. An MTA account number will be established and the costs for the escort monitoring and surveying service will be billed directly to the party or his agent as in section 1.2.

2.5 The calculations submitted for review shall include the following:

A. A concise statement of the problem and the purpose of the calculation.

B. Input data, applicable criteria, clearly stated assumptions and justifying rationale.

C. References to articles, manuals and source material shall be furnished with the calculations.

D. Reference to pertinent codes and standards.

E. Sufficient sketches or drawing references for the work to be easily understood by an independent reviewer. Diagrams indicating data (such as loads and dimensions) shall be included along with adequate sketches of all details not considered standard by MTA.

F. The source or derivation of all equations shall be shown where they are introduced into the calculations.

G. Numerical calculations shall clearly indicate type of measurement unit used.

H. Identify results and conclusions.

I. Calculations shall be neat, orderly, and legible.

2.6 When computer programs are used to perform calculations, the following information shall accompany the calculation, including the following:

A. Program Name.

B. Program Abstract.

C. Program Purpose and Applications.

D. Complete descriptions of assumptions, capabilities and limitations.

E. Instructions for preparing problem data.

F. Instructions for problem execution.

G. List (and explanation) of program acronyms and error messages.

H. Description of deficiencies or uncorrected errors.

I. Description of output options and interpretations.

J. Sample problem(s), illustrating all input and output options and hardware execution statements. Typically, these problems shall be verified problems.

K. Computer printout of all supporting calculations.

L. The "User's Manual" shall also include a certification section. The certification section shall describe the methods and how they cover the permitted options and uses of the program.

2.7 Drawings shall be drawn, to scale, showing the location and relationship of proposed adjacent construction to existing MTA structures at various stages of construction along the entire adjacent alignment. The stresses and deflections induced in the existing MTA structures should be provided.

2.8 The short-term and long-term effects of the new loading due to the adjacent construction on the MTA structures shall be provided. The soil parameters and other pertinent geotechnical criteria contained in existing contract documents for the affected structure, plus any additional conditions shall be used to analyze the existing MTA structures.

2.9 MTA structures shall be analyzed for differential pressure loadings transferred from the adjacent construction site.

3.0 MECHANICAL CRITERIA

3.1 Existing services to MTA facilities, including chilled water and condenser water piping, potable and fire water, storm and sanitary sewer, piping, are not to be used, interrupted nor disturbed without written approval of MTA.

3.2 Surface openings of ventilation shafts, emergency exits serving MTA underground facilities, and ventilation system openings of surface and elevated facilities are not to be blocked or restricted in any manner. Construction dust shall be prevented from entering MTA facilities.

3.3 Hot or foul air, fumes, smoke, steam, etc., from adjacent new or temporary facilities are not to be discharged within 40 feet of existing MTA ventilation system intake shafts, station entrances or portals. Tunnel ventilation shafts are both intake and discharge structures.

3.4 Clear access for the fire department to the MTA fire department connections shall be maintained at all times. Construction signs shall be provided to identify the location of MTA fire department connections. No interruption to fire protection water service will be permitted at any time.

3.5 Modifications to existing MTA mechanical systems and equipment, including ventilation shafts, required by new connections into the MTA System, shall only be permitted with prior review and approval by MTA. If changes are made to MTA property as built drawings shall be provided reflecting these changes.

At the option of MTA, the adjacent construction party shall be required to perform the field tests necessary to verify the adequacy of the modified system and the equipment performance. This verification shall be performed within an agreed time period jointly determined by MTA and the Party on a case by case basis. Where a modification is approved, the party shall be held responsible to maintain original operating capacity of the equipment and the system impacted by the modification.

4.0 OPERATIONAL REQUIREMENTS

4.1 GENERAL

A. Normal construction practices must be augmented to insure adequate safety for the general public entering Metro Stations and riding on Metro Trains and Buses. Design of a building, structure, or facility shall take into account the special safety considerations required for the construction of the facility next to or around an operating transit system.

B. Projects which require working over or adjacent to MTA station entrances shall develop their construction procedures and sequences of work to meet the following minimum requirements:

1. Construction operations shall be planned, scheduled and carried out in a way that will afford the Metro patrons and the general public a clean, safe and orderly access and egress to the station entrance during revenue hours.

2. Construction activities which involve swinging a crane and suspended loads over pedestrian areas, MTA station entrances and escalators, tracks or Metro bus passenger areas shall not be performed during revenue hours. Specific periods or hours shall be granted on a case-by-case basis.

3. All cranes must be stored and secured facing away from energized tracks, when appropriate.

4. All activity must be coordinated through the MTA Track Allocation process in advance of work activity.

4.2 OVERHEAD PROTECTION - Station Entrances

A. Overhead protection from falling objects shall be provided over MTA facilities whenever there is possibility, due to the nature of a construction operation, that an object could fall in or around MTA station entrances, bus stops, elevators, or areas designed for public access to MTA facilities. Erection of the overhead protection for these areas shall be done during MTA non-revenue hours.

1. The design live load for all overhead protection shall be 150 pounds per square foot minimum. The design wind load on the temporary structures shall be 20 pounds per square foot, on the windward and leeward sides of the structure.

2. The overhead protection shall be constructed of fire rated materials. Materials and equipment shall not be stored on the completed shield. The roof of the shield shall be constructed and maintained watertight.

B. Lighting in public areas and around affected MTA facilities shall be provided under the overhead protection to maintain a minimum level of twenty-five (25) footcandles at the escalator treads or at the walking surface. The temporary lighting shall be maintained by the Party.

C. Wooden construction fencing shall be installed at the boundary of the areas with public access. The fencing shall be at least eight-feet high, and shall meet all applicable code requirements.

D. An unrestricted public access path shall be provided at the upper landing of the entrance escalator-way in accordance with the following:

1. A vertical clearance between the walking surface and the lowest projection of the shield shall be 8'-0".

2. A clear pedestrian runoff area extending beyond the escalator newel shall be provided, the least dimension of which shall be twenty (20) feet.

3. A fifteen (15) foot wide strip (other than the sidewalk) shall be maintained on the side of the escalator for circulation when the escalator is pointed away from a street corner.

4. A clear path from any MTA emergency exit to the public street shall be maintained at all times.

E. Temporary sidewalks or pedestrian ways, which will be in use more than 10 days, shall be7constructed of four (4") inch thick Portland cement concrete or four(4") inches of asphaltic concrete placed and finished by a machine.

4.3 OVERHEAD PROTECTION - Operating Right-of-Way Trackage

A. MTA Rail Operations Control Center shall be informed of any intent to work above, on, or under the MTA right-of-way. Crews shall be trained and special flagging operations shall be directed by MTA Rail Operations Control Center. The party shall provide competent persons to serve as Flaggers. These Flaggers shall be trained and certified by MTA Rail Operations prior to any work commencing. All costs incurred by MTA shall be paid by the party.

B. A construction project that will require work over, under or adjacent to the at grade and aerial MTA right-of-way should be aware that the operation of machinery, construction of scaffolding or any operation hazardous to the operation of the MTA facility shall require that the work be done during non-revenue hours and authorized through the MTA Track Allocation process.

C**.** MTA flagmen or inspectors from MTA Operations shall observe all augering, pile driving or other work that is judged to be hazardous. Costs associated with the flagman or inspector shall be borne by the Party.

D. The party shall request access rights or track rights to perform work during non-revenue hours. The request shall be made through the MTA Track Allocation process.-

4.4 OTHER METRO FACILITIES

A. Access and egress from the public streets to fan shafts, vent shafts and emergency exits must be maintained at all times. The shafts shall be protected from dust and debris. See

Exhibit A for details.

B. Any excavation in the vicinity of MTA power lines feeding the Metro System shall be through hand excavation and only after authorization has been obtained through the MTA Track Allocation process. MTA Rail Operations Control Center shall be informed before any operations commences near the MTA power system.

C. Flammable liquids shall not to be stored over or within 25 feet horizontally of MTA underground facilities. If installed within 25 to 100 feet horizontally of the structure, protective encasement of the tanks shall be required in accordance with NFPA STD 130. Existing underground tanks located within 100 feet horizontally of MTA facilities and scheduled to be abandoned are to be disposed of in accordance with Appendix C of NFPA STD 130. NFPA STD 130 shall also be applied to the construction of new fuel tanks.

D. Isolation of MTA Facilities from Blast

Subsurface areas of new adjacent private buildings where the public has access or that cannot be guaranteed as a secure area, such as parking garages and commercial storage and warehousing, will be treated as areas of potential explosion. NFPA 130, Standard for Fixed Guideway Transit Systems, life safety separation criteria will be applied that assumes such spaces contain Class I flammable, or Class II or Class III Combustible liquids. For structural and other considerations, isolation for blast will be treated the same as seismic separation, and the more restrictive shall be applied.

E. Any proposed facility that is located within 20 feet radius of an existing Metro facility will require a blast and explosion study and recommendations to be conducted by a specialist who is specialized in the area of blast force attenuation. This study must assess the effect that an explosion in the proposed non-Metro facility will have on the adjacent Metro facility and provide recommendations to prevent any catastrophic damage to the existing Metro facility. Metro must approve the qualifications of the proposed specialist prior to commencement of any work on this specialized study.

4.5 SAFETY REGULATIONS

A. Comply with Cal/OSHA Compressed Air Safety Orders Title 8, Division 1, Chapter 4, Subchapter 3. Comply with California Code of Regulations Title 8, Title 29 Code of Federal Regulations; and/or the Construction Safety and Health Manual (Part F) of the contract whichever is most stringent in regulating the safety conditions to be maintained in the work environment as determined by the Authority. The Party recognizes that government promulgated safety regulations are minimum standards and that additional safeguards may be required

B. Comply with the requirements of Chemical Hazards Safety and Health Plan, (per 29 CFR 1910.120 entitled, (Hazardous Waste Operations and Emergency Response) with respect to the handling of hazardous or contaminated wastes and mandated specialty raining and health screening.

C. Party and contractor personnel while within the operating MTA right-of-way shall

coordinate all safety rules and procedures with MTA Rail Operations Control Center.

D. When support functions and electrical power outages are required, the approval MUST be obtained through the MTA Track Allocation procedure. Approval of the support functions and power outages must be obtained in writing prior to shutdown.

5.0 CORROSION

5.1 STRAY CURRENT PROTECTION

A. Because stray currents may be present in the area of the project, the Party shall investigate the site for stray currents and provide the means for mitigation when warranted.

B. Installers of facilities that will require a Cathodic Protection (CP) system must coordinate their CP proposals with MTA. Inquiries shall be routed to the Manager, Third Party Administration.

C. The Party is responsible for damage caused by its contractors to MTA corrosion test facilities in public right-of-way.

End of Section

RECORDING REQUESTED BY
AND WHEN RECORDED MAIL TO:

LOS ANGELES COUNTY METROPOLITAN
TRANSPORTATION AUTHORITY
Real Estate Department
Deputy Executive Officer - Real Estate
P: 213-922-2415 F: 213-922-2400
One Gateway Plaza, Mail Stop 99-18-4
Los Angeles, CA 90012-2932

Space Above Line for Recorder's Use

[Recordation of this Public Document is Exempt from all Recording Fees and Taxes Pursuant to Government Code Section 6103]

Public Agency - No Tax Statement

NOISE EASEMENT DEED

For valuable consideration, receipt of which is hereby acknowledged, **(Name of Owner)**, a _____ , for themselves, their heirs, administrators, executors, successors, assigns, tenants, and lessees do hereby grant, bargain, sell, and convey to the **LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY,** a public agency existing under the authority of the laws of the State of California ("Grantee"), its successors and assigns, for the use and benefit of the public and its employees, a perpetual, assignable easement in that certain real property in the City of Los Angeles, County of Los Angeles, State of California described in Exhibit "A" attached hereto and incorporated herein by this reference,

Said easement shall encompass and cover the entirety of the Grantors' Property having the same boundaries as the described Property and extending from the sub-surface upwards to the limits of the atmosphere of the earth, the right to cause in said easement area such noise, vibrations, fumes, dust, fuel particles, light, sonic disturbances, and all other effects that may be caused or may have been caused by the operation of public transit vehicles traveling along the Project right of way.

Grantor hereby waives all rights to protest, object to, make a claim or bring suit or action of any purpose, including or not limited to, property damage or personal injuries, against Grantee, its successors and assigns, for any necessary operating and maintenance activities and changes related to the Project which may conflict with Grantors' use of Grantors' property for residential and other purposes, and Grantors hereby grants an easement to the Grantee for such activities.

The granting of said Easement shall also establish the Grantors' right to further modify or develop the Property for any permitted use. However, Grantor's rights of development shall not interfere with the continued operation of Grantee's Project.

It is understood and agreed that these covenants and agreements shall be permanent, perpetual, will run with the land and that notice shall be made to and shall be binding upon all heirs, administrators, executors, successors, assigns, tenants and lessees of the Grantor. The Grantee is hereby expressly granted the right of third party enforcement of this easement.

IN WITNESS WHEREOF, the undersigned has caused its/their signature to be affixed this day of _____, 20___

By: _____
Name

By: _____
Name

(ATTACH NOTARY SEAL AND CERTIFICATE HERE.)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT **CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of _____)

On _____ before me, _____,
Date *Here Insert Name and Title of the Officer*

personally appeared _____
Name(s) of Signer(s)

_____,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____ Document Date: _____
Number of Pages: _____ Signer(s) Other Than Named Above: _____

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Signer's Name: _____
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: _____
_____

Signer's Name: _____
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: _____
_____

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CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in the real property conveyed by the foregoing Grant Deed from _____, a **California Limited Partnership**, ("Grantor") to **LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY,** a public agency existing under the authority of the laws of the State of California ("LACMTA"), is hereby accepted by the undersigned on behalf of the LACMTA pursuant to authority conferred by resolution of the Board of Directors of the LACMTA, and the Grantee hereby consents to the recordation of this Deed by its duly authorized officer.

Dated this ____ day of _____, 20__

By: _____
Velma C. Marshall
Deputy Executive Officer - Real Estate

Response to Letter D

Elizabeth Carvajal, Metro

Response to Comment D-1

The commenter states that Metro is committed to working with stakeholders across the County to support transit oriented communities. The commenter also provides a discussion of the site location and project description. No specific comments on the content of the Draft EIR is provided. Therefore, no further response is required.

Response to Comment D-2

The commenter recommends that Metro provide review and approval authority of individual projects proposed within 100 feet of a Metro facility. The County has authority and would be the lead agency for individual projects within the Specific Plan area except where Metro is the lead agency. The County will coordinate with Metro as necessary during review of the individual projects in the Specific Plan area.

Response to Comment D-3

The commenter identifies various transportation improvements envisioned by Metro. As stated in Response to Comment D-2, the County will review each individual project within the Specific Plan area and determine if the EIR adequately addresses the potential impacts associated with the individual project as well as impacts on existing facilities. The County will coordinate with Metro as the County reviews and processes each individual project, as applicable.

Response to Comment D-4

The commenter recommends the Specific Plan includes Metro's notification procedures for individual projects that may impact bus operations. As the County processes individual projects within the Specific Plan area, the County will coordinate with bus operators including Metro as necessary, similar to the County's current practice.

Response to Comment D-5

The commenter supports the active transportation and multi-modalism policies within the Specific Plan. The commenter identified that safe, convenient, easy-to-navigate transitions should be provided between Class IV bicycle path along Willowbrook Avenue West and its northern and southern termini at Wilmington Avenue and E. 119th Street. This comment is noted and as the improvements are implemented, the County will ensure that safe, convenient, easy-to-navigate bicycle path transitions are provided.

Response to Comment D-6

The commenter identified that increased vehicular and pedestrian traffic at railroad grade crossings should be considered in the Specific Plan. During design of the specific improvements within the Specific Plan area, each applicant, as applicable, will be required to coordinate with Metro.

LETTER E

COUNTY OF LOS ANGELES

DEPARTMENT OF PARKS AND RECREATION

"Parks Make Life Better!"

John Wicker, Director | Norma E. Garcia, Chief Deputy Director

May 18, 2017

TO: Leon Freeman
Department of Regional Planning

FROM: Clement Lau, AICP
Planning and CEQA Section

SUBJECT: **WILLOWBROOK TRANSIT ORIENTED DISTRICT SPECIFIC PLAN REVISED SCREENCHECK DRAFT ENVIRONMENTAL IMPACT REPORT (EIR)**

The Department of Parks and Recreation (Department) has reviewed the above-mentioned revised Screencheck Draft EIR. Please find the Department's comments below:

Page 3.11-5, Parks and Recreation

- Please make the following correction "MLK Fitness ~~Center~~ Garden". E - 1

Page 3.11-8, Regulatory Setting, Local

- "*Los Angeles Countywide Parks and Recreation Needs Assessment*" is a section heading, please change the text formatting so it is consistent with other section headings. E - 2

Page 3.11-9, Los Angeles Countywide Parks and Recreation Needs Assessment

- Please revise the sentence as follows: "..*which is an area of high park need, and currently contains ~~six~~* seven *County parks maintained and operated by the Department of Parks and Recreation.*" E - 3

Page 3.11-9, Los Angeles County Park Safe Neighborhood Parks Proposition of 1992, 1996, Proposition A

- Please replace section heading "*Los Angeles County Park Safe Neighborhood Parks Proposition of 1992, 1996, Proposition A*" with "Los Angeles County Safe, Clean Neighborhood Parks and Beaches Measure of 2016" E - 4

Page 3.11-21, Cumulative

E - 5

- Please revise the third paragraph: *"the County's planning service goal is to provide 4.0 acres of local parkland per 1,000 residents."*

Thank you for including this Department in the review of this document. If you have any questions, please contact Ms. Jui Ing Chien at jchien@parks.lacounty.gov or (213) 351-5129.

c: DPR (J. Chien)

Response to Letter E

Clement Lau, County of Los Angeles Department of Parks and Recreation

Response to Comment E-1

This comment included a request for a modification to the name of the MLK Fitness Garden in the Draft EIR.

Table 3.11-3 on page 3.11-5 of the Draft EIR and included on page 3.11-5 of the Final EIR is revised as follows:

> MLK Fitness ~~Center~~ Garden
> 11833 South Wilmington

Response to Comment E-2

This comment requested that the subsection entitled Los Angeles Countywide Parks and Recreation Needs Assessment be modified as a section heading.

Page 3.11-8 of the Draft EIR and included on page 3.11-9 of the Final EIR is revised as follows:

> ***~~Los Angeles Countywide Parks and Recreation Needs Assessment~~ Los Angeles Countywide Parks and Recreation Needs Assessment***

Response to Comment E-3

The commenter requested a modification to the second paragraph on page 3.11-9 in the Draft EIR.

Page 3.11-9 of the Draft EIR and included on page 3.11-9 of the Final EIR is revised as follows:

> The project site is located within the unincorporated Willowbrook Community, which is an area of high park need, and currently contains seven ~~six~~ County parks maintained and operated by the Department of Parks and Recreation.

Response to Comment E-4

The commenter requested that a section heading on page 3.11-9 be revised.

Page 3.11-9 of the Draft EIR and included on page 3.11-9 of the Final EIR is revised as follows:

> ***~~Los Angeles County Park Safe Neighborhood Parks Proposition of 1992, 1996, Proposition A~~ Los Angeles County Safe, Clean Neighborhood Parks and Beaches Measure of 2016***

Response to Comment E-5

The commenter requested that the third paragraph on page 3.11-21 be revised to include a reference to local parkland.

The first sentence in the third paragraph on page 3.11-21 of the Draft EIR and included on page 3.11-21 of the Final EIR is revised as follows:

> As described above, the Willowbrook community currently provides 7.15 acres of County parkland per 1,000 population, and the County's planning service goal is to provide 4.0 acres of local parkland per 1,000 residents.

LETTER F

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

GRACE ROBINSON HYDE
Chief Engineer and General Manager

June 26, 2017

Ref. Doc. No.: 4147880

Ms. Anita Gutierrez, AICP
County of Los Angeles
Department of Regional Planning
Community Studies West Section
320 West Temple Street, Room 1356
Los Angeles, CA 90012

Dear Ms. Gutierrez:

DEIR Response to the Willowbrook Transit Oriented District Specific Plan

The Sanitation Districts of Los Angeles County (Districts) received a Draft Environmental Impact Report (DEIR) for the subject project on May 10, 2017. The proposed project is located within the jurisdictional boundary of District No. 1. We offer the following comments: F - 1

1. **2.0 PROJECT DESCRIPTION**, *page 2-14*, Buildout of the Proposed Specific Plan – Based on the project specifics provided in this paragraph, the proposed new development may significantly impact Districts' facilities. The Districts should review individual developments within the Willowbrook Transit Oriented Development area (TOD) in order to determine whether or not sufficient trunk sewer capacity exists to serve each project and if Districts' facilities will be affected by the project.

2. **3.13 UTILITIES AND SERVICE SYSTEMS**, *page 3.13-8*, Wastewater Infrastructure second paragraph – There are several major District sewer trunks crossing the TOD. Sections of the TOD development may impact existing and/or proposed Districts' facilities (e.g. trunk sewers, recycled waterlines, etc.). The Districts should review individual developments within TOD in order to determine how Districts' facilities will be affected by each specific project. F - 2

3. **3.13 UTILITIES AND SERVICE SYSTEMS**, *page 3.13-8*, Solid Waste paragraph – The Districts' operates solid waste collection facilities in the vicinity of Willowbrook community and surrounding areas. The Districts operate two sanitary landfills, three landfill energy recovery facilities, one recycle center, and three materials recovery and/or transfer facilities, and participate in the operation of two refuse to-energy facilities. F - 3

4. **3.13 UTILITIES AND SERVICE SYSTEMS**, *page 3.13-9*, first paragraph – Solid waste in the community of Willowbrook may be taken to either the Downey Area Recycling and Transfer facility or the South Gate Transfer Station facility. F - 4

DOC: #4196102.D01

Recycled Paper

F - 5

5. **3.13.5 IMPACT ANALYSIS**, *page 3.13-19*, first paragraph under Project-Specific – The LARWQCB NPDES Permit No. for the JWPCP is CA0053813. LARWQCD NPDES Permit No. CA0053911 belongs to the San Jose Creek Water Reclamation Plant.

6. All other information concerning Districts' facilities and sewerage service contained in the document is current.

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:ar

cc: M. Sullivan
M. Tatalovich

Response to Letter F

Adriana Raza, County Sanitation Districts of Los Angeles County

Response to Comment F-1

The commenter stated that based on the project description, the proposed development may impact the District's facilities. As discussed on page 3.13-21 and 3.13-22 of the Draft EIR, an evaluation of the proposed wastewater flow from the proposed land uses to the existing trunk sewers within the Specific Plan was conducted by JMC[2]. The evaluation identified existing sewer capacities would be exceeded. Mitigation Measure USS-1 on page 3.13-23 of the Draft EIR identified the need to upgrade sewers.

Response to Comment F-2

The commenter stated that the Districts should review individual developments within the TOD to determine if the Districts' facilities will be affected. As stated in Mitigation Measure USS-1, applicants within the Specific Plan area will be required submit a sewer study to confirm that the existing trunk sewers have adequate capacity to accommodate the projected wastewater flow. These sewer studies would be required to be reviewed by the Districts' to confirm the findings.

Response to Comment F-3

The commenter identified a modification to the number of facilities that the Districts operate.

The last paragraph on page 3.13-8 and first paragraph on page 3.13-9 in the Draft EIR and included on pages 3.13-8 and 3.13-9 is revised as follows:

> The LACSD operates solid waste collection facilities in the Willowbrook community and surrounding areas. LACSD solid waste management sites provide about half of the countywide solid waste management needs. The District operates two sanitary landfills, three ~~four~~ landfill energy recovery facilities, one ~~two~~ recycle center~~s~~, and three materials recovery/transfer facilities, and participate in the operation of two refuse-to-energy facilities (LACSD, 2015b).

Response to Comment F-4

The commenter clarified that solid waste in the community of Willowbrook may be taken to either the Downey Area Recycling and Transfer facility or the South Gate Transfer Station facility.

The first sentence in the second paragraph on page 3.13-9 in the Draft EIR and included on page 3.13-9 in the Final EIR is revised as follows:

> Solid waste in the community of Willowbrook may be ~~is~~ taken to either of two recycling and transfer facilities: the Downey Area Recycling and Transfer facility or ~~and~~ the South Gate Transfer Station facility.

Response to Comment F-5

The commenter clarified that the NPDES permit for the JWPCP is CA0053813.

The second sentence in the first paragraph of page 3.13-19 of the Draft EIR and include on page 3.13-19 in the Final EIR is revised as follows:

> Wastewater generated by the proposed Specific Plan development would be treated at the JWPCP, for which wastewater treatment requirements have been established by the LARWQCB NPDES Permit CA0053813 ~~CA0053911~~.

LETTER G

GOLDEN STATE ENVIRONMENTAL & SOCIAL JUSTICE ALLIANCE

Green Jobs & Clean Communities

May 29, 2017

VIA EMAIL

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SUBJECT: COMMENTS ON WILLOWBROOK SPECIFIC PLAN EIR

To whom it may concern:

Thank you for the opportunity to comment on the Environmental Impact Report (EIR) for the proposed Willowbrook Specific Plan (WSP). Please accept and consider these comments on behalf of Golden State Environmental and Social Justice Alliance, a California Social Purpose Corporation, Entity #C4017878. Also, Golden State Environmental and Social Justice Alliance formally requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this project. Send all communications to Golden State Environmental and Social Justice Alliance 160 W. Foothill Parkway Ste. 105-92 Corona, CA 92882. G - 1

As we understand it, the proposed Willowbrook Specific Plan will guide development within approximately 312 acres within the northwestern area of the unincorporated community of WIllowbrook. The Willowbrook Specific Plan area generally encompasses parcels located south of Imperial Highway, north of East 122nd Street, east of Compton Avenue, and west of South Mona Boulevard. G - 2

G - 2 (Cont.)

Implementation of the Willowbrook Specific Plan includes the demolition of 378,764 sf of residential and non-residential uses, development of 3,044,799 sf of residential and non-residential uses, and an overall development buildout of 4,576,558 sf of residential and non-residential uses. Of the 4,576,558 sf, there will be 2,920 residential dwelling units, 851,931 sf of institutional uses, 2,621,783 sf of public uses, and 1,102,844 sf of commercial office uses which includes retail, commercial, office, and church uses. The overall net new development proposed is 1,952 residential units and 2,666,035 sf of non-residential uses.

The WSP also proposes improvements to the existing circulation system. This includes roadway changes to accommodate new bicycle lanes and paths, sidewalk improvements, constructing a pedestrian trail along Mona Boulevard, and improving 14 existing intersections to be pedestrian oriented. Additional improvements are planned to the streetscape, such as new street furniture, lighting, and wayfinding efforts. Water system improvements are also planned to accommodate build out of the Willowbrook Specific Plan.

2.0 Project Description

G - 3

The Project Description is deficient in describing the full scope of the WSP. The full scope of the WSP is buried within various chapters of the EIR. For example, the Project Description does not include specific information pertaining to the buildout of CDU, which is given in the Land Use chapter. The Land Use chapter provides detailed information regarding each of the seven subareas that should be included in the Project Description.

G - 4

Additionally, the Project Description does not include future construction required by Mitigation Measure CUL-3: "Impacts resulting from the loss of integrity of the Martin Luther King, Jr. Medical Center Campus Historic District such that its significance is materially impaired will be reduced to the maximum extent feasible through the development of a retrospective exhibit detailing the history of the Martin Luther King, Jr. Medical Center Campus Historic District, its significance, and its important details and features. The retrospective exhibit shall be in the form of a physical exhibit installed on the Martin Luther King, Jr. Medical Center Campus, which is located either within a building *or on a freestanding kiosk or comparable structure or installation on the property*". MM CUL-3 requires that the exhibit "shall be completed within a period of no more than two years from the date of completion of the portion of the project that would result in the loss of integrity of the historical resources eligible for listing". Thus, the construction will occur within the build-out horizon anticipated of the WSP. The Project Description must be revised to include this construction and installation. All estimated square

footage of construction at the MLK Jr Medical Center throughout the EIR (ex: Air Quality, Greenhouse Gas Emissions) must be revised to include the required retrospective historic exhibit. G - 4 (Cont.)

3.2 Air Quality

The Air Quality Analysis (AQA) states that the project complies with General Plan Policy AQ 1.4: Work with local air quality management districts to publicize air quality warnings, and to track potential sources of airborne toxics from identified mobile and stationary sources. However, there is no evidence within the EIR to support this statement. In order to demonstrate consistency with Policy AQ 1.4, the project and all forthcoming projects within the WSP must be required to track mobile and stationary sources of airborne toxics as a Mitigation Measure or condition of approval. Further, the project and all forthcoming projects within the WSP must be required to work with local air quality management districts to publicize air quality warnings when emissions are anticipated to exceed air quality standards, especially when the EIR states that "maximum daily emissions of ROG and NOX would generally be higher during the winter while emissions of CO and SO2 would generally be higher in the summer". G - 5

The Air Quality Analysis assumes a maximum 8 hour day of construction, 5 days per week. Section 12.12 - Building Construction Noise of the Los Angeles County Code of Ordinances permits construction between the hours of 6:30 AM - 8:00 PM, Monday - Saturday. The AQA does not present the "worst-case scenario" of construction equipment emitting pollutants for the legal 13.5 hours per day, 6 days per week. The Air Quality modeling must be revised to account for these legally possible longer construction days and increased number of construction days in order to present an accurate worst-case scenario model. G - 6

The AQA concludes that there will be significant and unavoidable impacts due to emissions of ROG, NO_X and CO. In keeping with *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal. App. 4th 1184, 1219-1220, the EIR must describe the short-term and cumulative adverse health effects of this significant impact. There is some general information at 3.2-4 and 3.2-5 on this point, but it does not specify if the information described applies to cumulative or short-term adverse health effects. G - 7

The EIR is speculative in stating that "due to the changeover in construction fleets as old equipment is replaced with new, it is anticipated that maximum daily emissions would decrease as development occurs in future years". The EIR does not impose any required Mitigation G - 8

Measures or conditions of approval to ensure that older equipment must be replaced with new equipment. This speculative statement must be removed from the EIR. G - 8 (Cont.)

Mitigation Measures to reduce the significant and unavoidable impacts to air quality contain unenforceable language. This includes: MM AIR-6 "All new development shall have electrical outlets associated with the outside of the buildings such that all landscaping equipment *could* be electrically operated". This mitigation measure is unenforceable and does not comply with CEQA § 15126.4(a)(2) which requires that "Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally binding instruments". The EIR should provide enforceable language requiring all landscape equipment, at minimum for non-residential uses, shall be electrically operated or MM AIR-6 should be deleted. The EIR language that is unenforceable must be revised in order to be meaningfully implemented. G - 9

Mitigation Measure AIR-1 states that "contractors shall limit construction equipment idling time to 5 minutes". LUT-9 of the Final Unincorporated Los Angeles County Community Climate Action Plan 2020 (CCAP) implements idling limits of 3 minutes for heavy-duty construction equipment. MM AIR-1 should be revised to comply with the CCAP of the Los Angeles County General Plan Air Quality Element. G - 10

3.5 Greenhouse Gas Emissions

The Greenhouse Gas (GHG) Emissions Analysis does not present any information regarding the proposed project's compliance with the Final Unincorporated Los Angeles County Community Climate Action Plan 2020 (CCAP) even though implementation of the WSP will result in significant and unavoidable impacts to GHG emissions. The CCAP was adopted in 2015 as part of the Air Quality Element of the General Plan and directly influences GHG emissions. The EIR must be revised to demonstrate the proposed project's compliance or noncompliance with all 26 actions of the CCAP and adopt all feasible actions of the CCAP that have the potential to reduce the significant and unavoidable environmental impacts resulting from implementation of the WSP. G - 11

3.10 Population and Housing

The EIR states that buildout of the WSP will result in "a net increase of approximately 5,632 jobs, and therefore, by 2035 there would be a total of 6,897 jobs" within the WSP area. The projected employment growth is greater than both employment growth forecasts by the County G - 12

of Los Angeles and SCAG for the WSP area. The County of Los Angeles job growth for the WSP area is a net increase of 2,021 and the SCAG employment growth is a net increase of 615. The employment growth within the WSP over the anticipated 20-year buildout is 3,611 additional jobs which is approximately 179 percent greater than the County job growth estimate and 5,017 additional jobs which is 1,121 percent greater than the SCAG job growth estimate for the WSP area.

G - 12 (Cont.)

The EIR notes that "because a majority of the jobs created within the Specific Plan area would be skilled or managerial, a majority of these jobs are expected to be filled by persons outside of the Specific Plan area". The EIR relies on Los Angeles County's 8.2% average unemployment rate as the source of the workforce for the proposed project. The EIR does not provide supporting evidence regarding the skills, assets, or education of the unemployed population to demonstrate that the unemployed population will be qualified for the jobs within the WSP area. The EIR is speculative in assuming that the Los Angeles County unemployed population will fill the 6,897 jobs created by the WSP. The EIR must be revised to analyze the potential impacts caused by a majority of the new employees entering the WSP area from outside the County. At minimum, the EIR should analyze this to the extent it relates to the jobs that exceed the SCAG and County of Los Angeles job growth predictions.

With regard to cumulative impacts, the EIR states that SCAG works with Los Angeles County as development occurs to "re-evaluate projected growth to ensure there is a balance in geographical areas so that overall projections are not exceeded". The EIR then concludes that the future growth projected by SCAG for the WSP area would not result in significant impacts to the environment. The WSP as proposed exceeds current SCAG estimates yet the EIR relies upon future SCAG estimates that do not exist in order to avoid analyzing potentially significant cumulative impacts to the environment. The EIR does not provide supporting evidence to demonstrate that SCAG will change their estimates after the WSP is implemented. Relying on SCAG estimates that do not exist at the time of the EIR preparation represents uncertain mitigation that is improperly deferred in violation of CEQA. The EIR is misleading as an informational document to the public and decision-makers and the cumulative impact analysis must be revised to reflect the current SCAG growth projections.

G - 13

3.12 Transportation and Traffic

The EIR concludes that several significant and unavoidable impacts to transportation and traffic will occur as a result of implementing the WSP. However, the EIR does not implement

G - 14

Mitigation Measures beyond Right of Way improvements. Additional Mitigation Measures that could reduce significant impacts to traffic/transportation include the following travel demand management strategies: G - 14 (Cont.)

1. Reduced parking requirements for non-residential uses to discourage passenger vehicle trips in accordance with Los Angeles County General Plan Mobility Element Policy M 4.15.
2. Require the availability of employer/institution based transit passes in accordance with Los Angeles County General Plan Mobility Element Policy M 4.15.
3. Require employers/institutions to participate in regional carpooling programs in accordance with Los Angeles County General Plan Mobility Element Policy M 4.15.

3.13 Utilities and Service Systems

The EIR finds that because waste generated within the WSP area "would continue to be hauled to the Downey Area Recycling and Transfer facility and the South Gate Transfer Station facility and then transported to the Sunshine Canyon Landfill, Antelope Valley Landfill, and the Lancaster Landfill for disposal" that the increase in solid waste at buildout "would not require construction of a new landfill or expansion of the existing landfill to meet capacity needs", resulting in a less than significant impact. However, SW-1 of the CCAP requires compliance with LA County Code Chapter 20.87 "to ensure that a minimum of 70% of construction and building materials and demolition debris (C&D) are diverted from landfill disposal". Further, it requires contractors to submit a recycling and reuse plan (RRP) and use separate material bins at the construction site. The EIR is inadequate as an informational document because it does not provide any information regarding the proposed project's compliance with this requirement. The EIR must be revised to include compliance with SW-1 of the CCAP as a Mitigation Measure or condition of approval at a programmatic level and for all subsequent construction projects within the WSP area. G - 15

4.0 Alternatives

Alternative 4: Construct All Physical Traffic Measures Set Forth in MLK Medical Center Campus EIR Alternative was selected for analysis even though not all of these improvements were included in the proposed WSP because of general infeasibility, inconsistency with WSP goals/objectives, and inconsistency with Los Angeles County General Plan goals/objectives. The EIR does not provide reasoning for selecting this alternative when the EIR had already determined the implementation of these traffic measures to be infeasible. Alternative 4 should be G - 16

removed from the EIR and replaced with an alternative that the EIR has not already determined to be infeasible. Alternatives that the EIR does not explore include, but are not limited to:

G - 16 (Cont.)

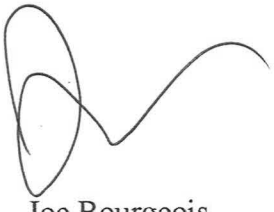
1. An alternative that reduces the square footages of residential and non-residential uses within the WSP area to avoid exceeding SCAG growth estimates.
2. A reduced intensity alternative that reduces the net development of the project enough to avoid the significant and unavoidable impacts on the environment that result from implementation of the WSP as proposed.
3. A project design that includes live/work units to relieve VMT related to employment travel to the WSP area as highlighted in 3.10 Population and Housing.
4. A project design that includes a reduced office square footage to relieve VMT related to employment travel to the WSP area as highlighted in 3.10 Population and Housing.

Conclusion

G - 17

For the foregoing reasons, Golden State Environmental and Social Justice Alliance believes the EIR is flawed and an amended EIR must be prepared for the proposed project and circulated for public review. Golden State Environmental and Social Justice Alliance requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this project. Send all communications to Golden State Environmental and Social Justice Alliance 160 W. Foothill Parkway Ste. 105-92 Corona, CA 92882.

Sincerely,



Joe Bourgeois
President
Golden State Environmental and Social Justice Alliance

Response to Letter G

Joe Bourgeois, Golden State Environmental and Social Justice Alliance

Response to Comment G-1.

The commenter requests to be placed on an interest list for subsequent environmental documents, public notices, public hearings, and notices of determinations for the proposed program. The County will include the commenter on future correspondence related to CEQA actions taken by the County.

Response to Comment G-2.

The commenter identified project components; however, a few descriptions were not accurate. The Willowbrook Specific Plan includes the potential demolition of 378,764 square feet of non-residential uses, development of 3,044,799 square feet of new non-residential development and an overall buildout of 4,576, 558 square feet of non-residential uses. No specific comments on the contents of the environmental evaluation were provided in this comment, and therefore, no further response is required.

Response to Comment G-3.

The commenter stated that the Project Description in the Draft EIR is deficient in describing the full scope of the Willowbrook TOD Specific Plan because more detailed information for each of the seven subareas, including the buildout of the Charles R. Drew University, is provided in Chapter 3.8, Land Use and Planning in the Draft EIR. The descriptions for each of the seven subareas within Chapter 3.8, Land Use and Planning (pages 3.8-2 through 3.8-4) of the Draft EIR provide a discussion of the existing characteristics within each subarea. These descriptions are not project components. The potential demolition and development of land uses for the Charles R. Drew University of Medicine and Science (CDU) Subarea as well as the other subareas are depicted on Table 2-3 of the Draft EIR. The CDU Subarea is described as Group Location 2C.

Response to Comment G-4.

The commenter expressed concern that a potential construction of a free-standing kiosk or comparable structure identified in Mitigation Measure CUL-3 must be included in the project description. The potential kiosk is not a project design feature, but is a project mitigation measure. Because the potential kiosk is not a project design feature, it is not appropriate to be included as part of the project description, and therefore, was not included as a project component of the project.

The second concern expressed by the commenter is that the potential kiosk was not taken into account as part of the air quality and greenhouse gas emissions evaluations. The air quality analysis included an evaluation of maximum daily construction emissions associated with buildout of the proposed Specific Plan. The maximum daily construction emissions are identified in Table 3.2-6 of the Draft EIR for regional emissions and Table 3.2-7 of the Draft EIR for localized emissions. These potential emissions were compared to the thresholds identified by the South Coast Air Quality Management District (SCAQMD). The maximum daily emissions were

based on worst-case daily assumptions for the construction emissions that included 10 acres of grading, 20,000 square feet of demolition and the construction of 105 dwelling units and 172,000 square feet of non-residential use. This worst-case daily assumption, that was discussed on pages 3.2-26 and 3.2-28 of the Draft EIR, could encompass the construction of a potential kiosk associated with the implementation of Mitigation Measure CUL-3 because the kiosk would represent a negligible portion of the worst-case daily emissions. Therefore, the Program EIR adequately identified potential air quality impacts associated with the implementation of the proposed Specific Plan.

The greenhouse gas emissions analysis was conducted based on the methodology provided in SCAQMD's 2008 Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold document which recommends that for construction GHG emissions, the total emissions for a project be amortized over a 30-year period. As discussed in Table 3.5-1 in the Draft EIR, the total construction of the project encompassed 4,618,035 square feet of structures (see footnote 4). The total construction would result in 68,373 metric tons of greenhouse gas. Based on the SCAQMD methodology (construction emissions amortized over 30 years), the annual construction emissions would be 2,279 MT/yr. Annual construction emissions account for approximately 3.6 percent of total annual greenhouse gas emissions (construction plus operational). If development activities in compliance with the proposed Specific Plan results in impacts resulting in the loss of integrity of the Martin Luther King, Jr. Medical Center Campus Historic District such that it significance is materially impaired, the construction of a physical exhibit, as discussed in Mitigation Measure CUL-3 on page 3.3-22 of the Draft EIR, would not substantially alter the annual greenhouse gas emissions associated with construction activities. If the estimated annual construction emissions of 2,279 were to increase two fold (i.e., construction of 9.2 million square feet of structures compared to 4.6 million square feet of structures) to 4,558 metric tons per year (MT/year), the greenhouse gas emissions per service population would increase from 5.6 MT/year per service population to 5.8 MT/year per service population. The significance findings for years 2020 and 2035 included in Table 3.5-2 of the Draft EIR would not change. Because a substantive change to potential annual construction as described above (i.e., double the amount of annual construction) would not affect the significance findings, the addition of a kiosk which may include a few 10 or 100 square feet would not substantially alter the significance findings in Section 3.5 in the Draft EIR. No further evaluation of greenhouse gas emissions is required.

Response to Comment G-5.

The commenter states that the Draft EIR did not provide evidence that the project would comply with General Plan Policy AQ 1.4 which states "Work with local air quality management districts to publicized air quality warnings, and to track potential sources of airborne toxics from identified mobile and stationary sources". Page 3.2-15 of the Draft EIR states that this policy is applicable to the proposed Specific Plan and will be implemented in connection with development of the project. As discussed on pages 3.2-14 and 3.2-15, the SCAQMD Regulation XIV (Toxics and Other Non-Criteria Pollutants) and in particular Rule 1401 (New Source Review) are current regulations that development within the proposed Specific Plan area would be required to comply. All stationary sources that possess the potential to emit toxic air contaminants are required to obtain permits from SCAQMD. The exposure of mobile toxic emissions on sensitive

receptors within the Specific Plan are discussed on pages 3.2-36 and 3.2-37 of the Draft EIR. As each individual project within the proposed Specific Plan area is proposed, the County will be required to assess whether the discussion of potential mobile and operational toxic contaminants have been adequately discussed and disclosed to the public.

The commenter also states that the future individual projects need to identify when their individual project exceeds air quality standards. As the County processes future development applications within the Specific Plan area, each project will need to be reviewed in the context of this EIR to understand if this EIR adequately addressed the potential environmental impacts associated with the individual project or reviewed separately as a new project in the context of CEQA. During this review, an evaluation of the potential air emissions associated with the individual project will need to be conducted. This evaluation would identify whether the air quality standards are exceeded for the individual project.

Response to Comment G-6.

The commenter states that the Air Quality Analysis in the Draft EIR assumes a maximum 8 hours per day of construction and 5 days per week. As identified in Appendix B, Air Quality and Greenhouse Gas Emissions Data Worksheets, the assumptions for the number of hours per day are the usage of each type of construction equipment. These assumptions identify that the individual equipment will be operating between 6 and 8 hours per day depending on the type of equipment. The assumptions for equipment usage is typical and appropriate. The analysis did not identify how long daily construction activities would occur at a specific site. The maximum daily emissions of all assumed construction activities within the Specific Plan area were compared to the SCAQMD daily significance thresholds. The methodology used in the air quality analysis for the proposed Specific Plan presents a reasonable worst-case scenario.

Response to Comment G-7.

The commenter states that the EIR concludes that there will be significant and unavoidable impacts due to emissions of reactive organic gases (ROG), oxides of nitrogen (NOx) and carbon monoxide (CO). The commenter is correct that the EIR finds the emissions of ROG, NOx and CO would be significant and unavoidable for the implementation of the Specific Plan project. The commenter also states that the EIR must describe the short-term and cumulative adverse health effects of ROG, NOx and CO. As stated on page 3.2-4 of the Draft EIR, ROG and NOx are ozone precursors. As stated on Table 3.2-1 on page 3.2-3 of the Draft EIR, high concentrations of ozone (which includes ROG and NOx) can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue. The last paragraph on page 3.2-4 of the Draft EIR discusses the short-term exposure to ozone as potentially causing irritation of the eyes and potentially causing constriction of the airways. In addition to causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. These ozone health effects are short-term and cumulative. Pages 3.2-5 of the Draft EIR describes the health effects associated with CO. As described, when inhaled at high concentrations, CO can reduce oxygen reaching the brain, heart and other body tissues. These CO health effects are short-term and cumulative. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Response to Comment G-8.

The commenter stated that the Draft EIR was speculative to assume that construction fleets would change over from old equipment to newer equipment during the buildout of the proposed Specific Plan. Given that the proposed Specific Plan would be implemented over 20 years, and the California Air Resources Board's California Emissions Estimator Model (CalEEMod) includes assumptions of lower emissions for construction equipment for future years, it is reasonable to provide the statement that the maximum daily emissions would decrease in the future years. However, the analysis conducted in the Draft EIR assumed the maximum daily emissions would be generated in the year 2018. This level of emissions is considered a worst-case evaluation.

Response to Comment G-9.

The commenter expressed a concern that Mitigation Measure AIR-6 stated that electrical outlets shall be provided outside of buildings such that all landscaping equipment could be electrically operated. The commenter believes that this mitigation measure is not enforceable. The County has incorporated the provision of electrical outlets within the Specific Plan; and therefore, the outdoor electrical outlets are part of the project design. As a result, Mitigation Measure AIR-6 is not required.

The removal of Mitigation Measure AIR-6 due to the measure being incorporated as a design feature within the Specific Plan will result in various modifications within the Draft EIR.

Table ES-1 on page ES-8 of the Draft EIR and included on page ES-8 in the Final EIR is revised as follows:

> ~~**AIR-6:** All new development shall have electrical outlets associated with the outside of the buildings such that all landscaping equipment could be electrically operated.~~
>
> **AIR-6 ~~7~~:** All new development shall comply with the Title 24 requirements in effect at the time of construction and shall, at a minimum, exceed 2013 Title 24 energy efficiency standards by 15 percent.

Table ES-1 on pages ES-8 and ES-9 under Mitigation Measure in the Draft EIR and included on pages ES-8 and ES-9 in the Final EIR is revised as follows:

> Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ is required.

Table ES-1 on page ES-9 and included on page ES-9 in the Final EIR is revised as follows:

> **AIR-7 ~~8~~:** The County shall ensure that project approvals within the Specific Plan area require that any sensitive uses proposed to be located within 300 feet of the Metro tracks and within 500 feet of freeways shall be equipped with a filtered air supply system to maintain units under positive pressure when windows are closed. The ventilation system, whether a central HVAC (heating, ventilation and air conditioning) or a unit-by-unit filtration system, shall include high-efficiency filters meeting minimum efficiency reporting value (MERV) 13, per American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2 (equivalent to approximately ASHRAE Standard 52.1 Dust Spot 85%). The efficiency rating of the filtration system

shall be determined based on a health risk assessment conducted for the proposed development, such that cancer and non-cancer risks are reduced to a 10 in one million increase in cancer risk, and less than 1 for non-cancer risk, unless thresholds are superseded by more current SCAQMD threshold. Air intake systems for HVAC shall be placed based on exposure modeling to minimize roadway air pollution sources. The ventilation system shall be designed by an engineer certified by ASHRAE, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. Disclosure to the occupants (buyers and renters) shall be required regarding the proximity of Metro tracks (within a 300-foot radius) and freeways (within a 500-foot radius), the occurrence of diesel emissions form Metro trains and freeways heavy truck traffic), and the potential increased cancer and non-cancer risks associated with the development location.

Table ES-1 on page ES-10 under Mitigation Measures in the Draft EIR and included on page ES-10 in the Final EIR is revised as follows:

Implementation of Mitigation Measure AIR-7~~8~~ is required.

Table ES-1 on page ES-18 under Mitigation Measure in the Draft EIR and included on page ES-18 in the Final EIR is revised as follows:

Implementation of Mitigation Measures AIR-1 through AIR-5~~6~~ is required.

Page 3.2-24 of the Draft EIR and included on page 3.2-24 in the Final EIR is revised as follows:

Project-Specific

Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ identified below under Impact 3.2-2 is required.

Cumulative

Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ identified below under Impact 3.2-2 is required.

Significance Determination

Project-Specific

Significant and Unavoidable Impact. The implementation of Mitigation Measures AIR-1 through AIR-6~~7~~ would reduce emissions generated during construction and operational activities. However, the reduction of emissions would still result in significant emissions that would conflict with and obstruct the 2012 AQMP.

Cumulative

Significant and Unavoidable Impact. The implementation of Mitigation Measures AIR-1 through AIR-6~~7~~ would reduce the project's contribution of emissions generated during construction and operational activities; however, the reduction of emissions would still result in significant and the project's contribution to the cumulative conflict and obstruction of the 2012 AQMP would remain cumulatively considerable.

Page 3.2-33 of the Draft EIR and included on page 3.2-33 in the Final EIR is revised as follows:

~~**Mitigation Measure AIR-6** All new development shall have electrical outlets associated with the outside of the buildings such that all landscaping equipment could be electrically operated.~~

Mitigation Measure AIR-6 ~~7~~ All new development shall comply with the Title 24 requirements in effect at the time of construction and shall, at a minimum, exceed 2013 Title 24 energy efficiency standards by 15 percent.

Cumulative

Implementation of Mitigation Measure AIR-1 through **AIR-6 ~~7~~** is required to reduce cumulative regional and localized emissions during construction and operational activities.

Significance Determination

Project-Specific

Significant and Unavoidable Impact. With the implementation of Mitigation Measures AIR-1 and AIR-2, construction emission impacts from implementation of the Specific Plan would remain significant. The implementation of Mitigation Measures AIR-3 through AIR-6 ~~7~~ would reduce air quality operational emissions; however, operational emissions would still exceed daily thresholds. Therefore, project construction and operational impacts related to violation of a regional air quality standard or contribution to an existing or projected air quality violation would be significant and unavoidable.

Cumulative

Significant and Unavoidable Impact. Implementation of Mitigation Measures AIR-1 and AIR-2 would reduce regional and localized construction emissions from development projects that would occur from implementation of the proposed Specific Plan; however, impacts after mitigation would remain significant, and therefore the project would remain cumulatively considerable.

Implementation of Mitigation Measures AIR-2 through AIR-6 ~~7~~ would reduce regional and localized operation emissions from development projects that would occur from implementation of the proposed Specific Plan; however, impacts after mitigation would remain significant for regional operational emissions, and therefore, the project would remain cumulatively considerable.

Page 3.2-34 of the Draft EIR and included on page 3.2-34 in the Final EIR is revised as follows:

Implementation of Mitigation Measures AIR-1 through AIR-<u>6</u> ~~7~~ is required.

Page 3.2-37 of the Draft EIR and included on page 3.2-37 in the Final EIR is revised as follows:

Mitigation Measure AIR-<u>7</u> ~~8~~: The County shall ensure that project approvals within the Specific Plan area require that any sensitive uses proposed to be located within 300 feet of the Metro tracks and within 500 feet of freeways shall be equipped with a filtered air supply system to maintain units under positive pressure when windows are closed. The ventilation system, whether a central HVAC (heating, ventilation and air conditioning) or

a unit-by-unit filtration system, shall include high-efficiency filters meeting minimum efficiency reporting value (MERV) 13, per American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2 (equivalent to approximately ASHRAE Standard 52.1 Dust Spot 85%). The efficiency rating of the filtration system shall be determined based on a health risk assessment conducted for the proposed development, such that cancer and non-cancer risks are reduced to a 10 in one million increase in cancer risk, and less than 1 for non-cancer risk, unless thresholds are superseded by more current SCAQMD threshold. Air intake systems for HVAC shall be placed based on exposure modeling to minimize roadway air pollution sources. The ventilation system shall be designed by an engineer certified by ASHRAE, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. Disclosure to the occupants (buyers and renters) shall be required regarding the proximity of Metro tracks (within a 300-foot radius) and freeways (within a 500-foot radius), the occurrence of diesel emissions form Metro trains and freeways heavy truck traffic), and the potential increased cancer and non-cancer risks associated with the development location.

Cumulative

Implementation of Mitigation Measure AIR-7~~8~~ is required.

Page 3.2-38 and included on page 3.2-38 in the Final EIR is revised as follows:

Project-Specific

Less than significant impact. After the implementation of Mitigation Measure AIR-7~~8~~, TAC emissions that would be exposed to sensitive uses would be reduced to less than significant.

Cumulative

Less than significant. Implementation of Mitigation Measure AIR-7~~8~~, the proposed project's contribution to cumulatively exposing sensitive uses to TAC emissions would be reduce to less than cumulatively considerable.

Page 3.5-15 of the Draft EIR and included on page 3.5-15 in the Final EIR is revised as follows:

Project-Specific

Implementation of Mitigation Measures AIR-1 through AIR-5~~6~~ is required.

Cumulative

Implementation of Mitigation Measures AIR-1 through AIR-5~~6~~ is required.

Page 3.5-16 of the Draft EIR and included on page 3.5-16 in the Final EIR is revised as follows:

Project-Specific

Significant and unavoidable impact. Implementation of Mitigation Measures AIR-1 through AIR-6~~7~~ would reduce potential GHG emissions; however, emissions would remain significant. Mitigation Measures AIR-1 and AIR-2 in Section 3.2 Air Quality would reduce GHG emissions within the Specific Plan area, and include the use of more

efficient construction equipment, which would reduce the combustion of fuels associated with construction. These mitigation measures reduce the amount of GHG's that would be generated and emitted through the construction and day to day operation of the project. Mitigation Measures AIR-3 through AIR-5~~6~~ would reduce the burning of wood or fossil fuels, use low-VOC coatings and cleaning supplies, and potentially use electrical landscaping equipment, all of which reduce operational GHGs. Mitigation Measure AIR-6~~7~~ would reduce energy consumption through making the development operation more energy efficient. All of these mitigation measures reduce the amount of GHG's that would be generated and emitted through the construction and day-to-day operation of a project.

Cumulative

Significant and unavoidable impact. As discussed under Project-Specific above, implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ would reduce potential GHG emissions; however, emissions would remain cumulatively considerable.

Response to Comment G-10.

The commenter expressed concern that Mitigation Measure AIR-1 referenced the limit of construction equipment idling time to 5 minutes and stated that the Final Unincorporated Los Angeles County Community Climate Action Plan 2020 referenced idling time of 3 minutes for heavy-duty construction equipment. To be consistent with the Final Unincorporated Los Angeles County Community Climate Action Plan 2020, the last sentence in Mitigation Measure AIR-1 on pages ES-7 and ES-8 of the Draft EIR and included on pages ES-7 and ES-8 in the Final EIR and page 3.2-32 of the Draft EIR and included on page 3.2-32 in the Final EIR is revised as follows:

In addition, contractors shall limit heavy-duty construction equipment idling time to ~~5~~ 3 minutes, limit non-heavy-duty construction equipment idling time to 5 minutes, maintain construction equipment in good operating condition, use construction equipment that uses low-polluting fuels to the extent available and feasible (i.e. compressed natural gas, liquid petroleum gas, and unleaded gasoline).

Response to Comment G-11.

The commenter correctly identified that the Final Unincorporated Los Angeles County Community Climate Action Plan 2020 (CCAP) was adopted in 2015. Individual projects implemented as part of the Specific Plan will be required to comply with the CCAP. Below is a discussion of the proposed Specific Plan's consistency with the applicable actions identified in the CCAP.

The following is added after Table 3.8-4 on page 3.8-31 of the Draft EIR and included on pages 3.8-31 through 3.8-34.

County of Los Angeles Community Climate Action Plan 2020

The proposed Specific Plan would increase development within the Specific Plan area. The increase in development would result in increased impacts on climate change. The

Community Climate Action Plan 2020 (CCAP) was adopted in 2015 and includes actions to reduce greenhouse gas emissions. Following is a discussion of the proposed Specific Plan's consistency with the applicable actions identified in the CCAP.

TABLE 3.8-5
CONSISTENCY OF PROPOSED SPECIFIC PLAN WITH COMMUNITY CLIMATE ACTION PLAN 2020

Policy Number	Actions Text	Statement of Consistency or Non-Consistency
Land Use Element		
BE-1	**Green Building Development:** Promote and incentivize at least Tier 1 voluntary standards within CALGreen for all new residential and nonresidential buildings. Develop a heat island reduction plan and facilitate green building development by removing regulatory and procedural barriers.	**Consistent.** The proposed Specific Plan includes Sustainable Design Guidelines related to site and building design, solar resources, and water efficiency and would comply with the applicable provisions of the County's Green Building Standards Code. Therefore, the proposed Specific Plan is consistent with this action.
BE-3	**Solar Installations:** Promote and incentivize solar installations for new and existing homes, commercial buildings, carports and parking areas, water heaters, and warehouses.	**Consistent.** The proposed Specific Plan includes Sustainable Design Guidelines related to solar facilities in new development. Therefore, the proposed Specific Plan is consistent with this action.
LUT-1	**Bicycle Programs and Supporting Facilities:** Construct and improve bicycle infrastructure to increase biking and bicyclist access to transit and transit stations/hubs. Increase bicycle parking and "end-of-trip" facilities offered through the unincorporated County.	**Consistent.** The proposed Specific Plan includes bicycle facilities that would connect major land uses and transportation within the Specific Plan area. Major areas include MLK, CDU, the high schools, the Willowbrook/Rosa Parks Station, and the high density residential and mixed use neighborhoods. Because the Specific Plan would provide bicycle facilities that connect the transit station to the major land uses within the Specific Plan area, the Specific Plan is consistent with this action.
LUT-2	**Pedestrian Network:** Construct and improve pedestrian infrastructure to increase walking and pedestrian access to transit and transit stations/hubs.	**Consistent.** The proposed Specific Plan includes the development of sidewalks to increase pedestrian access to the major land uses within the Specific Plan. As stated above for Action LUT-1, the major areas include MLK, CDU, the high schools, the Willowbrook/Rosa Parks Station, and the high density residential and mixed use neighborhoods. In addition, the proposed Specific Plan includes the retention of rights-of-way for pedestrian facilities and not for additional roadway improvements for automobiles. Because sidewalk improvements would be provided, the Specific Plan is consistent with this action.
LUT-3	**Transit Expansion:** Collaborate with the Los Angeles County Metropolitan Transportation Authority (Metro) on a transit program that prioritizes transit by creating bus priority lanes, improving transit facilities, reducing transit-passenger time, and providing bicycle parking near transit stations. Construct and improve bicycle, pedestrian and transit infrastructure to increase bicyclist and pedestrian access to transit and transit stations/hubs.	**Consistent.** As referenced in Action LUT-1, the proposed Specific Plan includes the provision of bicycle facilities that connect the transit station to the major land uses within the Specific Plan area. Therefore, the Specific Plan is consistent with this action.
LUT-4	**Travel Demand Management:** Encourage ride- and bike-sharing programs and employer sponsored vanpools and shuttles. Encourage market-based bike sharing programs that support bicycle use around and between transit stations/hubs. Implement marketing strategies to publicize these programs and reduce commute trips.	**Consistent.** The proposed Specific Plan includes a Transportation Demand Management Program that will be implemented for new all non-residential uses exceeding 50,000 square feet. Bicycle parking and stations as well as a bike sharing program are part of the Specific Plan. The implementation of these design strategies would facilitate transit use and reduce automobile dependence. Therefore, the Specific Plan is consistent with this action.

Policy Number	Actions Text	Statement of Consistency or Non-Consistency
LUT-6	**Land Use Design and Density:** Promotes sustainability in land use design including diversity of urban and suburban developments.	**Consistent.** Implementation of the proposed Specific Plan would accommodate a mix of residential, commercial, retail and public facilities that would provide a range of single-family to high density multi-family residential development and provide a mix of commercial, retail, and public facilities that would meet both regional needs (such as the medical, educational, and Metro uses) and local needs (such as retail and restaurants) for the residents, students, and employees within the Specific Plan area daily. The land use design within the proposed Specific Plan would promote sustainability and diversity and therefore, the Specific Plan is consistent with this action.
LUT-7	**Transportation Signal Synchronization Program:** Improve the network of traffic signals on the major streets throughout LA County.	**Consistent.** A traffic evaluation was conducted for the proposed Specific Plan. Signal timing/phasing changes were considered to be feasible at intersections within the County as well as adjacent jurisdictions as long as they would improve and not worsen intersection operations or potentially cause other problems and/or impacts elsewhere. As discussed in Section 3.12 of the Draft EIR, improvements within the existing rights-of-way were considered; however, if an additional roadway widening was needed, the widening was determined to be not feasible. The retention or implementation of non-vehicular improvements within rights-of-way were considered consistent with the Los Angeles County General Plan land use policies.
LUT-9	**Idling Reduction Goal:** Encourage idling limits of 3 minutes for heavy-duty construction equipment, as feasible within manufacturer's specifications	**Consistent.** Heavy-duty construction equipment associated with individual projects within the Specific Plan area will be required to limit idling to 3 minutes or less, as feasible within manufacturer's specifications.
LUT-12	**Electrify Construction and Landscaping Equipment:** Utilize electric equipment whenever feasible for construction projects. Reduce the use of gas-powered landscaping equipment.	**Consistent.** As discussed in Section 3.2, Air Quality, the provision of electrical outlets on the outside of buildings shall be provided to allow landscaping equipment to be electrically operated. This will provide an opportunity to reduce the use of gas-powered landscaping equipment, and the proposed Specific Plan will be consistent with this action.
WAW-1	**Per Capita Water Use Reduction Goal:** Meet the State established per capita water use reduction goal as identified by Senate Bill (SB) X7-7 for 2020. (The State goal is a 20 percent reduction in per capita water use compared to baseline levels.).	**Consistent.** The proposed Specific Plan includes the use of drought tolerant plant materials to reduce water use. In addition, for non-residential buildings of 25,000 square feet or more, indoor potable water use will be reduced by 12 percent to comply with the County of Los Angeles Code Title 31, Section 301.3.3. The implementation of these requirements will reduce the per capita water use within the Specific Plan area. Therefore, the Specific Plan is consistent with this action.
SW-1	**Waste Diversion Goal:** Adopt a waste diversion goal to comply with all state mandates to divert at least 75 percent of waste (construction and operation) from landfill disposal by 2020.	**Consistent.** The individual projects within the Specific Plan will be required to comply with the County Code Title 31, Section 4.408.1 that requires the recycling and/or salvage for reuse of a minimum of 65 percent of the non-hazardous construction and demolition debris. Compliance with the County Code would result in the Specific Plan's consistency with this action.
LC-1	**Develop Urban Forest:** Supports and expands urban forest programs.	**Consistent.** The Project would include landscaping and tree plantings consistent with the County's Green Building Ordinance. Landscaping will utilize drought-tolerant, native, and fire-resistant trees to support water conservation efforts where feasible. In accordance with the County's Tree Planting ordinance (Section 22.52.2130(C)(5)), the Project would plant a minimum of two 15-gallon trees for each lot containing a single-family residence (at least one of which shall be from the drought-tolerant plant list).
LC-2	**Create New Vegetated Open Space:** Restore and revegetate previously disturbed land and/or unused urban and suburban areas.	**Consistent.** Individual projects implemented in accordance with the proposed Specific Plan would be required to incorporate landscaping in accordance with County Code Sections 22.52.2120, 22.52.2130, and 21.32.195. These provisions require the installation of the trees with the implementation of projects. Compliance with the County Code would result in consistency with this action.

Policy Number	Actions Text	Statement of Consistency or Non-Consistency

As described above, the proposed Specific Plan would be consistent with the applicable action identified in the CCAP.

Response to Comment G-12

The commenter identifies that the proposed Specific Plan includes employment uses that would exceed the County of Los Angeles and Southern California Association of Governments (SCAG) growth forecasts. The commenter is correct and the data on the exceedance is provided on page 3.10-13 of the Draft EIR.

The EIR also states that a majority of the jobs anticipated within the Specific Plan are expected to be filled by persons outside of the Specific Plan area because a majority of these jobs would be skilled or managerial positions. Based on a review of the unemployment rate within the County of Los Angeles over the past 25 year, the average unemployment rate is 8.2%.

Based on the 2015 County of Los Angeles labor force of 5,011,700 people compared to a total County of Los Angeles population of 10,038,388, the labor force represents approximately 50 percent of the population. Based on the historic average unemployment rate of 8.2%, the number of unemployed persons in 2035 within the unincorporated portions of Los Angeles County would be 49,424 persons (50% of the 2035 total unincorporated population of 1,106,612 x 8.2/91.8). Therefore, it would be reasonable to assume that 5,632 unemployed persons within the unincorporated portions of Los Angeles County which represents approximately 11 percent of the unemployed would be available for the skilled or managerial positions within the Specific Plan area. It would not be reasonable that a substantial number of people would be required to relocate to the Willowbrook vicinity to work within the Specific Plan area.

Response to Comment G-13

The comment states that the EIR does not provide supporting evidence to demonstrate that SCAG will change their estimates after the WSP is implemented. As demonstrated in past SCAG projections, Counties and cities' population, housing and employment have been modified based on input from the counties and cities. According to SCAG's website related to Growth Forecasting located at: http://www.scag.ca.gov/DataAndTools/Pages/GrowthForecasting.aspx, SCAG develops, refines and maintains SCAG's regional and small area socio-economic forecasting/allocation models. Therefore, it is acknowledged that SCAG refines growth projections.

The commenter further states that relying on SCAG estimates represent uncertain mitigation. SCAG estimates do not represent mitigation. Page 3.10-15 of the Draft EIR states that the cumulative population, housing and employment projections provided by SCAG would not induce growth. This finding is based on SCAGs coordination with the County and cities to estimate growth. There is no evidence that additional growth would be induced based on

projections. The issue is whether the project will induce substantial population growth. As stated on page 3.10-15 of the Draft EIR, the project's incremental contribution to environmental impacts associated with projected population growth would be less than cumulatively considerable related to population inducement as discussed on pages 3.10-13 and 3.10-14 of the Draft EIR.

Response to Comment G-14

The commenter expressed concern that no mitigation measures were provided beyond the right-of-way improvements. The commenter stated that travel demand management strategies could further reduce traffic impacts. As stated on page 3.12-44 of the Draft EIR, the proposed Specific Plan includes several transportation demand management and trip reduction strategies. These include (1) encouraging use of transit, including subsidizing transit passes, (2) parking cash out programs, (3) encouraging ride-share, (4) providing preferential parking for carpools, (5) facilitating formation of carpools and vanpools, and (6) site and building design to facilitate use of transit, bicycling and walking. In addition, page 3.12-44 of the Draft EIR states that the traffic analysis acknowledged that although a TDM Program could reduce trips, the implementation of a program is not considered to be quantifiable. Therefore, the traffic analysis did not reduce trips based on the implementation of TDM measures.

Response to Comment G-15

The commenter states that 70 percent of construction and building materials and demolition debris are diverted from landfill disposal. The commenter is correct. Los Angeles County Code Chapter 20.87 requires a minimum of 70 percent of construction/building/demolition debris to be diverted from landfills. Therefore, after compliance with County Code 20.87, the project is projected to generate a total of 14,340 tons of construction and demolition waste that would be deposited at a landfill. Based on the assumption that construction and demolition debris waste would be generated, 50 percent of the 20-year buildout period, the Specific Plan could result in approximately 1,435 tons in one year or approximately 5 tons in one day.

Pages 3.13-33 and 3.13-34 of the Draft EIR and included on pages 3.13-33 and 3.13-34 of the Final EIR are revised as follows:

> Demolition and construction activities generate solid waste, including cardboard, wood, metals, glass, plastics, concrete, asphalt, and other building materials. The average estimate of overall demolition waste from residential is 50 pounds per square foot, and demolition waste from non-residential is estimated to be 158 pounds per square foot (USEPA, 2003). The average estimate of overall construction waste from new residential development is 4.39 pounds per square foot, and construction waste from non-residential is estimated to be 4.34 pounds per square foot (USEPA 2003). As shown in **Table 3.13-14**, it is estimated that demolition and construction would generate approximately 47,834 ~~35,622~~ tons of solid waste the 20-year buildout of the proposed Specific Plan prior to compliance with the Los Angeles County Code Chapter 20.87 which requires diversion of construction and demolition debris away from landfills. Prior to compliance with

Chapter 20.87 and based on an assumption that demolition and construction waste would be generated approximately 50 percent of the 20-year buildout period, the Specific Plan could result approximately 4,783 ~~3,562~~ tons in one year or approximately 15 ~~11~~ tons in one day (based on a 6 day per week landfill schedule). As shown below, after compliance with Chapter 20.87, approximately 14,350 tons of solid waste would be sent to landfills over the 20-year buildout period. Based on the generation of demolition and construction waste over approximately 50 percent of the 20-year buildout period, the Specific Plan could contribute approximately 1,435 tons of solid waste to landfills in one year or approximately 5 tons in one day (based on a 6 day per week landfill schedule).

TABLE 3.13-14
ESTIMATED CONSTRUCTION SOLID WASTE

	Construction Waste (lbs per sf)	Net Square Footage Demolished or Constructed	Total Solid Waste Generation over 20 Years
Demolition			
Residential	50[1]	152 du	11,400,000 lbs[2]
Non-Residential	158[1]	378,764 sf	59,844,712 lbs
Subtotal			71,244,712 lbs (35,622 tons)
Construction			
Residential	4.39[1]	1,952 du	12,853,420 lbs[2]
Non-Residential	4.34[1]	2,666,035 sf	11,570,591 lbs
Subtotal			24,424,511 lbs (12,212 tons)
Total Solid Waste (Prior to Compliance with Los Angeles County Code Chapter 20.87 – 70% Diversion)			**95,669,223 lbs or 47,834 tons**
Total Solid Waste (After Compliance with Los Angeles County Code Chapter 20.87 – 70% Diversion)			**28,700,766 lbs or 14,350 tons**

lbs – pounds
sf – square foot
du – dwelling unit

[1] SOURCE: USEPA, 2003
[2] Based on an average residential square footage of 1,500 for each dwelling unit.

As described previously, the landfills that can serve the Specific Plan area has an average remaining daily capacity of 4,399 tons (Sunshine Canyon Landfill), 233 tons (Antelope Valley Landfill, and 2,636 tons (Lancaster Landfill). These landfills are projected to remain open until at least the year 2037 (see Table 3.13-9 above). Based on the available capacity, these landfills would have the capacity to dispose of the approximately 5 ~~11~~ tons per day (after compliance with Chapter 20.87) over approximately 10 years of construction related solid waste that would occur from buildout of the proposed Specific Plan. Construction of the proposed Specific Plan would not result in the need to expand the existing landfill facilities or construct a new landfill facility. As a result, construction activities would result in less than significant impacts related to landfill facilities.

The sixth sentence in the second paragraph on page 3.13-35 of the Draft EIR and included on page 3.13-35 in the Final EIR is also revised to reflect the modified amount of demolition and construction waste that would be contributed to a landfill.

> Although the proposed project would contribute solid waste to the landfills, the addition of up to 5 ~~11~~ tons of demolition and construction solid waste per day and up to 5 tons of operational solid waste per day would not substantially impact the permitted capacity of the landfills.

Response to Comment G-16

The commenter states that the Draft EIR does not provide reasoning for selecting Alternative 4. The purpose of selecting Alternative 4, Construct All Physical Traffic Measures Set Forth in MLK Medical Center Campus EIR Alternative, is because these traffic measures are already approved and would be implemented with the MLK Medical Center Campus EIR if the Specific Plan is not approved.

The commenter also suggested additional alternatives that could be evaluated. The first suggested alternative would result in substantially less non-residential square footage (approximately 1,121 percent less) than the proposed project. This alternative would result in approximately 291,000 non-residential square feet which would not meet the basic objectives of the proposed project of providing a transit-oriented development.

The second suggested alternative includes a reduction of the proposed project so that the significant and unavoidable impacts are avoided. This alternative would also substantially reduce the amount of development that could occur within the Specific Plan area. As an example, projected regional operational emissions of oxides of nitrogen (NOx) are approximately 1,077 tons per day compared to the SCAQMD daily threshold of 55 tons per day. To reduce NOx emissions to less than 55 tons per day, a reduction of approximately 1,900 percent would need to occur. To reduce these emissions, a substantial amount of the proposed Specific Plan development would need to be reduced. Substantially reducing the amount of proposed development would not meet the basic objectives of the proposed project of providing a transit-oriented development.

The third suggested alternative includes a reduction of vehicle miles traveled (VMT) through a design of live/work units. The inclusion of live/work units could reduce VMT; however, the proposed project design is a transit-oriented development to encourage residents within the Specific Plan area to utilize the transit system, and therefore reduce VMT. As discussed in Section 3.12.4, Methodology, in Chapter 3.12, Transportation and Traffic, trip rates associated with the project were adjusted to be more representative of the existing and proposed land uses in the Specific Plan area and a transit-oriented district – where the proximity to transit allows some trips to be made by transit, where the proximity of the land uses allows for some trips to be made by walking rather than driving, and where some of the trips are between destinations within the Specific Plan area and thus do not leave the area. The proposed transit-oriented development would reduce VMT.

The fourth suggested alternative includes a reduced office square footage to relieve vehicle miles traveled related to employment travel. Alternative 3 in the Draft EIR includes a reduction of office square footage as part of the MLK Medical Center Campus project. The Tier 2 non-residential square footage under the MLK Medical Center Campus project that was included in the proposed Specific Plan included approximately 832,349 square feet. The non-residential uses included medical office, general office, and commercial/retail. Alternative 3 in the Draft EIR included a 50 percent reduction in these non-residential uses. Therefore, the inclusion of Alternative 3 in the Draft EIR provided the evaluation that is recommended in the comment which was to reduce office square footage.

Response to Comment G-17

The commenter suggested that the EIR is flawed and an amended EIR must be prepared for the proposed project and circulated for review. As discussed in the responses to the comments provided in this commenter's letter, there were some modifications required to the EIR. However, none of the modifications changed the significance conclusions presented in the Draft EIR or substantially altered the analysis presented for public review. Furthermore, the Draft EIR circulated for public review was fully adequate under CEQA such that meaningful public review was not precluded. Thus, the modifications provided in the responses to this commenter's letter as well as the entire Responses to Comments document do not constitute significant new information that might trigger recirculation.

LETTER H

12735 Castleford Lane
Cerritos Ca. 90703
June 13, 2017

Los Angeles County
Department of Regional Planning
Anita Gutierrez, A L C P
320 West Temple St. Rm 1356
Los Angeles. 90012

Dear Ms. Gutierrez:
On June I, 2017, I attended a community meeting at the Claude Hudson building in Willowbrook. This was only the second meeting I have attended because I have not been notified properly. However that is beside the point. My daughter is the owner of a property at 2131, 2135 and 2137 E. 119th Street. I manage these properties for her. It seems that the planning committee has made its decision for the community. This property on East 119th Street has been in my family since the forties. It is a ½ acre tract with three small houses on it. We plan to keep it in the family if possible. Looking at your map, I notice pictures of houses on E. 119th Street near Willowbrook. They are a few doors from my daughter's property. My questions are, are there any plans to develop anything on that street? Are there any plans to change any building codes to allow owners to develop their own property? If so, are there any grants to assist with these developments?

H - 1

Sincerely,
Emrie F. Green
Emrie F. Green,

Response to Letter H

Emrie F, Green, Resident

Response to Comment H-1

The commenter asked if there are any plans to develop anything on 119th Street, whether there are plans to change any building codes to allow an owner to develop their own property, and, if so, whether grants are available to assist with these developments.

The proposed Specific Plan does not propose new construction, assemble or acquire properties for development, or provide funding for projects. The Specific Plan provides land use and zone changes that would apply when new developments are proposed. These changes are largely focused on the areas adjacent to the Willowbrook/Rosa Parks Station, Kenneth Hahn Plaza and the Martin Luther King Jr. Medical Center. For properties east of Willowbrook Avenue, such as the property that was referred to in the comment, the proposed zoning is intended to reflect existing land uses and densities and to preserve the residential character of the area.

The proposed Specific Plan applies the Willowbrook Residential 1 Zone to the property that was referred to in the comment which is based on the existing R-1 Zone. The Specific Plan also includes standards and design guidelines that would apply to new single-family residences.

No specific comments on the contents of the Draft EIR were provided and therefore, no further response is required.

PUBLIC HEARING
WILLOWBROOK TOD SPECIFIC PLAN
LOS ANGELES COUNTY DEPARTMENT OF REGIONAL PLANNING

RE:
Project Number R2015-02007-(2).
Environmental Assessment Number RENV201500136.
Willowbrook Transit-Oriented District Specific Plan.
Willowbrook-Enterprise Zoned District.

TRANSCRIPT OF PROCEEDINGS
Los Angeles, California
Thursday, June 1, 2017

Reported by:
Sara Kamberian

PUBLIC HEARING
WILLOWBROOK TOD SPECIFIC PLAN
LOS ANGELES COUNTY DEPARTMENT OF REGIONAL PLANNING

RE:)
)
Project Number R2015-02007-(2).)
Environmental Assessment Number)
RENV201500136.)
Willowbrook Transit-Oriented District)
Specific Plan.)
Willowbrook-Enterprise Zoned)
District.)
_____)

TRANSCRIPT OF PROCEEDINGS,

taken at Martin Luther King, Jr. Medical Center, South Wilmington Avenue, Los Angeles, California 90059 , commencing at6:00 p.m. and concluding at 7:17 p.m. on Thursday, June 1, 2017, heard before Los Angeles County Department Of Regional Planning, reported by Sara Kamberian.

APPEARANCES:

FACILITATORS:	GINA NATOLI, HEARING EXAMINER
	ANITA GUTIERREZ, SUPERVISING REGIONAL PLANNER
	ROSIE O. RUIZ, COMMISSION SECRETARY
PRESENTER:	LEON FREEMAN, REGIONAL PLANNING ASSISTANT II
MEMBERS OF THE PUBLIC:	CARL MCLANEY
	DELORIS GLASS, PASTOR
	LATOYA GRIM
	MELINA CHAVARRIA
	DOROTHY GLOVER
	ISABEL CHARGOXA
ALSO PRESENT:	LLOYD ZOLA, METIS ENVIRONMENTAL GROUP CONSULTANT
	GILLIAN TIEDE, PUBLIC WORKS
	MICHAEL ANDERSON, ARCHITECT
	MICHAEL HOULIHAN, ESA CONSULTANT
	NED JACKSON, VIDEOGRAPHER
	ENRIQUE, INTERPRETER
	DOLORES HERRERA, INTERPRETER

Los Angeles, California, Thursday, June 1, 2017
6:00 p.m.
* * *

I - 1

MS. NATOLI: I please ask that you join me in saying the Pledge of Allegiance. And so please rise as you are able to join me in the Pledge. We have a -- a flag -- a copy of the Flag taped on the wall here.

I pledge allegiance to the flag of the United States of America and to the Republic for which it stands, one Nation under God, indivisible, with liberty and justice for all.

Thank you. Good evening. I am Regional Planning Staff Member, Gina Natoli. I will be the hearing examiner on all agenda items tonight. First, let me go through some administrative items.

Please turn off or silence any electronic communication devices that you may have. If you'd like to follow along with tonight's proceedings, agendas are available on the back table there, on the blue paper. It's possible that there were materials submitted after the release of documents for tonight's meeting. If there are any additional materials, please see Mr. Hoshower in the back of the room to look at those.

There are established time limits for testimony on Hearing Examiner Agenda Items. The applicant has 15 minutes. All others will be allowed 3 minutes each, and there will be no seating of time. Anyone wishing to speak today on any agenda items, that

includes the public comment period, must fill out a speaker card and submit it to Mr. Hoshower in the back of the room. I would also ask that the consultants make sure that they complete a speaker card in case we need to call you up to answer any questions.

Let me go through the general procedure for tonight's hearing. First, staff will make a brief presentation, and it's possible that the consultant may make a presentation; it's possible they may not, then all others will speak. And, if necessary, I may call the planner or the consultants up to answer any questions that are raised during testimony.

Per County Code, the hearing examiner makes no decisions. Hearing examiner administers the meeting, takes the testimony, and reports the testimony to the decision maker. In this instance, the decision maker will be the Regional Planning Commission. This is Step 1 in a two-step process for the project. The Project is the Willowbrook Transit-Oriented District Specific Plan. Part of that is an Environmental Impact Report, and tonight the hearing is to take testimony on that Draft Environmental Impact Report.

Per the Public Hearing Notice for this item, this public hearing, again, is to take testimony on the Draft Environmental Impact Report. You can make comments and testimony on the project itself, but that's better kept for the Regional Planning Commission Hearing, which will be scheduled at a future date.

I - 1
(Cont.)

That hearing will be noticed in accordance with Los Angeles County regulations. If you want to make sure that you receive a notice for the Regional Planning Commission Hearing on the Willowbrook TOD Specific Plan, please see Mr. Freeman after the meeting to make sure that you're on the notice list.

Also, per the Public Hearing Notice, testimony will be taken tonight until the last person speaks or until 8:00 p.m., whichever comes first. So if you intend to testify tonight on -- on any agenda items -- and, again, that includes the public comment period -- I ask that you stand at this time to be sworn in by staff. Even if you're not sure you may speak -- Consultants, this would also include you. You may speak, but you also may not speak. It -- it -- that's going to depend. So what -- what I might want to do is wait a minute or two, and if you think you may want to testify tonight, I ask that you stand to be sworn in by staff.

MS. GUTIERREZ: Please stand and raise your right hand. Do each of you swear or affirm, under penalty of perjury, that the testimony you may give in the matters now pending before this hearing examiner shall be the truth, the whole truth, and nothing but the truth?

MEMBERS OF THE PUBLIC: I do.

MS. GUTIERREZ: Thank you.

MS. NATOLI: Thank you very much. Please be seated.

We're moving on to Part II of the agenda, public hearing

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items, Item II, Project R2015-02007-(2), Environmental Assessment No. RENV201500136, the Willowbrook Transit-Oriented District Specific Plan.

Mr. Freeman, please proceed.

MR. FREEMAN: Thank you. Good evening, Madam Hearing Examiner and Ladies and Gentlemen, my name is Leon Freeman, and I work in the Communities Studies, West Section, at the Los Angeles County Department of Regional Planning.

I'm presenting before you today, Project No. R2015-2007, Permit No. RADVT201500004, the Willowbrook Transit-Oriented District Specific Plan. I'll start off with some brief -- excuse me -- introductions and discuss the purpose and scope of tonight's meeting. We'll talk about the TOD Specific Plan and then review the Draft Environmental Impact Report that was prepared before closing with our next steps.

From our project team, we have my supervisor, Anita Gutierrez, as well as Lloyd Zola and Michael Houlihan from ESA who will -- are available to help answer any questions that you may have. And I also want to mention other members of our project team that were important in this process, including a wide-ranging task force that convened at various stages throughout the project. It was organized of some 14 different counties and county family departments from various divisions representing Public Works, Public Health, the Department of Parks and Recreation, and many others and, finally, the residents of

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Willowbrook and including Dr. Deloris Glass, representing the concerned citizens of Willowbrook and others who provided invaluable local prospective and persevered with us through unexpected delays to see this project through.

So it's important, again, to mention why we're here tonight. A Draft Environmental Impact Report was prepared for the project pursuant to State Environmental Law, known as the California Environmental Quality Act, or CEQA, to analyze potential environmental impacts of this projects. This Draft EIR was circulated for the mandated 45-day review, beginning on May 12th, and the review period closes on June the 26th. The purpose of this Hearing Examiner Public Hearing, is to give residents and other stakeholders an opportunity in Willowbrook to provide formal testimony related to the Draft Environmental Impact Report.

So this is a map of the project area, which covers about 312 acres and is bounded on the north by Imperial Highway, on the east by Mona Boulevard, on the south by a 121st and 122nd Streets, and this other in-boundary of the Hospital campus and on the west by Compton Avenue.

The 105 Freeway and the Metro Green Line are shown across the top in green, and the Metro Blue Line runs diagonally through the project area and is indicated in blue. The two red dash lines indicate a quorum [sic] -- quarter mile and a half-mile radius from the Willowbrook Rosa Parks Metro Station.

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So the plan is divided into seven subareas based on the unique characteristics found within each. This map is attached to the last page of the presentation packet. For the those who'd like to follow along, we'll go through these. So we're going to start -- we'll take them out of order. We'll start with the Willowbrook Rosa Parks Station that's labeled "E" on the map, and the Metro Station subarea is of the primary assets in the plan area and will offer many new plan improvements and revitalized facilities that Metro is currently undertaking.

So the improvements going into the Metro Station are complemented by the impressive renovations and improvements at the MLK Medical Center campus, as you saw walking in, which are -- this is labeled "A" on the map. And the area also includes the recently opened Martin Luther King, Jr. Center for Public Health. Improving the connection between the station and the medical center is an opportunity to make walking and biking safer and make transit easier for people who work and access the Medical Center campus.

Labeled "B" on the map and directly north of the -- of the hospital is the Charles R. Drew University of Medicine and Science and the King/Drew Magnet High School of Medicine and Science. The TOD Specification Plan ensures that met- -- the Metro Station as well as the medical center and the university campuses will be able to realize the full potential of their respective Campus Master Plans while ensuring connectivity

between these areas.

So the bulk of the growth and increased capacity that's included in the Specific Plan is focused primarily in two areas. The first is the existing Kenneth Hahn plaza, which is labeled "D" on the map, and while this -- while a small portion of the northern end of the plaza will be dedicated to providing a direct connection into the Metro Station, the short-term strategy predicts limited facade and pedestrian improvements to benefit the current tenants and help attract new ones into the Plaza.

And then the longer-term vision for the Kenneth Hahn Plaza includes lower rise, vertical and horizontal Mixed-Use Development that would provide housing and close proximity to the shopping, public gathering spaces, and nearby transit.

Specifically envisioned along the 119th Street are live/work units that would -- could enliven the street with a business frontage facing an improved sidewalk environment and where the owners of the businesses would be able to live above or behind their establishments, for example.

So as indicated in the -- on the top right of the slide, the plan proposes to extend this Mixed-Use Zoning, apply it to Kenneth Hahn Plaza to this -- along the south side of 119th Street at the intersections of Willowbrook, which is the main access point across the railroad tracks, into the residential neighborhoods to the east and at Wilmington, which is a key pedestrian hub, linking the station and the hospital --

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effectively, what we've referred to as "bookending" the existing single-family residential zoning that exists in-between.

So then the second area where growth and capacity will be realized is called the "northwest subarea," and this is labeled "C" on the map. This area is directly north of the Charles R. Drew University campus. And currently in this area -- I'm sure we saw as we all came in the gateway at Willowbrook Project, which is an affordable senior-housing development that is also going to house Willowbrook's new public library, is under construction. And then beyond just the gateway at Willowbrook Project, the northwest subarea is envisioned to focus more in providing employment-generating uses, such as medical back office, laboratory services, and other health care-support industries, along with desirable and affordable housing opportunities.

So development in this area would be realized through lot consolidations of available parcels and the more efficient use of land. So the conceptual drawing at the top right of this slide is provided an -- an example to show that reconfiguring the existing elementary schools could make more space available. So while the majority of the capacity for new housing and growth is located in the northwest subarea and Kenneth Hahn Plaza subarea, nearly half of the plan contains existing housing stock or the existing neighborhoods. So the residential neighborhood subarea, which is labeled "G" on the map, includes areas of existing

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single-family homes, duplexes, and apartments. This Specific Plan focuses on residential standards and right-of-way improvements that preserve the character of these areas and does not propose to increase density in these areas.

So then labeled "F" on the map is the Imperial Highway corridor which is sandwiched in-between the freeway -- busy Imperial Highway, and this area is best suited for a less intensive commercial operations and service-type uses. The -- in fact, the housing authority of the County of LA owns a sizable parcel at the eastern end, and they are currently pursuing building, possibly, a work-source center that would serve the residents of Willowbrook and the Watts community to the north.

So then if we shift into the program Environmental Impact Report that was prepared -- so, as part of the CEQA process, it's required that reasonable alternatives that meet all or most of the project objectives be considered, and for the Willowbrook TOD Specific Plan, four alternatives were identified.

The first is the "No project option," which is required in analysis in CEQA. And this, of course, is not preferred since the proposed project pursues coordinated development in pursuit of general plan and TOD land-use policies.

The second alternative looks at carrying the Mixed Use Zoning along with both sides of 119th Street. This is, again, south of Kenneth Hahn Plaza. And if you'll recall previously, the project, as proposed, bookends the existing single-family

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residential parcels. And bookending was based on input that we received from the community, and that's why that's not a proposed alternative -- or preferred alternative for us.

The third alternative considers reduced development at the MLK Medical Center campus only, with all other aspects of the TOD Specific Plan unchanged, and the project, as proposed, provides -- we -- we believe provides full latitude and flexibility to the hospital to realize its vision of its own Campus Master Plan.

And then the fourth alternative considers construction of all physical traffic mitigations that were contemplated in the MLK Medical Center Campus EIR from 2011. And I'm going to talk a little bit more about this in the context of the "Traffic" section in the EIR and why we don't believe that that is the preferred alternative either and why we prosed the project that we proposed.

So based on input, including from the Scoping Meeting that was held in this room in October of 2015, these are the subject areas that are included and covered in the EIR, and the project would have "no impact" or a "less than significant impact" not requiring mitigation on aesthetics; geology and soils; hazards and hazardous materials; hydrology and water quality; land use and planning; population and housing; public services in utilities in infrastructure. As such, I'll be talking about Air Quality, Cultural Resources, Greenhouse Gas Emissions, Noise, and

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Transportation and Traffic and the impacts and the mitigations associated to these subject areas.

So in considering the impacts of the Project on Air Quality, the EIR looked at the consistency of the project with South Coast Air Quality Management Plan and the potential for dust during and after construction as well as an increase in criteria pollutants for which the Los Angeles region is a non-attainment area. Even with required mitigations identified to reduce these impacts, they will remain "significant and unavoidable."

The "Cultural Resources" section looks at the rang of historical resources that are or may likely be in the area. Significant structures, all of which are located on the Medical Center campus, qualify for -- that qualify for historical status could be lost with redevelopment of the hospital campus to meet modern needs, and this remains a possibility that is significant and unavoidable. However, the impacts of development due to the -- due to the project on archaeological, paleontological, unknown burials, and tribal cultural resources can be reduced to "less than significant" with mitigation.

With any new project, there is an increase in greenhouse gas emissions from constructions, and we can expect increased emissions from people coming and going to new housing and jobs and going about their daily lives. This will remain "significant and unavoidable". However, TOD development that takes advantage of close proximity to transit hubs is one of the ways that the

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County plans to accommodate new growth while reducing its overall greenhouse gas emissions. By encouraging active transportation strategies and making it easier for people to take transit, this project will be helping the County to further that goal.

The "Noise" section looks at the effects of construction and operational noise on sensitive receptors as well as vibration impacts during construction. With mitigation, these can be reduced to "less than significant" impact," and the project does not anticipate it to increase ambient noise levels.

So a proposal for housing and businesses that will increase traffic -- so to understand these impacts, we worked with the adjacent jurisdictions and Caltrans and studied 66 intersections, ten freeway segments, and ten freeway off-ramps that provide local and regional access. In total, of 37 separate mitigations were identified to reduce project-related traffic impact.

So, as noted earlier, this Specific Plan built on General Plan Policies to enhance transportational alternatives to the car by improving access to transit and improving circulations for bicycle and pedestrians. Previously this speci- -- and specifically, in the MLK Medical Center Campus Master Plan from 2011, roadway widening to add vehicle travelings was recommended as a traffic mitigation. This conflicts with current General Plan and TOD land-use policies because adding vehicle travelings discourages active and multi-mobile transportation. However, other traffic mitigations such as narrowing existing medians,

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restriping lanes to add turn lanes, adding a traffic signal or modifying signal phasing where no widening of the roadway was required are recommended --

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MS. NATOLI: Can you -- thank you. I'm -- I'm noticing that this is a very small room and conversations between individuals really seem to echo a lot. So I would ask, if you do want to have a conversation, either really whisper quietly or if I could ask you to go actually, completely out of the -- the lobby, into the area outside the building, that would be helpful.

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And, Enrique, you had a comment?

MALE INTERPRETER: Yes, this is the interpreter. I -- I would like to pace it down, please, a little bit.

MR. FREEMAN: Okay.

MALE INTERPRETER: Thank you.

MR. FREEMAN: Thank you.

MS. NATOLI: And we have Spanish translators here, and so Enrique has asked that Mr. Freeman speak a little more slowly, which I'm sure will not only help the translators to Español but also our court reporter who is making a -- a transcript of tonight's meetings. So thank you very much.

Please proceed, Mr. Freeman.

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MR. FREEMAN: Okay. So this map shows all the intersections that were studied with the project areas shaded in orange to give you a sense of the broader area that was considered. So the traffic study found that the project would have impact 32

intersections, either in the morning, in the evening, or both morning and evening. Sixteen of those 32 impacted intersections are in the County's jurisdiction, and, of those 16, impacts at 12 can be mitigated; for example, with restriping or adding a signal or modifying signal phasing to reduce the impact to "less than significant."

At the remaining four intersections, the impacts to traffic will remain "significant and unavoidable" because the streets are already maximized and widening and wider [sic] -- right-of-way acquisition are not feasible. So -- so these intersections are at Compton and 120th, Wilmington and Imperial, Wilmington and 120th, and Mona and Imperial. Those are the four intersections where the impact would remain "significant and unavoidable." The other 16 intersections are under the control of neighboring jurisdictions. While feasible mitigations were identified, that would reduce impacts to "less than significant" because implementing those mitigations is beyond the County's control because they are in other jurisdictions. They must still be considered "significant and unavoidable."

So this map, again, shows the project area highlighted in orange and the 10 Freeway off-ramp locations to give you a sense of the broader area that was studied. The increase in traffic trips on the freeway system, due to the project, would impact traffic flow at one freeway segment, which is 135th and Rosecrans. So increased traffic from the project would not cause

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storage capacities of freeway off-ramps to be exceeded, except at two locations where storage length are already exceeded today under current conditions. These are the 110 southbound exit at El Segundo, and the 105 eastbound exit at Central.

So following today's hearing and the close of the 45-day review period, we will collect all comments received and prepare a response to comments, and finalize the EIR. We currently anticipate presenting before the Board -- or before the Regional Planning Commission this summer and to the Board of Supervisors before the end of the year for adoption.

So this is the contact information for comments on the Draft EIR which are due before -- on or before June 26th. So I thank you, and this concludes my presentation.

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MS. NATOLI: Thank you, Mr. Freeman I -- I do have a couple of questions for you as I was going through the Draft EIR.

First, I -- I noted that the traffic analysis was based on LOS, Level of Service, rather than vehicle miles traveled -- is that because the County's Congestion Management Plan requires the use of level of service?

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MR. FREEMAN: Yes.

MS. NATOLI: All right.

MR. FREEMAN: Yes, it is.

MS. NATOLI: And -- and then the other one I noticed has to do with population and housing, and that discussion -- Chapter 3.10.

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On Table 3.10-1, it shows that the Willowbrook community has a higher population growth rate than the rest of the county. And Table 3.10-2 shows that Willowbrook has a higher average household size than the rest of the county, but the population growth and household size projections appear to be based on either the lower countywide number or SCAG figures, and I'm wondering if it's possible that some projections may be understated. And I'm -- I'm not excepting an answer tonight, but I did want to bring up the issue and ask that, perhaps, if the numbers work out to be the way that they're shown, that something be included in the -- the text to explain why the lower projections are used when we know that the average population growth rate and household size are larger to -- to start with and in the Willowbrook community.

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And do you have anything to add to my comments, Mr. Freeman?

MR. FREEMAN: No, I don't.

MS. NATOLI: All right. With that, then, I am going to open the public hearing for this item. And I know we had a lot more folks come in during Mr. Freeman's presentation. And if anyone has come in who has filled out a speaker card and is planning on speaking tonight and has not yet been sworn in, could I ask you to stand at this time to be sworn in by staff? I'm -- I'm not sure that there's anyone --

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MS. GUTIERREZ: I just got one speaker card.

MS. NATOLI: Sir, have -- have you signed up to speak but

have not been sworn in?
MEMBER OF THE PUBLIC: I'm in the process of signing up right now.
MS. NATOLI: We can -- we can take care of that later. If -- if I could have you sit down for just -- just a moment. We -- we'll take care of that, but -- but you have not been sworn, sir?
MEMBER OF THE PUBLIC: No.
MS. NATOLI: Okay. You're exactly right. If I could ask you to stand, please, to be sworn in. Thank you. Thank you. That's fine. That -- that's just fine.
And apparently, we may have a couple more people, so I'll tell you what --
Is there a Mr. McLaney?
MR. MCLANEY: Yes.
MS. NATOLI: Mr. McLaney, have you been sworn in? I think you've been sworn in, haven't you?
I think what we'll do is we'll start the testimony and when we finish with Mr. McLaney -- I see a few more folks are coming in. We'll go ahead and take care of swearing in everyone else at that time.
Let me go over a few details for the public hearing part of this and -- and taking testimony. I'm going to ask Ms. Gutierrez to read the names of people who've turned in the speaker cards. We have seats here in the front row that have a "Reserved" sign

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posted on them, and those are for our speakers.

What we'd like is the first two people who -- who's names are called, come on up and take a seat at the table. Everyone else can take a seat in the "Reserved" section. When you have finished your testimony, I ask that you, please, vacate the seat, go back to the audience, and then the next person in one of the reserved seats can come on up and take a seat at table.

There's a timer in front of you here. You'll see the green light come on when you're three minutes starts. When you have 30 seconds left, the yellow light will come on; and when your three minutes is finished, the red light will come on. So when you see that yellow light come on, I ask that you start to wrap it up.

Again, we have a court reporter here, and, while she seems very, very good, I would ask that you -- you know, people can get excited about these issues -- I ask that you just not speak too quickly so that both she and the translators can take care of the business.

And, also, I've been asked to make sure that when you're speaking, you don't speak directly into the microphone because we can get a lot of noise. Speak over the microphone. Take your time. You're speaking to me. I'm very anxious to hear what you have to say as I'm sure the -- the consultants and staff are.

So at this time, I'd like to ask Ms. Gutierrez to call the first speakers, and let's hear from you.

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MS. GUTIERREZ: We have Mr. Carl McLaney. And we have Mike Houlihan and Lloyd Zola only if called upon. I think, right now, we're okay.

MS. NATOLI: Come on forward, Mr. McLaney. Take a seat.

And it was Mr. Houlihan?

MS. GUTIERREZ: And those are the consultants.

MS. NATOLI: Oh, okay. If you could, just state your name for the record before you begin, sir.

MR. MCLANEY: Sure. My name is Carl McLaney. I work for Charles R. Drew University of Medicine and Science.

So do I just --

MS. GUTIERREZ: You just begin. Whenever you are ready, sir.

MR. MCLANEY: Well, you know, we -- we've looked at the plan, and, certainly, I think the plan is good for the community. However, I do want to just state for the record the University is seeking to grow significantly over the next few years. We've starting to grow our undergraduate. We have a strategic plan that takes us to 2000 students by 2020, and we except that -- that growth to continue.

So, you know, my only, you know, caveat or concern I would insert here is that we have, certainly, the room that -- that is necessary for us to grow. We're adding new undergrad programs and still focused on health professions and, particularly, students that graduate and serve in underserved communities which

has been our legacy for over 50 years.

So that's, basically, what I do want to just make clear here. And as -- as we look at this -- and we may have some follow-up conversations -- just, we want to make sure there's sufficient room and capacity for the University to grow and realize its plans as it adds students.

MS. NATOLI: I -- I have a question for you, then, Mr. McLaney.

MR. MCLANEY: Yes.

MS. NATOLI: Is one of the alternatives -- you preferred alternative for Charles Drew University?

MR. MCLANEY: I'm sorry?

MS. NATOLI: Is one of the alternatives presented in the Draft EIR the preferred alternative for the University?

MR. MCLANEY: Well, I'm not sure it's -- it's sufficiently covered as -- as written. And so that -- again, that's why we probably need to, maybe, have a little more input or conversation around how we would, you know, make sure that the room for growth is accommodated and sufficient.

MS. NATOLI: All right. Thank you. I would -- I would suggest that you take up those conversations as -- as soon as possible with Mr. Freeman.

MR. MCLANEY: Yes. All right.

MS. NATOLI: Thank you, Mr. McLaney.

MR. MCLANEY: Thank you so much.

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MS. NATOLI: You're very welcome.
We have no more speaker cards?
MEMBER OF THE PUBLIC: Yes, you do.
MS. GUTIERREZ: I don't have any yet in front of me.
MR. FREEMAN: They're bringing it up.
MS. GUTIERREZ: They're bringing it up? David is probably bringing them up.
MS. NATOLI: And -- and Enrique, have you let the Spanish-speaking attendees know that there is -- they can -- certainly, they're welcome to come up and speak?
MALE INTERPRETER: Yes, and I will repeat it again.
(speaking in foreign language.)
THE INTERPRETER: Thank you.
MS. NATOLI: You're welcome, Enrique. Thank you.
MS. GUTIERREZ: Two more speakers.
MS. NATOLI: All right. We have some more speak cards. Great. Please go ahead and read the next names.
MS. GUTIERREZ: We have Michael Anderson and Deloris Glass.
MS. NATOLI: Please take a seat, Mr. Anderson. Who'd ever like to begin, please, again, just state your name for the record before you begin, and, then, let's go.
PASTOR GLASS: Two things before I get into the comment that I'm actually here for. It regards to location, this is horrible -- very difficult for our seniors. I barely could walk up to get here. And --

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MS. NATOLI: Could I -- could I ask you -- I'm sorry. Could I ask you to state your name for the record?

PASTOR GLASS: My name is Deloris Glass.

MS. NATOLI: Thank you, ma'am.

PASTOR GLASS: And so, you know, it puts us at a disadvantage as it relates to that. So not only does it take us -- did it take us longer to get here -- to get in here, but, you know, knowing that -- that these meetings start on time, that means we miss the whole presentation -- of which, you know, I'm concerned about that. But I'm here, and I'm here in regards to alternative plan proposed along 119th Street.

For almost three years, as residence and stakeholders of Willowbrook, we have voiced our opposition against Mixed Use being used for those -- I think, it's 49 addresses that are on that street. We were promised that it would not be included as a consideration. Then we get the plans; we read the plans; we look at the section that says "Alternative 4-1," and in that section, there is an alternative consideration for future use of 119th Street that says "Mixed Use." Okay. So not only are we appalled at the fact that you would disregard what our desires are; what our voices have set forth for these, almost, three years -- and not just one meeting; we've been at the repeated meetings. We've been actively involved in the meetings. And so, therefore, for that to be put into the plan as an alternative, which means it could happen, is -- is saying to us that we are not being

regarded in any kind of a way. It was a -- a blatant disregard at what our wishes were. And so we have serious, serious concerns as it relates to that. We went and we gathered, in addition to our -- the letter, the support for this letter in opposition of that alternative use, and I think we ended up with 538 names.

We don't want to be overlooked. We do not want to be treated as if our desires are not important. Our desires are important. This is our community, and what we foresee for future, whether it's 20 years or 40 years, should have the ability the be able to be manifested without someone putting a -- a -- stacking the deck by putting some loophole that they can get around with the future. Thank you very much.

MS. NATOLI: I -- I do have a couple of questions for you, Ms. Glass. What is the -- what do you see is the problems with Mixed Use?

PASTOR GLASS: We've already gone through this for three years. We've talked about it. I know you weren't a part of that as examiner, but we've gone through that over and over and over and over again. There should be notes, plenty of notes, that have those reasons included in those notes because the staff have been very attentive in regards to taking those notes, making sure that they were being included as we move forward in the meetings -- and so carry it over -- carry it over. So at this particular point, I don't think that I should have to do that

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because we've been doing that for three years.
MS. NATOLI: All right. And then may I ask which would be your preferred alternative?
PASTOR GLASS: As far as 119th?
MS. NATOLI: No, ma'am, from the Draft EIR that has the four --
PASTOR GLASS: Those --
MS. NATOLI: -- alternatives.
PASTOR GLASS: -- alternatives that relate to the hospital -- those alternatives that -- that were being considered in regards to Charles Drew University -- those alternatives are fine --
MS. NATOLI: All right. So --
PASTOR GLASS: -- but not the Mixed Use for 119th Street, and those -- I think, it's 49 addresses that would be affected.
MS. NATOLI: Okay. So Alternative 3, which was the down -- downsizing the Martin Luther King Tier 2 Development and Alternative 4 to construct all physical traffic measures. Those would be -- either of those would be fine with -- with your community. All right. Thank you very much.
PASTOR GLASS: You're welcome.
MS. NATOLI: I appreciate it.
Mr. Anderson, please proceed.
MR. ANDERSON: Am I supposed to be sworn in? Not yet? No? Yes? No?

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MS. NATOLI: Yes. Let's -- let's -- all right.
Let's go ahead and do that.
MS. GLASS: They didn't swear me in.
MS. NATOLI: Let's do it now.
MS. GLASS: So they don't think I tell the truth and nothing but the truth?
MR. ANDERSON: No, they know you tell the truth.
MS. GUTIERREZ: Okay. So --
MR. ANDERSON: I belive you.
MS. GUTIERREZ: -- if you are going to testify, have testified and have not been sworn in, please stand and raise your right hand.
MR. ANDERSON: Oh, I gotta stand?
MS. GUTIERREZ: Yes. So, also, if there's the -- Melina? If -- yes. Very good. And Pastor Glass, thank you. And anybody else, if you plan on testifying -- Okay.
Do you swear or affirm under penalty or perjury -- of perjury that the testimony you may give in the matter now pending before this hearing examiner shall be the truth, the whole truth, and nothing but the truth?
MEMBERS OF THE PUBLIC: Yes.
MR. ANDERSON: Nothing but the truth.
MS. NATOLI: Thank you very much.
MR. ANDERSON: Okay.
MS. NATOLI: Please proceed, sir.

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PASTOR GLASS: And those that came with us tonight, can you stand and let them know? Thank you.

MS. NATOLI: Great. Thank you very much. That's very helpful. Thank you.

Go ahead, sir.

MR. ANDERSON: Hi. My name is Michael Anderson. I'm an architect. And I hope I don't make Deloris mad, but anyway --

one thing, I want to give some background. My Godfather was the architect of Martin Luther King Hospital in 1972, and '74, it was Jenkins Fleming, which is why I became an architect. And I've also done a lot of mixed-use studies of trying to redevelop the community. So I must say, I'm sort of in favor of the -- do I have to admit which alternative?

MS. NATOLI: No, you don't need the number. You just --

MR. ANDERSON: Okay. So -- but, overall, I'm in support of the plan -- I mean in favor of the plan that we have going forward from the standpoint of improving the quality of life within this community and causing an economic growth that's necessary to make this an affluent middle-income community where you have good eyes on the street; you have beautiful streets to walk down, and the EIR, from what I can see, includes those elements. The concern that I have is that Charles Drew University is going through a growth plan and has a master plan of which they are -- are -- they're my client. And I see a need for the Compton Unified School Site as expansion space for the

University. I also see that the University and Martin Luther King Hospital can work cohesively, like a lot of universities work together with students and medical facilities, to grow their academic courses as well as to allow the students to have actual practices in a medical field and in a hospital.

So my concern is that the area for Compton Unified School District that they own, if that parcel would accommodate any EIR for Drew's expansion. Typically, the way that happens through zoning and land use is, however it's zoned -- if it's C2 -- whatever classification under the C Zone -- will allow for housing as well as potential educational uses. Schools can go into residential communities. But in this case, it's a university, and I just want their interests to be accommodated as they study their plans to grow. So that should become necessary for Drew University to expand further north. They don't have to go through a re-entitlement process and then go through the expense of an EIR.

We did this in the Los Angeles World Airports, the Master Plan, as well as the Inglewood Master Plan for the stadium. That was originally a large housing project, but the EIR was done in a way to accommodate transformation to which now is a football stadium. So I hope that gets addressed. It can be accommodated is my request.

But all in all, I will be glad to see the process of transforming this communities into a better place for people.

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(Cont.)

Thank you.

MS. NATOLI: Thank you, Mr. Anderson.

MR. ANDERSON: Okay.

MS. NATOLI: We have some more speaker cards?

MS. GUTIERREZ: Yes, there are two more speakers, Melina Chavarria and Latoya Grim.

MS. NATOLI: You can both come on forward. Take a seat at the table.

Okay. You have -- she hasn't been sworn in.

MS. GUTIERREZ: Oh, I'm active this evening.

MS. NATOLI: Thank you for bringing that up ahead of time.

MS. GUTIERREZ: Please raise your right hand. Do you swear or affirm under penalty of perjury that the testimony you may give in the matter now pending before this hearing examiner shall be the truth, the whole truth, and nothing but the truth?

MS. GRIM: Yes.

MS. NATOLI: Thank you. Please be seated. Come on forward. And whoever wants to start first, just state your name for the record.

MS. GRIM: Okay. My name is Latoya Grim. I've been a resident of this community, Willowbrook community, for 36 years. So I have -- along with Glass -- I have been with these meetings. Throughout every meeting, we attend, and we voted against the Mixed Use. So with us being the one's that have to live in the community, I'm wondering how do you guys overlook that part with

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the community when our voices is spoke, speaking out -- we're speaking out? And then how do you overlook the people that actually live in here and have to go and look at this day to day?

You all don't -- they don't live here. We live here. So, then, we voted against Mixed Use because it wasn't a good look for us. That wasn't acceptable. We can have clean air and clean energy as far as revamping what we have already. We can re-change those things when it comes to that, but then as far as going to certain Mixed Use Living, as far as with the stores and people living on top of that. That was something that no -- none -- no one in this community wanted.

So then that was my thing. I was sitting here trying to figure out, do you guys just overlook what the actually people that have to live here day to day feel?

MS. NATOLI: I -- I'm going to ask Mr. Freeman to address that after the testimony.

MS. GRIM: Okay. That's fine.

MS. NATOLI: I think you deserve an -- an explanation.

MS. GRIM: That was basically -- I just wanted to -- because I was going to sit there and sit on that, pondering, wondering "How do they do that?" Because in those -- at the end of those meetings, they strongly know "Okay. That this is not what the community wants." We -- we're here. We listened. So I thought that that was the purpose for us going out to those meetings and voicing our opinion.

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MS. NATOLI: All right. Thank you very much.

MS. CHAVARRIA: Hi. My name is Melina Chavarria, and I'm a resident here in Willowbrook. I'm a newer resident, so I have not been part of the pervious meeting, but I do have more questions about the Mixed Use as well. Because I think that my main concern and probably everyone else's is we want to make sure it's still affordable to live here. You know, it is great to have nice looking streets. We want all that, but we want it to be something that we're a part of and that we're making sure we're not driving out the local community to bring in, you know, people that are a little bit more well off.

So if we did the Mixed Use, like, do we already have proposed tenants for those areas? Are we going to give the local community opportunity to come in and own some of that space, you know, where they're able to run their own businesses? You know, how are we creating employment opportunities through all of this redevelopment? How -- how is monitoring how much percentage of the local community is actually being allowed employment opportunities in this area, you know, with the construction jobs and even just the businesses that are opening? We just want to make sure that we're uplifting the economy in this area -- it's not just people coming in and just taking it over. So I know, for me, that's a big concern.

Yeah, so just how does this whole development really impact our housing and rental prices? And those are just some of the

biggest questions that we have.

MS. NATOLI: Thank you very much.

Do we have any other speaker cards?

MS. GUTIERREZ: No, we don't.

MS. NATOLI: All right. You're welcome to take -- take your seats back in the audience again.

I am going to ask either Mr. Freeman or Ms. Gutierrez to discuss the environmental-review process with regards to those alternatives, and why Alternative 2, the "119th Street Modified Land Use," is -- is in there.

MR. FREEMAN: Sure. Okay. So the Alternative 2 is not the preferred alternative. The project that we've proposed, the -- what's included in the TOD Specific Plan, which, again, we referred to as "bookending" which is carrying the Mixed Use down to the corner of Willowbrook and down to the corner of Wilmington and bookending the existing residences in-between -- that is the project that's proposed.

So the Alternative 2, is included in the EIR because it was seen as an opportunity with the performing of an Environmental Impact Report to look at that, which is a relatively modest increase of some 40 units in about 40,000 square feet of nonresidential use that would occur if that Mixed Use were carried along. That's why it's there.

MS. NATOLI: So which alternative is -- or has -- has staff decided which alternative to recommend to the Regional Planning

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Commission for approval?

MS. GUTIERREZ: None of the four alternatives are being recommended. All of those are alternatives to the proposed project. We are recommending the proposed project as presented in the plan.

MS. NATOLI: All right. So this -- this plan is what you are proposing?

MR. FREEMAN: That's correct. And we're required to study alternatives to the project. We're required to provide alternatives, but the plan as prepared is what we are proposing.

MS. NATOLI: And so what -- under what circumstances, if any, could Alternative 2 be chosen.

MS. GUTIERREZ: If the legislative body, either the Planning Commission or the Board of Supervisors, at the time that this project goes to hearing. When we go to present it, we will be presenting the project as proposed. When they consider the environmental document, if at that time they consider a -- Alternative 2, at that time, they could direct staff to go back and prepare the plan in accordance with Alternative 2 at that time. That is not likely to happen, but that is an alternative in the plan.

MS. NATOLI: All right. So the alt- -- the plan that's proposed is the first choice. The Environmentally Superior Alternative is Alternative 3, which is not the Mixed Use Alternative; that's correct -- is that correct?

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So you have -- you have the proposed plan. The environmentally Superior Alternative is not the Mixed Use Alternative; correct? It's --

MS. GUTIERREZ: Madam Hearing Officer, at this time it might be helpful if we asked our environmental consultant to help us ex -- just explain a little bit how the alternatives work, if that would be appropriate?

MS. NATOLI: Okay. And who would like to come up?

MS. GUTIERREZ: And that would be Mr. Mike Houlihan or Lloyd Zola.

MR. ZOLA: I'll come up here and then if I get it wrong --

MS. GUTIERREZ: Thank you.

MS. NATOLI: Thank you, Mr. Zola. So let's have a little bit of a discussion. If you could address those questions about these alternative and -- and how they --

MR. ZOLA: Sure.

MS. NATOLI: -- can fit into the Planning Commission moving forward.

MR. ZOLA: Yeah, the -- the project as -- as is mentioned --

MS. NATOLI: I -- I know I said your name, Mr. Zola, but I need for you to say it for the record.

MR. ZOLA: Okay. Lloyd Zola.

MS. NATOLI: Thank you, Mr. Zola.

MR. ZOLA: Okay. The project as is recommended is the Transit-Oriented Development Specific Plan which does not include

the development of Mixed Use on 119th Street. That is not in the plan today. That is not what's being recommended by the County staff. The California Environmental Quality Act requires not only to analyze the project, in this case the Specific Plan, but also alternatives to that Specific Plan which might reduce some of the impacts of the plan itself. And so you, then, have a series of -- of alternatives -- and let me go to that chapter -- and so a series of alternatives looking at various changes to the plan or how might plan be changed to reduce some of its impacts.

So -- and then, also, as required by State Law -- the first one, Alternative 1 -- and these, when I say "Alternatives," are alternatives to the proposed project. These are not the proposed projects.

So the first alternative, pursuant to State Law, is "if the plan is never adopted, what happens?" Which is, it builds out based on current zoning.

The second I -- alternative, and this is an alternative to the proposed project, would be "modified land uses along 119th Street." And what that analyzes is what would happen if the plan would increase the amount of Mixed Use development? Would that effectively reduce impacts? So that's simply an analysis of what would happen if that would occur, but that is not being proposed.

The third alternative looks at reducing the amount of development that would occur within this medical center. Because in the Environmental Impact Report, the expansion of medical

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center -- the Tier 2 development -- everything beyond the hospital, a lot of stuff you see getting built right now than what would be built in the future is the primary driver of "Traffic, Air Quality, Greenhouse Gases," and other impacts. So the Environmental Impact Report looked at "What would happen if we took the plan and reduced the amount of development that would occur within the MLK Center?" That wasn't being recommended because this is such a major economic driver for the community. It's not worth reducing those impacts because of the loss of economic development.

The last alternative has to do with the traffic measures that are in the Environmental Impact Report that was done a couple of years ago for the Martin Luther King Center. At that time, several years ago, the County went through an Environmental Impact Report just for the expansion of this facility, this campus, and because of the way traffic studies were done. It -- that EIR, Environment Impact Report, proposed adding lanes, adding intersections -- expanding intersections, and doing a lot of traffic improvements that would do things such as take out bikeways, narrowing sidewalks. As you start widening some rights of way, some buildings would have to be taken out. And so the finding of this Environmental Impact Report and looking at that alternative is the traffic improvements that were originally proposed in the Martin Luther King EIR and have their own impacts. And so they are not being recommended as part of the

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plan today. So that's the -- the various alternatives that -- that are in front.

And you had asked a question regarding the environmentally superior alternative. Now, under the --

MS. NATOLI: Mr. -- Mr. Zola, if I could interrupt. I don't think we don't need to get into --

MR. ZOLA: Perfect.

MS. NATOLI: -- too much detail on that. I -- I -- I think the primary question really is "If the consultants have known for several years, at least three, that the increase in Mixed Use Proposal was -- was not something that the community was in support of, why is it one of the alternatives?"

MR. ZOLA: Okay. Because under the California Environmental Quality Act, we look at what -- what are the things that might reduce impacts. CEQA, California Environmental Quality Act, does not look at community desire. That is part of the planning process that will occur in front of the Planning Commission and Board of Supervisors --

MS. NATOLI: I'm -- I'm going to interrupt you. I'm going to interrupt you. I -- I just want to say, I -- I understand that, but was there some other alternative that -- that might have reduced impacts that could have been considered? And -- either one of you, either Ms. Gutierrez or Mr. Zola, can address that.

MS. GUTIERREZ: Yeah. Thank you, Madam Hearing Officer. I

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(Cont.)

think I can answer that question. And the question, basically, is "Why was that alternative even included to begin with?" And I think the County, as a whole -- there was interest in looking at an alternative to see what is the biggest and -- biggest use of that property and what -- how much more density can it get to see what that could be and see what the impacts would be. So there was an interest in seeing -- exploring that option. But the team here, Leon and myself, that have worked on the plan have definitely heard the community, and that's why the proposal that is before you in the actual plan is what it is. And that's the scenario that we've worked out with you in our -- in our communities the last two years?

MS. NATOLI: All right. Thank you --

MS. GUTIERREZ: But it is -- I'm sorry. It is, I think, very important to hear -- to reiterate your concerns about that alternative. So when going forward when we present this that is clear to all.

MS. NATOLI: All right. Thank you, Mr. Zola. And -- and what I would suggest to the community is -- and -- and I have worked on Environmental Impact Reports in the past and the alternatives can range from virtually nothing to "Oh, my gosh. What were they thinking just to see what would happen?" And the chances of those alternatives being selected are -- are usually slim to none, but what you can do is make sure, when this goes to the Regional Planning Commission, that you make sure they know

you -- you don't need to go into detail about Alternative 2. You just say "We like the plan the way that it is. We want a little tweak here." You want to make sure that Charles Drew University and its expansion plans are -- are incorporated into this, but you want to see this, and you don't want to see any of the alternatives." And -- and that's what I think the Regional Planning Commission needs to hear.

So do we have any other speakers signed up to speak on this items?

MS. GUTIERREZ: No, we do not.

MS. NATOLI: All right. Typically, at this point, I would close the public hearing on the item because, again, this -- this meeting is to take your comments and take testimony on the Draft EIR.

So Mr. -- Mr. Freeman or Ms. Gutierrez, do you have anything to add to the comments in the testimony that have been given so far?

MS. GUTIERREZ: I do not. Just that I think there's still some con -- confused faces that I'm seeing, so we're definitely -- as this is over, we're definitely available to discuss and elaborate a little bit more to, maybe, clarify things that are beyond the scope of this hearing. So we'll definitely be here to help discuss.

MS. NATOLI: Thank you. I appreciate that. What I would suggest -- what I would suggest is, unless you have a speaker

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card filled out --
Do -- do you have a speaker card filled out?
MEMBER OF THE PUBLIC: No. No.
MS. NATOLI: Ma'am, would you like to?
MEMBER OF THE PUBLIC: No, I just want to ask a question.
MS. NATOLI: Okay. What I would suggest is let's go to the -- the public comment period --
MEMBER OF THE PUBLIC: Okay.
MS. NATOLI: -- and you can -- I'm your, hopefully, provider of answers to everything during the public comment period and -- and we'll move on to that.
So at this point, I'm going close the public hearing for Item II, but I do want to go over some -- some details on that -- next steps, basically, for the -- the Draft EIR, for the Willowbrook TOD Specific Plan.
So, again, that -- your -- that -- your testimony has been taken. This is considered the Draft Environmental Impact Report. And at this point, the consultants and staff will take all of the testimony and the concerns that have been given tonight and everything -- all the comments that have been provided since the comment period for the EIR opened in May. You have until June 26th to submit any other comments on the Draft EIR. If something comes to mind tomorrow or next week, it's -- that's about three-and-a-half weeks from now, the 26th. You -- you write that up, you get that to Mr. Freeman or Mr. Gutierrez, and

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then those comments that come from the individuals are addressed in written form. And then that entire document with -- with your comments and our responses to comments are provided to the Regional Planning Commission. So when the project, which, again, is the Specific Plan, goes before the Regional Planning Commission, not only do they have the plan in front of them to evaluate, but they have that Environmental Impact Report and the -- the public comments that you have given and the responses so they can better, at that hearing, understand the issues and address the issues and put forth any questions that they have.

So, that Regional Planning Commission Hearing, again, whenever that's going to be scheduled, I think they said late -- late summer that it's going to be scheduled. If you're -- you're not on the notice list, let the planning staff know so you can get on the notification list and come to the Regional Planning Commission Hearing and make your voices known about the -- the Plan itself.

As I mentioned, there is a court reporter who's been taking notes on this, and the transcript of tonight's meeting will be up on our website within about 12 business days. It takes about that long for it to get in the pretty format and -- and send it over to us. There may be times when the court reporter has to go back and listen to the audio to make sure that she has things down correctly.

So in about 12 business days, that will -- the transcript

will be up on the website. So you'll have that in plenty of time before the Regional Planning Commission Hearing if you'd like to.

That finishes Item 2, which is the -- the TOD Specific Plan. I am moving onto Item III which is the public comment period. And this is an opportunity for anyone who has a question or a comment on anything that is within my purview that is not related to Item 2, not related to this Specific Plan -- anything dealing with county business, even if you have a question about some street somewhere.

I've had all kinds of questions and comments during public comment period. So, if -- if anyone has a -- a comment to make, now is the time. You would need to fill out --

Oh, thank you, Mr. Anderson.

All right. Seeing none, I'm moving on to --

Yes, Pastor Glass? If -- if I could ask that you just come up to the microphone just to make sure that everybody can hear that on the -- on the audio after tonight.

PASTOR GLASS: A question and a comment. The -- the question is in regards to the Marquee Sign that have been proposed for Wilmington and 119th -- the status of that? Also, the status of the, I guess, new trees because they took all of our old trees out. The new trees that are going to be placed in the areas where the old trees were taken out along on 120th and 119th -- the status of that.

A comment -- and this is in regards to staff, in particular,

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Mrs. Gutierrez, Mr. Freeman, Connie, and others who have been diligent in coming and connecting on a regular basis. So we're not talking just when the community meetings that they come out and they keep us updated and that they continue to reach out to community. And I think that that is something that certainly needs to be noted for record because most of the time, that's not the case; that's not the behavior. And they have gone over and above. They're responsibilities from a "work-description standpoint" to make this community not only feel comfortable with the process, but also in helping us to understand the language that these reports are written in. For many of us, those -- that language was a new vocabulary, and so they have helped us in so many ways that we're able to read those reports. We're able to decipher the information that we need and then know whether or not that we should be in support or not in support of the -- the various plans that are being proposed.

And so I just want to publically thank them so very, very much for their efforts. And, Connie, who is not here -- if you could let her know we thank her so very, very much. But they have certainly been a blessing, and I just wanted to go on the record to say that.

MS. NATOLI: How very nice. Thank you very much. It's -- it's not often that planners get -- get praised like that. So thank you very much. I appreciate it. Is there anyone else who had any comments for the public comment period?

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All right. With that, then, this Hearing Examiner Meeting is adjourned. Thank you.
(Public hearing adjourned at 7:07 p.m.)
MS. RUIZ: We had one more.
MS. NATOLI: Oh, well, she said, "No." I'm sorry, who?
MS. RUIZ: She wants to come up.
MEMBER OF THE PUBLIC: I said -- I had asked before.
MS. NATOLI: Come on up.
This Hearing-Examiner Meeting is reopened.
(Public hearing reopened at 7:07 p.m.)
MEMBER OF THE PUBLIC: I don't need the mike.
MS. NATOLI: But -- but -- but -- I -- I know, ma'am, you may not, but our recording and -- and the court reporter do, so If -- if I can --
MEMBER OF THE PUBLIC: You can hear me.
MS. NATOLI: I'm sure I can. If I could, please, just have you state your name for the record.
MS. GLOVER: Dorothy Glover.
MS. NATOLI: Thank you, ma'am.
THE WITNESS: Okay. If you had a meeting here of this and we been coming here for two or three years working on this, why is some of the people that was here with us and they wrote charts and stuff of what we wanted -- half of this -- I -- I don't even know where it is. Why wasn't some of them here because most of you, I -- I never even seen any of you in our meetings.

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(Cont.)

MS. NATOLI: We're here to run the meeting.
MS. GLOVER: Uh-huh.
MS. NATOLI: And the folks who put together charts and graphs, they were part of the consulting team who've now been condensed down to the two primary planners who are working on the project and the two primary consultant representatives who, theoretically, know everything and can answer every question, so that's why you don't see everyone. Because, first, it's expensive; and, second, these folks --
MS. GLOVER: Well, you all could have stayed at home. We need the ones that takes us and talk to us like Pastor Glass say. They talk to us. Not up here; down here. And -- and we -- we had good meetings, and -- and to come here for three years and then see this? And then -- no.
MS. NATOLI: All right. Thank you very much.
All right. I think public comment is finished.
MS. RUIZ: One more. She has one more.
MS. NATOLI: One more? Please come on up and --
MS. RUIZ: And Enrique has to translate.
MS. NATOLI: Yes, of course, he does. And what'll happen is we're going to need -- come on up.
MEMBER OF THE PUBLIC: (Speaking in Spanish.)
MS. NATOLI: And I don't -- I'm not -- I don't remember how to say "that's fine" in Spanish. However, Dolores, you go ahead and -- go ahead and say a word or two, and then Dolores will --

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(Speaking in Spanish.)
MEMBER OF THE PUBLIC: (Speaking in a Spanish.)
MS. NATOLI: Dolores will translate. You go ahead and speak maybe one sentence. And then Dolores will translate to English, and then she'll translate what I say into Spanish.
So, please, if I could just have you say your name for the record.
MS. CHARGOXA: My name is Isabel Chargoxa. I only wanted to know what's going to happen with the bus stops because right now there is a lot of problems with the busses. They removed the stop by the park and between Willowbrook --
MS. NATOLI: (Speaking in Spanish.)
It's very -- it's --
(speaking in Spanish.)
It's very -- it's very important. We cannot speak over each other because of -- because of the court reporter.
(Speaking in Spanish.)
MS. CHARGOXA: There is no bus stops from Willowbrook -- Willowbrook on the campus -- to the campus -- where the school -- that's the place where we have to go to take the bus.
MS. NATOLI: Metro bus? Metro -- or 'Link?
MS. CHARGOXA: (In English) No. Metrolink, no.
MS. NATOLI: No, no, no. Not -- no, not Metrolink, the shuttle? The link shuttle or Metro Bus?
MS. CHARGOXA: (In English) no, bus. (Through the

interpreter) regular bus.

MS. NATOLI: Okay. We have no control over Metro. However, two of our Board of Supervisors Members also sit on the Metro Board. So I believe here you are in 2nd District; is that correct? And -- and the supervisor for the 2nd District is Supervisor Ridley-Thomas. So you need to complain to Supervisor Ridley-Thomas that Metro is not providing you the service you need, and I'm sure staff can --

(speaking in Spanish.)

I know the phone number for Supervisor Ridley-Thomas.

(speaking in Spanish.)

Okay. Same thing. Same thing. Just call them and complain.

MS. CHARGOXA: (In English) Thank you.

MS. NATOLI: (Speaking in Spanish.)

If -- if -- really if you -- if you have a -- have a comment, I -- I -- I know it may not be -- I just need for you --

MS. TIEDE: I was hoping I could respond to her concern. There's the construction project on the street.

MS. NATOLI: Yeah, it's just because of the recording and the court reporter, I -- I just need for you to speak into the microphone. I appreciate it.

MS. TIEDE: Sorry. I hope that I can help to clarify because I work for Public Works. I know a little bit about what's going on.

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MS. NATOLI: Can I have you state your name for the record.
MS. TIEDE: Gillian Tiede.
MS. NATOLI: Thank you, Ms. Tiede.
MS. TIEDE: I just wanted to address her concern. I know some of the bus stops right now are impacted by the construction all along the street, Specifically, along 120th and along Wilmington. And so, during the construction which is scheduled to be complete in October of 2017, the bus stops will be reinstated. So that's her concern is right now, there isn't access at any of those bus stop locations -- those previous bus stop locations.
MS. NATOLI: Thank you, Ms. Tiede. Enrique or Dolores, you just translated that into Spanish; correct?
THE INTERPRETER: Correct.
MS. NATOLI: And -- so Ms. Chargoxa should have heard -- heard that in Spanish?
MS. RUIZ: No, she doesn't have it on.
MS. NATOLI: No. Could -- could I ask -- I appreciate if -- if you could see Ms. Chargoxa -- Chargoxa after the meeting and explain what Ms. Tiede just said? That because of construction, it may be, actually, not happening at all and may start again in another 5 months. Yeah, another 5 months.
MS. TIEDE: End of October is when it's schedule to be completed --
MS. NATOLI: This is --

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(Cont.)

MS. TIEDE: -- and the bus will stop there again.
MS. NATOLI: Yeah.
MS. TIEDE: Uh-huh.
MS. NATOLI: Thank --
MS. TIEDE: I know.
MS. NATOLI -- thank you.
Yes, Pastor Glass? And, again --
PASTOR GLASS: Since we have the Public Works personnel, we did have a question about --
MS. NATOLI: Let's -- let's -- well, she -- she's not here to -- to be Public Works. However --
PASTOR GLASS: Okay. Sorry about that.
MS. NATOLI: However, if Ms. Tiede would like to answer the question, I'm sure, after the meeting, she'd be more than happy to take notes back to Director Cutie Pie -- don't tell him I -- don't tell him I called him that. Mark -- Director Pestrella.
MS. TIEDE: I actually am not involved in that project.
MS. NATOLI: Okay.
MS TIEDE: So I only know this much --
MS. NATOLI: All right.
MS. TIEDE: -- this much --
MS. NATOLI: All right.
MS. TIEDE: -- about the project.
MS. NATOLI: Okay.
MS. TIEDE: I'm involved on campus, so I don't know.

MS. NATOLI: Perfect. All right. Thank you very much.

Okay. This has been a lot of fun, and I really appreciate everyone coming out tonight. It's been a pleasure. Hopefully, next time there's a meeting here, it'll be in a -- in a more convenient and conducive location. I can tell you just getting setup for the meeting tonight was much more of a chore for our staff than it should have been. So I appreciated your diligence in coming and your interest in the community. It is -- it is so important.

So with that, I'll try, again, to adjourn the Hearing Examiner Meeting. Thank you very much.

(Whereupon, the hearing adjourned at 7:17 p.m.)

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STATE OF CALIFORNIA)
) ss
COUNTY OF LOS ANGELES.)

I, SARA KAMBERIAN, hearing reporter, do hereby certify:

That the foregoing transcript is a true and correct transcription of my original stenographic notes.

I further certify that I am neither attorney or counsel for, nor related to or employed by any of the parties to the action in which this proceeding was taken; and furthermore, that I am not a relative or employee of any attorney or counsel employed by the parties hereto or financially interested in the action.

IN WITNESS WHEREOF, I have hereunto set my hand this 13th day of June, 2017.

SARA KAMBERIAN

REQUEST TO ADDRESS
THE HEARING EXAMINER
OF LOS ANGELES COUNTY

DATE __/__/__ **AGENDA ITEM No.** 2

FAVOR ☑ OPPOSE/CONCERN ☐

☐ APPLICANT

PUBLIC COMMENT AGENDA ITEM ☐

OTHER ☐

THE INFORMATION BELOW IS REQUIRED. ALL FUTURE CORRESPONDENCE WILL BE SENT USING THE INFORMATION YOU PROVIDE HERE.

---PLEASE PRINT CLEARLY---

ANDERSON

LAST NAME

MICHAEL

FIRST NAME

BASE ARCHITECTURE

ORGANIZATION (IF APPLICABLE)

9841 AIRPORT BLVD

STREET ADDRESS

LOS ANGELES CA

CITY **ZIP CODE**

MICHAEL@BASE-AE.COM

EMAIL ADDRESS (OPTIONAL)

3109881081

TELEPHONE NUMBER

SPEAKER CARDS

Summary of your position on this matter (optional)

Support BIST need to accommodate the Landside needs of Drew University

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☐ Check here if you would like to receive notification of future actions on this item.

☐ Check here if you DO NOT intend to testify today, but would like to receive notice of future actions on this item.

REQUEST TO ADDRESS
THE HEARING EXAMINER
OF LOS ANGELES COUNTY

DATE 6/1/17 **AGENDA ITEM No.** 2

FAVOR ☐ OPPOSE/CONCERN ☐

☐ APPLICANT

PUBLIC COMMENT ☐
AGENDA ITEM

OTHER ☐

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---PLEASE PRINT CLEARLY---

McKaney
LAST NAME

Carl
FIRST NAME

Charles R. Drew University
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CITY **ZIP CODE**

CarlMcKaney@cdrewu.edu
EMAIL ADDRESS (OPTIONAL)

TELEPHONE NUMBER

SPEAKER CARDS

Summary of your position on this matter (optional)

I-19

☐ Check here if you would like to receive notification of future actions on this item.

☐ Check here if you DO NOT intend to testify today, but would like to receive notice of future actions on this item.

REQUEST TO ADDRESS
THE HEARING EXAMINER
OF LOS ANGELES COUNTY

DATE 6/1/17 **AGENDA ITEM No.** 2

FAVOR ☐ OPPOSE/CONCERN ☒

☐ APPLICANT

PUBLIC COMMENT AGENDA ITEM ☐

OTHER ☐

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Chavarria
LAST NAME

Melina
FIRST NAME

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702-592-1195
TELEPHONE NUMBER

SPEAKER CARDS

I-20

Summary of your position on this matter (optional)

☐ Check here if you would like to receive notification of future actions on this item.

☐ Check here if you DO NOT intend to testify today, but would like to receive notice of future actions on this item.

REQUEST TO ADDRESS
THE HEARING EXAMINER
OF LOS ANGELES COUNTY

DATE 6/1/17 **AGENDA ITEM No.** 2

FAVOR ☑ OPPOSE/CONCERN ☐

☐ APPLICANT

PUBLIC COMMENT ☐
AGENDA ITEM

OTHER ☐

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GRIM
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LATOYA
FIRST NAME

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323-787-5406
TELEPHONE NUMBER

SPEAKER CARDS

I-21

Summary of your position on this matter (optional)

☐ Check here if you would like to receive notification of future actions on this item.

☐ Check here if you DO NOT intend to testify today, but would like to receive notice of future actions on this item.

REQUEST TO ADDRESS
THE HEARING EXAMINER
OF LOS ANGELES COUNTY

DATE 6/1/17 **AGENDA ITEM No.** 2

FAVOR ☐ OPPOSE/CONCERN ☒

☐ APPLICANT

PUBLIC COMMENT ☒
AGENDA ITEM

OTHER ☐

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GLASS
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Delores
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213-590-2650
TELEPHONE NUMBER

SPEAKER CARDS

I-22

Summary of your position on this matter (optional)

opposed to alternative use for 119th St. to MU1 or MU2

☐ Check here if you would like to receive notification of future actions on this item.

☐ Check here if you DO NOT intend to testify today, but would like to receive notice of future actions on this item.

REQUEST TO ADDRESS
THE HEARING EXAMINER
OF LOS ANGELES COUNTY

DATE 6/1/2017 **AGENDA ITEM No.** 2

FAVOR ☐ OPPOSE/CONCERN ☐

☐ APPLICANT

PUBLIC COMMENT AGENDA ITEM ☐

OTHER ☒

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ZOLA
LAST NAME

LLOYD
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437 ALCATRAZ AVE
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OAKLAND 94609
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EMAIL ADDRESS (OPTIONAL)

TELEPHONE NUMBER

SPEAKER CARDS

I-23

Summary of your position on this matter (optional)

☐ Check here if you would like to receive notification of future actions on this item.

☐ Check here if you DO NOT intend to testify today, but would like to receive notice of future actions on this item.

REQUEST TO ADDRESS
THE HEARING EXAMINER
OF LOS ANGELES COUNTY

DATE 6/1/17 **AGENDA ITEM No. 2**

FAVOR ☐ OPPOSE/CONCERN ☐

☐ APPLICANT

PUBLIC COMMENT AGENDA ITEM ☐

OTHER ☐

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Houlihan
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Michael
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Villa Park 92861
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714-742-5375
TELEPHONE NUMBER

SPEAKER CARDS

Summary of your position on this matter (optional)

only if called upon

I-24

☐ Check here if you would like to receive notification of future actions on this item.

☐ Check here if you DO NOT intend to testify today, but would like to receive notice of future actions on this item

Response to I

June 1, 2017 Public Hearing Comments

Response to Comment I-1

This comment provides introductory statements regarding the format of the public hearing. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-2

This commenter is a County staff person that provided an overview of the project team, purpose of the meeting and proposed project. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-3

This comment informed County staff to speak more slowly during the presentation of the project overview. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-4

This comment is a continuation of the project overview. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-5

This comment was regarding the use of level of service and not vehicle miles traveled. As stated on page 3.12-25 of the Draft EIR, the County is in the process of developing procedures and methodologies and has not yet finalized or adopted procedures. Similarly, the State Office of Planning and Research has no official procedures that have been adopted at the statewide level.

Response to Comment I-6

This comment expressed a concern regarding the use of an average household size (2.94 persons per unit) in the growth projection for the incremental growth within the Specific Plan area that was less than the household size within the existing Specific Plan area (3.21 persons per unit). Table 3.10-6 on page 3.10-12 in the Draft EIR used the 2.94 persons per household rate for the proposed incremental growth because a greater percentage of multiple family residents, that typically have fewer residents per unit compared to single family units, are proposed compared to the existing percentage of multiple family units. As shown in Table 2-4 on page 2-17 of the Draft EIR, there are 364 existing single family units compared to the 968 total residential units within the Specific Plan area. The existing single family units represent approximately 37 percent of the total existing residential units. Under the proposed Specific Plan, the incremental growth results in 223 single family units compared to the 1,729 total incremental residential units within the Specific Plan. The incremental single family units represent approximately 11 percent of the total

incremental residential units. As a result, a smaller percentage of single family units would result in a smaller average household size. Therefore, the use of an average household size of 2.94 in the growth projection for the incremental growth within the Specific Plan area is appropriate.

Response to Comment I-7

This comment provides statement regarding the format for the public hearing. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-8

This commenter expressed that Charles Drew University (CDU) is starting to grow and wanted to make sure that there is sufficient room and capacity to grow. County staff has acknowledged this comment and the proposed Specific Plan includes growth of CDU. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-9

This commenter expressed concern regarding the alternative that changes land uses along 119th Street. Alternative 2 in the Draft EIR includes modified land use along 119th Street as discussed in Chapter 4 of the Draft EIR. As discussed on page 4-30 of the Draft EIR, Alternative 2 would have slightly greater impacts compared to the proposed project, and Alternative 2 would meet all of the objectives of the proposed project. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-10

The commenter expressed concern of whether the proposed Specific Plan allows CDU to expand on a Compton Unified School District site. The zoning provided within the proposed Specific Plan could accommodate uses contemplated by CDU. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-11

This commenter expressed concern regarding the mixed use proposed as part of Alternative 2. Please see Response to Comment I-9 regarding the comparison of Alternative 2 to the proposed project.

Response to Comment I-12

This commenter expressed concern about the implementation of the proposed Specific Plan and whether the Specific Plan site will still be affordable to live there and how employment opportunities will be monitored related to percentage of the local community obtaining employment. The Specific Plan will provide land uses to allow property owners to redevelop their properties. The affordability of the future residential units will depend on the property owners. As discussed on page 3.10-14 in Section 3.10, Population and Housing, in the Draft EIR, the majority of the permanent jobs would be skilled or managerial positions and are expected to be filled by persons outside of the Specific Plan area.

Response to Comment I-13

This commenter asked why Alternative 2 was evaluated. Staff clarified during the hearing that Alternative 2 was not the preferred alternative. The reason for evaluating Alternative 2 was that the modified land uses proposed in Alternative 2 represented the highest use for the properties. However, as shown in the evaluation, greater environmental impacts would occur with Alternative 2 compared to the proposed project.

Response to Comment I-14

This commenter was the environmental consultant for the EIR and provided an explanation of the proposed project and the alternative to the proposed project. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-15

This commenter asked why Alternative 2 was evaluated. Please see Response to Comment I-13 regarding why Alternative 2 was evaluated in the Draft EIR.

Response to Comment I-16

These comments provided closing remarks. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-17

These comments were related to a different agenda items. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-18

This commenter identified support for the proposed project, but identified a need to accommodate the land needs of CDU. Please see Response to Comments I-8 and I-10 regarding CDU.

Response to Comment I-19

No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-20

No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-21

No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-22

This commenter identified that they were opposed to Alternative 2 related to the modified use (mixed use) along 119th Street. This comment is noted. No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-23

No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

Response to Comment I-24

No specific comments on the contents of the Draft EIR were provided. No further response is necessary.

7.4 Errata

The following provides the corrections and additions to the information presented in the Draft EIR. The corrections and additions are organized by page number. Additional text is shown in underline, and deleted text is shown in ~~strikethrough~~ format.

Draft EIR Pages ES-7 and ES-8

The last sentence in Mitigation Measure AIR-1 on pages ES-7 and ES-8 of the Draft EIR and included on pages ES-7 and ES-8 in the Final EIR is revised as follows:

> In addition, contractors shall limit heavy-duty construction equipment idling time to ~~5~~ 3 minutes, limit non-heavy-duty construction equipment idling time to 5 minutes, maintain construction equipment in good operating condition, use construction equipment that uses low-polluting fuels to the extent available and feasible (i.e. compressed natural gas, liquid petroleum gas, and unleaded gasoline).

Draft EIR Pages ES-8 and ES-9

Table ES-1 on pages ES-8 and ES-9 under Mitigation Measure in the Draft EIR and included on pages ES-8 and ES-9 in the Final EIR is revised as follows:

> Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ is required.

Draft EIR Page ES-9

Table ES-1 on page ES-9 and included on page ES-9 in the Final EIR is revised as follows:

> **AIR-7 ~~8~~:** The County shall ensure that project approvals within the Specific Plan area require that any sensitive uses proposed to be located within 300 feet of the Metro tracks and within 500 feet of freeways shall be equipped with a filtered air supply system to maintain units under positive pressure when windows are closed. The ventilation system, whether a central HVAC (heating, ventilation and air conditioning) or a unit-by-unit

filtration system, shall include high-efficiency filters meeting minimum efficiency reporting value (MERV) 13, per American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2 (equivalent to approximately ASHRAE Standard 52.1 Dust Spot 85%). The efficiency rating of the filtration system shall be determined based on a health risk assessment conducted for the proposed development, such that cancer and non-cancer risks are reduced to a 10 in one million increase in cancer risk, and less than 1 for non-cancer risk, unless thresholds are superseded by more current SCAQMD threshold. Air intake systems for HVAC shall be placed based on exposure modeling to minimize roadway air pollution sources. The ventilation system shall be designed by an engineer certified by ASHRAE, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. Disclosure to the occupants (buyers and renters) shall be required regarding the proximity of Metro tracks (within a 300-foot radius) and freeways (within a 500-foot radius), the occurrence of diesel emissions form Metro trains and freeways heavy truck traffic), and the potential increased cancer and non-cancer risks associated with the development location.

Draft EIR Page ES-10

Table ES-1 on page ES-10 under Mitigation Measures in the Draft EIR and included on page ES-10 in the Final EIR is revised as follows:

Implementation of Mitigation Measure AIR-7~~8~~ is required.

Draft EIR Page ES-18

Table ES-1 on page ES-18 under Mitigation Measure in the Draft EIR and included on page ES-18 in the Final EIR is revised as follows:

Implementation of Mitigation Measures AIR-1 through AIR-5~~6~~ is required.

Draft EIR Pages ES-37 and ES-38

Mitigation Measure TRAF-26 on pages ES-37 and ES-38 of the Draft EIR and included on pages ES-37 and ES-38 of the Final EIR is revised as follows:

TRAF-26: Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of~~

~~Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Draft EIR Pages ES-39 and ES-40

Mitigation Measure TRAF-30 on pages ES-39 and ES-40 of the Draft EIR and included on page ES-40 of the Final EIR is revised as follows:

TRAF-30: Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Draft EIR Page ES-40

Mitigation Measure TRAF-31 on page ES-40 of the Draft EIR and included on pages ES-40 and ES-41 of the Final EIR is revised as follows:

TRAF-31: Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be~~

~~provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Draft EIR Page ES-40

Mitigation Measure TRAF-32 on page ES-40 of the Draft EIR and included on page ES-41 of the Final EIR is revised as follows:

> **TRAF-32:** Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Draft EIR Page 3.2-24

Page 3.2-24 of the Draft EIR and included on page 3.2-24 in the Final EIR is revised as follows:

> **Project-Specific**
> Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ identified below under Impact 3.2-2 is required.
>
> **Cumulative**
> Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ identified below under Impact 3.2-2 is required.
>
> ***Significance Determination***
> **Project-Specific**
> Significant and Unavoidable Impact. The implementation of Mitigation Measures AIR-1 through AIR-6~~7~~ would reduce emissions generated during construction and operational activities. However, the reduction of emissions would still result in significant emissions that would conflict with and obstruct the 2012 AQMP.
>
> **Cumulative**
> Significant and Unavoidable Impact. The implementation of Mitigation Measures AIR-1 through AIR-6~~7~~ would reduce the project's contribution of emissions generated during

construction and operational activities; however, the reduction of emissions would still result in significant and the project's contribution to the cumulative conflict and obstruction of the 2012 AQMP would remain cumulatively considerable.

Draft EIR Page 3.2-32

The last sentence in Mitigation Measure AIR-1 on page 3.2-32 of the Draft EIR and included on page 3.2-32 in the Final EIR is revised as follows:

In addition, contractors shall limit heavy-duty construction equipment idling time to ~~5~~ 3 minutes, limit non-heavy-duty construction equipment idling time to 5 minutes, maintain construction equipment in good operating condition, use construction equipment that uses low-polluting fuels to the extent available and feasible (i.e. compressed natural gas, liquid petroleum gas, and unleaded gasoline).

Draft EIR Page 3.2-33

Page 3.2-33 of the Draft EIR and included on page 3.2-33 in the Final EIR is revised as follows:

~~**Mitigation Measure AIR-6** All new development shall have electrical outlets associated with the outside of the buildings such that all landscaping equipment could be electrically operated.~~

Mitigation Measure AIR-6 ~~7~~ All new development shall comply with the Title 24 requirements in effect at the time of construction and shall, at a minimum, exceed 2013 Title 24 energy efficiency standards by 15 percent.

Cumulative

Implementation of Mitigation Measure AIR-1 through **AIR-6 ~~7~~** is required to reduce cumulative regional and localized emissions during construction and operational activities.

Significance Determination

Project-Specific

Significant and Unavoidable Impact. With the implementation of Mitigation Measures AIR-1 and AIR-2, construction emission impacts from implementation of the Specific Plan would remain significant. The implementation of Mitigation Measures AIR-3 through AIR-6 ~~7~~ would reduce air quality operational emissions; however, operational emissions would still exceed daily thresholds. Therefore, project construction and operational impacts related to violation of a regional air quality standard or contribution to an existing or projected air quality violation would be significant and unavoidable.

Cumulative

Significant and Unavoidable Impact. Implementation of Mitigation Measures AIR-1 and AIR-2 would reduce regional and localized construction emissions from development projects that would occur from implementation of the proposed Specific Plan; however,

impacts after mitigation would remain significant, and therefore the project would remain cumulatively considerable.

Implementation of Mitigation Measures AIR-2 through AIR-6 ~~7~~ would reduce regional and localized operation emissions from development projects that would occur from implementation of the proposed Specific Plan; however, impacts after mitigation would remain significant for regional operational emissions, and therefore, the project would remain cumulatively considerable.

Draft EIR Page 3.2-34

Page 3.2-34 of the Draft EIR and included on page 3.2-34 in the Final EIR is revised as follows:

Implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ is required.

Draft EIR Page 3.2-37

Page 3.2-37 of the Draft EIR and included on page 3.2-37 in the Final EIR is revised as follows:

Mitigation Measure AIR-7 ~~8~~: The County shall ensure that project approvals within the Specific Plan area require that any sensitive uses proposed to be located within 300 feet of the Metro tracks and within 500 feet of freeways shall be equipped with a filtered air supply system to maintain units under positive pressure when windows are closed. The ventilation system, whether a central HVAC (heating, ventilation and air conditioning) or a unit-by-unit filtration system, shall include high-efficiency filters meeting minimum efficiency reporting value (MERV) 13, per American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2 (equivalent to approximately ASHRAE Standard 52.1 Dust Spot 85%). The efficiency rating of the filtration system shall be determined based on a health risk assessment conducted for the proposed development, such that cancer and non-cancer risks are reduced to a 10 in one million increase in cancer risk, and less than 1 for non-cancer risk, unless thresholds are superseded by more current SCAQMD threshold. Air intake systems for HVAC shall be placed based on exposure modeling to minimize roadway air pollution sources. The ventilation system shall be designed by an engineer certified by ASHRAE, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. Disclosure to the occupants (buyers and renters) shall be required regarding the proximity of Metro tracks (within a 300-foot radius) and freeways (within a 500-foot radius), the occurrence of diesel emissions form Metro trains and freeways heavy truck traffic), and the potential increased cancer and non-cancer risks associated with the development location.

Cumulative

Implementation of Mitigation Measure AIR-7~~8~~ is required.

Draft EIR Page 3.2-38

Page 3.2-38 and included on page 3.2-38 in the Final EIR is revised as follows:

Project-Specific
Less than significant impact. After the implementation of Mitigation Measure AIR-7~~8~~, TAC emissions that would be exposed to sensitive uses would be reduced to less than significant.

Cumulative
Less than significant. Implementation of Mitigation Measure AIR-7~~8~~, the proposed project's contribution to cumulatively exposing sensitive uses to TAC emissions would be reduce to less than cumulatively considerable.

Draft EIR Page 3.5-15

Page 3.5-15 of the Draft EIR and included on page 3.5-15 in the Final EIR is revised as follows:

Project-Specific
Implementation of Mitigation Measures AIR-1 through AIR-5~~6~~ is required.

Cumulative
Implementation of Mitigation Measures AIR-1 through AIR-5~~6~~ is required.

Draft EIR Page 3.5-16

Page 3.5-16 of the Draft EIR and included on page 3.5-16 in the Final EIR is revised as follows:

Project-Specific
Significant and unavoidable impact. Implementation of Mitigation Measures AIR-1 through AIR-6~~7~~ would reduce potential GHG emissions; however, emissions would remain significant. Mitigation Measures AIR-1 and AIR-2 in Section 3.2 Air Quality would reduce GHG emissions within the Specific Plan area, and include the use of more efficient construction equipment, which would reduce the combustion of fuels associated with construction. These mitigation measures reduce the amount of GHG's that would be generated and emitted through the construction and day to day operation of the project. Mitigation Measures AIR-3 through AIR-5~~6~~ would reduce the burning of wood or fossil fuels, use low-VOC coatings and cleaning supplies, and potentially use electrical landscaping equipment, all of which reduce operational GHGs. Mitigation Measure AIR-6~~7~~ would reduce energy consumption through making the development operation more energy efficient. All of these mitigation measures reduce the amount of GHG's that would be generated and emitted through the construction and day-to-day operation of a project.

Cumulative
Significant and unavoidable impact. As discussed under Project-Specific above, implementation of Mitigation Measures AIR-1 through AIR-6 ~~7~~ would reduce potential GHG emissions; however, emissions would remain cumulatively considerable.

Draft EIR Page 3.8-31

The following is added after Table 3.8-4 on page 3.8-31 of the Draft EIR and included on pages 3.8-31 through 3.8-34 in the Final EIR.

County of Los Angeles Community Climate Action Plan 2020

The proposed Specific Plan would increase development within the Specific Plan area. The increase in development would result in increased impacts on climate change. The Community Climate Action Plan 2020 (CCAP) was adopted in 2015 and includes actions to reduce greenhouse gas emissions. Following is a discussion of the proposed Specific Plan's consistency with the applicable actions identified in the CCAP.

TABLE 3.8-5
CONSISTENCY OF PROPOSED SPECIFIC PLAN WITH COMMUNITY CLIMATE ACTION PLAN 2020

Policy Number	Actions Text	Statement of Consistency or Non-Consistency
Land Use Element		
BE-1	**Green Building Development:** Promote and incentivize at least Tier 1 voluntary standards within CALGreen for all new residential and nonresidential buildings. Develop a heat island reduction plan and facilitate green building development by removing regulatory and procedural barriers.	**Consistent.** The proposed Specific Plan includes Sustainable Design Guidelines related to site and building design, solar resources, and water efficiency and would comply with the applicable provisions of the County's Green Building Standards Code. Therefore, the proposed Specific Plan is consistent with this action.
BE-3	**Solar Installations:** Promote and incentivize solar installations for new and existing homes, commercial buildings, carports and parking areas, water heaters, and warehouses.	**Consistent.** The proposed Specific Plan includes Sustainable Design Guidelines related to solar facilities in new development. Therefore, the proposed Specific Plan is consistent with this action.
LUT-1	**Bicycle Programs and Supporting Facilities:** Construct and improve bicycle infrastructure to increase biking and bicyclist access to transit and transit stations/hubs. Increase bicycle parking and "end-of-trip" facilities offered through the unincorporated County.	**Consistent.** The proposed Specific Plan includes bicycle facilities that would connect major land uses and transportation within the Specific Plan area. Major areas include MLK, CDU, the high schools, the Willowbrook/Rosa Parks Station, and the high density residential and mixed use neighborhoods. Because the Specific Plan would provide bicycle facilities that connect the transit station to the major land uses within the Specific Plan area, the Specific Plan is consistent with this action.
LUT-2	**Pedestrian Network:** Construct and improve pedestrian infrastructure to increase walking and pedestrian access to transit and transit stations/hubs.	**Consistent.** The proposed Specific Plan includes the development of sidewalks to increase pedestrian access to the major land uses within the Specific Plan. As stated above for Action LUT-1, the major areas include MLK, CDU, the high schools, the Willowbrook/Rosa Parks Station, and the high density residential and mixed use neighborhoods. In addition, the proposed Specific Plan includes the retention of rights-of-way for pedestrian facilities and not for additional roadway improvements for automobiles. Because sidewalk improvements would be provided, the Specific Plan is consistent with this action.
LUT-3	**Transit Expansion:** Collaborate with the Los Angeles County Metropolitan Transportation Authority (Metro) on a transit program that prioritizes transit by creating bus priority lanes, improving transit facilities, reducing transit-passenger time, and providing bicycle parking near transit stations. Construct and improve bicycle, pedestrian and transit infrastructure to increase bicyclist and pedestrian access to transit and transit stations/hubs.	**Consistent.** As referenced in Action LUT-1, the proposed Specific Plan includes the provision of bicycle facilities that connect the transit station to the major land uses within the Specific Plan area. Therefore, the Specific Plan is consistent with this action.

Policy Number	Actions Text	Statement of Consistency or Non-Consistency
LUT-4	**Travel Demand Management:** Encourage ride- and bike-sharing programs and employer sponsored vanpools and shuttles. Encourage market-based bike sharing programs that support bicycle use around and between transit stations/hubs. Implement marketing strategies to publicize these programs and reduce commute trips.	**Consistent.** The proposed Specific Plan includes a Transportation Demand Management Program that will be implemented for new all non-residential uses exceeding 50,000 square feet. Bicycle parking and stations as well as a bike sharing program are part of the Specific Plan. The implementation of these design strategies would facilitate transit use and reduce automobile dependence. Therefore, the Specific Plan is consistent with this action.
LUT-6	**Land Use Design and Density:** Promotes sustainability in land use design including diversity of urban and suburban developments.	**Consistent.** Implementation of the proposed Specific Plan would accommodate a mix of residential, commercial, retail and public facilities that would provide a range of single-family to high density multi-family residential development and provide a mix of commercial, retail, and public facilities that would meet both regional needs (such as the medical, educational, and Metro uses) and local needs (such as retail and restaurants) for the residents, students, and employees within the Specific Plan area daily. The land use design within the proposed Specific Plan would promote sustainability and diversity and therefore, the Specific Plan is consistent with this action.
LUT-7	**Transportation Signal Synchronization Program:** Improve the network of traffic signals on the major streets throughout LA County.	**Consistent.** A traffic evaluation was conducted for the proposed Specific Plan. Signal timing/phasing changes were considered to be feasible at intersections within the County as well as adjacent jurisdictions as long as they would improve and not worsen intersection operations or potentially cause other problems and/or impacts elsewhere. As discussed in Section 3.12 of the Draft EIR, improvements within the existing rights-of-way were considered; however, if an additional roadway widening was needed, the widening was determined to be not feasible. The retention or implementation of non-vehicular improvements within rights-of-way were considered consistent with the Los Angeles County General Plan land use policies.
LUT-9	**Idling Reduction Goal:** Encourage idling limits of 3 minutes for heavy-duty construction equipment, as feasible within manufacturer's specifications	**Consistent.** Heavy-duty construction equipment associated with individual projects within the Specific Plan area will be required to limit idling to 3 minutes or less, as feasible within manufacturer's specifications.
LUT-12	**Electrify Construction and Landscaping Equipment:** Utilize electric equipment whenever feasible for construction projects. Reduce the use of gas-powered landscaping equipment.	**Consistent.** As discussed in Section 3.2, Air Quality, the provision of electrical outlets on the outside of buildings shall be provided to allow landscaping equipment to be electrically operated. This will provide an opportunity to reduce the use of gas-powered landscaping equipment, and the proposed Specific Plan will be consistent with this action.
WAW-1	**Per Capita Water Use Reduction Goal:** Meet the State established per capita water use reduction goal as identified by Senate Bill (SB) X7-7 for 2020. (The State goal is a 20 percent reduction in per capita water use compared to baseline levels.).	**Consistent.** The proposed Specific Plan includes the use of drought tolerant plant materials to reduce water use. In addition, for non-residential buildings of 25,000 square feet or more, indoor potable water use will be reduced by 12 percent to comply with the County of Los Angeles Code Title 31, Section 301.3.3. The implementation of these requirements will reduce the per capita water use within the Specific Plan area. Therefore, the Specific Plan is consistent with this action.
SW-1	**Waste Diversion Goal:** Adopt a waste diversion goal to comply with all state mandates to divert at least 75 percent of waste (construction and operation) from landfill disposal by 2020.	**Consistent.** The individual projects within the Specific Plan will be required to comply with the County Code Title 31, Section 4.408.1 that requires the recycling and/or salvage for reuse of a minimum of 65 percent of the non-hazardous construction and demolition debris. Compliance with the County Code would result in the Specific Plan's consistency with this action.

Policy Number	Actions Text	Statement of Consistency or Non-Consistency
LC-1	**Develop Urban Forest:** Supports and expands urban forest programs.	**Consistent.** The Project would include landscaping and tree plantings consistent with the County's Green Building Ordinance. Landscaping will utilize drought-tolerant, native, and fire-resistant trees to support water conservation efforts where feasible. In accordance with the County's Tree Planting ordinance (Section 22.52.2130(C)(5)), the Project would plant a minimum of two 15-gallon trees for each lot containing a single-family residence (at least one of which shall be from the drought-tolerant plant list).
LC-2	**Create New Vegetated Open Space:** Restore and revegetate previously disturbed land and/or unused urban and suburban areas.	**Consistent.** Individual projects implemented in accordance with the proposed Specific Plan would be required to incorporate landscaping in accordance with County Code Sections 22.52.2120, 22.52.2130, and 21.32.195. These provisions require the installation of the trees with the implementation of projects. Compliance with the County Code would result in consistency with this action.

As described above, the proposed Specific Plan would be consistent with the applicable action identified in the CCAP.

Draft EIR Page 3.11-5

Table 3.11-3 on page 3.11-5 of the Draft EIR and included on page 3.11-5 of the Final EIR is revised as follows:

MLK Fitness ~~Center~~ Garden
11833 South Wilmington

Draft EIR Page 3.11-8

Page 3.11-8 of the Draft EIR and included on page 3.11-9 of the Final EIR is revised as follows:

~~Los Angeles Countywide Parks and Recreation Needs Assessment~~ Los Angeles Countywide Parks and Recreation Needs Assessment

Draft EIR Page 3.11-9

Page 3.11-9 of the Draft EIR and included on page 3.11-9 of the Final EIR is revised as follows:

The project site is located within the unincorporated Willowbrook Community, which is an area of high park need, and currently contains seven ~~six~~ County parks maintained and operated by the Department of Parks and Recreation.

Draft EIR Page 3.11-9

Page 3.11-9 of the Draft EIR and included on page 3.11-9 of the Final EIR is revised as follows:

~~Los Angeles County Park Safe Neighborhood Parks Proposition of 1992, 1996, Proposition A~~ Los Angeles County Safe, Clean Neighborhood Parks and Beaches Measure of 2016

Draft EIR Page 3.11-21

The first sentence in the third paragraph on page 3.11-21 of the Draft EIR and included on page 3.11-21 of the Final EIR is revised as follows:

> As described above, the Willowbrook community currently provides 7.15 acres of County parkland per 1,000 population, and the County's planning service goal is to provide 4.0 acres of local parkland per 1,000 residents.

Draft EIR Page 3.12-24

Page 3.12-24 of the Draft EIR and included on page 3.12-24 of the Final EIR is revised as follows:

> As shown in the table, the following off-ramps currently experience vehicle queues that exceed the total ramp ~~lane~~ storage length at the following two ~~three~~ locations during one or both of the analyzed peak hours:
>
> 2. I-110 Southbound Off-Ramp at El Segundo Blvd – AM peak hour
> 3. I-105 Eastbound Off-Ramp at Central Ave – AM ~~and PM peak hours~~
>
> ~~10. SR-91 Westbound Off-Ramp at Wilmington Ave – PM peak hour~~

Draft EIR Page 3.12-34

Page 3.12-34 of the Draft EIR and included on page 3.12-34 of the Final EIR is revised as follows:

> For example, a project would not have a significant impact at an intersection if it operated at LOS D before ~~after~~ the addition of project traffic and the incremental change in the V/C ratio is less than 0.020. However, if the intersection operated at LOS F before ~~after~~ the addition of project traffic and the incremental change in the V/C ratio is 0.010 or greater, then the project would be considered to have a significant impact.

Draft EIR Page 3.12-41

Page 3.12-41 of the Draft EIR and included on page 3.12-41 in the Final EIR is revised as follows:

> ***Willowbrook/Rosa Parks Station***
>
> This Metro Project is designed to improve the functionality, safety, security and circulation at the station. Metro is designing the improvements, and has conducted a separate environmental review. All improvements are on-site at the station, and includes the implementation of the Class I Bike Facility, identified in the Specific Plan, along Willowbrook Avenue West between Willowbrook/Rosa Parks Station and 119th Street. This improvement would reduce the roadway from two southbound traffic lanes to one southbound traffic lane. ~~there are no changes to street traffic movements or vehicular circulation patterns on adjacent streets. The station improvements are, therefore, not included in this study.~~

Draft EIR Page 3.12-43

The fourth bullet on page 3.12-43 of the Draft EIR and included on page 3.12-43 in the Final EIR is revised as follows:

- Adding advance stop lines ~~bars~~ to intersection approaches.

Draft EIR Page 3.12-44

The first sentence of the fourth paragraph on page 3.12-44 of the Draft EIR and included in the first sentence of the fourth paragraph on page 3.12-44 in the Final EIR is revised as follows:

> The Specific Plan identifies that a Transportation Demand Management (TDM) Program will be developed by individual projects ~~the County~~, to take advantage of the high level of transit service, and to reduce both vehicle trips and the number of parking spaces provided.

Draft EIR Page 3.12-46

Intersection 43, Alameda St & 103rd St under the AM peak hour in Table 3.12-8 on page 3.12-46 of the Draft EIR and included in the Final EIR is revised as follows:

43.	Alameda St & 103rd St	Signalized	0.790	C	0.812	D	0.022	No ~~Yes~~

This intersection, 43, remains significant prior to mitigation under the PM peak hour as shown in Table 3.12-9 on page 3.12-48 of the Draft EIR and included in the Final EIR.

Draft EIR Page 3.12-48

Intersection 46, Alameda St & El Segundo Blvd under the PM peak hour in Table 3.12-9 on page 3.12-48 of the Draft EIR and included in the Final EIR is revised as follows:

43.	Alameda St & El Segundo Blvd	Signalized	0.898	D	0.912	E	0.014	No ~~Yes~~

This intersection, 46, remains significant prior to mitigation under the AM peak hour as shown in Table 3.12-8 on page 3.12-46 of the Draft EIR and included in the Final EIR.

Draft EIR Page 3.12-87

Reference information provided under the discussion for Mitigation Measure TRAF-10: Alameda St & 103rd St on page 3.12-87 of the Draft EIR and included on page 3.12-87 in the Final EIR is revised as follows:

> As shown in Table~~s 3.12-8 and~~ 3.12-9, in the Existing Plus Project Conditions, there is a significant impact in ~~both~~ the ~~AM and~~ PM peak hour~~s~~ at this location. To address this impact, the proposed mitigation measure is as follows:
>
> Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the eastbound approach for a separate left-turn lane before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project

applicant and reviewed by the County. This improvement would modify the approach from a shared left/right lane to a left-turn lane and a shared left/right lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

In the Existing Plus Project Condition, this mitigation measure would fully mitigate the impacts in ~~both~~ the ~~AM and~~ PM peak hour~~s~~.

Draft EIR Page 3.12-88

Reference information provided under the discussion for Mitigation Measure TRAF-12: Alameda St & El Segundo Blvd on page 3.12-88 of the Draft EIR and included on page 3.12-87 in the Final EIR is revised as follows:

As shown in Table~~s~~ 3.12-8 ~~and 3.12-9~~, in the Existing Plus Project Conditions there is a significant impact in ~~both~~ the AM ~~and PM~~ peak hour~~s~~ at this location. To address this impact, the proposed mitigation measure is as follows:

Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the northbound and southbound approaches to provide separate right-turn lanes before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

In the Existing Plus Project Condition, this mitigation measure would fully mitigate the impacts in ~~both~~ the AM ~~and PM~~ peak hours.

Draft EIR Page 3.12-99

Mitigation Measure TRAF-26 on page 3.12-99 of the Draft EIR and included on pages 3.12-99 and 3.12-100 of the Final EIR is revised as follows:

Mitigation Measure TRAF-26: I-110 southbound between 135th St & Rosecrans Ave

As shown in Tables 3.12-10 and 3.12-11, in the Existing Plus Project Conditions, there is a significant impact in both the AM and PM peak hours at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans <u>recommended</u> significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, <u>the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic.</u>

Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR.~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway segment ~~intersection~~ exceeding Caltrans' recommended significant impact criteria.~~ In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact is considered potentially significant and unavoidable.

Draft EIR Page 3.12-104

Mitigation Measure TRAF-30 on page 3.12-104 of the Draft EIR and included on pages 3.12-104 and 3.12-105 of the Final EIR is revised as follows:

Mitigation Measure TRAF-30: I-105 westbound between Avalon Blvd and Central Ave

As shown in Tables 3.12-18 and 3.12-19, in the Existing Plus Project Conditions, there is a significant impact in the PM peak hour at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans recommended significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring~~

~~additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway segment exceeding Caltrans' recommended significant impact criteria. ~~In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact is considered potentially significant and unavoidable.

Draft EIR Pages 3.12-104 and 3.12-105

Mitigation Measure TRAF-31 on pages 3.12-104 and 3.12-105 of the Draft EIR and included on pages 3.12-105 and 3.12-106 of the Final EIR is revised as follows:

Mitigation Measure TRAF-31: I-105 westbound between Compton Ave and Wilmington Ave

As shown in Tables 3.12-18 and 3.12-19, in the Existing Plus Project Conditions, there is a significant impact in the PM peak hour at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans recommended significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be~~

~~provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway segment exceeding Caltrans' recommended significant impact criteria. ~~In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact at this freeway segment is considered potentially significant and unavoidable.

Pages 3.12-105 and 3.12-106

Mitigation Measure TRAF-32 on pages 3.12-105 and 3.12-106 of the Draft EIR and included on page 3.12-106 of the Final EIR is revised as follows:

Mitigation Measure TRAF-32: I-105 westbound between State St & Long Beach Blvd

As shown in Tables 3.12-18 and 3.12-19, in the Existing Plus Project Conditions, there is a significant impact in the AM and PM peak hours at this location. Because the existing freeway right-of-way is constrained along this segment, additional lane improvements along this segment would require additional right-of-way. Additional lane improvements would be required so that the project does not exceed the Caltrans recommended significant impact criteria. To address this impact, the proposed mitigation measure is as follows:

Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR. ~~each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements along this freeway segment through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.~~

Significance after Mitigation: Significant and Unavoidable. Because the additional ~~right-of-way acquisition and~~ improvements needed to improve this freeway segment are not

located within the jurisdiction of the County of Los Angeles, the County cannot guarantee that the timing of implementing these improvements would occur prior to the freeway segment exceeding Caltrans' recommended significant impact criteria. ~~In addition, there is uncertainty if Caltrans would establish a proportionate share funding program to acquire additional right-of-way along this freeway segment and to provide the necessary improvements.~~ As a result, the impact at this freeway segment is considered potentially significant and unavoidable.

Draft EIR Pages 3.13-8 and 3.13-9

The last paragraph on page 3.13-8 and first paragraph on page 3.13-9 in the Draft EIR and included on pages 3.13-8 and 3.13-9 in the Final EIR is revised as follows:

The LACSD operates solid waste collection facilities in the Willowbrook community and surrounding areas. LACSD solid waste management sites provide about half of the countywide solid waste management needs. The District operates two sanitary landfills, three ~~four~~ landfill energy recovery facilities, one ~~two~~ recycle center~~s~~, and three materials recovery/transfer facilities, and participate in the operation of two refuse-to-energy facilities (LACSD, 2015b).

Draft EIR Page 3.13-9

The first sentence in the second paragraph on page 3.13-9 in the Draft EIR and included on page 3.13-9 in the Final EIR is revised as follows:

Solid waste in the community of Willowbrook may be ~~is~~ taken to either of two recycling and transfer facilities: the Downey Area Recycling and Transfer facility or ~~and~~ the South Gate Transfer Station facility.

Draft EIR Page 3.13-19

The second sentence in the first paragraph of page 3.13-19 of the Draft EIR and include on page 3.13-19 in the Final EIR is revised as follows:

Wastewater generated by the proposed Specific Plan development would be treated at the JWPCP, for which wastewater treatment requirements have been established by the LARWQCB NPDES Permit CA0053813 ~~CA0053911~~.

Draft EIR Pages 3.13-33 and 3.13-34

Pages 3.13-33 and 3.13-34 of the Draft EIR and included on pages 3.13-33 and 3.13-34 of the Final EIR are revised as follows:

Demolition and construction activities generate solid waste, including cardboard, wood, metals, glass, plastics, concrete, asphalt, and other building materials. The average estimate of overall demolition waste from residential is 50 pounds per square foot, and demolition waste from non-residential is estimated to be 158 pounds per square foot (USEPA, 2003). The average estimate of overall construction waste from new residential development is 4.39 pounds per square foot, and construction waste from non-residential

is estimated to be 4.34 pounds per square foot (USEPA 2003). As shown in **Table 3.13-14**, it is estimated that demolition and construction would generate approximately 47,834 ~~35,622~~ tons of solid waste the 20-year buildout of the proposed Specific Plan prior to compliance with the Los Angeles County Code Chapter 20.87 which requires diversion of construction and demolition debris away from landfills. Prior to compliance with Chapter 20.87 and based on an assumption that demolition and construction waste would be generated approximately 50 percent of the 20-year buildout period, the Specific Plan could result approximately 4,783 ~~3,562~~ tons in one year or approximately 15 ~~11~~ tons in one day (based on a 6 day per week landfill schedule). As shown below, after compliance with Chapter 20.87, approximately 14,350 tons of solid waste would be sent to landfills over the 20-year buildout period. Based on the generation of demolition and construction waste over approximately 50 percent of the 20-year buildout period, the Specific Plan could contribute approximately 1,435 tons of solid waste to landfills in one year or approximately 5 tons in one day (based on a 6 day per week landfill schedule).

TABLE 3.13-14
ESTIMATED CONSTRUCTION SOLID WASTE

	Construction Waste (lbs per sf)	Net Square Footage Demolished or Constructed	Total Solid Waste Generation over 20 Years
Demolition			
Residential	50[1]	152 du	11,400,000 lbs[2]
Non-Residential	158[1]	378,764 sf	59,844,712 lbs
Subtotal			71,244,712 lbs (35,622 tons)
Construction			
Residential	4.39[1]	1,952 du	12,853,420 lbs[2]
Non-Residential	4.34[1]	2,666,035 sf	11,570,591 lbs
Subtotal			24,424,511 lbs (12,212 tons)
Total Solid Waste (Prior to Compliance with Los Angeles County Code Chapter 20.87 – 70% Diversion)			**95,669,223 lbs or 47,834 tons**
Total Solid Waste (After Compliance with Los Angeles County Code Chapter 20.87 – 70% Diversion)			**28,700,766 lbs or 14,350 tons**

lbs – pounds
sf – square foot
du – dwelling unit

[1] SOURCE: USEPA, 2003
[2] Based on an average residential square footage of 1,500 for each dwelling unit.

As described previously, the landfills that can serve the Specific Plan area has an average remaining daily capacity of 4,399 tons (Sunshine Canyon Landfill), 233 tons (Antelope Valley Landfill, and 2,636 tons (Lancaster Landfill). These landfills are projected to remain open until at least the year 2037 (see Table 3.13-9 above). Based on the available capacity, these landfills would have the capacity to dispose of the approximately 5 ~~11~~ tons per day (after compliance with Chapter 20.87) over approximately 10 years of

construction related solid waste that would occur from buildout of the proposed Specific Plan. Construction of the proposed Specific Plan would not result in the need to expand the existing landfill facilities or construct a new landfill facility. As a result, construction activities would result in less than significant impacts related to landfill facilities.

Draft EIR Page 3.13-35

The sixth sentence in the second paragraph on page 3.13-35 of the Draft EIR and included on page 3.13-35 in the Final EIR is also revised to reflect the modified amount of demolition and construction waste that would be contributed to a landfill.

Although the proposed project would contribute solid waste to the landfills, the addition of up to 5 ~~11~~ tons of demolition and construction solid waste per day and up to 5 tons of operational solid waste per day would not substantially impact the permitted capacity of the landfills.

CHAPTER 8
Mitigation Monitoring and Reporting Program

8.1 CEQA Requirements

Section 15097 of the CEQA Guidelines requires a public agency to adopt a program for monitoring or reporting on the changes it has required in the project or conditions of approval to substantially lessen significant environmental effects. This Mitigation, Monitoring and Reporting Program (MMRP) summarizes the mitigation commitments identified in the Willowbrook Transit Oriented District Specific Plan (proposed project) EIR (State Clearinghouse No. 2015101106). Mitigation measures are presented in the same order as they occur in the EIR.

The columns in Table 8-1 below provide the following information:

- **Mitigation Measure(s):** The action(s) that will be taken to reduce the impact to a less-than-significant level.
- **Action Required:** The appropriate steps to implement and document compliance with the mitigation measures.
- **Mitigation Timing:** The general schedule for conducting each task.
- **Responsible Party:** The agency or private entity responsible for ensuring implementation of the mitigation measure. However, until the mitigation measures are completed, the County of Los Angeles, as the CEQA Lead Agency, remains responsible for ensuring that implementation of the mitigation measures occur in accordance with the MMRP (CEQA Guidelines, Section 15097(a)).
- **Monitoring Agency or Party:** The agency or private entity responsible for reviewing and/or overseeing implementation of the mitigation measure.

TABLE 8-1
MITIGATION MONITORING AND REPORTING PROGRAM FOR THE WILLOWBROOK TOD SPECIFIC PLAN

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
Air Quality				
AIR-1: The County shall ensure that project approvals within the Specific Plan area require that all onsite construction vehicles and equipment with horsepower greater than 50 shall meet, at a minimum, USEPA Tier IV interim engine certification requirements. If Tier IV interim equipment is not available, the contractor may apply other available technologies available for construction equipment such that it would achieve a comparable reduction in NOx and PM emissions comparable to that of Tier IV construction equipment. Where alternatives to USEPA Tier IV are utilized, the contractor shall be required to show evidence to the County that these alternative technologies would achieve comparable emissions reductions. Certifications or alternative reduction strategies shall be required prior to receiving a construction permit. In addition, contractors shall limit construction equipment idling time to 5 minutes, maintain construction equipment in good operating condition, use construction equipment that uses low-polluting fuels to the extent available and feasible (i.e. compressed natural gas, liquid petroleum gas, and unleaded gasoline).	Submit operating permit(s), as required	Prior to commencement of construction	Applicant, Construction Manager	SCAQMD/ LACDRP
	Maintain log demonstrating compliance	During Construction	Applicant, Construction Manager	LACDRP
AIR-2: The County shall ensure that project approvals within the Specific Plan area require that all active construction areas shall be watered at least four times daily to reduce fugitive dust emissions from grading, excavation, and other ground preparation. Watering shall be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water shall be used whenever possible.	Maintain log demonstrating compliance	Prior to commencement of construction and during construction	Applicant, Construction Manager	LACDRP
AIR-3: Reduction or elimination of fireplaces within residential development such that there are no fireplaces within 95 percent of all new/redeveloped single family residential development or 100 percent of all multifamily residential development (new and redeveloped) within the Specific Plan area. Compliance would be ensured through County review prior to the issuance of a building permit.	Submit site plan review application	Prior to building permit	Applicant	LACDRP/LACFD
AIR-4: All commercial development will use low-VOC architectural coating such that interior coatings do not exceed 10 grams per liter (g/l) of VOC content and exterior coatings do not exceed 100 g/l. This measure is to be made a condition of approval for continued upkeep of the property.	Submit site plan review application	Prior to building permit	Applicant	LACDRP
	Maintain log demonstrating compliance	During and after construction	Applicant, Construction Manager	LACDRP
AIR-5: All commercial developments will use low-VOC cleaning supplies. This measure is to be made a condition of approval for continued upkeep of the property.	Submit site plan review application	Prior to building permit	Applicant	LACDRP
	Maintain log demonstrating compliance	During and after construction	Applicant, Construction Manager	LACDRP
AIR-6: All new development shall comply with the Title 24 requirements in effect at the time of construction and shall, at a minimum, exceed 2013 Title 24 energy efficiency standards by 15 percent.	Maintain log demonstrating compliance	During Construction	Applicant, Construction Manager	LACDRP

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
AIR-7: The County shall ensure that project approvals within the Specific Plan area require that any sensitive uses proposed to be located within 300 feet of the Metro tracks and within 500 feet of freeways shall be equipped with a filtered air supply system to maintain units under positive pressure when windows are closed. The ventilation system, whether a central HVAC (heating, ventilation and air conditioning) or a unit-by-unit filtration system, shall include high-efficiency filters meeting minimum efficiency reporting value (MERV) 13, per American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2 (equivalent to approximately ASHRAE Standard 52.1 Dust Spot 85%). The efficiency rating of the filtration system shall be determined based on a health risk assessment conducted for the proposed development, such that cancer and non-cancer risks are reduced to a 10 in one million increase in cancer risk, and less than 1 for non-cancer risk, unless thresholds are superseded by more current SCAQMD threshold. Air intake systems for HVAC shall be placed based on exposure modeling to minimize roadway air pollution sources. The ventilation system shall be designed by an engineer certified by ASHRAE, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. Disclosure to the occupants (buyers and renters) shall be required regarding the proximity of Metro tracks (within a 300-foot radius) and freeways (within a 500-foot radius), the occurrence of diesel emissions form Metro trains and freeways heavy truck traffic), and the potential increased cancer and non-cancer risks associated with the development location.	Submit health risk assessment report for review and approval	Prior to building permit	Applicant, Certified Engineer	LACDRP, SCAQMD, LACDPH Health Officer for support/referral
	Submit site plan review application	Prior to building permit	Applicant	LACDRP
	Maintain log demonstrating compliance	During construction and post construction	Applicant, Certified Engineer, Construction Manager	LACDRP
Cultural Resources				
CUL-1: Impacts to four significant historical resources that are eligible for listing and located within the MLK Subarea (Multi-Service Ambulatory Care Center (MACC), Augustus F. Hawkins Comprehensive Medical Health Center, Interns and Physicians Building, and Dr. H. Claude Hudson Auditorium) and the integrity of the Martin Luther King, Jr. Medical Center Campus Historic District (a fifth historic resource that is eligible for listing) shall be reduced to below the level of significance through utilization of the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines of Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings for any proposed alterations, including all site work, structural upgrades, architectural, and mechanical systems improvements and repairs. The work shall conform to the standards and guidelines for "rehabilitation." Conformance with the Secretary of the Interior's Standards shall be monitored by an architectural historian or historic architect who meets the Secretary of the Interior's Professional Qualification Standards. Completion of this mitigation measure shall be monitored and enforced by the County of Los Angeles.	Construction monitoring by architectural historian or historic architect	During Construction	Applicant, architectural historian or historic architect	LACDRP
	Maintain log demonstrating compliance	During Construction	Applicant, architectural historian or historic architect, Construction Manager	LACDRP
CUL-2: Impacts resulting from demolition or substantial alteration of significant historical resources not in conformance with the Secretary of the Interior's Standards shall be reduced to the maximum extent feasible through archival documentation of as-found condition. Prior to the initiation of construction activities, the County of Los Angeles shall ensure that documentation of the Martin Luther King, Jr. Medical Center Campus Historic District, Multi-Service Ambulatory Care Center (MACC), Augustus F. Hawkins Comprehensive Medical Health Center, Interns and Physicians Building, and/or Dr. H. Claude Hudson Auditorium is completed in accordance with Historic American Buildings Survey (HABS) requirements for donated material. The documentation shall be in the form of a Historic American Building Survey and shall comply with the Secretary of the Interior's Standards for Architectural and Engineering Documentation. The documentation shall include large-format photographic recordation, detailed historic narrative report, measured architectural drawings, and compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards for History and/or Architectural History. The original archival-quality documentation shall be offered as donated material to Historic American Building Survey for inclusion in the Library of Congress. Archival copies of the	Prepare and submit historical/archival documentation	Before Construction	Applicant, architectural historian or historic architect	LACDRP

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
documentation also would be available at the Martin Luther King, Jr. Medical Center campus and maintained by the County of Los Angeles.				
CUL-3: Impacts resulting from the loss of integrity of the Martin Luther King, Jr. Medical Center Campus Historic District such that its significance is materially impaired will be reduced to the maximum extent feasible through the development of a retrospective exhibit detailing the history of the Martin Luther King, Jr. Medical Center Campus Historic District, its significance, and its important details and features. The retrospective exhibit shall be in the form of a physical exhibit installed on the Martin Luther King, Jr. Medical Center Campus, which is located either within a building or on a freestanding kiosk or comparable structure or installation on the property. The exhibit shall commemorate the historic appearance of the district and provide the public with sufficient information to understand its historic significance. The exhibit shall be prepared by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards for History and/or Architectural History. The exhibit shall be completed within a period of no more than two years from the date of completion of the portion of the project that would result in the loss of integrity of the historical resources eligible for listing.	Prepare retrospective exhibit	Prior to two years from date of completion	Applicant, architectural historian or historic architect	LACDRP
CUL 4: Demolition of structures that meet the eligibility requirements for the CRHR and/or the County of Los Angeles Register shall be avoided. If demolition of a portion of an eligible structure cannot be feasibly avoided as determined by the County of Los Angeles, the alterations of a structure eligible as a historical resource shall be accomplished in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. To ensure compliance with this measure, the County shall determine the need for a historic resources evaluation of a structure if a structures is proposed for demolition or alteration and is or will be 50 years or older prior to project construction, or if a structure is proposed for demolition or alteration that affect the eligibility of a historic resource in the immediate surroundings of a structure proposed for demolition or alteration.	Prepare and submit historic resources evaluation	Before Construction	Applicant	LACDRP
CUL-5: Avoidance, preservation or data recovery shall occur for archaeological resources that could be affected by ground disturbing activities and are found to be significant resources. To ensure that developments in accordance with the Specific Plan do not result in significant impacts to pre-historic or historic archaeological resources, the following shall be implemented.	Prepare a Phase I cultural resources inventory	Before construction	Applicant	LACDRP
Individual development projects or other ground disturbing activities such as installation of utilities, shall be subject to a Phase I cultural resources inventory on a project-specific basis prior to the County's approval of project plans. The study shall be carried out by a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology. The cultural resources inventory would consist of: a cultural resources records search to be conducted at the South Central Coastal Information Center; a Sacred Lands File Search by the Native American Heritage Commission (NAHC) and with interested Native Americans identified by the NAHC; a pedestrian archaeological survey where deemed appropriate by the archaeologist; and recordation of all identified archaeological resources on California Department of Parks	Submit California Department of Parks and Recreation Site Forms, and data recovery and associated documentation, as applicable	Before construction	Applicant	LACDRP

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
and Recreation 523 forms. If potentially significant cultural resources are encountered during the survey, the County shall require that the resources are evaluated for their eligibility for listing in the California Register of Historical Resources and for significance as a historical resource or unique archaeological resource per CEQA Guidelines Section 15064.5. Recommendations shall be made for treatment of these resources if found to be significant. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means of mitigation to avoid impacts to significant cultural resources, including prehistoric and historic archaeological sites, locations of importance to Native Americans, human remains, historical buildings, structures and landscapes. Methods of avoidance may include, but shall not be limited to, project re-route or re-design, project cancellation, or identification of protection measures such as capping or fencing. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures, which may include data recovery or other appropriate measures, in consultation with the County, and local Native American representatives expressing interest. During project-level construction, should prehistoric or historic subsurface cultural resources be discovered, all activity in the vicinity of the find shall stop and a qualified archaeologist will be contacted to assess the significance of the find according to CEQA Guidelines Section 15064.5. If any find is determined to be significant, the archaeologist shall determine, in consultation with the County, and local Native American groups expressing interest, appropriate avoidance measures or other appropriate mitigation. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant cultural resources. Methods of avoidance may include, but shall not be limited to, project re-route or re-design, project cancellation, or identification of protection measures such as capping or fencing. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. All significant cultural materials recovered will be, as necessary and at the discretion of the consulting archaeologist and in consultation with local Native American groups expressing interest, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.	Submit final report, as applicable	Prior to issuance of certificate of occupancy	Applicant/ Qualified Archaeologist	LACDRP, California Office of Historic Preservation for support/referral, CHRIS-SCCIC
CUL-6: The project applicant shall retain a qualified paleontologist (in accordance with the Society of Vertebrate Paleontologists) to monitor all ground-disturbing activities in native soils or sediments beginning at five feet below ground surface and deeper. If the paleontologist, upon observing initial earthwork, determines there is low potential for discovery, no further action shall be required and the paleontologist shall submit a memo to the County confirming findings of low potential. If the qualified paleontologist, upon observing initial earthwork, determines there is a moderate to high potential for discovery, a qualified paleontologist or paleontological monitor (retained by the County) shall monitor all mass grading and excavation activities. Monitoring will be conducted in areas of grading or excavation in undisturbed formation sediments, as well as where over-excavation of surficial alluvial sediments will encounter these formations in the subsurface. Paleontological monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediment that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined on exposure and examination by qualified paleontological personnel to have low potential to contain fossil resources. Should any paleontological resources (i.e., fossils) be uncovered during project construction activities, all work within a 100-foot radius of the discovery site shall be halted or diverted to other areas on the site and the	Submit Monitoring Plan	Prior to construction	Applicant/ Qualified Paleontologist	LACDRP
	Submit data recovery and associated documentation, as applicable	Prior to issuance of certificate of occupancy	Applicant/ Qualified Paleontologist	LACDRP
	Submit final report, as applicable	Prior to issuance of certificate of occupancy	Applicant/ Qualified Paleontologist	LACDRP

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
County shall be immediately notified. The qualified paleontologist shall evaluate the finds and recommend appropriate next steps to ensure that the resource is not substantially adversely impacted, including but not limited to avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further, ground disturbance shall not resume within a 100-foot radius of the discovery site until an agreement has been reached between the project applicant, the qualified paleontologist, and the County as to the appropriate preservation or mitigation measures to ensure that the resource is not substantially adversely impacted. Any recovered paleontological specimens shall be identified to the lowest taxonomic level possible and prepared for permanent preservation. Screen-washing of sediments to recover small invertebrates and vertebrates shall occur if necessary. Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage shall occur at an institutional repository approved by the County. The paleontological program shall include a written repository agreement prior to the initiation of mitigation activities. A final monitoring and mitigation report of findings and significance shall be prepared, including lists of all fossils recovered and necessary maps and graphics to accurately record their original location. The report, when submitted to an accepted by the County, shall signify satisfactory completion of the project program to mitigation impacts to any potential nonrenewable paleontological resources (i.e., fossils) that might have been lost or otherwise adversely affected without such a program in place.				
CUL-7: If human remains are encountered, the County or its contractor shall halt work in the vicinity (within 100 feet) of the find and contact the Los Angeles County Coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. If the County Coroner determines that the remains are Native American, the NAHC will be notified in accordance with Health and Safety Code Section 7050.5, subdivision (c), and PRC Section 5097.98. The NAHC will designate an MLD for the remains per PRC Section 5097.98. Until the landowner has conferred with the MLD, County shall ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials.	Submit documentation	Prior to issuance of certificate of occupancy	Applicant/ Qualified Archaeologist	LACDRP
Noise and Vibration				
NOI-1: Prior to the issuance of building permits, exterior areas of proposed single family and multiple family residential uses that are projected to be exposed to existing with project roadway noise levels and cumulative with project roadway noise levels exceeding the County's exterior noise standards (i.e., 60 dBA CNEL for single family residential and 65 dBA CNEL for multiple family residential) shall include noise attenuation features including, but not limited to, setbacks, soundwalls, glass noise barriers, and landscaping so that exterior areas meet the County's exterior noise standards. To ensure that the County's exterior noise standards are met, the project applicant shall demonstrate compliance through the preparation of an acoustical evaluation.	Submit acoustical evaluation report for review and approval	Prior to issuance of building permit	Applicant	LACDRP
	Submit site plan review application	Prior to issuance of building permit	Applicant	LACDRP
NOI-2: Prior to the issuance of building permits, proposed residential developments adjacent to the Blue line and Union Pacific rail line that are exposed to rail noise of greater than 60 dBA CNEL for single family residential uses and 65 dBA CNEL for exterior areas of multiple family residential uses shall include noise attenuation features including, but not limited to, setbacks, soundwalls, glass noise barriers, and landscaping	Submit acoustical evaluation report for review and approval	Prior to issuance of building permit	Applicant	LACDRP

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
so that exterior areas meet the County's exterior noise standards. To ensure that the County's exterior noise standards are met, the project applicant shall demonstrate compliance through the preparation of an acoustical evaluation.	Submit site plan review application	Prior to issuance of building permit	Applicant	LACDRP
NOI-3: Prior to approval of a grading permit or building permit, construction equipment shall be prohibited within 50 feet of occupied residential structures. If construction equipment is required to be within 50 feet of occupied residential structures, the project applicant shall demonstrate that the human annoyance threshold of 78 VdB (0.032 in/sec PPV) and structural damage thresholds of 0.2 in/sec PPV for non-engineered timber and masonry buildings and 0.12 in/sec PPV for historic-age buildings that are extremely susceptible to vibration damage is achieved. Demonstration of compliance shall be provided through the preparation of a vibration analysis.	Submit vibration analysis report for review and approval	Prior to issuance of grading or building permit	Applicant	LACDRP
NOI-4: Prior to the issuance of a building permit for a residential development within 100 feet of the rail tracks, the project applicant shall demonstrate that nighttime vibration level at the proposed residential uses shall not exceed the 72 VdB (0.016 in/sec PPV) threshold for human annoyance.	Submit vibration analysis report for review and approval	Prior to issuance of building permit	Applicant	LACDRP
Transportation and Traffic				
TRAF-1 Avalon Blvd & El Segundo Blvd (#3): Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the northbound approach to add a right turn lane prior to an individual project exceeding the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. This can be accomplished by narrowing the median to 3 feet. This would need to occur all the way to an alley located approximately 100 feet south of the intersection. The bus stop at this approach would continue to be located at the same location; however, buses would be allowed to go straight through the intersection. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. In addition, the County of Los Angeles shall ensure the restriping of the southbound approach to provide a separate right turn lane by narrowing the median to 2 feet prior to an individual project exceeding the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP
TRAF-2 Central Ave & El Segundo Blvd (#10): Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the southbound approach to provide a separate right-turn lane and restriping the northbound approach by reducing the median to 2 feet before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify both approaches from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. Buses would be allowed to go through the intersection from the right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. In addition, the County of Los Angeles shall ensure the restriping of the westbound approach to provide a separate right turn lane by narrowing the median to 2 feet prior to an individual project exceeding the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane.				
TRAF-3 Central Ave & Rosecrans Ave (#11): Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the westbound approach to provide a separate right-turn lane by narrowing the median to 2 feet before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. Buses would be allowed to go through the intersection from the right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP
	Submit funding or complete improvements	Prior to issuance of an occupancy permit	Applicant	LACDRP
TRAF-4 Compton Ave & Imperial Hwy (#17): Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the westbound approach to provide a separate right-turn lane before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP
	Submit funding or complete improvements	Prior to issuance of an occupancy permit	Applicant	LACDRP
TRAF-5 Wilmington Ave & I-105 e/b Ramps (#27): Prior to the issuance of a building permit, the County of Los Angeles shall ensure that an additional eastbound lane will be installed by widening (reducing the raised median on the ramp) the off-ramp before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a left-turn lane and a right-turn lane to a left-turn lane, shared left-right turn lane and a separate right-turn lane. In addition, the County of Los Angeles shall ensure that an additional northbound left-turn lane is provided by reducing the median width. This improvement would modify the approach from a left-turn lane and three through lanes to dual left-turn lanes and three through lanes. These were mitigation measures in the Martin Luther King Jr. Medical Campus EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
	Submit funding or complete improvements	Prior to issuance of an occupancy permit	Applicant	LACDRP
TRAF-6 Wilmington Ave & 118th St (#28): Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the eastbound approach of 118th Street to provide a separate right-turn lane before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the eastbound approach from a shared left-through-right lane to a shared left-through lane and a right turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP
	Submit funding or complete improvements	Prior to issuance of an occupancy permit	Applicant	LACDRP
TRAF-7 Wilmington Ave & 120th St (East) (#30): Prior to the issuance of a building permit, the County of Los Angeles shall ensure that 120th Street west of Wilmington Avenue (the driveway to the Martin Luther King Jr. Medical Campus) is widened for 250 feet, on the south side by 2 feet and the eastbound approach is restriped to provide dual left-turn lanes before an individual project exceeds the County's significance criteria. The timing	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a left-through lane and a right-turn lane to dual left-turn lanes, a through lane, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Submit funding or complete improvements	Prior to issuance of an occupancy permit	Applicant	LACDRP
TRAF-8 Wilmington Ave & El Segundo Blvd (#32): Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the eastbound and westbound approaches to add separate right-turn lanes before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would allow buses to go through the intersection from the right-turn lanes. This improvement would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP
	Submit funding or complete improvements	Prior to issuance of an occupancy permit	Applicant	LACDRP
TRAF-9 Imperial Hwy & I-105 w/b Ramps (#36): Prior to the issuance of a building permit, the County of Los Angeles shall ensure that a third northbound left-turn lane is provided by widening the off-ramp by 10 feet for approximately 150 feet to 200 feet before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a left-turn lane, a left-through lane, and a right-turn lane to dual left-turn lanes, a left-through lane, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/Caltrans
	Submit funding or complete improvements	Prior to issuance of an occupancy permit	Applicant	LACDRP/Caltrans
TRAF-10 Alameda St & 103rd St (#43): Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the eastbound approach for a separate left-turn lane before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a shared left/right lane to a left-turn lane and a shared left/right lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP
	Submit funding or complete improvements	Prior to issuance of an occupancy permit	Applicant	LACDRP
TRAF-11 Alameda St & Imperial Hwy (#45): Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the southbound approach for dual right-turn lanes before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project applicant and reviewed by the County. This improvement would modify the approach from a left-turn lane, two through lanes, and a right-turn lane to dual left-turn lanes, two through lanes, and a separate right-right lane. This is a modification of the mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP
	Submit funding or complete improvements	Prior to issuance of an occupancy permit	Applicant	LACDRP
TRAF-12 Alameda St & El Segundo Blvd (#46): Prior to the issuance of a building permit, the County of Los Angeles shall ensure the restriping of the northbound and southbound approaches to provide separate right-turn lanes before an individual project exceeds the County's significance criteria. The timing of this improvement shall be determined through the preparation of a traffic evaluation by the individual project	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
applicant and reviewed by the County. This improvement would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.	Submit funding or complete improvements	Prior to issuance of an occupancy permit	Applicant	LACDRP
TRAF-13 Wilmington Ave & Greenleaf Blvd (#62): Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
	Submit funding or complete improvements	Prior to issuance of an occupancy permit	Applicant	LACDRP/ City of Compton
TRAF-14 Compton Ave & El Segundo Blvd (#21): Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the eastbound and westbound approaches to provide separate right-turn lanes by narrowing the medians to 2 feet. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism. Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the AM peak hour level of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
TRAF-15 Wilmington Ave & Rosecrans Ave (#33): Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound approach to provide a separate right-turn lane by narrowing the median to 2 feet. This improvement would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection. Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the AM and PM peak hours level of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
TRAF-16 Wilmington Ave & W Compton Blvd (#58): Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
TRAF-17 Wilmington Ave & Alondra Blvd (#61): Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the westbound approach to provide a separate right-turn lane by narrowing the median to 3 feet. This improvement would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection. Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the PM peak hour level of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
TRAF-18 Wilmington Ave & Walnut St (#63): Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping and modifying the eastbound approach from a left-turn lane, a through lane, and a right-turn lane to left-turn lane, a through lane, and a through-right lane. It requires converting Walnut Street east of the intersection from one lane eastbound to two-lanes eastbound for a minimum of 400 feet providing an 11-foot lane and a 12-foot curb lane prior to merging back to one lane, and prohibiting on-street parking for the same distance. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
TRAF-19 Imperial Hwy & State St (#54): Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound and southbound approaches to provide separate right-turn lanes. This improvement would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. These improvements require removal of two on-street parking spaces on each approach. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Lynwood. The proportionate share funding shall be provided by the project applicant if the City of Lynwood has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Lynwood
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Lynwood
TRAF-20 Avalon Blvd & Imperial Hwy (#1): Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles
TRAF-21 Avalon Blvd & 120th Street (#2): Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles
TRAF-22 Central Ave & Imperial Hwy (#6): Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles
TRAF-23 Central Ave & I-105 WB Ramps (#7): Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the westbound approach from a left-turn lane, a through-left lane, and right-turn lane, to a left-turn lane, a through-right lane, and a right-turn lane. This proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles
TRAF-24 Central Ave & 120th St (#9): Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound approach to provide a separate right-turn lane. This improvement would modify the approach from a left-turn, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a separate right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. The proportionate share funding of the restriping improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection. Prior to the issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding of the additional right-of-way acquisition and improvement to further improve the AM and PM peak hours' level of service shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
TRAF-25 Wilmington Ave & 112th St (#25): Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of installation of a new traffic signal at this location because the signal warrant analysis indicated that a traffic signal would be warranted. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Los Angeles. The proportionate share funding shall be provided by the project applicant if the City of Los Angeles has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Los Angeles
TRAF-26 I-110 southbound between 135th St & Rosecrans Ave: Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
	Enter into traffic mitigation agreement with Caltrans	Before or within 6 months of the project EIR	Applicant	LACDRP/ Caltrans
	Construct necessary improvements or pay an equitable share based on Caltrans request	Caltrans to determine timing of improvement	Applicant	Caltrans
TRAF-27 Willowbrook Ave & Rosecrans Ave (#42): Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
TRAF-28 Central Ave & Compton Blvd (#57): Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound approach to provide a separate right-turn lane by narrowing the median to 2 feet. This would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This improvement requires removal of five on-street parking spots on the northbound approach. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
TRAF-29 Central Ave & Alondra Blvd (#60): Prior to the issuance of a grading permit for each individual project, the project applicant shall determine their project's proportionate share funding of restriping the northbound and southbound approaches to provide a separate right-turn lane by narrowing the median to 2 feet. This would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
turn lane, two through lanes, and a right-turn lane. The proportionate share funding shall be determined through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and City of Compton. The proportionate share funding shall be provided by the project applicant if the City of Compton has established a proportionate share funding mechanism for the improvement at this intersection.	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ City of Compton
TRAF-30 I-105 westbound between Avalon Blvd and Central Ave: Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
	Enter into traffic mitigation agreement with Caltrans	Before or within 6 months of the project EIR	Applicant	LACDRP/ Caltrans
	Construct necessary improvements or pay an equitable share based on Caltrans request	Caltrans to determine timing of improvement	Applicant	LACDRP/ Caltrans
TRAF-31 I-105 westbound between Compton Ave and Wilmington Ave: Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
	Enter into traffic mitigation agreement with Caltrans	Before or within 6 months of the project EIR	Applicant	LACDRP/ Caltrans
	Construct necessary improvements or pay an equitable share based on Caltrans request	Caltrans to determine timing of improvement	Applicant	LACDRP/ Caltrans
TRAF-32 I-105 westbound between State St & Long Beach Blvd: Prior to issuance of a grading permit, the following shall apply to site specific development applications within the Specific Plan area. The applicant shall consult with Caltrans to determine the improvements necessary to mitigate the significant impacts to State highway mainline facilities that would result from the addition of project traffic. Once the improvements are determined, the applicant shall either construct the necessary improvements or pay an equitable share consistent with applicable law towards construction of the improvements. In furtherance of this requirement, if the EIR identifies significant impacts to Caltrans mainline facilities, the applicant shall enter into a traffic mitigation agreement with Caltrans before or within 6 months of the project EIR.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
	Enter into traffic mitigation agreement with Caltrans	Before or within 6 months of the project EIR	Applicant	LACDRP/ Caltrans

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
	Construct necessary improvements or pay an equitable share based on Caltrans request	Caltrans to determine timing of improvement	Applicant	LACDRP/ Caltrans
TRAF-33 110 SB off-ramp at El Segundo Blvd: Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this off-ramp through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
TRAF-34 I-105 eastbound (West of I-710, East of Harris Ave): Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
TRAF-35 I-105 westbound (West of I-710, East of Harris Ave): Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
TRAF-36 I-105 eastbound (East of Bellflower Blvd. West of I-605): Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the PM peak hour level of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans

Mitigation Measures	Action Required	Mitigation Timing	Responsible Party	Monitoring Agency or Party
TRAF-37 I-105 westbound (East of Bellflower Blvd. West of I-605): Prior to issuance of a grading permit, each project applicant shall determine their project's proportionate share funding of acquiring additional right-of-way and implementing additional improvements at this freeway location through the preparation of a traffic evaluation to be reviewed by the County of Los Angeles and Caltrans. The proportionate share funding of the additional right-of-way acquisition and improvement to improve the AM and PM peak hour levels of service shall be provided by the project applicant if Caltrans has established a proportionate share funding mechanism for the improvement at this intersection.	Submit traffic evaluation for review and approval	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
	Submit funding or complete improvements	Prior to issuance of building permit	Applicant	LACDRP/ Caltrans
Utilities				
USS-1: Prior to the issuance of a building permit, the individual project applicants shall submit a sewer study that confirms that the existing trunk sewers have adequate capacity to accommodate the projected wastewater flow from the proposed individual project as well as cumulative projects. If the projected wastewater flow exceeds the existing sewer capacity, the sewer trunk(s) shall be upgraded to accommodate the projected wastewater. Construction activities shall use best management practices to reduce (1) noise levels and limit construction in accordance with the County Code, (2) air quality and greenhouse gas emissions in accordance with the thresholds identified by the South Coast Air Quality Management District (see Section 3.2, Air Quality and Section 3.5, Greenhouse Gas Emissions in this EIR) and (3) traffic safety issues through the implementation of a traffic control plan that includes features such as signage, land closures, flaggers, detours and notifications to surrounding property owners.	Submit sewer study for review and approval	Prior to issuance of building permit	Applicant	LACDRP
	Maintain Log demonstrating best management practices	During construction	Applicant, Construction Manager	LACDRP

Appendix A

Notice of Preparation, Initial Study, and Scoping Comments

ESA

A-1 Notice of Preparation (NOP)

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

NOTICE OF PREPARATION

DATE: October 30, 2015

PROJECT TITLE: Willowbrook Transit Oriented District Specific Plan
County Project Number: R2015-02007
Environmental Review Number: RENVT201500136

PROJECT LOCATION: The Specific Plan area is located in the unincorporated community of Willowbrook within Los Angeles County. It is located along the I-105 Freeway and includes the junction of the Metro Blue and Green lines. The project area is approximately 10 miles south of Downtown Los Angeles and is bordered by the City of Los Angeles to the north and the City of Lynwood and the City of Compton to the east.

The County of Los Angeles is the lead agency and, after conducting an Initial Study for the Project, has determined that it will prepare an Environmental Impact Report (EIR). In compliance with Section 15082 of the California Environmental Quality Act (CEQA) Guidelines, the County of Los Angeles is sending this Notice of Preparation (NOP) to responsible agencies, interested parties, and trustee agencies responsible for natural resources that may be affected by the Project.

PROJECT LOCATION AND ENVIRONMENTAL SETTING

The Specific Plan area generally encompasses a half mile radius south of the Willowbrook/Rosa Parks Metro station, which is a major transfer point between the Metro Blue Line and Green Line. At the station, the Green Line is located in the median of the I-105 Freeway (Glenn Anderson). The Specific Plan area totals 312 acres. Major activity centers within the Specific Plan area are the Martin Luther King Jr. Medical Center, Charles R. Drew University of Medicine and Science, Kenneth Hahn Plaza, Willowbrook Library, and Martin Luther King Jr. Center for Public Health. See attached project boundary map.

North of the Specific Plan area is predominantly residential with some commercial uses. The City of Lynwood is directly adjacent to the Specific Plan's eastern border and land uses are manufacturing, public uses and commercial. South and west of the Specific Plan area is predominantly residential.

PROJECT SUMMARY

The Specific Plan has been prepared to introduce a transit oriented development (TOD) pattern to the area, which would promote active transportation and improve quality of life for residents by reducing vehicles miles traveled, improving the public realm, improving economic vitality and employment opportunities, and streamlining the environmental review process for future projects.

The Specific Plan would facilitate development by rezoning and amending General Plan land uses to include mixed uses, increased residential densities, and additional neighborhood-serving retail uses. A key part of the Specific Plan is also to preserve existing residential uses in certain areas. The proposed zoning includes: Mixed Use 1 (MU-1); Mixed Use 2 (MU-2); MLK Medical; Drew Educational; Imperial Commercial; Willowbrook Residential 1; Willowbrook Residential 2; Willowbrook Residential 3; and Open Space (O-S). Overall, the Specific Plan would accommodate an additional 1,734 dwelling units and 2,630,306 square feet of non-residential land use.

The Specific Plan would largely maintain the existing street system in its current configuration, with some improvements designed to improve access, circulation, and walkability. Road diets would also be used to aid the circulation system.

The Specific Plan would improve pedestrian circulation by connecting all major activity areas through sidewalk and intersection improvements. In addition, a combination of Class I, Class II, Class III and potentially Class IV facilities would provide a connected and integrated bicycle network throughout the Specific Plan area that connects activity centers and neighborhoods to the Willowbrook/Rosa Parks Station and adjacent communities. Bicycle amenities would be provided at appropriate locations such as bicycle stations.

In 2012, Los Angeles County prepared the *MLK Medical Center Campus Master Plan & the Willowbrook MLK Wellness Community Vision* to guide the development of the campus. It is the County's intent that the Specific Plan serve as the regulatory document for the buildout of the campus. Future development within the campus will be required to comply with the provisions of the Specific Plan; all subsequent development within the campus will be subject to the mitigation requirements of the EIR being prepared for the Specific Plan.

The draft Specific Plan is available for viewing at http://planning.lacounty.gov/willowbrook/tod.

POTENTIAL PROJECT IMPACTS: Based on the Initial Study determination, an EIR is necessary for the proposed Project. Based on a preliminary assessment of potential environmental impacts that may occur as a result of the Project, the areas of potential environmental impact to be addressed in the Programmatic EIR will include at least the following:

Potential Hazards

- Geology/Soils
- Noise
- Hazards/Hazardous Materials

Potential Impacts to Resources

- Aesthetics
- Air Quality
- Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Land Use/Planning

Potential Impacts to Services

- Transportation/Traffic

- Public Services
- Recreation
- Utilities/Services
- Population/Housing

The only environmental factors that were not found to be potentially affected are Agriculture/Forest Resources, Biological Resources, and Mineral Resources. There are multiple mandatory findings of significance. In addition, environmental issues that do not rise to the level of significant impacts will be addressed in the EIR in a separate section entitled "Impacts Found to Be Less Than Significant."

NOTICE OF PREPARATION REVIEW AND COMMENTS

The NOP is being distributed to solicit written comments regarding the scope and content of the environmental analysis to be included in the EIR. The County has prepared this NOP in accordance with the State CEQA Guidelines.

The review period for this NOP is from **October 30, 2015 to November 30, 2015**. Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than **November 30, 2015**. Please direct all written comments to the following address:

Connie Chung, AICP
County of Los Angeles
Department of Regional Planning
320 W. Temple Street
Los Angeles, California 90012
Telephone: (213) 974-6417
Fax: (213) 626-0434
Email: cchung@planning.lacounty.gov

SCOPING MEETING

To assist in local participation, a Scoping Meeting will be held to present the proposed project and to solicit suggestions from the public and responsible agencies on the content of the Draft EIR. The Scoping Meeting will be held at the MLK H. Claude Hudson Auditorium, Martin Luther King, Jr. Medical Center, 12021 S. Wilmington Avenue, Los Angeles, CA, 90059, on **November 21, 2015, from 10:00 am to 12:00 pm.**

REVIEW MATERIALS

Additional copies of this NOP are available for public review on the Department of Regional Planning website: http://planning.lacounty.gov/willowbrook/TOD as well as at the following libraries:

Willowbrook Library
11838 Wilmington Ave
Los Angeles, CA 90059

Mark Twain Public Library
9621 S Figueroa St
Los Angeles, CA 90003

Compton Library
240 W Compton Blvd
Compton, CA 90220

Los Angeles Public Library - Alma Reaves Woods - Watts Branch
10205 Compton Ave
Los Angeles, CA 90002

A C Bilbrew Library (Temporary Location)
12603 S Broadway
Los Angeles, CA 90061

Hollydale Library
12000 Garfield Ave
South Gate, CA 90280

A-2 Initial Study

Environmental Checklist Form (Initial Study)

County of Los Angeles, Department of Regional Planning

Project title: Willowbrook Transit Oriented District (TOD) Specific Plan/ Project No. R2015-02007/ Case Nos. RADV T201500004, RENV T201500136, RPA T201500005, RSP T201500001, RZC T201500006

Lead agency name and address: Los Angeles County, 320 West Temple Street, Los Angeles, CA 90012

Contact Person and phone number: Connie Chung, AICP, (213) 974-6417

Project sponsor's name and address: Los Angeles County, 320 West Temple Street, Los Angeles, CA 90012

Project location: The Specific Plan area is located in the Willowbrook community, which is an unincorporated community within Los Angeles County. It is located along the I-105 Freeway at the Wilmington Avenue interchange, and at the junction of the Metro Blue and Green lines. The project area is approximately 10 miles south of Downtown Los Angeles and is bordered by the City of Los Angeles to the north and the City of Lynwood and City of Compton to the east (**Figure 1, Regional Location**).

The proposed Specific Plan area is focused on lands around the Willowbrook/Rosa Parks Station. The Willowbrook/Rosa Parks Station is a major transfer point between the Metro Blue Line and Green Line. At the station, the Green Line is located in the median of the I-105 Freeway (Glenn Anderson), which is an above grade freeway location; and access to the Blue Line is at grade, below the Green Line. The Specific Plan generally encompasses a half mile radius south of the station (**Figure 2, Project Location**).

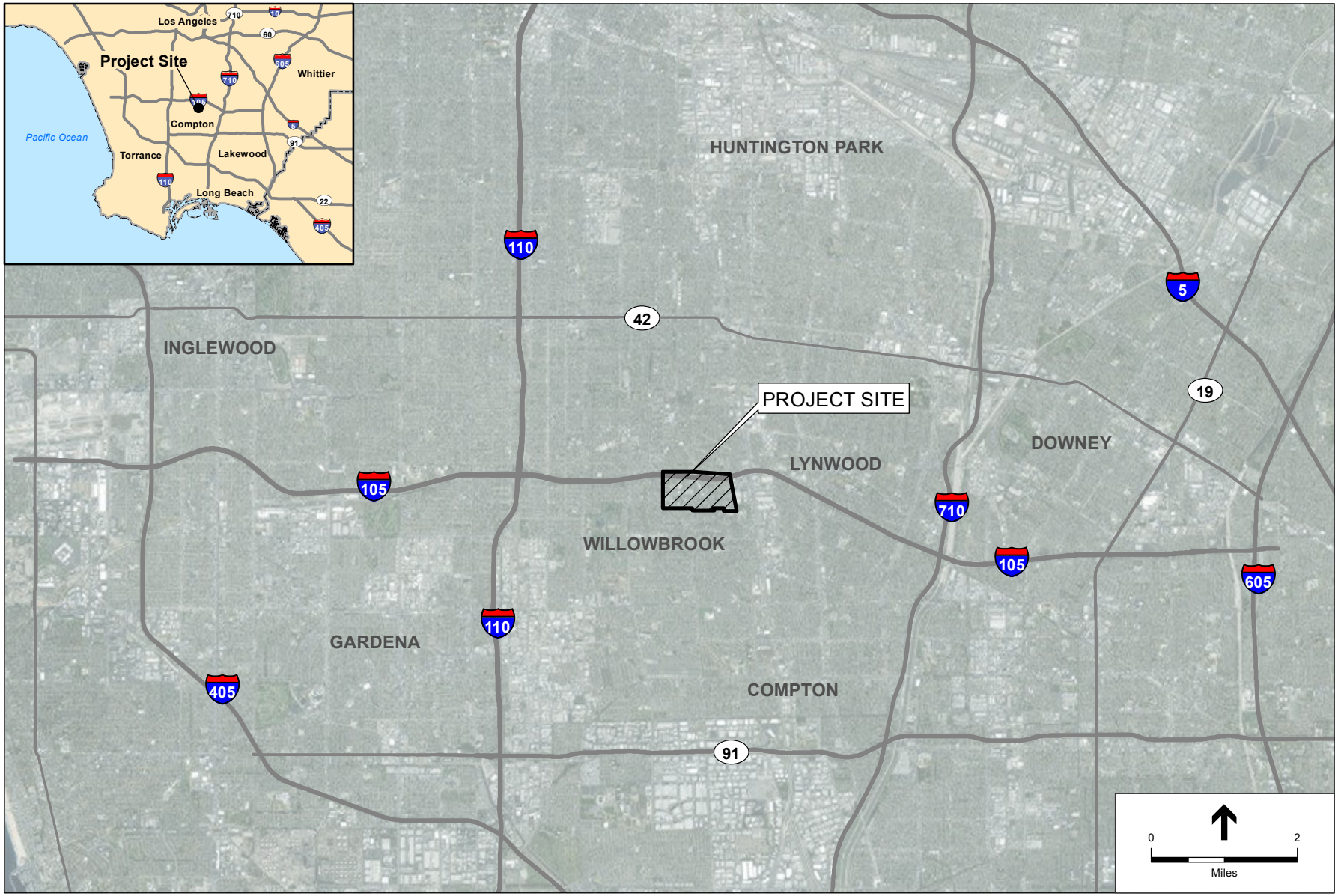
APN: Various *USGS Quad*: Southgate

Gross Acreage: The Specific Plan area totals 312 acres.

General plan designations: Major Commercial, Residential (low, low/medium, medium and high density), Open Space, Public and Semi-Public Facilities and Transportation (**Figure 3, Existing General Plan Designations**)

Community/Area wide Plan designation: Willowbrook/Los Angeles County General Plan Metro Planning Area

Zoning: C-2 (neighborhood commercial), C-3 (unlimited commercial), M-1 (light manufacturing), MXD (mixed use development), R-1 (Single-family residence), R-2 (two-family residence), and R-3 (limited multiple residence) (**Figure 4, Existing Zoning**)

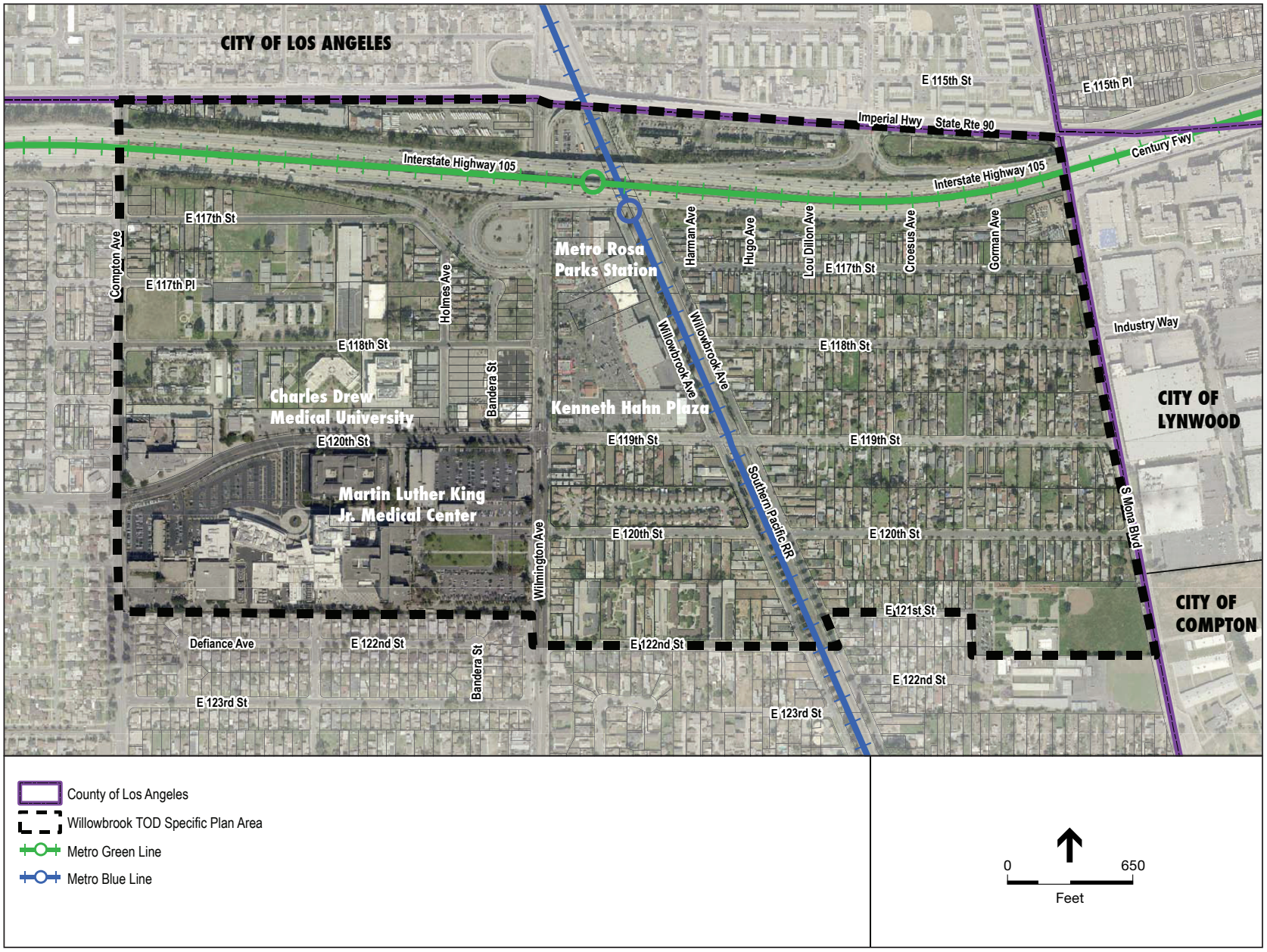


SOURCE: ESRI

Willowbrook TOD Specific Plan . 130631

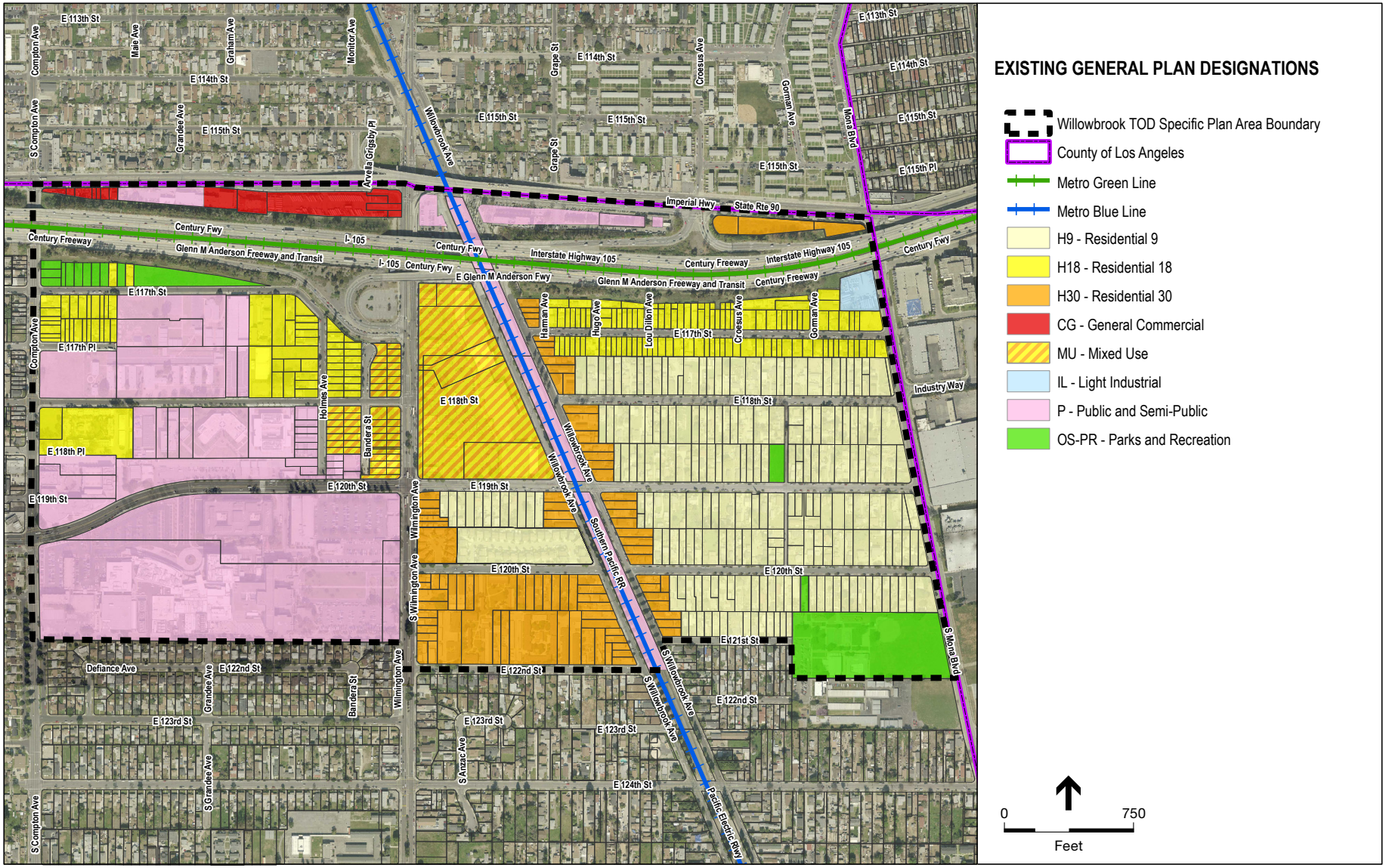
Figure 1

Regional Location



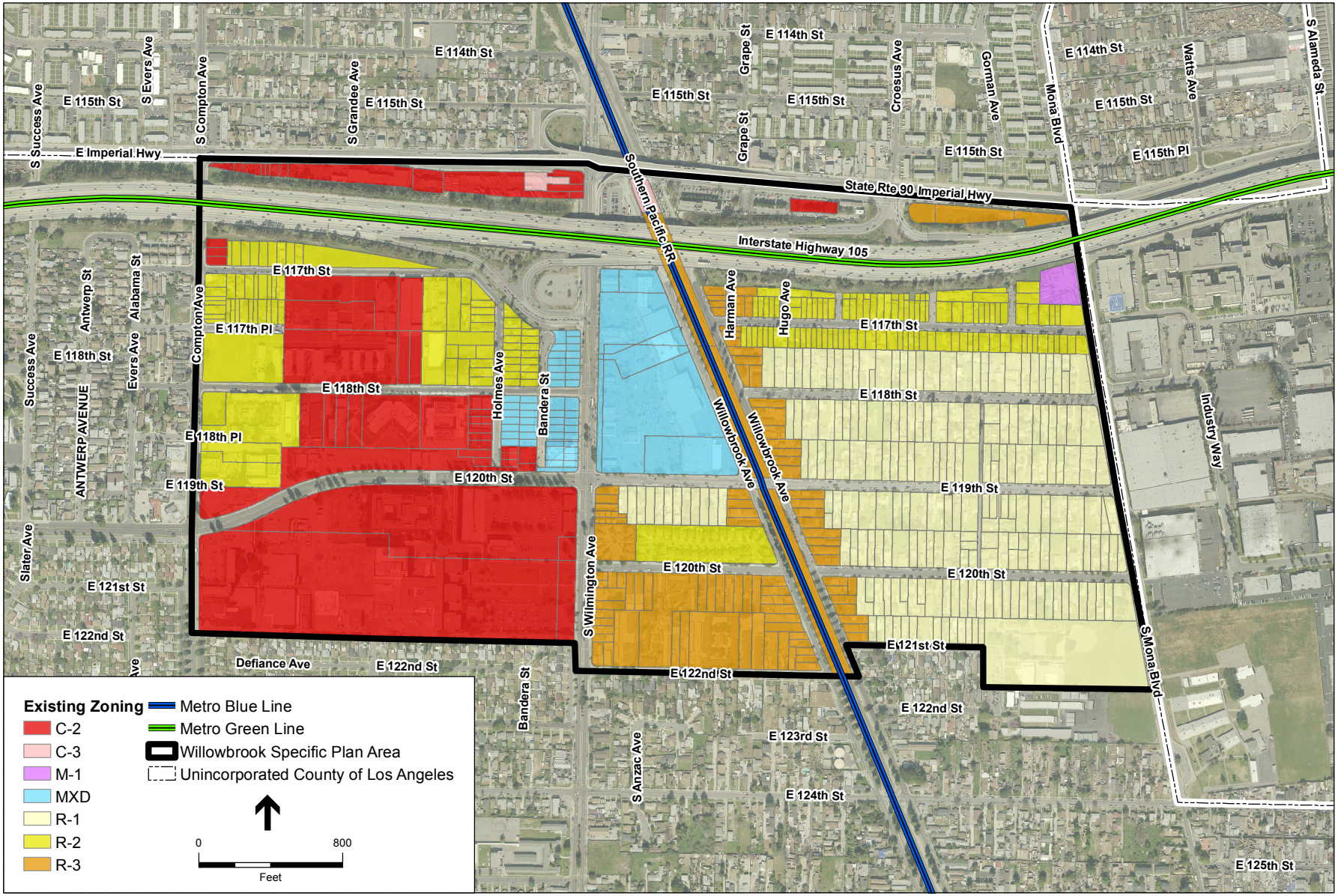
SOURCE: Willowbrook TOD Specific Plan

Figure 2
Project Location



SOURCE: Willowbrook TOD Specific Plan

Figure 3
Existing General Plan Designations



Path: U:\GIS\GIS\Projects\13xxxx\D130631_Willowbrook\task\Fig4_Zoning.mxd, jlin, 9/21/2015

SOURCE: ESRI

Figure 4
Existing Zoning

Description of project: The proposed Specific Plan is a County-initiated, Los Angeles County Metropolitan Transit Authority (Metro) grant-funded planning document that has been prepared to introduce a transit oriented development pattern to the area, which would promote active transportation and improve quality of life for residents by reducing vehicle miles traveled, improving the public realm, improving economic vitality and employment opportunities, and streamlining the environmental review process for future projects.

The proposed Specific Plan would facilitate development by rezoning and amending the General Plan land uses of parcels within a half mile radius south of the Willowbrook/Rosa Parks Station to include mixed uses, increased housing densities, and additional neighborhood-serving retail uses. The proposed zoning as shown on **Figure 5** includes: Mixed Use 1 (MU-1); Mixed Use 2 (MU-2); MLK Medical; Drew Educational; Imperial Commercial; Willowbrook Residential 1; Willowbrook Residential 2; Willowbrook Residential 3; and Open Space (O-S). **Table 1** shows the increase in development that would result from build out of the proposed Specific Plan. **Table 2** shows the existing acreage, zoning and land uses that would be revised by implementation of the proposed Specific Plan.

TABLE 1
DEVELOPMENT GENERATED FROM BUILDOUT OF THE PROPOSED SPECIFIC PLAN

	Residential Units	Non-Residential (SF)
Buildout of Proposed Specific Plan Zoning	2,702	4,540,830
Existing Development	968	1,910,524
Net New Development	**1,734**	**2,630,306**

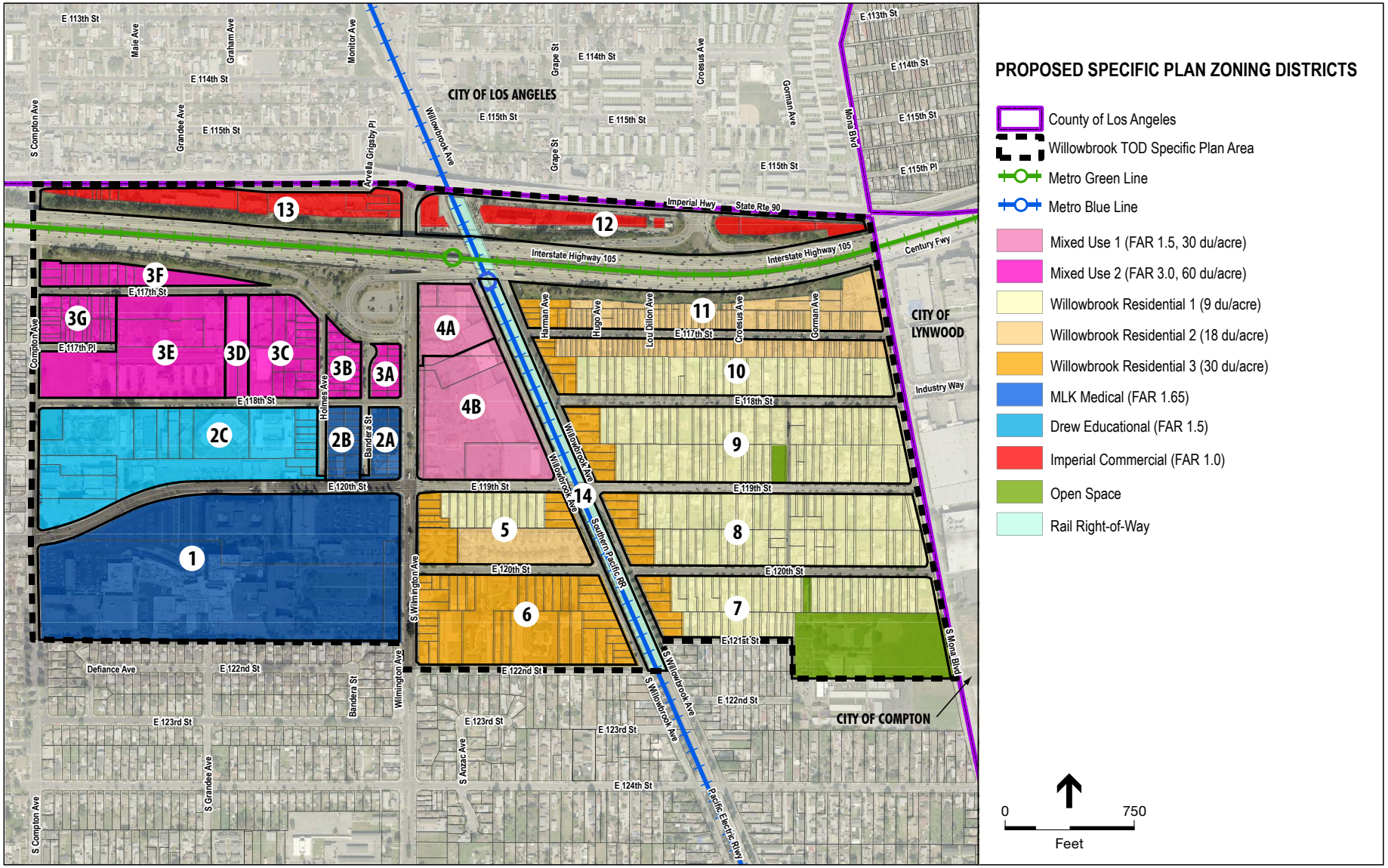
SOURCE: The Arroyo Group, 2015.

Specific Plan Subareas - Existing Uses

The existing land uses within the Specific Plan area include the Martin Luther King, Jr. (MLK) Medical Center Campus, Charles R. Drew University of Medicine and Science (CDU), Kenneth Hahn Plaza, Willowbrook Library, and the MLK Center for Public Health. The Specific Plan area is divided into seven distinct subareas that support a range of land uses, as described below and shown in **Figure 6**.

MLK Medical Center and Associated Facilities: The medical center campus is bound by Wilmington Avenue to the east, E. 120th Street to the north, Compton Avenue to the west, and a residential neighborhood to the south. The approximately 38-acre campus includes the MLK Community Hospital, which serves approximately 1.2 million residents throughout South Los Angeles including Compton, Inglewood, Watts, Willowbrook and Lynwood. In addition, the MLK Center for Public Health is adjacent to the hospital and is operated by the County of Los Angeles.

In 2011, Los Angeles County certified an environmental impact report for the MLK Medical Center Campus Redevelopment Project, Tiers I and II. Tier I development consisted of the MLK Multi-Service Ambulatory Care Center which has been developed, and is now part of the Specific Plan area's existing setting. Tier II programmatically considered mixed-use development including: medical office, commercial, retail, office space, recreation, and multi-family residential uses.



SOURCE: Willowbrook TOD Specific Plan

Figure 5
Proposed Zoning

TABLE 2
SUMMARY OF SPECIFIC PLAN ZONING AND GENERAL PLAN LAND USE AMENDMENTS

Subarea	Group	Existing Zoning and Land Use	Existing Residential Units	Existing Non-Residential (SF)	Proposed Zoning and Land Use	Capacity for Residential Units	Capacity for Non-Residential (SF)
MLK	1	Public	-	890,891	MLK Medical	100	2,139,413
MLK	2A	Public/Parking	-	33,000	MLK Medical	-	55,084
MLK	2B	Public/Parking	-	5,960	MLK Medical	-	5,960
CDU	2C	Institutional/Vacant/Public	49	477,842	Drew Educational	119	722,990
Northwest	3A	Vacant	-	-	Mixed Use 2	105	8,939
Northwest	3B	Single Family Residential/Vacant	19	-	Mixed Use 2	83	56,865
Northwest	3C	Public/Residential/Vacant.	30	16,816	Mixed Use 2	255	173,065
Northwest	3D	Institutional	-	150,000	Mixed Use 2	-	351,610
Northwest	3E	Vacant/Public	-	86,684	Mixed Use 2	553	375,433
Northwest	3F	Residential/Vacant	4	-	Mixed Use 2	145	98,494
Northwest	3G	Residential/Vacant	24	3,359	Mixed Use 2	134	91,373
Kenneth Hahn	4A	Retail/Commercial	-	49,447	Mixed Use 1	48	40,761
Kenneth Hahn	4B	Retail/Commercial	-	139,839	Mixed Use 1	264	179,355
Residential	5	Residential/Vacant/Religious	83	1,900	Willowbrook Residential	96	1,900
Residential	6	Residential/Vacant	272	-	Willowbrook Residential 3	278	-
Residential	7	Residential/Open Space	70	16,728	Willowbrook Residential 1	70	16,728
Residential	8	Residential/Vacant	99	-	Willowbrook Residential 1	102	-
Residential	9	Residential/Vacant	116	0	Willowbrook Residential 1	120	-
Residential	10	Residential//Vacant/Religious	129	2,112	Willowbrook Residential 1	132	2,112
Residential	11	Residential/Vacant/Industrial	67	-	Willowbrook Residential 2	91	-
Imperial Highway Corridor	12	Vacant/Rail Right-of-Way/Park and Ride	-	-	Imperial Commercial	-	55,281
Imperial Highway Corridor	13	Parking/Institutional/Public/Retail/ Commercial, Residential	6	35,945	Imperial Commercial	6	115,467
Metro Station	14	Rail Right-of-Way	-	-	Rail Right-of-Way	-	-
Totals			968	1,910,524		2,702	4,540,830

In 2012, Los Angeles County prepared a MLK Medical Center Campus Master Plan & the Willowbrook MLK Wellness Community Vision to guide Tier II development of the campus. The master plan and community vision were not formally adopted by the Los Angeles County Board of Supervisors, and it is the County's intent that the Willowbrook TOD Specific Plan serve as the regulatory document for buildout of the campus. Thus, while the master plan and community vision provides a guiding framework for buildout of the medical campus, future development within the campus will be required to comply with the provisions of the Willowbrook TOD Specific Plan. While the construction of the MLK Community Hospital was subject to the mitigation measures of the 2011 EIR, all subsequent development within the campus will be subject to the mitigation requirements of the EIR being prepared for the Willowbrook TOD Specific Plan.

CDU: Immediately north of the MLK Medical Center campus are CDU and the King/Drew Magnet High School. The high school is a four story building on the northeast corner of Compton Avenue and 120th Street and is a part of the Los Angeles Unified School District system. These institutions are bounded by Holmes Avenue to the east, Compton Avenue to the west, 120th Street to the south and 118th Street to the north.

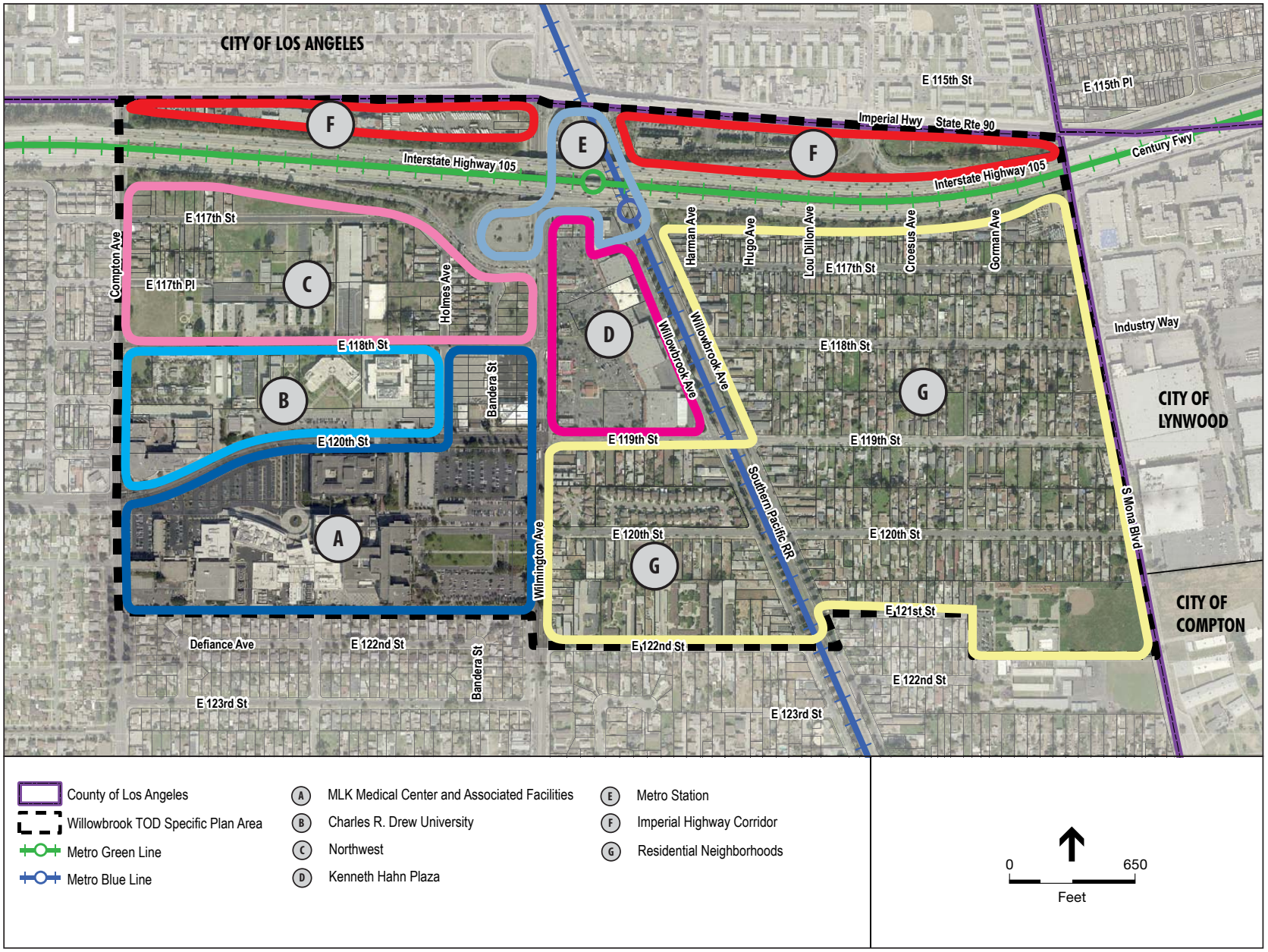
Northwest: The northwest subarea encompasses a variety of uses, including educational, retail, residential and institutional. Several vacant lots, owned by the Los Angeles County Community Development Commission (CDC), are located along E. 117th Street. A large vacant site on the northeast corner of E. 118th Street and Compton Avenue is owned by the Compton Unified School District. The educational uses include Lincoln-Drew Elementary School, a part of the Compton Unified School District (CUSD), and the Barack Obama Charter School (an Ingenium Charter School), which are both located north of E. 118th Street. CDU also owns and operates a two-story parking garage and parking lot in this subarea. Other uses in this subarea include a mini-mart, municipal water well and storage and a mix of single family homes, duplexes and multifamily structures. A mixed-use affordable housing and County public library project will break ground at the corner of Wilmington Avenue and 118th street in 2016.

Kenneth Hahn Plaza: Kenneth Hahn Plaza is a privately owned shopping center with approximately 189,287 square feet of retail/commercial space that is located on County-owned land immediately south of the Willowbrook/Rosa Parks Station, and bound by Wilmington Avenue to the west, 119th Street to the south and Willowbrook Avenue to the east. The anchor tenant is a Food 4 Less grocery store; and other tenants include Rite-Aid, General Discount, DaVita Dialysis Center, McDonalds, Taco Bell, Pizza Hut, and Denny's. The Plaza also includes the Willowbrook Library (soon to be relocated) and a Los Angeles County Sheriff's Department substation.

Metro is acquiring approximately 1.5 acres of land on the northern end of the Plaza for expansion of the Willowbrook/Rosa Parks Station. The rest of the Plaza site is being purchased by the shopping center operator, Kimco.

Metro Station: The Willowbrook/Rosa Parks station is adjacent to Kenneth Hahn Plaza, but is blocked off by a fence. Access to the residential neighborhoods to the east of the rail line is limited. Metro is currently implementing the Willowbrook/Rosa Parks Station Improvement Project, which would improve the existing physical conditions of the station. Specific improvements include lighting, signage, and pedestrian access to and from the surrounding neighborhood.

Imperial Highway Corridor: The uses along Imperial Highway Corridor are generally a mix of auto repair, retail, residential, Metro facilities, and underutilized and vacant lots. A school bus



SOURCE: Willowbrook TOD Specific Plan

Figure 6
Proposed Land Use Subareas

parking lot and a Metro maintenance yard are located to the west of Wilmington Avenue, and a Metro parking lot is located to the east of Wilmington Avenue. A barber shop and auto shop (towing) are located further west, near Compton Avenue. In addition, a few new homes have been built recently, and a vacant site owned by the Housing Authority for the City of Los Angeles is located within this corridor. On the north side of Imperial Highway (and not within the Specific Plan area) is Imperial Courts, a public housing project.

Residential Neighborhoods: Residential areas within the Specific Plan area include a mix of single family homes, duplexes, apartments, and condominiums and townhouses, which comprise just over 30 percent of the total Specific Plan area. The residential area south of Kenneth Hahn Plaza, east of Wilmington Avenue and west of Willowbrook Avenue is primarily multi-family, with a mix of apartments and detached town homes.

The residential area bounded by Mona Boulevard, 105 Freeway, Willowbrook Avenue and 121st Street contains mostly single-family uses, with the exception of the Willowbrook Avenue East frontage along the Metro Blue Line tracks, which is primarily multi-family use.

Specific Plan Subareas - Proposed Zoning

The Specific Plan area proposes new zoning designations, as described below and shown in Figure 5.

Mixed Use 1 (MU-1) (Kenneth Hahn Plaza Subarea): The Mixed Use 1 (MU-1) zone is intended to provide commercial and residential development with an emphasis on neighborhood serving retail, restaurant and service uses. The Specific Plan envisions a large retail or mixed use center, with a neighborhood plaza or community gathering space as a focal point and strong pedestrian connections to the Willowbrook/Rosa Parks Station, as well as the educational and medical campuses to the west. The proposed density for Mixed Use 1 (MU-1) zone is 1.5 floor area ratio (FAR) and 30 dwelling units per acre.

Mixed Use 2 (MU-2) (Northwest Subarea): The Mixed Use 2 (MU-2) zone is intended to provide commercial and residential development with an emphasis on employment generating uses and residential infill development. The area is appropriate for office, business park, or mixed use developments, with a significant open space component and strong pedestrian connections to the Willowbrook/Rosa Parks Station, and the educational and medical campuses to the south.

The Specific Plan would implement a mixed use district with employment generating uses and high-density residential infill within the Northwest Subarea. The employment generating uses are intended for medical back office, laboratory facilities, hospital equipment facility; medical or university support businesses that provide job opportunities. The high-density residential infill would provide housing for current and future workers, students, and residents in the area. The proposed density for Mixed Use 2 (MU-2) zone is 3.0 FAR and 60 dwelling units per acre.

MLK Medical (MLK Medical Center and Associated Facilities Subarea): The MLK Medical zone is established to maintain and promote medical, clinic, medical office, and associated uses such as incidental retail, supportive residential and parking. This subarea includes the MLK Medical Center campus, which includes the Los Angeles County Multi-Service Ambulatory Care Center (MACC) that opened in 2014 and provides outpatient services including general medicine, cardiology, dermatology, dentistry, geriatrics, HIV and AIDS care, neurology, orthopedics and physical therapy. In addition, the campus includes the new MLK Community Hospital, which opened on July 7, 2015 and has a total of 131 beds, including 93 medical/surgical beds, 20 intensive

care beds and 18 obstetrical beds. In addition, the hospital has a 21-bed emergency department. A 50,000 square foot medical office building and a 1,400 car parking garage are also in the planning and design stages within the MLK campus.

The Specific Plan would provide for pedestrian connection improvements between the MLK Medical Center campus and other activity areas. The proposed density for the MLK Medical zone is 1.65 FAR.

Drew Educational (CDU Subarea): The Drew Educational zone is established to meet the existing and future needs of the CDU and King Drew Magnet High School, while ensuring compatibility with adjacent land uses. The CDU master plan includes a pedestrian, bicycle and shuttle circulation network that connects with the major activity centers in the Specific Plan area. The CDU master plan also includes housing opportunities. The proposed housing types include residences for undergraduate students in a dorm-suite setting, shared graduate student housing, and family housing for visiting faculty. The proposed density for Drew Educational zone is 1.5 FAR.

Imperial Commercial (Imperial Highway Corridor Subarea/ Metro Rosa Parks Station Subarea): The Imperial Commercial zone is established to meet the commerce and service needs of community while ensuring compatibility with adjacent land uses. The intent is to maintain and promote commercial uses between Imperial Highway and I-105 Freeway. The Imperial Commercial zone provides for development of a broad range of retail and service uses, as well as freeway-oriented, regional-serving retail, office complexes, and light manufacturing businesses.

This corridor is suited for less intensive, non-residential uses, such as maintenance yards and parking facilities, self-service public storage facilities, and communications equipment buildings. The proposed density for Imperial Commercial zone is 1.0 FAR.

Willowbrook Residential 1 (Residential Neighborhoods Subarea): The Willowbrook Residential 1 zone provides for primarily detached, single-family residences to preserve existing residential uses in certain areas. The proposed density for Residential 1 zone is 9 dwelling units per acre.

Willowbrook Residential 2 (Residential Neighborhoods Subarea): The Willowbrook Residential 2 zone provides for single family residential, while also providing for two-family residences. The intent is to promote the desirable characteristics of low to medium density neighborhoods. The proposed density for Residential 2 zone is 18 dwelling units per acre.

Willowbrook Residential 3 (Residential Neighborhoods Subarea): The Willowbrook Residential 3 zone is established to provide opportunities for developments containing multiple units, such as apartments or condominiums with common open space and other shared amenities. The proposed density for Residential 3 zone is 30 dwelling units per acre.

Parking Reduction Overlay Zone: The Specific Plan establishes a Parking Reduction Overlay zone within which minimum parking requirements are reduced and maximum parking standards are established to provide appropriate parking for each individual development project, and consistent with the projected increased transit use and less need for parking. The parking overlay zone is primarily located within the CDU, Northwest, Kenneth Hahn Plaza and Metro Station Subareas.

Proposed Mobility and Parking

Roadway Network: The roadway system provides the backbone circulation system for all modes of transportation. The existing street system would be largely maintained in its current configuration, with some improvements designed to improve access, circulation, and walkability (**Figure 7, Existing Street Network and Proposed Road Diets**). The major roadways are Wilmington Avenue and Imperial Highway. Secondary roadways are Compton Avenue, Willowbrook Avenue and Mona Boulevard in the north-south direction, and 120th Street/119th Street in the east-west direction. The number of traffic lanes and roadway lane configurations would generally remain the same, except where road diets would be implemented. Road diets reduce the number of car lanes and add bicycle/pedestrian lanes. The following street enhancements, shown in Figure 8, are intended to improve circulation for bicycles and pedestrians in the Specific Plan area.

Road Diet and Bicycle Lanes on 120th Street: As part of the Willowbrook Area Access Improvements Project, a portion of 120th Street between Compton Avenue and Wilmington Avenue would be reduced from four lanes to three lanes, with a bicycle lane in each direction.

Road Diet and Bicycle/Pedestrian Trail on Mona Boulevard: Mona Boulevard from the I-105 Freeway to 124th Street would be converted from a four lane street to a three lane street, and a pedestrian/bicycle trail installed on the west side of the street.

Willowbrook Avenue: The section of Willowbrook Avenue West between the Willowbrook/Rosa Parks Station and 119th Street, would be reduced from two lanes southbound to one lane southbound, and a bicycle path installed on the west side of the street.

Existing Pedestrian Circulation: The key pedestrian routes in the Specific Plan area are shown in **Figure 8, Existing Pedestrian Routes and Proposed Pedestrian Improvements.** The backbone of the pedestrian system is formed by Wilmington Avenue in the north-south direction and 120th/119th Street in the east-west direction. These two backbone corridors connect the major activity areas of the Willowbrook/Rosa Parks Station, the Kenneth Hahn Plaza, and the MLK Medical Center campus. They also cross at the intersection of Wilmington Avenue and 120/119th Street, which is the pedestrian hub of the Specific Plan area. Additional key elements of the pedestrian system are 118th Street between Compton Avenue and Wilmington Avenue, which connects the CDU campus to the rest of the Specific Plan area, Willowbrook Avenue West between 119th Street and the Willowbrook/Rosa Parks Station, providing access from residential areas to the station, and 119th Street between Willowbrook Avenue and Mona Boulevard, which provides access from the residential areas to the activity centers of the Specific Plan area. Mona Boulevard also provides north-south pedestrian access on the east side of the Specific Plan area including access to Mona Park, the MLK Elementary School and the Dr. Ralph Bunche Middle School.

Pedestrian Sidewalk Improvements: Sidewalks currently exist on most streets in the Specific Plan area, although some are narrow or substandard in quality. The Specific Plan would implement improvements to sidewalks as new development occurs in the following locations: the currently unpaved west side of Willowbrook Avenue West between the Metro Station and 119th Street; the sidewalks on Wilmington Avenue between the 1-105 Freeway off-ramps and Imperial Highway would be improved by widening and adding streetscape improvements including better street lighting.

Pedestrian Oriented Intersection Improvements: To enhance the pedestrian environment and to calm traffic, the proposed Specific Plan would implement a number of

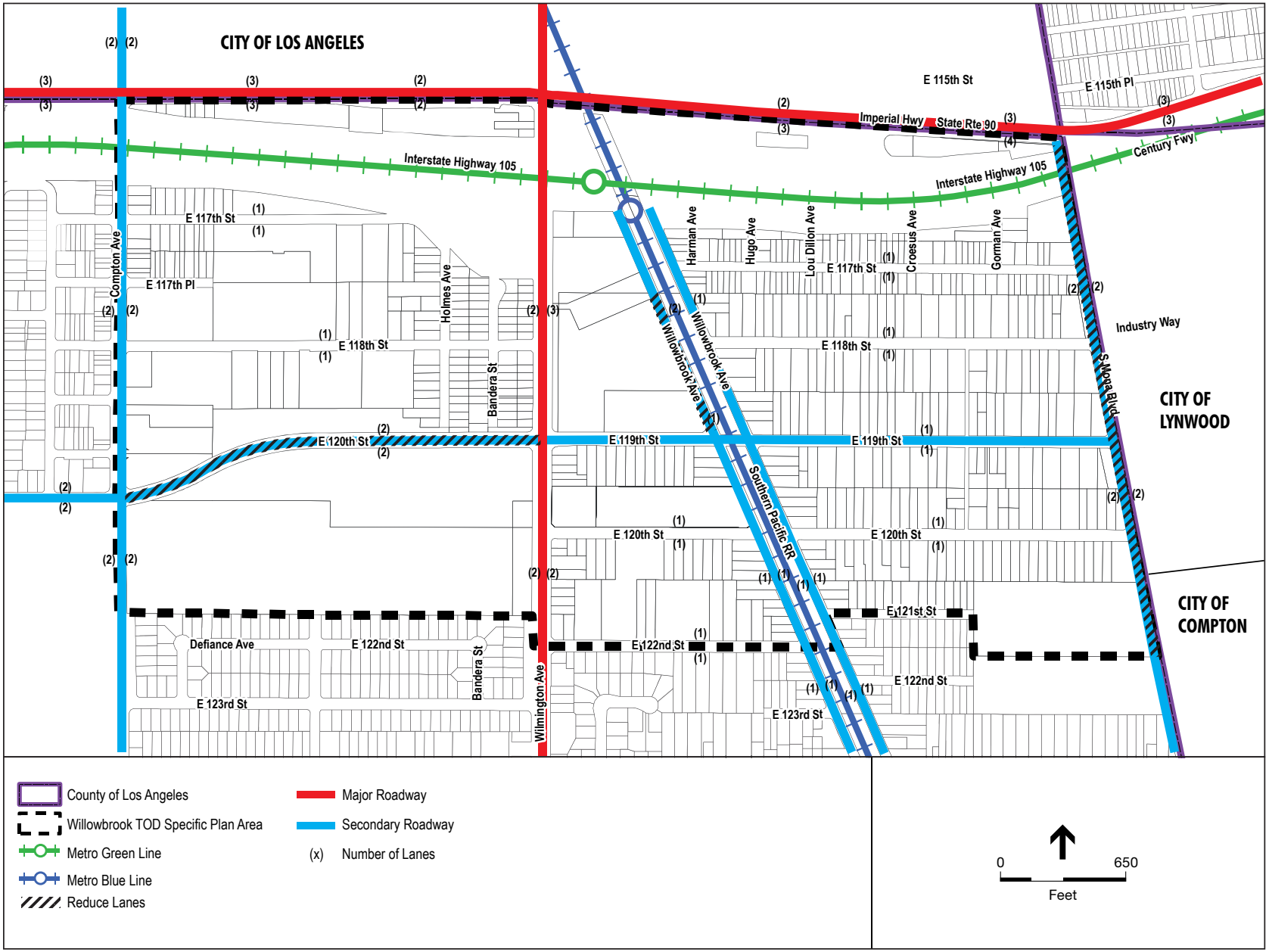
pedestrian oriented intersection improvements, as shown in Figure 9. These include adding high visibility crosswalks at intersections; adding passive pedestrian detection and pedestrian push buttons for crosswalks at traffic signals at intersections; adding countdown pedestrian signals and audio signals to crosswalks at intersections; adding advance stop bars to intersection approaches; adding sidewalk bulb-outs and extensions, or reducing curb returns, on intersection corners where feasible; adding median nose/crossing islands where advantageous and feasible. These measures would facilitate pedestrian circulation, by reducing the width of roadway for pedestrians to cross, providing additional sidewalk space, and making pedestrian crossings more visible to both pedestrians and motorists. The locations for proposed improvements are: Wilmington Avenue and Imperial Highway; Wilmington Avenue and I-105 Eastbound Ramps; Wilmington Avenue and 118th Street; Wilmington Avenue and 120/119th Streets; Wilmington Avenue and 120 Street; Wilmington Avenue and 122nd Street; Willowbrook Avenue West and 119th Street; Willowbrook Avenue East and 119th Street; Mona Avenue and Imperial Highway; Mona Avenue and 119th Street; Mona Avenue and 120th Street; Compton Avenue and Imperial Highway; Compton Avenue and 118th Street; and Compton Avenue and 120th Street.

The type of improvements (Figure 9) would follow the concepts identified in the "Los Angeles County Transit Oriented Districts Access Study". The improvements at Wilmington Avenue and I-105 eastbound ramp would add a crosswalk across Wilmington Avenue to facilitate access to the Willowbrook/Rosa Parks Station. Other specific improvements include new traffic signals at Wilmington Avenue and 122nd Street, and at Mona Avenue and 119th Street, to facilitate pedestrian crossings on long stretches of both streets currently without signalized crosswalks and a signalized pedestrian crosswalk at Mona Avenue and 120th Street, to facilitate pedestrians crossing to the Dr. Ralph Bunche Middle School.

Bicycle Circulation: The Specific Plan Bicycle Network, shown in **Figure 9, Bicycle Network and Key Transit Streets**, includes a combination of Class I, Class II, Class III and Class IV facilities to provide a connected and integrated bicycle network throughout the Specific Plan area that connects activity centers and neighborhoods to the Willowbrook/Rosa Parks station, and provides a network for bicyclists to use safely and efficiently.

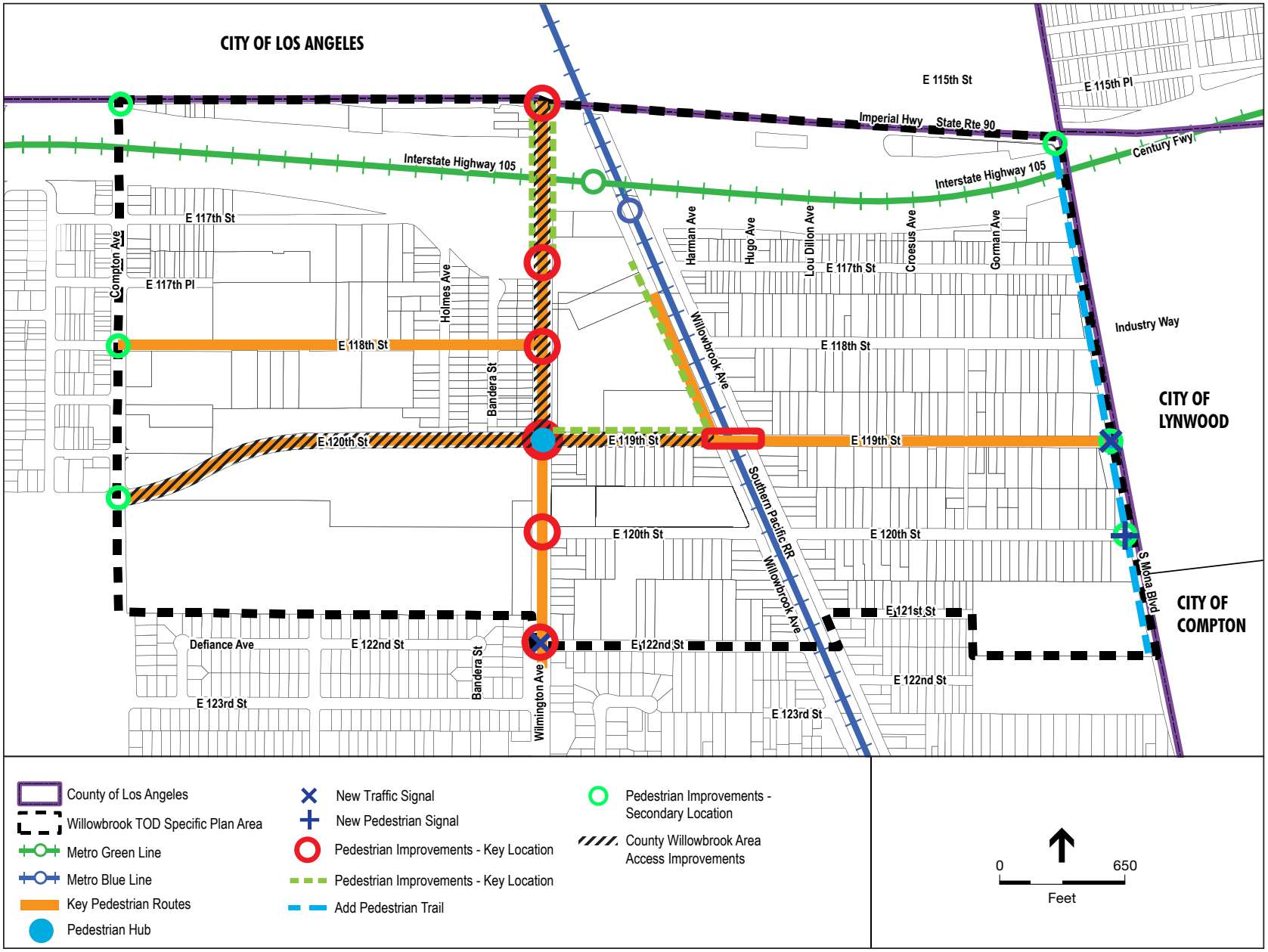
Bicycle Facilities: Class I bicycle paths would be implemented on Willowbrook Avenue West between 119th Street and Imperial Highway to provide access to the rail station, and on Mona Avenue (west side) between Imperial Highway and 119th Street. Class II bicycle lanes would be implemented on 120th Street between Compton Avenue and Wilmington Avenue, on Wilmington Avenue between 124th Street and 120th Street, and on Imperial Highway between Compton Avenue and Mona Avenue.

Not all streets can support bicycle lanes. In these instances, a connected bicycle network is achieved through implementation of Class III bicycle routes. Class III bicycle routes would be implemented on Compton Avenue, Willowbrook Avenue West south of 119th Street, 119th Street between Wilmington Avenue and Mona Avenue, and on 124th Street throughout the Specific Plan area.



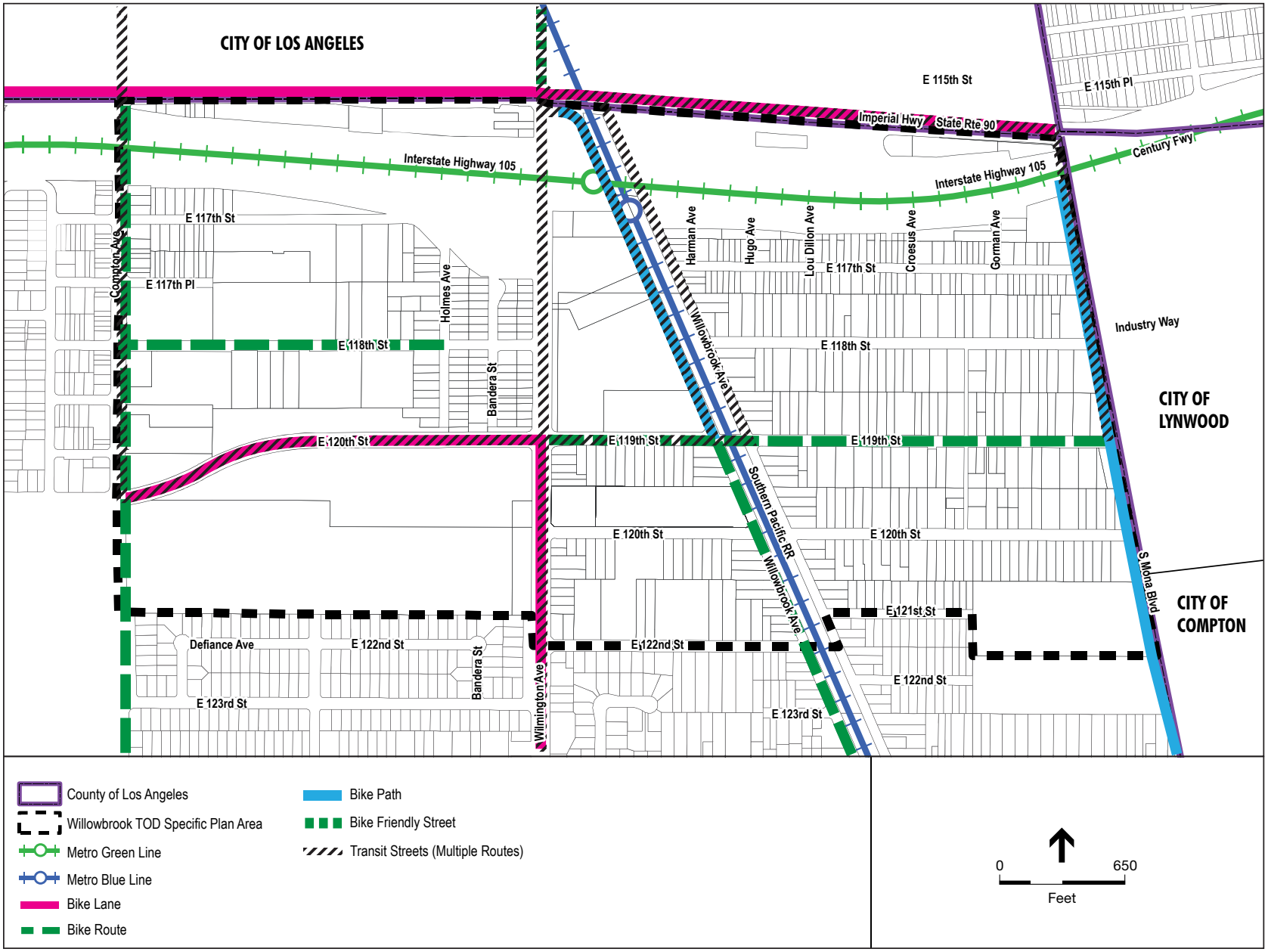
SOURCE: Willowbrook TOD Specific Plan

Figure 7
Existing Street Network and Proposed Road Diets



SOURCE: Willowbrook TOD Specific Plan

Figure 8
Existing Pedestrian Routes and
Proposed Pedestrian Improvements



SOURCE: Willowbrook TOD Specific Plan

Figure 9
Bicycle Network and Key Transit Streets

Bicycle Parking and Stations: Bicycle parking would be provided according to the Los Angeles County Code for all new developments. In addition, bicycle parking would be provided at the Kenneth Hahn Plaza and the Willowbrook/Rosa Parks Station. Bicycle stations include repair facilities and small bicycle shops, bicycle share program facilities and, secure bicycle parking. Bicycle Stations would be provided within the MLK Medical Center campus and the CDU campus, and in the Northwest Subarea of office uses. A Bicycle Share Program would be implemented in the Specific Plan area to encourage the use of bicycling and reduce vehicle trips. Bicycle share programs provide bicycles that can be rented for a period of time and can be picked up or dropped off at any bicycle share facility in an area.

Shuttle Routes: Existing shuttle routes that are operated by the County to serve the MLK Medical Center and CDU campus would continue, and additional shuttle routes would be added to serve new development in the Northwest Subarea and connect the land uses to the Metro Station.

Surrounding land uses and setting: The area surrounding the proposed Specific Plan area is heavily urbanized with residential, commercial and institutional land uses. North of the Specific Plan area is predominately residential with some commercial uses. The City of Lynwood is directly adjacent to the Specific Plan's eastern border and land uses are manufacturing, public uses and commercial. South and west of the Specific Plan area is predominately residential.

Project Requirements

CEQA: The proposed Project will require certification of a CEQA document.

- *County of Los Angeles Board of Supervisors*
- *Certification of an Environmental Impact Report. General Plan Amendment, and Zoning Amendment*

Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement): None for the proposed Specific Plan. Future specific development and redevelopment projects pursuant to the proposed Specific Plan would be subject to approvals by various trustee and regulating agencies, including, but not limited to the CDC, Metro, Caltrans, South Coast Air Quality Management District, and the Los Angeles Regional Water Quality Control Board.

Major projects in the area:

Metro Willowbrook/Rosa Parks Station Improvement Project: Metro's Willowbrook/Rosa Parks Station Improvement Project would provide improvements to this station. In addition to the two rail lines, the Station is served by six Metro bus lines as well as several municipal bus lines and community shuttles. Improvements part of the Metro's Willowbrook/Rosa Parks Station Improvement Project include platform extensions and enhancements, upgraded entrances and pedestrian crossings, improved lighting, landscaping and signage throughout the site, and upgrades to the bus, bicycle and park-and-ride facilities. The Final Initial Study/Negative Declaration was prepared May 8, 2015.

Wilmington & 118th Street Senior Housing and Los Angeles County Public Library: A five-story mixed-use building that includes an 8,939-square-foot first-floor space for a County library and public meeting room is planned for 11737-11753 Wilmington Avenue and 11732-11756 Bandera Street. The four upper floors contain 105 apartments for lower-income seniors. The project contains 104 ground-level and underground parking spaces; and the structure has a total floor area of 92,358 square feet on 1.7 gross (1.0 net) acres. Most of the structure is proposed to have a maximum height of 65 feet

above grade, although an architectural feature may extend to a height of 70 feet above grade. This project is scheduled to break ground in 2016. The Mitigated Negative Declaration prepared for this project was adopted by the Regional Planning Commission on February 11, 2015.

DPW Willowbrook Area Access Improvements: The Department of Public Works (DPW) is planning for improvements to the public right-of-way in the vicinity of the MLK Community Hospital. The primary objective of this project is to improve mobility of pedestrians and bicyclists in the area. The project limits are: Wilmington Avenue from Imperial Highway to 480 feet south of 120th Street, 120th Street from Compton Avenue to Wilmington Avenue, 119th Street from Wilmington Avenue to Willowbrook Avenue. The project includes the following improvements: landscape and irrigation throughout the project limits; sidewalk enhancements such as colored concrete unit pavers and curb ramp upgrades; pavement repair and crosswalk enhancements; construction of new raised medians with landscaping; renovation of existing landscaped median; refurbishing existing and providing new site furnishings such as bus shelters, trash receptacles, benches, and bicycle racks; pedestrian lighting; bicycle routes/lanes; wayfinding and monument signage; and traffic signal upgrades. Construction is set to begin the summer of 2016. The Willowbrook Area Access Improvements project was categorically exempt from the provisions of the California Environmental Quality Act. The CEQA exemption was adopted by the Board of Supervisors on April 2, 2013.

Reviewing Agencies:

Responsible Agencies

☐ None
Regional Water Quality Control Board:
☒ Los Angeles Region
☐ Lahontan Region
☐ Coastal Commission
☐ Army Corps of Engineers

Special Reviewing Agencies

☒ None
☐ Santa Monica Mountains Conservancy
☐ National Parks
☐ National Forest
☐ Edwards Air Force Base
☐ Resource Conservation District of Santa Monica Mountains Area
☐ City of Los Angeles Bureau of Sanitation and City of Los Angeles Department of Planning

Regional Significance

☐ None
☒ SCAG Criteria
☐ Air Quality
☐ Water Resources
☐ Santa Monica Mtns. Area

Trustee Agencies

☐ None
☐ State Dept. of Fish and Wildlife
☐ State Dept. of Parks and Recreation
☐ State Lands Commission
☐ University of California (Natural Land and Water Reserves System)

County Reviewing Agencies

☒ DPW:
- Land Development Division (Grading & Drainage)
- Geotechnical & Materials Engineering Division
- Watershed Management Division (NPDES)
- Traffic and Lighting Division
- Environmental Programs Division
- Waterworks Division
- Sewer Maintenance Division

☒ Fire Department
- Forestry, Environmental Division
-Planning Division
- Land Development Unit
- Health Hazmat

☐ Sanitation District
☒ Public Health/Environmental Health Division: Land Use Program (OWTS), Drinking Water Program (Private Wells), Toxics Epidemiology Program (Noise)
☒ Sheriff Department
☒ Parks and Recreation
☐ Subdivision Committee
☐ Beaches and Harbors

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project.

☒ Aesthetics	☒ Greenhouse Gas Emissions	☒ Population/Housing
☐ Agriculture/Forest	☒ Hazards/Hazardous Materials	☒ Public Services
☒ Air Quality	☒ Hydrology/Water Quality	☒ Recreation
☐ Biological Resources	☒ Land Use/Planning	☒ Transportation/Traffic
☒ Cultural Resources	☐ Mineral Resources	☒ Utilities/Services
☒ Energy	☒ Noise	☒ Mandatory Findings of Significance
☒ Geology/Soils		

DETERMINATION: (To be completed by the Lead Department.)
On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature (Prepared by) Date

_____ _____

Signature (Approved by) Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources the Lead Department cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the Lead Department has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level. (Mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced.)

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA processes, an effect has been adequately analyzed in an earlier EIR or negative declaration. (State CEQA Guidelines § 15063(c)(3)(D).) In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of, and adequately analyzed in, an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

7) The explanation of each issue should identify: the significance threshold, if any, used to evaluate each question, and; mitigation measures identified, if any, to reduce the impact to less than significance. Sources of thresholds include the County General Plan, other County planning documents, and County ordinances. Some thresholds are unique to geographical locations.

8) Climate Change Impacts: When determining whether a project's impacts are significant, the analysis should consider, when relevant, the effects of future climate change on : 1) worsening hazardous conditions that pose risks to the project's inhabitants and structures (e.g., floods and wildfires), and 2) worsening the project's impacts on the environment (e.g., impacts on special status species and public health).

1. AESTHETICS

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

Less Than Significant Impact. Typically, a scenic vista is defined as a view of an area that is visually or aesthetically pleasing. Aesthetic components of a scenic vista include (1) scenic quality, (2) sensitivity level, and (3) view access. The Specific Plan area is a flat, level area with no hills and there are no large areas of natural open space. Willowbrook is an urbanized community and, as a result, views in all directions are generally adjacent to urban development and associated roadways and landscaping. The Specific Plan area is not considered to have a high level of sensitivity for scenic vista impacts. Therefore, impacts to scenic vistas would not occur and further discussion of this will not be included in the EIR.

b) Be visible from or obstruct views from a regional riding or hiking trail?	☐	☐	☐	☒

No Impact. The Specific Plan area is located within a fully developed urban area, and is not located in the vicinity of a County regional riding or hiking trail (LA County, 2012). However, the Los Angeles River Trail (a 7 mile bike path from the north side of Griffith Park at Riverside Drive along the Los Angeles River to Barclay Street, north of Downtown LA) is 3 miles to the east of the Specific Plan area. The Los Angeles River Trail is not located in the vicinity of the Specific Plan area and does not have direct or indirect views of the Specific Plan area; thus, the EIR will not include an evaluation of potential impacts related to regional riding or hiking trails and scenic views.

c) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒

No impact. The Specific Plan area is not located within or near a designated scenic highway corridor and is not located within view of a state or federal scenic highway. Interstate Highway 105 runs east to west along the northern portion of the project area but is not designated as a scenic highway. The nearest Caltrans-designated Scenic Highway is a portion of Highway 210 (Caltrans, 2015) located approximately 20 miles north of the Specific Plan area. Thus, the Specific Plan area is not visible from this highway, and the project would not result in impacts to scenic resources within view of a state scenic highway. This criterion will not require further analysis in the EIR.

d) Substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features?	☒	☐	☐	☐

Potentially Significant Impact. The proposed Specific Plan would allow for redevelopment at an increased intensity; taller buildings, expanded sidewalks, bicycle lanes and bicycle parking facilities, and alterations to the existing street intersections in order to implement a TOD development pattern to the Specific Plan area. New development would be located within walking distance of the existing

Willowbrook/Rosa Parks Station and would include a mix of residential, mixed-use, commercial, and complementing public uses designed for pedestrians while also accommodating vehicular traffic. The proposed Specific Plan is intended to be consistent with the Los Angeles County General Plan goal to strengthen aesthetic character within the area, and would include landscaping and beautification elements. However, these improvements would alter the existing visual character of the area. The EIR will evaluate the planned changes to determine if they would degrade the existing visual character or quality of the Specific Plan area.

e) Create a new source of substantial shadows, light, or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

Potentially significant impact. The proposed infill development and redevelopment, as well as the new pedestrian-friendly light signals and walkway lighting could potentially increase ambient or "spillover" light in the Specific Plan area. In addition, the proposed Specific Plan provides architectural, residential, commercial and mixed-use, parking, landscaping, and street lighting standards. These standards include a prohibition against light fixtures that cause glare or reflect into upper stories of buildings. Chapter 2 of the proposed Specific Plan states that pedestrian-scaled lighting should be provided along all streets in the project area. Light fixtures would adhere to guidelines set forth by the Dark Sky Association to protect the area's view of stars. Light fixtures in the public right-of-way would also follow the Southern California Edison (SCE) standards for maintenance. However, potentially significant impacts related to an increase in ambient and spillover light could occur; thus, potential impacts related to light and glare will be further evaluated in the EIR.

2. AGRICULTURE / FOREST

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

No impact. The Willowbrook area does not contain any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (CDOC, 2015). The proposed Specific Plan area consists of a developed urban area that does not contain any farmland uses. Therefore, the proposed Specific Plan would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide importance to nonagricultural uses. No impacts related to the conversion of farmland to non-agricultural uses would occur; this issue will not be analyzed further in the EIR.

b) Conflict with existing zoning for agricultural use, with a designated Agricultural Opportunity Area, or with a Williamson Act contract?	☐	☐	☐	☒

No impact. The project area does not contain an agricultural zoning classification or land use designation and is not regulated by a Williamson Act Contract (CDOC, 2013). No impact would occur as a result of the proposed Specific Plan and this issue will not be analyzed further in the EIR.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220 (g)), timberland (as defined in Public Resources Code § 4526), or timberland zoned Timberland Production (as defined in Government Code § 51104(g))?	☐	☐	☐	☒

No impact. Willowbrook is not zoned for forest land or zoned as an area designated for Timberland Protection. No impact would occur as a result of the proposed Specific Plan and this issue will not be analyzed further in the EIR.

d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

No impact. See explanation 2c above.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

No impact. See explanation 2c above.

3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Conflict with or obstruct implementation of applicable air quality plans of either the South Coast AQMD (SCAQMD) or the Antelope Valley AQMD (AVAQMD)?	☒	☐	☐	☐

Potentially Significant Impact. Willowbrook is located within the South Coast Air Basin, which consists of the urbanized areas of Los Angeles, Riverside, San Bernardino, and Orange Counties. The SCAQMD monitors the Basin for pollutants and is responsible for regulating and controlling emissions, primarily from stationary sources. The Basin is currently under both federal and state non-attainment status for ozone and particulate matter smaller than 10 and 2.5 microns (PM10 and PM2.5, respectively). SCAQMD and the Southern California Association of Governments (SCAG) are responsible for preparing the air quality management plan (AQMP) to address federal and state Clean Air Act requirements. The AQMP details goals, policies, and programs for improving air quality in the Basin and to bring it into attainment with the national and state ambient air quality standards. The most recent AQMP was adopted by the SCAQMD Governing Board on December 12, 2012. On February 19, 2015, the Air Resources Board conducted a public meeting to consider the minor revision to the South Coast 2012 PM2.5 SIP (CARB, 2015).

Implementation of the proposed Specific Plan would generate pollutant emissions during both construction and operation of new developments in the Specific Plan area. During construction, sources of pollutant emissions include heavy off-road equipment as well as on-road motor vehicles and workers' commutes to and from development sites. Construction activities would result in emissions of particulate matter, as well as nitrous oxides (NOx) and volatile organic compounds (VOCs), which are precursors to ozone formation. Additionally, because build out of the proposed Specific Plan project would involve changes in land use intensity and traffic patterns, an increase of air pollutant emissions could occur that may conflict with applicable air quality plans of the SCAQMD. Furthermore, operation of new or altered buildings could increase emissions from new area sources. Overall, the pollutant emissions associated with the proposed Specific Plan project could potentially conflict with SCAQMD's AQMP. Thus, the potential for implementation of the proposed Specific Plan to conflict with or obstruct implementation of the AQMP will be evaluated in the EIR.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐

Potentially Significant Impact. The Basin is currently under both federal and state non-attainment status in ozone and particulate matter smaller than 10 and 2.5 microns (PM10 and PM2.5, respectively). Implementation of the proposed Specific Plan would result in pollutant emissions generated from the construction and operation of new land uses within the Specific Plan area. Construction of new developments and roadway improvements would generally involve activities such as demolition, site preparation, grading, and building construction, which would result in fugitive dust and equipment exhaust

emissions. Construction worker and delivery vehicle trips would also generate temporary pollutant emissions. These construction-related emissions could adversely affect the regional ambient air quality in the Basin and locally within Willowbrook. Additionally, operation of the new land uses in the proposed Specific Plan area may result in increased emissions of air pollutants from new stationary sources and from vehicle trips accessing the Specific Plan area. Thus, the pollutant emissions generated from implementation of the proposed Specific Plan may violate an air quality standard or contribute to an existing or projected air quality violation. Therefore, this impact is considered to be potentially significant and will be analyzed in the EIR. Mitigation measures will be identified if necessary.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? ☒ ☐ ☐ ☐

Potentially Significant Impact. As indicated under 3b, short-term construction activities and long-term operation of future developments associated with the proposed Specific Plan may generate emissions that could result in either a violation of an ambient air quality standard or contribute to an existing air quality violation. Due to the elevated concentrations of air pollutants that currently occur in the Basin, when combined with other past, present, or reasonably foreseeable future projects in the area, the net increase of criteria pollutants could cumulatively contribute to the nonattainment designations of pollutants in the Basin. Thus, the EIR will evaluate the potential for the proposed Specific Plan to generate a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment.

d) Expose sensitive receptors to substantial pollutant concentrations? ☒ ☐ ☐ ☐

Potentially Significant Impact. Sensitive receptors are locations where uses or activities result in increased exposure of persons more sensitive to the unhealthful effects of emissions (such as children and the elderly). Examples of land uses that can be classified as sensitive receptors include residences, schools, daycare centers, parks, recreational areas, medical facilities, rest homes, and convalescent care facilities. Sensitive receptors within the Specific Plan area include residential areas, medical facilities, and schools such as King-Drew Magnet High School, CDU, Barack Obama Charter School, and MLK Elementary. Future development pursuant to implementation of the proposed Specific Plan project may expose these existing and/or new sensitive receptors to substantial pollutant concentrations. The EIR will evaluate the potential for construction and operation of the future developments in the Specific Plan area to expose sensitive receptors to substantial pollutant concentrations.

e) Create objectionable odors affecting a substantial number of people? ☐ ☐ ☒ ☐

Less Than Significant Impact. The SCAQMD Air Quality Handbook identifies the following uses as having potential odor issues; wastewater treatment plants, food processing plants, agricultural uses, chemical plants, composting, refineries, landfills, dairies, and fiberglass moldings, none of which are proposed within the Specific Plan. The Specific Plan proposes mixed use commercial and residential development within the project area, which do not involve the types of uses that would emit objectionable odors affecting a substantial number of people. In addition, odors generated by new and existing non-residential land uses in the Specific Plan area are required to be in compliance with SCAQMD Rule 402 to prevent odor nuisances on sensitive land uses.

During construction of future projects allowed under the proposed Specific Plan, emissions from construction equipment, such as diesel exhaust, and volatile organic compounds from architectural coatings and paving activities may generate odors. However, these odors would be limited and temporary; and thus, are not expected to affect a substantial number of people. Therefore, impacts relating to both operational and construction activity odors would be less than significant, and odors will not be evaluated in the EIR.

4. BIOLOGICAL RESOURCES

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	☐	☐	☐	☒

No Impact. No candidate, sensitive, or special-status species have been identified within or in the vicinity of the Specific Plan area by the California Natural Diversity Database (CNDDB) (CNDDB, 2015). The proposed Specific Plan provides for infill development within an already highly disturbed urban environment. This development would not result in any direct impacts to special-status species or result in any habitat modifications that could indirectly result in a substantial adverse effect on any special-status species. Therefore, the proposed Specific Plan project would not result in impacts on species identified as candidate, sensitive, or special-status, and further analysis of this issue is not required in the EIR.

b) Have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations or by CDFW or USFWS?	☐	☐	☐	☒

No Impact. Riparian habitat is lowland habitat associated with the bed and banks of a river, stream, or wash. The nearest river is the Los Angeles River 4 miles east of the eastern most boundary of the Specific Plan area. Compton Creek is located 2 miles west of the western most boundary of the Specific Plan area. Both rivers are concrete-lined and channelized and, therefore, do not have any riparian habitat along its banks. The Specific Plan area is located in an upland area that contains an appreciable amount of impervious surfaces (i.e., asphalt and cemented streets and parking lots and buildings) and nonnative ornamental trees, shrubs, and ground cover and, therefore, riparian habitat is not present. The proposed Specific Plan would involve infill development within an already highly disturbed urban environment and would not involve any changes or alterations to any riparian habitat or other sensitive natural community. Therefore, the proposed Specific Plan project would not result in impacts on riparian habitats and this criterion does not require further analysis in the EIR.

c) Have a substantial adverse effect on federally or state protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States, as defined by § 404 of the federal Clean Water Act or California Fish & Game code § 1600, et seq. through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

No Impact. As discussed above, the Specific Plan area is a highly disturbed urban environment and no portion of the area contains the proper vegetation (i.e., a preponderance of hydrophytes or "water-loving" plants), soils (i.e., hydric or waterlogged soils), and hydrologic conditions (i.e., inundated either permanently or periodically or saturated during the growing season of the prevalent vegetation) to be defined a wetland according to the U.S. Army Corps of Engineers' (USACE) *Wetlands Delineation Manual* (USACE, 1987). Compton Creek (located approximately 2 miles west of the Specific Plan area) is a concrete-lined and channelized wash. Overall, because the Specific Plan area does not contain nor is located in proximity to a wetland, the proposed Specific Plan project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (CWA) (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Impacts would not occur and this criterion requires no further analysis in the EIR.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? ☐ ☐ ☐ ☒

No Impact. The Specific Plan area is within a fully developed urban area. It is sufficiently removed from habitat areas such that it could not provide for the movement of any native resident or migratory fish or wildlife species, nor could it provide an established native resident or migratory wildlife corridor or contain native wildlife nursery sites. Therefore, no impacts would result from implementation of the proposed Specific Plan and no further analysis of this issue is required in the EIR.

e) Convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10% canopy cover with oaks at least 5 inch in diameter measured at 4.5 feet above mean natural grade) or otherwise contain oak or other unique native trees (junipers, Joshuas, southern California black walnut, etc.)? ☐ ☐ ☐ ☒

No Impact. No oak woodlands or other unique native trees exist within the Specific Plan area. As a result, impacts to oak woodlands or unique native trees would not occur with implementation of the proposed Specific Plan.

f) Conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16), the Significant Ecological Areas (SEAs) (L.A. County Code, Title 22, § 22.56.215), and Sensitive Environmental Resource Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44, Part 6)? ☐ ☐ ☐ ☒

No Impact. The only local policy or ordinance related to the protection of biological resources that would be applicable to the Specific Plan area is the Oak Tree Ordinance; which establishes that a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any tree of the oak tree

genus without first obtaining a permit. The proposed Specific Plan would not affect any oak trees located in the project area. Furthermore, implementation of the proposed Specific Plan would adhere to all County ordinances applicable to the Specific Plan area, including the Los Angeles County Oak Tree Ordinance if applicable. The Specific Plan proposes new street tree designations as the project area has an inconsistent palette and pattern of street trees; none of those designations include Oak Trees. As a result, the proposed Specific Plan would not conflict with any local plans or policies protecting biological resources and no impacts are anticipated as a result of the proposed Specific Plan. No further analysis of this issue is required in the EIR.

g) Conflict with the provisions of an adopted state, regional, or local habitat conservation plan?	☐	☐	☐	☒

No Impact. The Specific Plan area is not located within or near a Habitat Conservation Plan, Natural Community Conservation Plan or any other approved local, regional, or state habitat conservation plan. No impact would occur, and this issue will not be discussed further in the EIR.

5. CULTURAL RESOURCES

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines § 15064.5?	☒	☐	☐	☐

Potentially Significant Impact. The Specific Plan area includes buildings that have the potential to be considered important historic resources; therefore, the project may cause a substantial adverse change in the significance of a historical resource. The EIR will identify any properties within the Specific Plan area that have been listed as a California Point of Historical Interest, a California Historical Landmark, California Register of Historic Places, or the National Register of Historic Places. In addition, the EIR will evaluate any other properties within the Specific Plan that have the potential to be historic and potential impacts that could occur to these properties by implementation of the proposed Specific Plan.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?	☒	☐	☐	☐

Potentially Significant Impact. The Specific Plan area is urbanized and ground surfaces have been heavily disturbed due to previous development. Therefore, the likelihood of the discovery of surficial archaeological resources is minimal. However, the Specific Plan would result in infill and redevelopment of parcels, where construction could that could disturb native soils and result in inadvertent damage to unknown buried archaeological deposits, resulting in a significant impact. Therefore, potential impacts related to archeological resources will be evaluated in the EIR.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or contain rock formations indicating potential paleontological resources?	☒	☐	☐	☐

Potentially Significant Impact. The Specific Plan area is underlain by younger Quaternary Alluvium, which consists predominately of loose to dense sands, silty sands, and silts. Clay units are locally present, but become much more dominant adjacent to the Rosecrans Hills nearby (CDOC, 1998). Alluvium is unlikely to contain significant fossils. However, older Quaternary deposits or deposits of the Pleistocene Inglewood Formation (Qi) may lie below the Quaternary Alluvium; both are known to contain vertebrate fossils. Although no paleontological resources are known to exist within the Specific Plan area, there is a possibility that unknown resources may be uncovered during construction activities. It is possible that site demolition and grading activities would involve native soil layers that have not previously been disturbed; as such, there is potential for the proposed Specific Plan to result in impacts to paleontological resources, therefore impacts to paleontological resources will be evaluated in the EIR.

d) Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

Potentially Significant Impact. There is no known site within the Specific Plan area that has been used for human burial purposes. Therefore, it is unlikely that human remains would be encountered during construction activities related to the proposed Specific Plan. However, previously unknown buried human remains could be inadvertently disturbed during construction activities, which would result in a significant impact. Thus, potential impacts related to human remains will be discussed in the EIR.

e) Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?	☒	☐	☐	☐

Potentially Significant Impact. Tribal cultural resources can be sites, features, places, cultural landscapes, sacred places, or objects with cultural value to any California Native American Tribe (Public Resources Code 21074). There is no known site within the Specific Plan area that is a tribal cultural resource. Therefore, it is unlikely that any adverse change to a tribal cultural resource would occur due to redevelopment or new development in the Willowbrook Community. However, previously unknown tribal cultural resources could lose significance once redevelopment or development occurs due to the implementation of the proposed Specific Plan, which would result in a significant impact. Thus, potential impacts related to tribal cultural resources will be discussed in the EIR.

6. ENERGY

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Conflict with Los Angeles County Green Building Ordinance (L.A. County Code Title 22, Ch. 22.52, Part 20 and Title 21, § 21.24.440) or Drought Tolerant Landscaping Ordinance (L.A. County Code, Title 21, § 21.24.430 and Title 22, Ch. 22.52, Part 21)?	☐	☐	☐	☒

No Impact. The project includes redevelopment of existing uses and is subject to the requirements of the Los Angeles County Green Building and Drought Tolerant Landscaping Ordinance. The project would comply with these ordinances, which are intended to conserve energy, water, natural resources, and promote a healthier environment (Municipal Code Section 22.52.2100). The Specific Plan incorporates sustainable design guidelines that would not conflict with the Los Angeles County Green Building Ordinance or the Drought Tolerant Landscaping Ordinance. No further discussion of this issue will be included in the EIR.

b) Involve the inefficient use of energy resources (see Appendix F of the CEQA Guidelines)?	☐	☐	☐	☒

No Impact. The Specific Plan is proposed to guide future development and redevelopment in the area and implement TOD land uses. Development projects that are implemented by the proposed Specific Plan would comply with State and County regulations related to energy usage and efficient energy design. Therefore, implementation of the proposed Specific Plan would not result in an inefficient use of energy resources, and no further discussion of this issue will be included in the EIR.

7. GEOLOGY AND SOILS

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known active fault trace? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒

No Impact. Seismically-induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude, sense, and nature of fault rupture can vary for different faults or even along different strands of the same fault. Ground rupture is considered more likely along active faults. The Los Angeles Basin contains both active and potentially active faults, and is considered a region of high seismic activity. The Specific Plan area is not located with or adjacent to an Alquist-Priolo Fault Rupture Hazard Zone faults and is therefore unlikely to experience surface fault rupture (CDOC, 2010; DRP, 2014). The closest active fault to the Specific Plan area is the Newport-Inglewood-Rose Canyon Fault, Strike 334, located approximately 3 miles southwest of the Specific Plan area (USGS, 2015). Due to the distance between the Specific Plan area and the active fault, implementation of the proposed Specific Plan would not result in impacts related to the rupture of a known earthquake fault.

ii) Strong seismic ground shaking?	☐	☐	☒	☐

Less Than Significant Impact. As described above, the Los Angeles basin is considered a region of high seismic activity due to the numerous faults that transect the area, including the Hollywood, Newport, and Inglewood Faults (CDOC, 2010). The proposed Specific Plan would include development of new structures and redevelopment of existing structures. Therefore, implementation of the proposed Specific Plan has the potential to expose additional people and structures to strong seismic ground shaking. Ground movement during an earthquake varies depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material.

Los Angeles County's standard approval requirements ensure that all construction complies with the California Building Code and the County's Building Regulations established in the County's Municipal Code. Continued adherence to applicable building codes through the County's building permit process would reduce impacts related to seismic ground shaking to a less than significant level, and this issue requires no further analysis in the EIR.

iii) Seismic-related ground failure, including liquefaction and lateral spreading? ☒ ☐ ☐ ☐

Potentially Significant Impact. Liquefaction can occur as a secondary effect of seismic shaking in areas of saturated, loose, fine-to-medium grained soils where the water table is 40 feet or less below the ground surface. Seismic shaking temporarily eliminates the grain-to-grain support normally provided by the sediment grains. The waters between the grains assume the weight of the overlying material and the sudden increase in pore water pressure results in the soil losing its friction properties. The saturated material (with the frictionless properties of a liquid) will fail to support overlying structures. Liquefaction-related effects include loss of bearing strength, ground oscillations, lateral spreading, and slumping. Liquefaction may occur in water-saturated sediment during moderate to great earthquakes in the project area because the depth of groundwater is approximately 34 feet below the ground surface. Furthermore, a certain depth at an individual site is not necessarily an indicator to the area-wide or regional depth to groundwater, and levels are variable (SWRCB, 2005).

Liquefaction susceptibility reflects the relative resistance of a soil to loss of strength when subjected to ground shaking. Physical properties of soil such as sediment grainsize distribution, compaction, cementation, saturation, and depth govern the degree of resistance to liquefaction. Younger alluvial fan deposits within the South Gate Quadrangle consist largely of sand, silt, and gravel, and lesser occurrences of clay. Most test boreholes drilled in these units report the presence of loose to medium dense sand and silt. Some deposits consist of very loose sand. Where historical ground-water levels are within 40 feet of the surface, as in Willowbrook, these deposits are judged to be susceptible to liquefaction. Historic liquefaction has also been confirmed in the South Gate Quadrangle (CDOC, 1998). Therefore, the potential for liquefaction and lateral spreading is high and further discussion will be included in the EIR.

iv) Landslides? ☐ ☐ ☐ ☒

No Impact. The Specific Plan area is a flat, level area with no hills or cliffs, where the risk of landslides is very low. As a result, impacts related to landslide hazards would not result from implementation of the Specific Plan (CDOC, 1998).

b) Result in substantial soil erosion or the loss of topsoil? ☒ ☐ ☐ ☐

Potentially Significant Impact. The proposed Specific Plan is located within a developed urban area, and development projects implemented by the Specific plan would be developed within areas that are largely covered with impervious surfaces. However, construction activities associated with the Specific Plan, such as roadway, sidewalk, bicycle path, and building development components may include excavation, grading, and other soil-disturbing activities, which have the potential to result in erosion and/or topsoil loss. Therefore, this issue will be analyzed along with potential hydrology and water quality impacts in the EIR.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? ☒ ☐ ☐ ☐

Potentially Significant Impact. As described above, Willowbrook is located on a gently sloping alluvial plain, and the Specific Plan area is a flat, level area with groundwater levels that are approximately 34 feet deep. The Specific Plan area is located in a liquefaction or earthquake-induced landslide area, but due to the flat topography and variable groundwater table, the potential for lateral spreading is also considered very low. In the South Gate Quadrangle, damage attributed to liquefaction was noted in the vicinity of the project area following the 1933 Long Beach Earthquake; it was speculated that the considerable damage in Willowbrook was probably due to the communities' location on formerly marshy ground, particularly in areas along Compton Creek and the former courses of the Los Angeles River (CDOC, 1998). The proposed Specific Plan would implement redevelopment of existing uses and the addition of structures on soils that have historically been known as areas of liquefaction, therefore further impacts associated with unstable soil will be further evaluated in the EIR.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? ☐ ☐ ☒ ☐

Less Than Significant Impact. The Specific Plan area is underlain by young Quaternary Alluvium, which are dominated by loose to moderately dense sandy sediments (CDOC, 1998), which are not typically expansive. Non-engineered artificial fills have not been delineated or mapped in the South Gate Quadrangle. Consequently, no areas are zoned for potential liquefaction relative to artificial fill (CDOC, 1998). The County's building permit process requires submittal of soil investigation reports and structural observation programs (ALPC, 2015) and permits would not be issued unless soil suitability and appropriate construction practices for the proposed structures is confirmed. Therefore, the proposed Specific Plan would result in less than significant impacts related to expansive soils and this issue requires no further analysis in the EIR.

e) Have soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater? ☐ ☐ ☐ ☒

No Impact. The Specific Plan area is served by a sewer system; septic tanks would not be utilized by the proposed Specific Plan. All development associated with the proposed Specific Plan project would connect to and be served by the existing public sewer system for wastewater discharge and treatment. No impacts would occur as a result of the proposed Specific Plan and this issue requires no further analysis in the EIR.

f) Conflict with the Hillside Management Area Ordinance (L.A. County Code, Title 22, § 22.56.215) or hillside design standards in the County General Plan Conservation and Open Space Element? ☐ ☐ ☐ ☒

No Impact. The Specific Plan area is not located within a Hillside Management Area or within an area that is subject to hillside design standards. The Specific Plan area is flat land that is not in the vicinity of

a hillside. As a result, the Specific Plan would not conflict with the Hillside Management Area Ordinance or any hillside standards, and will not be discussed further in the EIR.

8. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Generate greenhouse gas (GHGs) emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐

Potentially Significant Impact. Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). The major concern with GHGs is that increases in their concentrations are causing global climate change. The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). Construction and operation of development permitted by the proposed Specific Plan would generate GHG emissions, both directly and indirectly. Construction activities are short-term and cease to emit GHGs upon completion. Operation emissions associated with the future developments in the Specific Plan area would include GHG emissions from mobile sources (transportation), energy, water use and treatment, and waste disposal. GHG emissions generated by electricity and natural gas use by future developments are indirect GHG emissions from the energy that is produced off-site. These sources would have the potential to generate GHGs and result in a significant impact on the environment. Therefore, impacts associated with GHG emissions are potentially significant and will be evaluated in the EIR.

b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Potentially Significant Impact. Assembly Bill (AB) 32, signed by Governor Arnold Schwarzenegger in 2006, directs the State of California to reduce statewide GHG emissions to 1990 levels by the year 2020. In accordance with AB 32, ARB developed the Climate Change Scoping Plan (Scoping Plan), which outlines how the state would achieve the necessary GHG emission reductions to achieve this goal (ARB, 2008). On October 6, 2015, the County adopted the Community Climate Action Plan (CCAP) a component of the Air Quality Element in the new General Plan. The CCAP will reduce greenhouse gas emissions generated by community activities and works in conjunction with other sustainability initiatives in the County to reduce carbon emissions by 2020. The CCAP establishes a recent baseline inventory of emissions and identifies a target reduction needed to achieve the State goals. By implementing mandatory actions identified in the CCAP, projects can streamline their quantitative greenhouse gas analysis requirements in CEQA. However, the CCAP analysis is based on the land use densities and intensities specified in the new General Plan. Because the proposed Specific Plan proposes a plan amendment and would likely increase densities, it does not qualify for streamlining. The EIR will need to include both a quantitative and qualitative analysis of greenhouse gas emissions.

9. HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials?	☐	☐	☒	☐

Less Than Significant Impact. A hazardous material is defined as any material that, due to its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, and any material that a business or the local implementing agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the environment.

There are multiple state and local laws that regulate the storage, use, and disposal of hazardous materials. The Los Angeles County Health and Hazardous Materials Division was designated by the State Secretary for Environmental Protection 1997 as the Certified Unified Program Agency ("CUPA") for the County. The CUPA is the local administrative agency that coordinates the following programs regulating hazardous materials and hazardous wastes: the Hazardous Waste Generator Program, the Hazardous Materials Release Response Plans and Inventory Program, the California Accidental Release Prevention Program ("Cal-ARP"), the Aboveground Storage Tank Program and the Underground Storage Tank Program (LA County, 2011).

Operation of the proposed project provides for increased intensity of residential and non-residential uses on the site. Hazardous materials associated with residential and commercial uses include solvents, cleaning agents, paints, pesticides, batteries, and aerosol cans. The medical facilities and hospital is also a small- and large-quantity generator of hazardous materials such as small medical wastes such as needles to waste oil and mixed oil; oxygenated solvents including acetone, butanol, and ethyl acetate; spent halogenated solvents; and other hazardous materials including batteries, lamps, pesticides, thermostats, mercury, silver and polychlorinated biphenyls. All of the hazardous materials that would be used by the project are subject to existing applicable federal, state, and local regulations. Because the proposed project uses would largely remain the same as under current conditions, substantial changes to the operational characteristics and types of potentially hazardous materials are not anticipated. Normal routine use of these products under project conditions would not result in a significant hazard to residents or workers.

Construction of the new development within the Specific Plan area would involve the routine use, handling, storage, transport, and disposal of hazardous materials such as fuels, paints, and solvents, consistent with applicable federal, state, and local regulations. In compliance with existing federal, state, and local regulations, the amounts of these materials present during construction would be limited and would not pose a significant adverse hazard to workers or the environment. The construction contractor would be required to implement standard BMPs regarding hazardous materials storage, handling, and disposal during construction in compliance with the State General Permit.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset	☒	☐	☐	☐

and accident conditions involving the release of hazardous materials or waste into the environment?

Potentially Significant Impact. The Specific Plan area has long been developed with a variety of urban uses. Roadway improvements and development projects that would occur by implementation of the proposed Specific Plan could unearth unknown contaminants that may be present in soil and/or groundwater from current and/or historic site usage. The potential for the proposed Specific Plan to produce significant impacts to the public during the transportation of hazards or involving the potential release of hazards will be evaluated in the EIR.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses? ☒ ☐ ☐ ☐

Potentially Significant Impact. The Specific Plan area contains existing schools, including King-Drew Magnet High School, Charles R. Drew University of Medicine and Science, Barack Obama Charter School, and Martin Luther King, Jr. Elementary. Other sensitive land uses include residential areas and medical facilities. As described above, the proposed Specific Plan could result in excavation and handling of hazardous materials if unknown contaminants are found during excavation activities. Therefore, the EIR will include an identification of the schools, residential areas, and medical facilities near the Specific Plan area and evaluation of impacts related to the potential release of hazardous materials.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment? ☒ ☐ ☐ ☐

Potentially Significant Impact. As described above, the Specific Plan area has long been developed for urban uses that could have a history of hazardous material usage or contamination. As described above, the proposed Specific Plan could result in excavation and handling of hazardous materials if unknown contaminants are found during excavation activities, which could create a significant hazard to the public or the environment. Thus, the EIR will include a database search of federal, state, and local governmental databases to identify any hazardous material sites within the Specific Plan area and potential related impacts from implementing the proposed Specific Plan.

e) For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? ☐ ☐ ☐ ☒

No Impact. The proposed Specific Plan area is not located within an airport land use plan or airport approach zone (ALUC, 2015). The nearest public airport is approximately 2 miles south of the Specific Plan area (Compton/Woodley Airport); the Hawthorn Municipal Airport is approximately 5 miles west of the Specific Plan area and Los Angeles International Airport is approximately 10 miles west of the Specific Plan area. Therefore, the potential for the proposed project to result in a safety hazard for people residing or working in the vicinity of an airport will not require further analysis in the EIR.

f) For a project within the vicinity of a private airstrip, ☐ ☐ ☐ ☒

would the project result in a safety hazard for people residing or working in the project area?

No Impact. The proposed Specific Plan area is not located within the vicinity of a private airstrip. Therefore, the potential for the proposed project to result in a safety hazard for people residing or working in the vicinity of an airport will not require further analysis in the EIR.

g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan? ☐ ☐ ☒ ☐

Less Than Significant Impact. Existing County development standards would require new development within the Specific Plan to be designed so as not to interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant as a result of the proposed Specific Plan and no further analysis of this criterion is required in the EIR.

h) Expose people or structures to a significant risk of loss, injury or death involving fires, because the project is located:

i) within a Very High Fire Hazard Severity Zone (Zone 4)? ☐ ☐ ☐ ☒

No Impact. The Specific Plan area is located within an urban area that does not contain wildlands, and is not located in an area classified as a Very High Fire Hazard Severity Zone (Cal Fire, 2012). Therefore, impacts related to wildland fires would not occur, and this issue requires no further analysis in the EIR.

ii) within a high fire hazard area with inadequate access? ☐ ☐ ☐ ☒

No Impact. As described above, the Specific Plan area is located within an urban developed area and is not located within an identified wildland fire hazard area. Furthermore, the Specific Plan area currently has adequate access, which would be continued with further development. As a result, impacts related to high fire hazards and inadequate access would not occur, and no further discussion will be included in the EIR.

iii) within an area with inadequate water and pressure to meet fire flow standards? ☐ ☐ ☐ ☒

No Impact. The availability of sufficient water pressure is a basic requirement of the Fire Department (Los Angeles, 2010). Existing fire flows within and near the Specific Plan area are at or above the minimum requirements and impacts related to fire flow would not occur, and no further discussion will be included in the EIR.

iv) within proximity to land uses that have the potential for dangerous fire hazard? ☐ ☐ ☐ ☒

No Impact. The Specific Plan area is not within proximity to land uses that have the potential for a dangerous fire hazard. The Specific Plan area is developed and is not in an area with light fuels or

unpredictable weather conditions. Land uses consist of residential, commercial, industrial, open space, and public uses. These land uses would not generate potential impacts related to a dangerous fire hazard, and no further discussion will be included in the EIR.

i) Does the proposed use constitute a potentially dangerous fire hazard?	☐	☐	☐	☒

No Impact. The proposed Specific Plan would develop and redevelop residential and commercial land uses. None of the uses related to the proposed Specific Plan would constitute a potentially dangerous fire hazard, impacts would not occur, and no further discussion will be included in the EIR.

10. HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☒	☐	☐	☐

Potentially Significant Impact. Infill and redevelopment that would occur as proposed in the Specific Plan would disturb soils and would utilize equipment and hazardous substances that, if not properly contained, could degrade surrounding water quality. Future development within the Specific Plan area would expand residential, commercial and public uses that would increase the number of residents and the concentration of persons within the area that could increase pollutants such as pesticides, vehicle fuels and oils, and litter; all of which, if not properly contained, could degrade existing water quality. Potential impacts related to water quality standards and waste discharge requirements will be addressed in the EIR.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☒	☐	☐	☐

Potentially Significant Impact. The Specific Plan area receives water from Park Water Company and Golden State Water Company. Infill and redevelopment that would occur with implementation of the Specific Plan would result in population growth; thereby increasing demand on water supplies. The proposed project would add approximately 1,734 residential dwelling units and 2,630,306 square feet of commercial space to the Specific Plan area, and is, therefore required to develop a water supply assessment in accordance with State Senate Bill 610 to demonstrate that an assured water supply is available to support development of the uses proposed in the Specific Plan. The EIR will include a quantification of the water supplies needed for the proposed Specific Plan and an analysis of potential local groundwater impacts that could result.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☒	☐	☐	☐

Potentially Significant Impact. According to Federal Emergency Management Agency's Flood Insurance Rate Map No. 06037C1815F, the Specific Plan area is not located in a flood zone (FEMA, 2008), and no existing surface drainages or rivers are located in the Specific Plan area. The proposed Specific Plan would implement redevelopment and infill development within an already developed and mostly paved urban area. After implementation of the project development, runoff would continue to flow over either paved or

landscaped areas that would eventually be directed toward storm drains. Therefore, the potential for erosion to occur from implementation of the proposed Specific Plan would be extremely low. However, construction of certain project components would expose bare soil that could be subject to erosion, potentially resulting in a significant impact. This issue will be further discussed in the EIR.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐

Less Than Significant Impact. As stated previously, the proposed Specific Plan area is not located in a flood zone and does not contain any streams or rivers. The Specific Plan components include an expansion or reconfiguration of existing urban development in mostly paved areas; therefore, the proposed components would maintain existing drainage patterns, and would not contribute to an increase in impervious surfaces in the Specific Plan area such that increased runoff and flooding on or offsite would result. Impacts related to flooding would be less than significant, and flooding will not be further discussed in the EIR.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☒	☐	☐	☐

Potentially Significant Impact. As stated previously, the Specific Plan components include an expansion or reconfiguration of existing urban development in mostly paved areas; therefore, the proposed components would maintain existing drainage patterns, and would likely not contribute to an increase in impervious surfaces in the Specific Plan area such that increased runoff would exceed the capacity of drainage systems. During construction, existing drainage patterns may be altered temporarily and new sources of runoff could occur. Likewise, the proposed residential and commercial development may alter the amount of runoff that drains from concrete and other building materials, and this may contribute to an excess in stormwater runoff. Impacts related to an increase in runoff and the capacity of drainage systems are potentially significant and will be further discussed in the EIR.

f) Generate construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality? ☒ ☐ ☐ ☐

Potentially Significant Impact. Development implemented by the proposed project would be required to comply with the NPDES Construction General Permit (NPDES Order No. 2009-0009-DWQ). The Construction General Permit requires the development and implementation of a SWPPP, which identifies erosion, sediment, and non-structural BMPs that would be implemented to reduce construction impacts on storm water quality. During operation, the development projects implemented by the Specific Plan would be required to maintain water quality through development and implementation of Water Quality Management Plans (WQMPs). During operation the development projects implemented by the Specific Plan would be required to comply with the NPDES MS4 Permit (NPDES Order No. R4-2012-0175). The EIR will evaluate potential types and amounts of construction and operation related pollutant sources and the reduction of impacts that would occur through compliance with the required permits. Mitigation measures will be provided, if necessary, to reduce impacts related to water quality.

g) Conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84 and Title 22, Ch. 22.52)? ☐ ☐ ☐ ☒

No Impact. The LA County LID ordinance was designed to manage rainfall and stormwater runoff in urban areas through the distribution of small, cost-effective landscape features throughout project sites. Such features include bio-retention/filtration landscape areas, reduced impervious surfaces, and functional landscaping and grading (DPW, 2014). The development projects implemented by the Specific Plan would develop and implement a WQMP as required by the NPDES MS4 Permit that would incorporate structural and non-structural BMPs designed to reduce volume, velocity and pollutant loading of storm water and limit dry weather flows discharging from the site. The NPDES MS4 Permit also requires implementation of LID practices to prevent non-storm water discharges and encourage proper filtration of runoff to reduce the degradation of water quality. Development within the Specific Plan area would comply with Los Angeles County's LID and would incorporate BMPs that are consistent with LID. Impacts regarding conflict with the LID ordinance would not occur, and no further discussion will be included in the EIR.

h) Result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance? ☐ ☐ ☐ ☒

No Impact. There are no Areas of Special Biological Significance ("ASBS") on-site or within close proximity to the Specific Plan area. The closest ASBS is the Laguna Point to Latigo Point which is approximately 30 miles northwest of the Specific Plan area. This ASBS is the largest of the mainland ASBS in Southern California, with 24 miles of coastline and 11,842 acres of marine habitat (SWRCB, 2014). Thus, impacts associated with discharges into an ASBS would not occur and will not be evaluated further in the EIR.

i) Use onsite wastewater treatment systems in areas with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course)? ☐ ☐ ☐ ☒

No Impact. Wastewater produced in the project area is currently transported by sewer lines to the City of Los Angeles sewer system (Los Angeles City, 2015). No wastewater treatment systems are proposed within the Specific Plan area. The proposed Specific Plan would not include an on-site wastewater treatment system and impacts would not occur and will not be discussed further in the EIR.

j) Otherwise substantially degrade water quality? ☒ ☐ ☐ ☐

Potentially Significant Impact. The potential water quality impacts from construction and operation of the proposed Specific Plan components will be analyzed in the EIR, as described in threshold "a" above.

k) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain? ☐ ☐ ☐ ☒

No Impact. The Specific Plan area is not within a 100-year flood hazard area. According to Federal Emergency Management Agency's Flood Insurance Rate Map No. 06037C1815F, the Specific Plan area is not located in a flood zone (FEMA, 2008), and no existing surface drainages or rivers are located in the Specific Plan area. As a result, no adverse impacts related to flooding are expected as a result of the development of the proposed Specific Plan and this issue warrants no further discussion in the EIR (DWR, 2015).

l) Place structures, which would impede or redirect flood flows, within a 100-year flood hazard area, floodway, or floodplain? ☐ ☐ ☐ ☒

No Impact. See explanation 10k above.

m) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? ☐ ☐ ☒ ☐

Less Than Significant Impact. The Specific Plan area is not near a levee or dam that may fail and expose people or structures to risk (County of Los Angeles, 2015). Impacts would be less than significant and no further discussion is necessary in the EIR.

n) Place structures in areas subject to inundation by seiche, tsunami, or mudflow? ☐ ☐ ☐ ☒

No Impact. The Specific Plan area is not subject to inundation by tsunami as it is located approximately 10.5 miles east of the Pacific Ocean. Seiches occur in semi- or fully enclosed bodies of water when strong winds and/or rapid changes in atmospheric pressure push water from one end of the body of water to the other, resulting in an oscillation back and forth of waves (NOAA, 2015). The dry, Mediterranean climate in the Specific Plan area is not prevalent to dramatic changes in pressure or strong winds such that a seiche would occur, bypassing holding walls and inundating the Specific Plan area. Mudflows are flowing masses of fine-grained earth material with a high degree of fluidity (USGS, 2015), and happen on slopes. The Specific Plan area is developed, relatively flat and does not have enough exposed soils or topography to be a risk of mudflow. Impacts would not occur; these issues will not be evaluated further in the EIR.

11. LAND USE AND PLANNING

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒

No Impact. The proposed Specific Plan is located in an urban developed area, and the proposed project would provide for infill and redevelopment of parcels within the Willowbrook community. This would not physically divide an established community. The Specific Plan would connect activity centers and different parts of Willowbrook so that the community is more connected; not physically divided. The proposed roadway and pedestrian improvements that would be implemented by the Specific Plan are intended to provide improved circulation and cohesion, and do not include any components that would displace existing residences or otherwise physically divide the Willowbrook community. No impacts are anticipated as a result of the proposed Specific Plan.

b) Be inconsistent with the applicable County plans for the subject property including, but not limited to, the General Plan, specific plans, local coastal plans, area plans, and community/neighborhood plans?	☒	☐	☐	☐

Potentially Significant Impact. The proposed project is a Specific Plan that would result in changes to the land use plan and zoning designations. The proposed Specific Plan identifies sites that have the potential for redevelopment or infill development and proposes to rezone land uses of specific parcels within the area to provide for the TOD envisioned by the Specific Plan. The proposed Specific Plan would result in increases in development intensity and changes in land uses that could conflict with an applicable land use plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating an environmental effect. The proposed Specific Plan's compatibility with applicable plans, policies, and regulations will be assessed in the EIR.

c) Be inconsistent with the County zoning ordinance as applicable to the subject property?	☒	☐	☐	☐

Potentially Significant Impact. The proposed project is in the Los Angeles County General Plan Metro Planning Area, the geographic center of Los Angeles County in the unincorporated Willowbrook neighborhood. The proposed project is a Specific Plan that would result in changes to the land use plan and zoning designations. The Specific Plan area's existing zoning includes: C-2 (neighborhood commercial), C-3 (unlimited commercial), M-1 (light manufacturing), MXD (mixed use development), R-1 (Single-family residence), R-2 (two-family residence), and R-3 (limited multiple residence). The Willowbrook TOD Specific Plan establishes zoning for parcels within the Specific Plan boundary as identified in Figure 5, Proposed Zoning. The zones for the Specific Plan area include: Mixed Use 1 (MU-1); Mixed Use 2 (MU-2); MLK Medical; Drew Educational; Imperial Commercial; Willowbrook Residential 1; Willowbrook Residential 2; Willowbrook Residential 3; and Open Space (O-S). Table 1 in the project description shows the additional development that would occur from build out of the proposed Specific Plan. Table 2 in the project description shows the existing acreage, zoning and land uses that would be revised by implementation of the proposed Specific Plan. The proposed Specific Plan's impacts related to consistency with the County zoning ordinance will be assessed in the EIR.

d) Conflict with Hillside Management criteria, Significant Ecological Areas conformance criteria, or other applicable land use criteria?	☐	☐	☐	☒

No Impact. The Specific Plan area is within the urban and developed community of Willowbrook. The Specific Plan area is not located within any habitat conservation plan or natural community conservation plan. Therefore, no impact would occur. This issue will not be addressed further in the EIR.

12. MINERAL RESOURCES

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

No Impact. No significant mineral deposits have been identified within the Specific Plan area (USGS, 2014). As a result, the proposed Specific Plan would not cause a loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. No impacts to mineral resources are expected to occur.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

No Impact. See explanation 12a above.

13. NOISE

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project result in:				
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the County General Plan or noise ordinance (Los Angeles County Code, Title 12, Chapter 12.08), or applicable standards of other agencies?	☒	☐	☐	☐

Potentially Significant Impact. Noise levels generated by construction and operation of future development within the Specific Plan area could result in the exposure of persons to or generation of noise levels in excess of standards established in the County of Los Angeles General Plan Noise Element and Noise ordinance. During construction of future development in the Specific Plan area, sensitive receptors that are located nearby a construction site would be exposed to temporary increases in ambient noise levels. Once developed, operational noise levels generated by new developments would include stationary sources (e.g., heating, ventilation, and air conditioning equipment) as well as mobile sources (e.g., traffic noise) within the Specific Plan area. As construction and operational noise levels associated with the Specific Plan area could potentially exceed or violate County noise standards and/or regulations, these potential impacts will be assessed in the EIR.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐

Potentially Significant Impact. During construction activities within the Specific Plan area, people may be exposed to excessive groundborne vibration or groundborne noise levels from the operation of heavy equipment. These impacts would generally only occur for a short duration. However, because existing land uses may be subject to disturbance and/or annoyance by groundborne noise or vibration, potential impacts could occur and this issue will be evaluated in the EIR.

The proposed Specific Plan would implement mixed use commercial and residential development within the project area. These land uses that would be allowed by the proposed Specific Plan do not involve the types of uses that would involve any major sources (mobile or stationary) of vibration, which are more typical of large industrial facilities. Thus, once developed, the operation of the new land uses in the Specific Plan area is not anticipated to generate vibration levels that would adversely affect existing or future sensitive receptors. As a result, operational vibration impacts associated with the proposed Specific Plan would be less than significant and would not require further analysis in the EIR.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from parking areas?	☒	☐	☐	☐

Potentially Significant Impact. The proposed Specific Plan would allow for redevelopment at an increased intensity; taller buildings, expanded sidewalks, bicycle lanes and bicycle parking facilities, and alterations to the existing street intersections in order to provide a TOD land use pattern to the Specific

Plan area. Most new development would be located within walking distance of the existing Metro station and would include a mix of residential, mixed-use, commercial, and public uses designed for pedestrians while also accommodating vehicular traffic. Development within the Specific Plan area may result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project primarily from potential increases in traffic noise and operation of the development. Although the Specific Plan's proximity to the Metro Station encourages transit use, development pursuant to the proposed Specific Plan may generate an increase in vehicle trips. As a result, the total net increase in traffic noise levels over existing conditions will be quantified and analyzed in the EIR.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from amplified sound systems?	☒	☐	☐	☐

Potentially Significant Impact. Development within the Specific Plan area may result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project during construction of new land use developments. The operation of construction equipment at development sites within the Specific Plan area would result in increased noise levels, which could adversely affect off-site sensitive receptors located nearby. In addition, construction traffic associated with new developments may also result in a temporary or periodic increase in noise levels on the local roadways in the Specific Plan area. As such, potential noise impacts on existing and future sensitive receptors (e.g., hospital and residential uses) from exposure to temporary construction noise levels will evaluated in the EIR.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

No Impact. The Specific Plan area is not located in the jurisdiction of an airport land use compatibility plan, nor is it in an airport approach zone (ALUC, 2015). The nearest public airport is approximately 2 miles south of the Specific Plan area (Compton/Woodley Airport); the Hawthorn Municipal Airport is approximately 5 miles west of the Specific Plan area and Los Angeles International Airport is approximately 10 miles west of the Specific Plan area. Therefore, the proposed Specific Plan would not expose people to excessive noise from an airport, and therefore, this issue area would not be further analyzed in the EIR.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

No Impact. See explanation 13e above.

14. POPULATION AND HOUSING

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☒	☐	☐	☐

Potentially Significant Impact. The proposed Specific Plan would allow for new development and redevelopment at an increased intensity; and would provide taller buildings, expanded sidewalks, bicycle lanes and bicycle facilities, and alterations to the existing street intersections in order to implement a TOD land use pattern to the Specific Plan area. Implementation of the proposed Specific Plan would induce population growth in the area by planning for 1,734 additional residential units and 2,630,306 additional square feet of non-residential space within the Specific Plan area. Therefore, this issue will be discussed further in the EIR.

b) Displace substantial numbers of existing housing, especially affordable housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact. The proposed Specific Plan would not result in the permanent displacement of substantial number of existing housing, nor would it result in the displacement of substantial numbers of people. The proposed Specific Plan provides for infill development and redevelopment would include a mix of residential, commercial, industrial, and public uses. Build out of the Specific Plan would provide 1,734 additional residential units within the Specific Plan area. Development projects implemented by the proposed Specific Plan may result in temporary displacement of residents during construction activities. However, development projects would occur sporadically at a parcel by parcel project level, the potential displacement of persons residing on an infill or redevelopment parcel would be short-term, and the project would result in a greater number of residential units to house residents of the area. Therefore, impacts related to displacement of housing or persons that would require replacement housing elsewhere would not occur, and this issue will not be further evaluated in the EIR.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact. See explanation for 14b above.

d) Cumulatively exceed official regional or local population projections?	☒	☐	☐	☐

Potentially Significant Impact. The Specific Plan would increase the number of residential units with the Specific Plan area. Thus, the maximum number of residents would increase with the proposed project; and the project could result in an exceedance of population projections. From 2013 to 2018, population growth

will average 0.8 percent per year in Los Angeles County and the employment growth rate is expected to average 1.6 percent per year (Caltrans, 2013). However, the development pursuant to the proposed Specific Plan would provide additional housing and employment opportunities, which could induce population growth that may cumulatively exceed official population projections. Therefore, impacts related to population projections may occur from implementation of the proposed Specific Plan and analysis will be included in the EIR.

15. PUBLIC SERVICES

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project create capacity or service level problems, or result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☒	☐	☐	☐

Potentially Significant impact. The proposed Specific Plan would result in redevelopment and infill development that would increase the residential and employee populations in the Specific Plan area that would result in incrementally increased demands for public services and facilities and could, therefore, have the potential to result in a significant impact on the need for new or altered fire, police, recreation or other public facilities. As a result, the proposed Specific Plan's impact on public services will be analyzed in the EIR.

Sheriff protection?	☒	☐	☐	☐

Potentially Significant impact. See explanation 15a above.

Schools?	☒	☐	☐	☐

Potentially Significant impact. See explanation 15a above.

Parks?	☒	☐	☐	☐

Potentially Significant impact. See explanation 15a above.

Libraries?	☒	☐	☐	☐

Potentially Significant impact. See explanation 15a above.

Other public facilities?	☒	☐	☐	☐

Potentially Significant impact. See explanation 15a above.

16. RECREATION

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☒	☐	☐	☐

Potentially Significant Impact. Mona Park is located within the southeast Specific Plan area. An increase in population and population density from new proposed residential and commercial uses would increase the use of existing neighborhood and regional parks or other recreation facilities like Mona Park, which could require the construction or expansion of recreation facilities as compared to existing conditions. In addition, the proposed Specific Plan includes pedestrian and bicycle facilities that would be constructed, and as described throughout this Initial Study, could have an adverse effect on the environment. Construction and operation of the new recreational facilities that would be implemented by the proposed Specific Plan will be evaluated in the EIR.

b) Does the project include neighborhood and regional parks or other recreational facilities or require the construction or expansion of such facilities which might have an adverse physical effect on the environment?	☒	☐	☐	☐

Potentially Significant Impact. No new parks or recreational facilities are proposed as part of the Specific Plan project; however, due to the increase in population and population density from the proposed residential and commercial uses, Mona Park may be impacted. The open space strategy of the Specific Plan would improve the park/open space network by using streets and pedestrian connections, bringing these amenities within a reasonable walking and biking distance for the Specific Plan area residents. In addition, the Specific Plan includes generation of new open space and providing varied open spaces that would further improve open space in the Specific Plan area. These components of the Specific Plan may have an adverse physical effect on the environment; and therefore, will be analyzed in the EIR.

c) Would the project interfere with regional open space connectivity?	☐	☐	☐	☒

No Impact. The proposed Specific Plan would not interfere with regional open space connectivity. There is very little open space in the Specific Plan area and the project would enhance open space connectivity by encouraging new development to provide public open space. Open space connectivity would occur by the Specific Plan from implementation of pedestrian connections, common open space areas, plazas and courtyards, and public sidewalks. The open space provided by the Specific Plan would not interfere with any regional open space connectivity. Therefore, project impacts related to open space connectivity would not occur, and further discussion will not be included in the EIR.

17. TRANSPORTATION/TRAFFIC

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐

Potentially Significant Impact. The proposed Specific Plan would implement bicycle lanes and pedestrian improvements, reduced parking requirements, increased development, and road diets, which has the potential to impact traffic patterns. Pedestrian improvements measures would facilitate pedestrian circulation, by reducing the width of roadway for pedestrians to cross, providing additional sidewalk space, and making pedestrian crossings more visible to both pedestrians and motorists. In addition, traffic generated by new uses and increased intensity of existing uses associated with the proposed Specific Plan could potentially have a significant impact on area roadways, including the potential for conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. Therefore, potential impacts related to performance of the roadway system in relation to applicable policies and ordinances will be evaluated in the EIR.

b) Conflict with an applicable congestion management program (CMP), including, but not limited to, level of service standards and travel demand measures, or other standards established by the CMP for designated roads or highways?	☒	☐	☐	☐

Potentially Significant Impact. See explanation 17a above.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒

No Impact. The Specific Plan area is not located in the jurisdiction of an airport land use compatibility plan, nor is it in an airport approach zone (ALUC, 2015). The nearest public airport is approximately 2 miles south of the project area (Compton/Woodley Airport); the Hawthorn Municipal Airport is approximately 5 miles west of the project area and Los Angeles International Airport is approximately 10 miles west of the project area. The proposed Specific Plan components would not result in changes to air traffic patterns or a change in air traffic locations. Therefore, there would be no impact, and further discussion will not be included in the EIR.

d) Substantially increase hazards due to a design	☐	☐	☒	☐

feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The Specific Plan proposes to redesign some intersections and implement road diets that would generally result in lane reduction to add a bicycle lane. A Road Diet involves converting an existing four-lane undivided roadway segment to a three-lane segment consisting of two through lanes and a center two-way left-turn lane. The reduction of lanes allows the roadway cross section to be reallocated for other uses such as bike lanes, pedestrian refuge islands, transit stops, or parking (Department of Transportation, 2015). All development within the Specific Plan would be required meet LA County design standards in relation to protection of pedestrian and bicycle traffic. In addition, the proposed uses within the Specific Plan would be compatible with the surrounding mixed uses in the urban environment. As a result, less than significant impacts would occur from implementation of the proposed Specific Plan, and further discussion will not be included in the EIR.

e) Result in inadequate emergency access? ☐ ☐ ☒ ☐

Less Than Significant Impact. The Specific Plan proposes to redesign some intersections and implement road diets. The number of traffic lanes and roadway lane configurations would generally remain the same, except where road diets would be implemented. Roadway diets, described above in 17d, would generally result in lane reduction to add a bicycle lane. The proposed Specific Plan would involve the reconfiguration of roadways and driveways to residential and commercial properties, and would require the presence of construction equipment and materials adjacent to roadways. The Specific Plan requires that the design of newly configured roadways and development sites to provide adequate emergency access. The changes to roadway patterns and driveways within the Specific Plan area would require construction permits from the County's Public Works Department, which would not allow development activities to result in potential impacts related to emergency access. As a result, impacts would be less than significant.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? ☐ ☐ ☐ ☒

No Impact. The proposed Specific Plan itself is based on the encouragement of TOD. Therefore, the development of the proposed components within the would support alternative transportation, and would be consistent with and further adopted policies, plans, and programs supporting alternative transportation (e.g., taking the Metro, bus turnouts, bicycle racks). A number of pedestrian oriented intersection improvements would be implemented throughout the Specific Plan area. These would be based on a menu of improvements that includes adding high visibility crosswalks at intersections; adding passive pedestrian detection and pedestrian push buttons for crosswalks at traffic signals at intersections; adding countdown pedestrian signals and audio signals to crosswalks at intersections; adding advance stop bars to intersection approaches; adding sidewalk bulb-outs and extensions, or reducing curb returns, on intersection corners where feasible; adding median nose/crossing islands where advantageous and feasible. These measures would facilitate pedestrian circulation, by reducing the width of roadway for pedestrians to cross, providing additional sidewalk space, and making pedestrian crossings more visible to both pedestrians and motorists. Impacts would be less than significant, and this issue requires no further analysis in the EIR

18. UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Exceed wastewater treatment requirements of either the Los Angeles or Lahontan Regional Water Quality Control Boards?	☒	☐	☐	☐

Potentially Significant Impact. The proposed Specific Plan would provide for redevelopment and infill development that would increase demand for utilities. This increase in demand has the potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, may require the expansion of water or wastewater treatment facilities, may require the construction of new storm water drainage facilities, and may impact water supplies from existing entitlements and resources. Any deficiencies in the Specific Plan area of utilities and service systems may result in significant impacts on the environment. As a result, impacts related to utilities and service systems will be evaluated in the EIR.

b) Create water or wastewater system capacity problems, or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐

Potentially Significant Impact. See explanation 18a above.

c) Create drainage system capacity problems, or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐

Potentially Significant Impact. See explanation 18a above.

d) Have sufficient reliable water supplies available to serve the project demands from existing entitlements and resources, considering existing and projected water demands from other land uses?	☒	☐	☐	☐

Potentially Significant Impact. See explanation 18a above.

e) Create energy utility (electricity, natural gas, propane) system capacity problems, or result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐

Potentially Significant Impact. See explanation 18a above.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☒	☐	☐	☐

Potentially Significant Impact. See explanation 18a above.

g) Comply with federal, state, and local statutes and regulations related to solid waste?	☒	☐	☐	☐

Potentially Significant Impact. See explanation 18a above.

19. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐

Potentially Significant Impact. Based on evaluations and discussions contained in this Initial Study, the proposed Specific Plan may have a significant potential to degrade the quality of the environment, including potential impacts to air quality, land use, population and housing, and traffic. Additional information is required to determine whether the proposed Specific Plan would result in significant impact on the environment.

b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☒	☐

Less Than Significant Impact. The Specific Plan is designed to achieve both short-term and long-term environmental goals by implementing sustainable design guidelines. For example, green buildings are structures that are designed, constructed, renovated, operated and demolished with minimal environmental impacts. The buildings would be sited and designed to maximize the use of sunlight and shade for energy savings, and respect the solar access of adjacent buildings. Buildings would be clustered for shade, and incorporate protective courtyards, recessed windows and doors, and insulated walls. To reduce energy use, the east and west walls of the buildings would be shaded with evergreen trees to reduce summer heat gain. South walls would be shaded with deciduous trees. Walkways and plazas would be designed to collect stormwater where feasible.

To reduce water use and maintenance costs, the majority of the plant materials would be drought tolerant and require relatively low maintenance. Arcades, covered walkways, trellises and passages would be incorporated to provide sheltered areas for pedestrian circulation as well as shade the buildings to reduce energy usage. In addition, the Specific Plan would comply with County regulations that are provided to protect both short and long-term environmental goals. Therefore, the Specific Plan would not result in a disadvantage to long-term environmental goals.

c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects,	☒	☐	☐	☐

the effects of other current projects, and the effects of probable future projects)?

Potentially Significant Impact. The proposed Specific Plan may have a significant potential to degrade the quality of the environment due to multiple potential environmental impacts. In combination with effects of past projects, current projects, and probable future projects, effects of the Specific Plan may be cumulatively considerable. Therefore, cumulative potential impacts will be evaluated for each environmental topic analyzed in the EIR.

d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? ☒ ☐ ☐ ☐

Potentially Significant Impact. See explanation 19a above.

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A-3 Scoping Comments

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Notice of Preparation of a CEQA Document for the
Willowbrook Transit Oriented District Specific Plan

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The SCAQMD staff's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft CEQA document. Please send the SCAQMD a copy of the CEQA document upon its completion. Note that copies of the Draft EIR that are submitted to the State Clearinghouse are not forwarded to the SCAQMD. Please forward a copy of the Draft EIR directly to SCAQMD at the address in our letterhead. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files. These include original emission calculation spreadsheets and modeling files (not Adobe PDF files). Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. More recent guidance developed since this Handbook was published is also available on SCAQMD's website here: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). SCAQMD staff also recommends that the lead agency use the CalEEMod land use emissions software. This software has recently been updated to incorporate up-to-date state and locally approved emission factors and methodologies for estimating pollutant emissions from typical land use development. CalEEMod is the only software model maintained by the California Air Pollution Control Officers Association (CAPCOA) and replaces the now outdated URBEMIS. This model is available free of charge at: www.caleemod.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD staff requests that the lead agency quantify criteria pollutant emissions and compare the results to the recommended regional significance thresholds found here: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. In addition to analyzing regional air quality impacts, the SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LSTs can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts

when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*") can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

In addition, guidance on siting incompatible land uses (such as placing homes near freeways) can be found in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Perspective*, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate these impacts. Pursuant to CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed. Several resources are available to assist the Lead Agency with identifying possible mitigation measures for the project, including:

- Chapter 11 of the SCAQMD *CEQA Air Quality Handbook*
- SCAQMD's CEQA web pages at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies.
- CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* available here: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.
- SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook for controlling construction-related emissions
- Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf?sfvrsn=4.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's webpage (http://www.aqmd.gov).

The SCAQMD staff is available to work with the Lead Agency to ensure that project emissions are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at Jwong1@aqmd.gov or call me at (909) 396-3176.

Sincerely,

Jillian Wong

Jillian Wong, Ph.D.
Program Supervisor
Planning, Rule Development & Area Sources

LAC151103-01
Control Number

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF TRANSPORTATION PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-9140
FAX (213) 897-1337
www.dot.ca.gov

Serious Drought.
Serious drought.
Help save water!

November 30, 2015

Ms. Connie Chung
Los Angeles County
320 West Temple Street
Los Angeles, CA 90012

RE: Willowbrook TOD Specific Plan
Vic. LA-10 PM R8.899 to R10.296
SCH # 2015101106
IGR/CEQA No. 151108AL-NOP

Dear Ms. Chung:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The Willowbrook TOD Specific Plan would encourage transit oriented development; promote active transportation and improve quality of life for residents; reduce vehicles miles traveled; create community benefits with improvements to the public realm; improve economic vitality and employment opportunities; and streamline the environmental review process for future projects.

The Specific Plan would facilitate development by rezoning and amending General Plan land uses to include mixed uses, increased residential densities, and additional neighborhood serving retail uses. Overall, the Specific Plan would accommodate an additional 1,734 dwelling units and 2,630,306 square feet of non-residential land use. Any net traffic trips from the Specific Plan would contribute traffic impact to the State facilities.

This letter is a follow up to a phone conversation on November 24, 2015 between yourself and Mr. Alan Lin, Caltrans Project Coordinator. Both agencies agree that a Formal Scoping Meeting to discuss the preparation of the traffic analysis, potential traffic impacts, and proposed mitigation on the State facilities is necessary.

Caltrans understands that the current General Plan and new transportation performance measures and CEQA thresholds have not being updated to VMT (Vehicle Miles Traveled) at the time. Caltrans is concerned that when traffic generated by the project, along with cumulative traffic is expected to use an off-ramp that is operating at or near capacity, the additional traffic may potentially exceed the off-ramps capacity and back up onto the mainline freeway.

To assist in evaluating the impacts of this project on State transportation facilities, a traffic study should be prepared prior to preparing the Draft Environmental Impact Report (DEIR). Please refer the project's traffic consultant to Caltrans' traffic study guide Website:

http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

Listed below are some elements of what is generally expected in the traffic study:

1. Presentations of assumptions and methods used to develop trip generation, trip distribution, choice of travel mode, and assignments of trips to I-105 and all off ramps within the project vicinity including but not limit to westbound (WB) I-105 on/off ramps to/from Imperial Highway, eastbound (EB) I-105 to/from Wilmington Ave., and EB/WB I-105 to/from S Central Ave. The traffic consultant should work with Caltrans to identify and confirm off-ramp study locations and freeway segments prior to the preparation of the traffic study. The traffic study should also analyze the storage for left-turn pocket at on-ramps.

2. An off-ramp queuing analysis should be conducted utilizing the Highway Capacity Manual (HCM). The capacity of the off-ramp should be calculated by the actual length of the off-ramp between the terminuses to the gore point (30 feet per car preferred) with some safety factor or referenced to Highway Design Manual at 23' point (Figure 504.2A Single Lane Freeway Entrance) or any other justified methods approved in advance by Caltrans. The existing queue length should be calculated from the traffic counts and the percent of truck assignments (data from Caltrans) to the ramp with a passenger car equivalent factor of 3.0 (worst case scenario). The analyzed result may need to be calibrated with actual signal timing when necessary. It is also recommended that the Lead Agency determine whether the existing, existing plus project, and project-related plus cumulative traffic are expected to cause long queues on the on and off-ramps. Please include mitigation measures if forecasted vehicle queues are expected to exceed available storage capacity with some safety factor.

3. Project travel modeling should be consistent with other regional and local modeling forecasts and travel data. Caltrans uses the indices to verify the results and any differences or inconsistencies must be thoroughly explained. Please submit modeling assumptions for Caltrans review and comment.

4. Trip generation rates for the project should be based on the nationally recognized recommendations contained in "Trip Generation" manual, 9th edition, published by the Institute of Transportation Engineers (ITE).

5. Analysis of ADT, AM and PM peak-hour volumes for both the existing and future conditions in the affected area with and without project. Utilization of transit lines and vehicles, and of all facilities, should be realistically estimated. Future conditions should include build-out of all projects and any plan-horizon years.

6. The analysis should include existing traffic, traffic generated by the project, cumulative traffic generated from all specific approved developments in the area, and traffic growth other than from the project and developments.

7. A discussion of mitigation measures appropriate to alleviate anticipated traffic impacts should also be included. Any mitigation involving transit or Transportation Demand Management (TDM) should be justified and the results conservatively estimated.

8. A fair share contribution toward pre-established or future improvements on the State Highway System is considered acceptable mitigation. (Please see Appendix "B" of the Guide for more information). Please note that for purposes of determining project share of costs, the number of trips from the project on each traveling segment or element is estimated in the context of forecasted traffic volumes, which include build-out of all approved and not yet approved projects and other sources of growth.

Caltrans encourages the Lead Agency to work with neighboring developing cities such as, the City of Los Angeles, City of Lynwood, and the City of Compton, to resolve cumulative significant traffic impacts on the State facilities. A plan to work with the neighboring cities should be discussed in the Specific Plan or a new Resolution/Policy should be passed such as but not limit to the following suggested policy languages:

- The Lead Agency will work with neighboring cities to address cumulative significant traffic impact on freeway I-105, I-110, and I-710, and on/off ramps as a result of build out of the Specific Plan.

- The Lead Agency will continue to work with Caltrans to identify potential cumulative traffic impact and mitigation measures.

- The Lead Agency will form a fair share fee program working with neighboring cities to improve the State facilities.

- The Lead Agency's existing traffic impact fees will include any State facility improvement as part of the cumulative traffic impact. Procuring funds toward freeway segments, freeway interchanges, freeway on/off-ramps, as well as for bus and rail transit facilities will be in the goals of the Lead Agency.

Although we expect to receive the DEIR from the State Clearinghouse, if you would like to expedite the review process or receive early feedback, please feel free to send a copy of the DEIR directly to our office.

If you have any questions, please feel free to contact Mr. Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 151108AL.

Sincerely,

DIANNA WATSON
IGR/CEQA Branch Chief
cc: email to Scott Morgan, State Clearinghouse

City of LYNWOOD
A City Meeting Challenges
11330 BULLIS ROAD
LYNWOOD, CALIFORNIA 90262
(310) 603-0220

November 30, 2015

Connie Chung
County of Los Angeles
Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012

Dear Ms. Chung:

COMMENTS TO THE WILLOWBROOK TOD SPECIFIC PLAN

The City of Lynwood Public Works Department appreciates the opportunity to comment on the scope and content of the environmental analysis to be included in the Environmental Impact Report (EIR). The City of Lynwood, whose westernmost border is less than 1 mile from the planned Willowbrook Transit Oriented District Specific Plan, submits the following comments on impacts that we hope will be addressed in the EIR:

- City's Feeder Line to the Willowbrook Blue Line Station – Currently one of the City's bus routes is a feeder line to the Willowbrook Blue Line Station. The City has operated this bus route for over fifteen years to transport Lynwood residents to the Willowbrook Blue Line station along Imperial Highway. The City would like to continue operating this line without interruption or amending its current route.

- Traffic Congestion - The City is concerned with increased traffic volume on Imperial Highway, Mona Boulevard, Industry Way, Lynwood Road, Alameda Street, and State Street. The increased traffic volume could significantly impact vehicular and pedestrian traffic operations. In addition to any other intersections that may be studied, impacts to these intersections should be studied and mitigated: Imperial Highway and State Street; Fernwood Avenue and State Street; and Lynwood Road and State Street.

- Air Quality - The Willowbrook TOD should address the impacts of increased emissions to the City.

- Public Safety Services – The Willowbrook TOD will result in an increase of visitors, residents and employees to the project site and surrounding areas, thereby resulting in an increase in demand for police services. The Willowbrook TOD

should address adequate level of police services to avoid impacts to surrounding areas.

We look forward to reviewing the EIR document and your responses to our comments. Should you have any questions regarding this letter, please call Lorry Hempe of my staff at 310-603-0220, ext. 500 or email her at lhempe@lynwood.ca.us.

Sincerely,

Raul Godinez II, P.E.
Director of Public Works/City Engineer

Cc:
Erika Ramirez, Interim Director of Development Services
J. Arnoldo Beltrán, City Manager

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

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PUBLIC WORKS

NOTICE OF PREPARATION

DATE: October 29, 2015

PROJECT TITLE: Willowbrook Transit Oriented District Specific Plan
County Project Number: R2015-02007
Environmental Review Number: RENVT201500136

PROJECT LOCATION: The Specific Plan area is located in the unincorporated community of Willowbrook within Los Angeles County. It is located along the I-105 Freeway and includes the junction of the Metro Blue and Green lines. The project area is approximately 10 miles south of Downtown Los Angeles and is bordered by the City of Los Angeles to the north and the City of Lynwood and the City of Compton to the east.

The County of Los Angeles is the lead agency and, after conducting an Initial Study for the Project, has determined that it will prepare an Environmental Impact Report (EIR). In compliance with Section 15082 of the California Environmental Quality Act (CEQA) Guidelines, the County of Los Angeles is sending this Notice of Preparation (NOP) to responsible agencies, interested parties, and trustee agencies responsible for natural resources that may be affected by the Project.

PROJECT LOCATION AND ENVIRONMENTAL SETTING

The Specific Plan area generally encompasses a half mile radius south of the Willowbrook/Rosa Parks Metro station, which is a major transfer point between the Metro Blue Line and Green Line. At the station, the Green Line is located in the median of the I-105 Freeway (Glenn Anderson). The Specific Plan area totals 312 acres. Major activity centers within the Specific Plan area are the Martin Luther King Jr. Medical Center, Charles R. Drew University of Medicine and Science, Kenneth Hahn Plaza, Willowbrook Library, and Martin Luther King Jr. Center for Public Health. See attached project boundary map.

North of the Specific Plan area is predominantly residential with some commercial uses. The City of Lynwood is directly adjacent to the Specific Plan's eastern border and land uses are manufacturing, public uses and commercial. South and west of the Specific Plan area is predominantly residential.

PROJECT SUMMARY

The Specific Plan has been prepared to introduce a transit oriented development (TOD) pattern to the area, which would promote active transportation and improve quality of life for residents by reducing vehicles miles traveled, improving the public realm, improving economic vitality and employment opportunities, and streamlining the environmental review process for future projects.

The Specific Plan would facilitate development by rezoning and amending General Plan land uses to include mixed uses, increased residential densities, and additional neighborhood-serving retail uses. A key part of the Specific Plan is also to preserve existing residential uses and densities in certain areas. The proposed zoning includes: Mixed Use 1 (MU-1); Mixed Use 2 (MU-2); MLK Medical; Drew Educational; Imperial Commercial; Willowbrook Residential 1; Willowbrook Residential 2; Willowbrook Residential 3; and Open Space (O-S). Overall, the Specific Plan would accommodate an additional 1,734 dwelling units and 2,630,306 square feet of non-residential land use.

The Specific Plan would largely maintain the existing street system in its current configuration, with some improvements designed to improve access, circulation, and walkability. Road diets would also be used to aid the circulation system.

The Specific Plan would improve pedestrian circulation by connecting all major activity areas through sidewalk and intersection improvements. In addition, a combination of Class I, Class II, Class III and potentially Class IV facilities would provide a connected and integrated bicycle network throughout the Specific Plan area that connects activity centers and neighborhoods to the Willowbrook/Rosa Parks Station and adjacent communities. Bicycle amenities, such as bicycle stations, would be provided at appropriate locations.

In 2012, Los Angeles County prepared the *MLK Medical Center Campus Master Plan & the Willowbrook MLK Wellness Community Vision* to guide the development of the campus. It is the County's intent that the Specific Plan serve as the regulatory document for the buildout of the campus. Future development within the campus will be required to comply with the provisions of the Specific Plan; all subsequent development within the campus will be subject to the mitigation requirements of the EIR being prepared for the Specific Plan.

The draft Specific Plan is available for viewing at http://planning.lacounty.gov/willowbrook/tod.

POTENTIAL PROJECT IMPACTS: Based on the Initial Study determination, an EIR is necessary for the proposed Project. Based on a preliminary assessment of potential environmental impacts that may occur as a result of the Project, the areas of potential environmental impact to be addressed in the Programmatic EIR will include at least the following:

Potential Hazards

- Geology/Soils
- Noise
- Hazards/Hazardous Materials

Potential Impacts to Resources

- Aesthetics
- Air Quality
- Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Land Use/Planning

Potential Impacts to Services

- Transportation/Traffic

- Public Services
- Recreation
- Utilities/Services
- Population/Housing

The only environmental factors that were not found to be potentially affected are Agriculture/Forest Resources, Biological Resources, and Mineral Resources. There are multiple mandatory findings of significance. In addition, environmental issues that do not rise to the level of significant impacts will be addressed in the EIR in a separate section entitled "Impacts Found to Be Less Than Significant."

NOTICE OF PREPARATION REVIEW AND COMMENTS

The NOP is being distributed to solicit written comments regarding the scope and content of the environmental analysis to be included in the EIR. The County has prepared this NOP in accordance with the State CEQA Guidelines.

The review period for this NOP is from **November 2, 2015 to December 1, 2015**. Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than **December 1, 2015**. Please direct all written comments to the following address:

Connie Chung, AICP
County of Los Angeles
Department of Regional Planning
320 W. Temple Street
Los Angeles, California 90012
Telephone: (213) 974-6417
Fax: (213) 626-0434
Email: cchung@planning.lacounty.gov

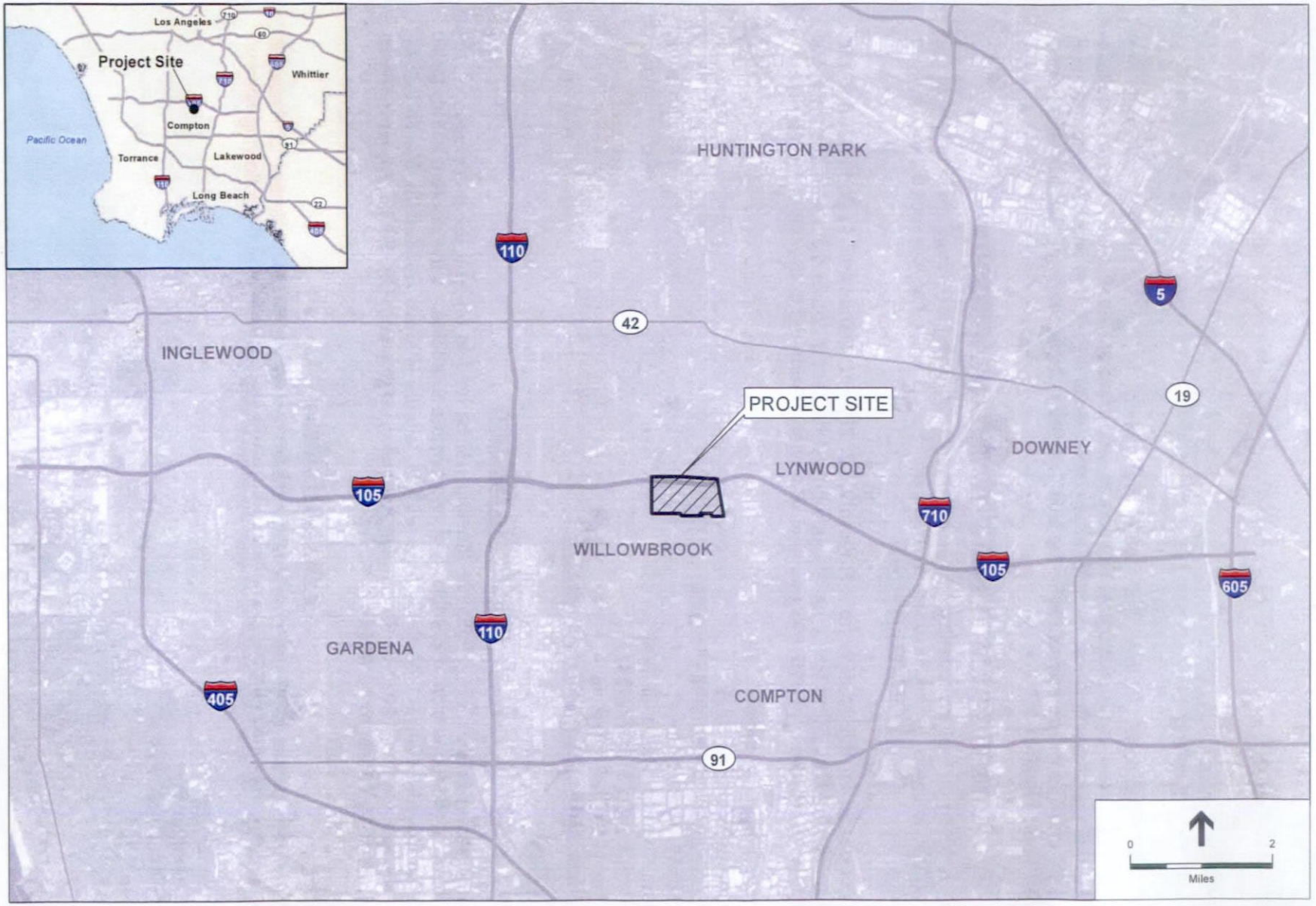
SCOPING MEETING

To assist in local participation, a Scoping Meeting will be held to present the proposed project and to solicit suggestions from the public and responsible agencies on the content of the Draft EIR. The Scoping Meeting will be held at the MLK H. Claude Hudson Auditorium, Martin Luther King, Jr. Medical Center, 12021 S. Wilmington Avenue, Los Angeles, CA, 90059, on **November 21, 2015, from 10:00 am to 12:00 pm.**

REVIEW MATERIALS

Additional copies of this NOP are available for public review on the Department of Regional Planning website: http://planning.lacounty.gov/willowbrook/tod as well as at the following library:

Willowbrook Library
11838 Wilmington Ave
Los Angeles, CA 90059



SOURCE: ESRI

Willowbrook TOD Specific Plan . 130631

Figure 1

Regional Location

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

Metro

December 1, 2015

Connie Chung
County of Los Angeles
Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012

Email: cchung@planning.lacounty.gov

RE: Willowbrook Transit Oriented District Specific Plan- Unincorporated Community of Willowbrook/County of Los Angeles-Notice of Preparation of Draft Environmental Impact Report

Dear Ms. Chung:

Thank you for the opportunity to comment on the Notice of Preparation of a Draft Environmental Impact Report for the proposed Willowbrook Transit Oriented District Specific Plan (Specific Plan) located in the unincorporated community of Willowbrook within Los Angeles County. The proposed project consists of a Specific Plan that will introduce Transit Oriented Development patterns to the area. The Specific Plan would facilitate development by rezoning and amending General Plan land uses to include mixed uses, increased residential densities, and additional neighborhood-serving retail uses. This letter conveys recommendations from the Los Angeles County Metropolitan Transportation Authority (Metro) concerning issues that are germane to our agency's statutory responsibility in relation to our facilities and services that may be affected by the proposed project.

Several Metro bus lines operate within the Specific Plan area (120, 202, 205, 612, 55/202/355) Metro has standard language that relates to construction activity adjacent to bus transit facilities. Metro recommends that the Specific Plan include language that informs future development activity within the Specific Plan area of Metro's notification procedures and considerations for projects located in close proximity to a Metro facility that may impact Metro bus operations.

The Metro Blue and Green light rail currently operate weekday peak service as often as every five minutes in both directions and that trains may operate, in and out of revenue service, 24 hours a day, seven days a week, in the ROW proximate to the proposed project. Metro has development guidelines that describe the Metro's development project review process and considerations for project siting as it relates to Metro facilities. Metro suggests that the project sponsor include policy language or guidance in the Specific Plan that clearly denotes that development occurring within 100 feet of a Metro facility will require Metro review and approval and compliance with Metro's Development Guidelines. In particular, because of the proximity to the Metro Blue Line, increased traffic at railroad grade crossings must be considered specifically in the Specific Plan. Provisions for transit priority treatments should be considered to make the development welcoming to transit access.

In addition, the Specific Plan has various policies in place that support active transportation and multi-modalism. Metro looks forward to continuing to collaborate with the County to effectuate policies and implementation activities that promote transit supportive communities and reduce pedestrian/bike and bus conflicts. Please continue to collaborate with Metro as such plans are effectuated, including the proposed Willowbrook Avenue West bike path.

In addition, Metro would like to take this opportunity to provide the following specific comments and additional information about improvements planned for the Willowbrook/Rosa Parks station:

- Page 24: Please remove the reference to the cost of the Metro Willowbrook/Rosa Parks Improvement Project. The cost is not accurate and because of ongoing activity related to advancing design and the overall project, the cost should not be memorialized in the Specific Plan.

- Page 24: the renderings included in the plan for the station area are not accurate and do not reflect Metro's current design. Please use images provided below.





- Page 24: The addition of a southern at-grade crossing to the Blue Line is currently being evaluated. Please revise the second paragraph under Specific Plan Strategy as follows: "Another at-grade crossing ~~is planned~~ at the south end of the Blue Line platform, ~~but only across the western tracks. If this crossing could extend eastward across the tracks, it~~ would further enhance connectivity for residents to the east."

- Page87: Please revise reference of the Metro bike station to a Metro Bike Mobility Hub. Additionally, if bike stations are referenced in other contexts in the Plan, consider defining "bike station" to clarify what it entails (storage, valet, rental)

- Page 87: Please note that a shuttle stop may not be provided due to feedback from shuttle operators and a crosswalk to Willowbrook East will not be provided. Please consider replacing the second sentence under "4.6 Transit Circulation" to "These are expected to include expansion of station facilities and the Blue Line platform, a bicycle mobility hub, and improvements to station access."

Thank you for the opportunity to comment on the NOP of the DEIR for the Willowbrook Transit Oriented District Specific Plan. If you have any questions regarding this response, please contact Elizabeth Carvajal at 213-922-3084 or by email at DevReview@metro.net. Metro looks forward to reviewing the Draft EIR. Please send it to the following address:

Willowbrook Transit Oriented District Specific Plan
NOP
Metro Comments
December 1, 2015

Metro Development Review
One Gateway Plaza MS 99-23-4
Los Angeles, CA 90012-2952

Sincerely,

Elizabeth Carvajal
Transportation Planning Manager


ROSA PARKS
CUSTOMER SERVICE CENTER



SOUTHERN CALIFORNIA
ASSOCIATION of
GOVERNMENTS

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Deborah Robertson, Rialto

Transportation
Alan Wapner, San Bernardino Associated Governments

December 1, 2015

Ms. Connie Chung, AICP
County of Los Angeles, Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012
Phone: (213) 974-6417
E-mail: cchung@planning.lacounty.gov

RE: SCAG Comments on the Notice of Preparation of a Draft Environmental Impact Report for the Willowbrook Transit Oriented District Specific Plan [SCAG NO. IGR8658]

Dear Ms. Chung,

Thank you for submitting the Notice of Preparation of a Draft Environmental Impact Report for the Willowbrook Transit Oriented District Specific Plan ("proposed project") to the Southern California Association of Governments (SCAG) for review and comment. SCAG is the authorized regional agency for Inter-Governmental Review (IGR) of programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12372. Additionally, SCAG reviews the Environmental Impact Reports of projects of regional significance for consistency with regional plans pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

SCAG is also the designated Regional Transportation Planning Agency under state law, and is responsible for preparation of the Regional Transportation Plan (RTP) including its Sustainable Communities Strategy (SCS) component pursuant to SB 375. As the clearinghouse for regionally significant projects per Executive Order 12372, SCAG reviews the consistency of local plans, projects, and programs with regional plans.[1] Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of the regional goals and policies in the RTP/SCS.

SCAG staff has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Willowbrook Transit Oriented District Specific Plan in Los Angeles County. The proposed project is a Specific Plan that introduces a transit oriented development (TOD) pattern into the area. The Specific Plan accommodates an additional 1,734 dwelling units and 2,630,306 square feet of non-residential land use on 312 acres.

When available, please send environmental documentation to SCAG's *office in Los Angeles or by email to sunl@scag.ca.gov* providing, at a minimum, the full public comment period for review. If you have any questions regarding the attached comments, please contact the Inter-Governmental Review (IGR) Program, attn.: Lijin Sun, Esq., Senior Regional Planner, at (213) 236-1882 or sunl@scag.ca.gov. Thank you.

Sincerely,

Ping Chang

Ping Chang
Program Manager II, Land Use and Environmental Planning

[1] SB 375 amends CEQA to add Chapter 4.2 Implementation of the Sustainable Communities Strategy, which allows for certain CEQA streamlining for projects consistent with the RTP/SCS. Lead agencies (including local jurisdictions) maintain the discretion and will be solely responsible for determining "consistency" of any future project with the SCS. Any "consistency" finding by SCAG pursuant to the IGR process should not be construed as a finding of consistency under SB 375 for purposes of CEQA streamlining.

COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE WILLOWBROOK TRANSIT ORIENTED DISTRICT SPECIFIC PLAN [SCAG NO. IGR8658]

CONSISTENCY WITH RTP/SCS

SCAG reviews environmental documents for regionally significant projects for their consistency with the adopted RTP/SCS.

2012 RTP/SCS GOALS

The SCAG Regional Council adopted the 2012 RTP/SCS in April 2012. The 2012 RTP/SCS links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic and commercial limitations (see http://rtpscs.scag.ca.gov). The goals included in the 2012 RTP/SCS may be pertinent to the proposed project. These goals are meant to provide guidance for considering the proposed project within the context of regional goals and policies. Among the relevant goals of the 2012 RTP/SCS are the following:

SCAG 2012 RTP/SCS GOALS	
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*
RTP/SCS G3:	*Ensure travel safety and reliability for all people and goods in the region*
RTP/SCS G4:	*Preserve and ensure a sustainable regional transportation system*
RTP/SCS G5:	*Maximize the productivity of our transportation system*
RTP/SCS G6:	*Protect the environment and health for our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking)*
RTP/SCS G7:	*Actively encourage and create incentives for energy efficiency, where possible*
RTP/SCS G8:	*Encourage land use and growth patterns that facilitate transit and non-motorized transportation*
RTP/SCS G9:	*Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies*

For ease of review, we encourage the use of a side-by-side comparison of SCAG goals with discussions of the consistency, non-consistency or non-applicability of the policy and supportive analysis in a table format. Suggested format is as follows:

SCAG 2012 RTP/SCS GOALS		
	Goal	Analysis
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
etc.		etc.

RTP/SCS STRATEGIES

To achieve the goals of the 2012 RTP/SCS, a wide range of strategies are included in SCS Chapter (starting on page 152) of the RTP/SCS focusing on four key areas: 1) Land Use Actions and Strategies; 2) Transportation Network Actions and Strategies; 3) Transportation Demand Management (TDM) Actions and Strategies and; 4) Transportation System Management (TSM) Actions and Strategies. If applicable to the proposed project, please refer to these strategies as guidance for considering the proposed project within the context of regional goals and policies. To access a listing of the strategies, please visit http://rtpscs.scag.ca.gov/Documents/2012/final/f2012RTPSCS.pdf (Tables 4.3 – 4.7, beginning on page 152).

REGIONAL GROWTH FORECASTS

At the time of this letter, the most recently adopted SCAG forecasts, at the jurisdictional level, consists of the 2020 and 2035 RTP/SCS population, household and employment forecasts. To view them, please visit http://scag.ca.gov/Documents/2012AdoptedGrowthForecastPDF.pdf. The forecasts for the region and applicable jurisdictions are below.

	Adopted SCAG Region Wide Forecasts		Adopted County of Los Angeles Forecasts	
	Year 2020	**Year 2035**	**Year 2020**	**Year 2035**
Population	19,663,000	22,091,000	10,404,000	11,353,000
Households	6,458,000	7,325,000	3,513,000	3,852,000
Employment	8,414,000	9,441,000	4,558,000	4,827,000

MITIGATION

SCAG staff recommends that you review the SCAG 2012 RTP/SCS Final Program EIR Mitigation Measures for guidance, as appropriate. See Chapter 6 (beginning on page 143) at:
http://rtpscs.scag.ca.gov/Documents/peir/2012/final/Final2012PEIR.pdf

As referenced in Chapter 6, a comprehensive list of example mitigation measures that may be considered as appropriate is included in Appendix G: *Examples of Measures that Could Reduce Impacts from Planning, Development and Transportation Projects.* Appendix G can be accessed at:
http://rtpscs.scag.ca.gov/Documents/peir/2012/final/2012fPEIR_AppendixG_ExampleMeasures.pdf

Transcribed by L. Freeman 12-7-15

Need to fix streets, bus stop, etc. first. Would like to see short-term community improvements.

Homeless issue – [need a] homeless shelter [and] more affordable housing locally [with] short-term strategies for elderly.

What types of shops will come in to the plaza? A dollar store? [Specific] Plan sets the policy for future community [development].

[Regarding] trailers parked on streets, can we designate an area [within the TOD] for trailer [/RV] parking? Answer: Homelessness is a countywide issue and the county is working on the issue from many directions [through many different initiatives]. For the specific plan, areas are identified for new housing.

Railroad tracks [can the plan address the poor condition of railroad crossings]

Need more local jobs, a job training center and more job training.

[Prevent the] displacement of current residents.

Use of renewable energy?

Level of affordability [of new housing] / [Are] Income level restrictions [proposed] ($1500-$2000 per month [would be] too high [for most current residents])

Any community benefits (equity) included?

Have information (maps, etc) available in hard copy.

Public Input Form
Scoping Meeting
Willowbrook TOD Specific Plan

County Project Number: R2015-02007
Environmental Review Number: RENVT201500136

November 21, 2015

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Comments: What clear differences will the new expansion be compared from Now to then. - Where specifically will the new Housing be, business in the existing Shopping Center be located.

Potholes. Moving Bus Stops From 122nd (the Link) What Specific Visual Effects are we looking To See.

The railroad tracks @ 119th & Willowbrook are Torn up. - Major potholes Tearing up my car.

Please include your contact/mailing information. We will notify you when the draft EIR is completed and available for review. We will also notify you of public hearings related to this project.

Name: Jacqueline Aldridge

Address: 2031 E. 122nd St. #217

City/State/ZIP: Compton, CA. 90222

Email:

Lead Agency Contact:

Ms. Connie Chung
County of Los Angeles, Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012
Tel: (213) 974-6417
Fax: (213) 626-0434
Email: cchung@planning.lacounty.gov

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Comments: Please work with the Community

Please include your contact/mailing information. We will notify you when the draft EIR is completed and available for review. We will also notify you of public hearings related to this project.

Name: Ruby Kiwanuka

Address: 1920 E. Elsegundo Apt 10

City/State/ZIP: Compton Ca. 90222

Email:

Lead Agency Contact:

Ms. Connie Chung
County of Los Angeles, Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012
Tel: (213) 974-6417
Fax: (213) 626-0434
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Comments: I like the idea of jobs coming to the community and hope the jobs will be offered to residents

---

Please include your contact/mailing information. We will notify you when the draft EIR is completed and available for review. We will also notify you of public hearings related to this project.

Name: _____

Address: _____

City/State/ZIP: _____

Email: _____

Lead Agency Contact:

Ms. Connie Chung
County of Los Angeles, Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012
Tel: (213) 974-6417
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Comments: I think it would be good that the Commuty bus should pick up on streets where senior's and disable people live in, can be pick up and taken to places around them

---

Please include your contact/mailing information. We will notify you when the draft EIR is completed and available for review. We will also notify you of public hearings related to this project.

Name: Gwendolyn Paschal

Address: 2019 E 122 St #229

City/State/ZIP: Compton, Ca. 90222

Email: GwendolynPaschal@gmail.com

Lead Agency Contact:

Ms. Connie Chung
County of Los Angeles, Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012
Tel: (213) 974-6417
Fax: (213) 626-0434
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Comments: Bueno lo que se adicho aqui
Esta Para Todos Se Para vien
de la comodidad para mi
Todos los Proyectos son
Escelente
Que los dueños de donde vivimos
Sean Razonos en que no
los cobren tanta renta

Please include your contact/mailing information. We will notify you when the draft EIR is completed and available for review. We will also notify you of public hearings related to this project.

Name: EVA Guillen
Address: 1916 willowbrook Ave
City/State/ZIP: Los Angeles CA 90059
Email:
323-811-8800

Lead Agency Contact:

11-21-2015

Ms. Connie Chung
County of Los Angeles, Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012
Tel: (213) 974-6417
Fax: (213) 626-0434
Email: cchung@planning.lacounty.gov

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Comments:

mi pregunta es cual es la fecha cuando van a comensar el cambio y comensar q apoyo necesitan para q no sdo quede como un proyecto olvidado

---

Please include your contact/mailing information. We will notify you when the draft EIR is completed and available for review. We will also notify you of public hearings related to this project.

Name: Rosa M. Del Rio

Address: 12049 S. Willowbrook Av

City/State/ZIP: #2 Compton Cal 90222

Email:

Lead Agency Contact:

Ms. Connie Chung
County of Los Angeles, Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012
Tel: (213) 974-6417
Fax: (213) 626-0434
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Comments: Mi comentario es que mi Dirección es 11682 willowBrook Muy cerca de los nuevos proyectos que van a iniciar yo también yo de bajos recursos, pero todo por el bien de mi cumunidad, estoy emocionada y ansiosa por ver como se va a ver, y tengo ganas de trabajar muy de cerca en estos proyectos mi nombre es Martha Zepeda (323) 567-2831

Please include your contact/mailing information. We will notify you when the draft EIR is completed and available for review. We will also notify you of public hearings related to this project.

Name: Martha Zepeda

Address: 11682 willowBrook Ave

City/State/ZIP: Los Angeles CA 90059

Email: _____

Lead Agency Contact:

Ms. Connie Chung
County of Los Angeles, Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012
Tel: (213) 974-6417
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Comments: nos Ase falta un Semaforo O un paso peatonal en el nuevo parque Haper es ta por 19 y mona por que para y pasa niños para la Escuela y pasan carros rapidos y Parte Mona pueden poner para que patine los Niños y Maquinas para Aser Egersisio

---

Please include your contact/mailing information. We will notify you when the draft EIR is completed and available for review. We will also notify you of public hearings related to this project.

Name: Juanita Ortega

Address: _____

City/State/ZIP: _____

Email: _____

Lead Agency Contact:

Ms. Connie Chung
County of Los Angeles, Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012
Tel: (213) 974-6417
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Comments: I think that they are doing fine with all the progress. all efforts are going pretty well. And the Securities are excellent. Tracks needs to be done. Pot holes everywhere. Jobs in the Community.

Please include your contact/mailing information. We will notify you when the draft EIR is completed and available for review. We will also notify you of public hearings related to this project.

Name: Sharon Steward
Address: 2604 E. El Segundo Blvd.
City/State/ZIP: Compton CA. 90222
Email:

Lead Agency Contact:

Ms. Connie Chung
County of Los Angeles, Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012
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Comments: To whom it may concern i hazit reside in compton for many yrs i notice alot of homeless people living on bus stop & laying on grounds and stuff. it sadden me. We need a place for the community thats homeless i see it everywhere even laying on compton court grounds tents and stuff or that matter. i think personally they should make little houses. for the homeless i seen on E.B. where they put little house in locations somethings needs to be done. find a location that allows you to help those that less fortunate or i thought i share my thought

Att: Abu - liquor stores they create lots of people

Please include your contact/mailing information. We will notify you when the draft EIR is completed and available for review. We will also notify you of public hearings related to this project.

Name: hazit Garrett

Address: 1024 West Reeve St

City/State/ZIP: compton ca. 90220

Email: hazit garrett @ gmail.com

Lead Agency Contact:

Ms. Connie Chung
County of Los Angeles, Department of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012
Tel: (213) 974-6417
Fax: (213) 626-0434
Email: cchung@planning.lacounty.gov

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Comments: Hello, My name is Lucinda Ryder I live at 12023 S. Willowbrook Ave. Back House. I worked at Rite Aid in our Shoping Center for almost 15 years or longer and have just found out I'm very Sick With Cancer of Bladder & Colon and Cannot work anymplonger, I go to the hospital & doctor more then I am at home & I find myself with no income at this time, so I dont have food alot of the time, and I go to the church to

(over)

Please include your contact/mailing information. We will notify you when the draft EIR is completed and available for review. We will also notify you of public hearings related to this project.

Name: _____

Address: _____

City/State/ZIP: _____

Email: _____

Lead Agency Contact:

Ms. Connie Chung
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Los Angeles, CA 90012
Tel: (213) 974-6417
Fax: (213) 626-0434
Email: cchung@planning.lacounty.gov

recive free food and I find myself not eating because I can't walk down the street to reaive it, Because I dont have a Car or family to get so like now I dont eat And keep loseing weight I have one son who work here at this hospalal his name is Wayne Fatherree. And I was wondering if there is some way for me to Obtaine this food other then coming down because I hurt so very bad at times And I m down to 56 pounds now And Doctors are still trying to find out the reasons for this. I dont meam to be a problem but I need a bit of help Im trying to get my S.S. But it takes time for this to happen So Im just asking for a little Bit of help till then or make I'll get well enough to go Back to work. thank you

Son very much.

Lucinda Ryder

An god bless you
for all your help.

Appendix B

Air Quality and Greenhouse Gas Emissions Data Worksheets

ESA

Willowbrook Specific Plan

Appendix B, Air Quality Worksheets and Greenhouse Gas Emissions Data Worksheets

Construction Emissions

- CalEEMod Construction Model Input Assumptions
- CalEEMod Output (Summer)- Non-Residenitial
- CalEEMod Output (Winter)- Non-Residenitial
- CalEEMod Output (Annual)- Non-Residenitial

- CalEEMod Output (Summer)- Residential
- CalEEMod Output (Winter)- Residential
- CalEEMod Output (Annual)- Residential

Operational Emissions

- CalEEMod Output (Summer)
- CalEEMod Output (Winter)
- CalEEMod Output (Annual)
- CalEEMod Output (Summer)- Hospital LST
- CalEEMod Output (Winter)- Hospital LST
- CalEEMod Title 24 Conversion

Appendix B, Air Quality Worksheets and Greenhouse Gas Emissions Data Worksheets

Construction Emissions

- CalEEMod Construction Model Input Assumptions
- CalEEMod Output (Summer)- Non-Residenitial
- CalEEMod Output (Winter)- Non-Residential
- CalEEMod Output (Annual)- Non-Residential

- CalEEMod Output (Summer)- Residential
- CalEEMod Output (Winter)- Residential
- CalEEMod Output (Annual)- Residential

Willowbrook last updated:
Draft Environmental Impact Report 2/8/2017
Air Quality and Greenhouse Gas Assessment

Modeling Assumption for Air Quality Construction Emissions- Maximum Day Assumptions

Land Use	CalEEMod Land Use Type	Units	
Residential	Mid-Rise Apartment	105 DU	105,000 sf
Non-residential	General Office Building	172.0 KSF	172,000 sf

CalEEMod Construction Phase	Start Date	End Date	No. Work Days	No. of Simultaneous Projects	Demo (KSF)
Demolition	1/2/2018	1/2/2018	1	5	20
Grading	1/2/2018	2/12/2018	30	5	
Building Construction- Residential	1/2/2017	6/18/2017	120	10	
Paving	1/2/2017	1/29/2017	20	10	
Architectural Coating	1/2/2017	1/29/2017	20	10	
Building Construction- Non- Residential	1/2/2017	9/10/2017	180	4	
Paving	1/2/2017	2/10/2017	30	4	
Architectural Coating	1/2/2017	2/10/2017	30	4	

Modeling Assumption for Construction Greenhouse Gas Emissions- Maximum Annual Assumptions

Land Use	CalEEMod Land Use Type	Units	
Residential	Mid-Rise Apartment	420 DU	420,000 sf
Non-Residential	General Office Building	227.0 KSF	227,000 sf

CalEEMod Construction Phase	Start Date	End Date	No. Work Days	No. of Simultaneous Projects	Demo (KSF)
Demolition	1/2/2018	12/31/2018	260	2	227
Grading	1/2/2018	12/31/2018	260	2	
Building Construction- Residential	1/2/2018	12/31/2018	260	10	
Paving	1/2/2017	5/21/2018	100	10	
Architectural Coating	1/2/2017	1/2/2018	260	10	
Building Construction- Non- Residential	1/2/2018	9/10/2018	260	4	
Paving	1/2/2018	2/12/2018	200	4	
Architectural Coating	1/2/2018	2/10/2018	260	4	

Willowbrook Specific Plan- Non- Residential

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	172.00	1000sqft	3.95	172,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Commercial

Construction Phase - Maximum Emission Scenario

Off-road Equipment - 4 projects

Off-road Equipment - 4 Projects

Off-road Equipment - 5 Projects

Off-road Equipment - 4 Projects

Demolition - 20,000 square foot demolished max day.

Grading - 10 acres graded max day

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	18.00	30.00
tblConstructionPhase	NumDays	230.00	180.00
tblConstructionPhase	NumDays	18.00	30.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	WorkerTripNumber	80.00	20.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	71.3387	163.3822	132.6317	0.2131	1.1405	9.9821	11.1226	0.3065	9.3597	9.6663	0.0000	20,928.6217	20,928.6217	5.0332	0.0000	21,054.4529
Maximum	**71.3387**	**163.3822**	**132.6317**	**0.2131**	**1.1405**	**9.9821**	**11.1226**	**0.3065**	**9.3597**	**9.6663**	**0.0000**	**20,928.6217**	**20,928.6217**	**5.0332**	**0.0000**	**21,054.4529**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	71.3387	163.3822	132.6317	0.2131	1.1405	9.9821	11.1226	0.3065	9.3597	9.6663	0.0000	20,928.6217	20,928.6217	5.0332	0.0000	21,054.4529
Maximum	**71.3387**	**163.3822**	**132.6317**	**0.2131**	**1.1405**	**9.9821**	**11.1226**	**0.3065**	**9.3597**	**9.6663**	**0.0000**	**20,928.6217**	**20,928.6217**	**5.0332**	**0.0000**	**21,054.4529**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/2/2018	9/10/2018	5	180	
2	Paving	Paving	1/2/2018	2/12/2018	5	30	
3	Architectural Coating	Architectural Coating	1/2/2018	2/12/2018	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 258,000; Non-Residential Outdoor: 86,000; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	4	7.00	231	0.29
Building Construction	Forklifts	12	8.00	89	0.20
Building Construction	Generator Sets	4	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	12	7.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Cement and Mortar Mixers	8	6.00	9	0.56
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	8	6.00	132	0.36
Paving	Rollers	8	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Architectural Coating	Air Compressors	4	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	36	55.00	28.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	32	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	10.7180	93.5601	70.3217	0.1077		5.9995	5.9995		5.6397	5.6397		10,483.7405	10,483.7405	2.5685		10,547.9531
Total	**10.7180**	**93.5601**	**70.3217**	**0.1077**		**5.9995**	**5.9995**		**5.6397**	**5.6397**		**10,483.7405**	**10,483.7405**	**2.5685**		**10,547.9531**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1191	3.3932	0.8450	7.3300e-003	0.1792	0.0248	0.2040	0.0516	0.0237	0.0753		780.2425	780.2425	0.0531		781.5701
Worker	0.2964	0.2125	2.7597	6.7400e-003	0.6148	4.9000e-003	0.6197	0.1630	4.5200e-003	0.1676		670.6434	670.6434	0.0229		671.2151
Total	**0.4155**	**3.6056**	**3.6047**	**0.0141**	**0.7940**	**0.0297**	**0.8237**	**0.2146**	**0.0282**	**0.2429**		**1,450.8859**	**1,450.8859**	**0.0760**		**1,452.7852**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	10.7180	93.5601	70.3217	0.1077		5.9995	5.9995		5.6397	5.6397	0.0000	10,483.7405	10,483.7405	2.5685		10,547.9531
Total	**10.7180**	**93.5601**	**70.3217**	**0.1077**		**5.9995**	**5.9995**		**5.6397**	**5.6397**	**0.0000**	**10,483.7405**	**10,483.7405**	**2.5685**		**10,547.9531**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1191	3.3932	0.8450	7.3300e-003	0.1792	0.0248	0.2040	0.0516	0.0237	0.0753		780.2425	780.2425	0.0531		781.5701
Worker	0.2964	0.2125	2.7597	6.7400e-003	0.6148	4.9000e-003	0.6197	0.1630	4.5200e-003	0.1676		670.6434	670.6434	0.0229		671.2151
Total	**0.4155**	**3.6056**	**3.6047**	**0.0141**	**0.7940**	**0.0297**	**0.8237**	**0.2146**	**0.0282**	**0.2429**		**1,450.8859**	**1,450.8859**	**0.0760**		**1,452.7852**

3.3 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.6957	58.0738	49.7330	0.0757		3.3479	3.3479		3.0871	3.0871		7,490.2021	7,490.2021	2.2689		7,546.9249
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**5.6957**	**58.0738**	**49.7330**	**0.0757**		**3.3479**	**3.3479**		**3.0871**	**3.0871**		**7,490.2021**	**7,490.2021**	**2.2689**		**7,546.9249**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1078	0.0773	1.0035	2.4500e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		243.8703	243.8703	8.3200e-003		244.0782
Total	**0.1078**	**0.0773**	**1.0035**	**2.4500e-003**	**0.2236**	**1.7800e-003**	**0.2253**	**0.0593**	**1.6400e-003**	**0.0609**		**243.8703**	**243.8703**	**8.3200e-003**		**244.0782**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.6957	58.0738	49.7330	0.0757		3.3479	3.3479		3.0871	3.0871	0.0000	7,490.2021	7,490.2021	2.2689		7,546.9249
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**5.6957**	**58.0738**	**49.7330**	**0.0757**		**3.3479**	**3.3479**		**3.0871**	**3.0871**	**0.0000**	**7,490.2021**	**7,490.2021**	**2.2689**		**7,546.9249**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1078	0.0773	1.0035	2.4500e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		243.8703	243.8703	8.3200e-003		244.0782
Total	**0.1078**	**0.0773**	**1.0035**	**2.4500e-003**	**0.2236**	**1.7800e-003**	**0.2253**	**0.0593**	**1.6400e-003**	**0.0609**		**243.8703**	**243.8703**	**8.3200e-003**		**244.0782**

3.4 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	53.1480					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.1945	8.0230	7.4168	0.0119		0.6022	0.6022		0.6022	0.6022		1,125.7942	1,125.7942	0.1070		1,128.4685
Total	**54.3425**	**8.0230**	**7.4168**	**0.0119**		**0.6022**	**0.6022**		**0.6022**	**0.6022**		**1,125.7942**	**1,125.7942**	**0.1070**		**1,128.4685**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0593	0.0425	0.5519	1.3500e-003	0.1230	9.8000e-004	0.1239	0.0326	9.0000e-004	0.0335		134.1287	134.1287	4.5700e-003		134.2430
Total	**0.0593**	**0.0425**	**0.5519**	**1.3500e-003**	**0.1230**	**9.8000e-004**	**0.1239**	**0.0326**	**9.0000e-004**	**0.0335**		**134.1287**	**134.1287**	**4.5700e-003**		**134.2430**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	53.1480					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.1945	8.0230	7.4168	0.0119		0.6022	0.6022		0.6022	0.6022	0.0000	1,125.7942	1,125.7942	0.1070		1,128.4685
Total	**54.3425**	**8.0230**	**7.4168**	**0.0119**		**0.6022**	**0.6022**		**0.6022**	**0.6022**	**0.0000**	**1,125.7942**	**1,125.7942**	**0.1070**		**1,128.4685**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0593	0.0425	0.5519	1.3500e-003	0.1230	9.8000e-004	0.1239	0.0326	9.0000e-004	0.0335		134.1287	134.1287	4.5700e-003		134.2430
Total	**0.0593**	**0.0425**	**0.5519**	**1.3500e-003**	**0.1230**	**9.8000e-004**	**0.1239**	**0.0326**	**9.0000e-004**	**0.0335**		**134.1287**	**134.1287**	**4.5700e-003**		**134.2430**

Willowbrook Specific Plan- Non- Residential

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	172.00	1000sqft	3.95	172,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Commercial

Construction Phase - Maximum Emission Scenario

Off-road Equipment - 4 projects

Off-road Equipment - 4 Projects

Off-road Equipment - 5 Projects

Off-road Equipment - 4 Projects

Demolition - 20,000 square foot demolished max day.

Grading - 10 acres graded max day

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	18.00	30.00
tblConstructionPhase	NumDays	230.00	180.00
tblConstructionPhase	NumDays	18.00	30.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	WorkerTripNumber	80.00	20.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	71.3844	163.4196	132.3148	0.2122	1.1405	9.9825	11.1229	0.3065	9.3601	9.6666	0.0000	20,838.8389	20,838.8389	5.0349	0.0000	20,964.7117
Maximum	**71.3844**	**163.4196**	**132.3148**	**0.2122**	**1.1405**	**9.9825**	**11.1229**	**0.3065**	**9.3601**	**9.6666**	**0.0000**	**20,838.8389**	**20,838.8389**	**5.0349**	**0.0000**	**20,964.7117**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	71.3844	163.4196	132.3148	0.2122	1.1405	9.9825	11.1229	0.3065	9.3601	9.6666	0.0000	20,838.8389	20,838.8389	5.0349	0.0000	20,964.7117
Maximum	**71.3844**	**163.4196**	**132.3148**	**0.2122**	**1.1405**	**9.9825**	**11.1229**	**0.3065**	**9.3601**	**9.6666**	**0.0000**	**20,838.8389**	**20,838.8389**	**5.0349**	**0.0000**	**20,964.7117**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/2/2018	9/10/2018	5	180	
2	Paving	Paving	1/2/2018	2/12/2018	5	30	
3	Architectural Coating	Architectural Coating	1/2/2018	2/12/2018	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 258,000; Non-Residential Outdoor: 86,000; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	4	7.00	231	0.29
Building Construction	Forklifts	12	8.00	89	0.20
Building Construction	Generator Sets	4	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	12	7.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Cement and Mortar Mixers	8	6.00	9	0.56
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	8	6.00	132	0.36
Paving	Rollers	8	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Architectural Coating	Air Compressors	4	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	36	55.00	28.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	32	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	10.7180	93.5601	70.3217	0.1077		5.9995	5.9995		5.6397	5.6397		10,483.7405	10,483.7405	2.5685		10,547.9531
Total	**10.7180**	**93.5601**	**70.3217**	**0.1077**		**5.9995**	**5.9995**		**5.6397**	**5.6397**		**10,483.7405**	**10,483.7405**	**2.5685**		**10,547.9531**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1244	3.3988	0.9380	7.1200e-003	0.1792	0.0252	0.2044	0.0516	0.0241	0.0757		758.1180	758.1180	0.0571		759.5443
Worker	0.3222	0.2328	2.4975	6.3000e-003	0.6148	4.9000e-003	0.6197	0.1630	4.5200e-003	0.1676		627.3736	627.3736	0.0214		627.9088
Total	**0.4466**	**3.6316**	**3.4356**	**0.0134**	**0.7940**	**0.0301**	**0.8241**	**0.2146**	**0.0286**	**0.2432**		**1,385.4916**	**1,385.4916**	**0.0785**		**1,387.4530**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	10.7180	93.5601	70.3217	0.1077		5.9995	5.9995		5.6397	5.6397	0.0000	10,483.7405	10,483.7405	2.5685		10,547.9531
Total	**10.7180**	**93.5601**	**70.3217**	**0.1077**		**5.9995**	**5.9995**		**5.6397**	**5.6397**	**0.0000**	**10,483.7405**	**10,483.7405**	**2.5685**		**10,547.9531**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1244	3.3988	0.9380	7.1200e-003	0.1792	0.0252	0.2044	0.0516	0.0241	0.0757		758.1180	758.1180	0.0571		759.5443
Worker	0.3222	0.2328	2.4975	6.3000e-003	0.6148	4.9000e-003	0.6197	0.1630	4.5200e-003	0.1676		627.3736	627.3736	0.0214		627.9088
Total	**0.4466**	**3.6316**	**3.4356**	**0.0134**	**0.7940**	**0.0301**	**0.8241**	**0.2146**	**0.0286**	**0.2432**		**1,385.4916**	**1,385.4916**	**0.0785**		**1,387.4530**

3.3 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.6957	58.0738	49.7330	0.0757		3.3479	3.3479		3.0871	3.0871		7,490.2021	7,490.2021	2.2689		7,546.9249
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**5.6957**	**58.0738**	**49.7330**	**0.0757**		**3.3479**	**3.3479**		**3.0871**	**3.0871**		**7,490.2021**	**7,490.2021**	**2.2689**		**7,546.9249**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1172	0.0846	0.9082	2.2900e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		228.1358	228.1358	7.7800e-003		228.3305
Total	**0.1172**	**0.0846**	**0.9082**	**2.2900e-003**	**0.2236**	**1.7800e-003**	**0.2253**	**0.0593**	**1.6400e-003**	**0.0609**		**228.1358**	**228.1358**	**7.7800e-003**		**228.3305**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.6957	58.0738	49.7330	0.0757		3.3479	3.3479		3.0871	3.0871	0.0000	7,490.2021	7,490.2021	2.2689		7,546.9249
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**5.6957**	**58.0738**	**49.7330**	**0.0757**		**3.3479**	**3.3479**		**3.0871**	**3.0871**	**0.0000**	**7,490.2021**	**7,490.2021**	**2.2689**		**7,546.9249**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1172	0.0846	0.9082	2.2900e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		228.1358	228.1358	7.7800e-003		228.3305
Total	**0.1172**	**0.0846**	**0.9082**	**2.2900e-003**	**0.2236**	**1.7800e-003**	**0.2253**	**0.0593**	**1.6400e-003**	**0.0609**		**228.1358**	**228.1358**	**7.7800e-003**		**228.3305**

3.4 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	53.1480					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.1945	8.0230	7.4168	0.0119		0.6022	0.6022		0.6022	0.6022		1,125.7942	1,125.7942	0.1070		1,128.4685
Total	**54.3425**	**8.0230**	**7.4168**	**0.0119**		**0.6022**	**0.6022**		**0.6022**	**0.6022**		**1,125.7942**	**1,125.7942**	**0.1070**		**1,128.4685**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0644	0.0466	0.4995	1.2600e-003	0.1230	9.8000e-004	0.1239	0.0326	9.0000e-004	0.0335		125.4747	125.4747	4.2800e-003		125.5818
Total	**0.0644**	**0.0466**	**0.4995**	**1.2600e-003**	**0.1230**	**9.8000e-004**	**0.1239**	**0.0326**	**9.0000e-004**	**0.0335**		**125.4747**	**125.4747**	**4.2800e-003**		**125.5818**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	53.1480					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.1945	8.0230	7.4168	0.0119		0.6022	0.6022		0.6022	0.6022	0.0000	1,125.7942	1,125.7942	0.1070		1,128.4685
Total	**54.3425**	**8.0230**	**7.4168**	**0.0119**		**0.6022**	**0.6022**		**0.6022**	**0.6022**	**0.0000**	**1,125.7942**	**1,125.7942**	**0.1070**		**1,128.4685**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0644	0.0466	0.4995	1.2600e-003	0.1230	9.8000e-004	0.1239	0.0326	9.0000e-004	0.0335		125.4747	125.4747	4.2800e-003		125.5818
Total	**0.0644**	**0.0466**	**0.4995**	**1.2600e-003**	**0.1230**	**9.8000e-004**	**0.1239**	**0.0326**	**9.0000e-004**	**0.0335**		**125.4747**	**125.4747**	**4.2800e-003**		**125.5818**

Willowbrook Specific Plan- Non-Residential GHG

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	227.00	1000sqft	5.21	227,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Defaults

Construction Phase - Max case scenario

Off-road Equipment -

Off-road Equipment - 4 projects per day

Off-road Equipment - 4 projects per day

Off-road Equipment - 4 projects per day

Grading - 50 acres Graded

Demolition -

Architectural Coating -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	100	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	20.00	260.00
tblConstructionPhase	NumDays	230.00	260.00
tblConstructionPhase	NumDays	20.00	200.00
tblConstructionPhase	PhaseEndDate	2/16/2023	12/31/2018
tblConstructionPhase	PhaseEndDate	9/30/2021	12/31/2018
tblConstructionPhase	PhaseEndDate	2/17/2022	10/8/2018
tblConstructionPhase	PhaseStartDate	2/18/2022	1/2/2018
tblConstructionPhase	PhaseStartDate	10/2/2020	1/2/2018
tblConstructionPhase	PhaseStartDate	10/1/2021	1/2/2018
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblTripsAndVMT	WorkerTripNumber	60.00	15.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	3.3479	20.8651	16.7817	0.0274	0.1723	1.2461	1.4184	0.0465	1.1685	1.2149	0.0000	2,457.9638	2,457.9638	0.5879	0.0000	2,472.6610
Maximum	**3.3479**	**20.8651**	**16.7817**	**0.0274**	**0.1723**	**1.2461**	**1.4184**	**0.0465**	**1.1685**	**1.2149**	**0.0000**	**2,457.9638**	**2,457.9638**	**0.5879**	**0.0000**	**2,472.6610**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	3.3479	20.8651	16.7817	0.0274	0.1723	1.2461	1.4184	0.0465	1.1685	1.2149	0.0000	2,457.9612	2,457.9612	0.5879	0.0000	2,472.6583
Maximum	**3.3479**	**20.8651**	**16.7817**	**0.0274**	**0.1723**	**1.2461**	**1.4184**	**0.0465**	**1.1685**	**1.2149**	**0.0000**	**2,457.9612**	**2,457.9612**	**0.5879**	**0.0000**	**2,472.6583**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/2/2018	12/31/2018	5	260	
2	Paving	Paving	1/2/2018	10/8/2018	5	200	
3	Architectural Coating	Architectural Coating	1/2/2018	12/31/2018	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 340,500; Non-Residential Outdoor: 113,500; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	4	6.00	78	0.48
Building Construction	Cranes	4	7.00	231	0.29
Building Construction	Forklifts	12	8.00	89	0.20
Paving	Pavers	8	8.00	130	0.42
Paving	Rollers	8	8.00	80	0.38
Building Construction	Tractors/Loaders/Backhoes	12	7.00	97	0.37
Building Construction	Generator Sets	4	8.00	84	0.74
Paving	Paving Equipment	8	8.00	132	0.36
Building Construction	Welders	4	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	4	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	36	73.00	37.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	24	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3933	12.1628	9.1418	0.0140		0.7799	0.7799		0.7332	0.7332	0.0000	1,236.3896	1,236.3896	0.3029	0.0000	1,243.9625
Total	**1.3933**	**12.1628**	**9.1418**	**0.0140**		**0.7799**	**0.7799**		**0.7332**	**0.7332**	**0.0000**	**1,236.3896**	**1,236.3896**	**0.3029**	**0.0000**	**1,243.9625**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0208	0.5947	0.1532	1.2400e-003	0.0303	4.2900e-003	0.0346	8.7500e-003	4.1000e-003	0.0129	0.0000	120.1460	120.1460	8.5500e-003	0.0000	120.3598
Worker	0.0504	0.0413	0.4429	1.1100e-003	0.1041	8.5000e-004	0.1050	0.0277	7.8000e-004	0.0284	0.0000	99.8825	99.8825	3.4100e-003	0.0000	99.9677
Total	**0.0713**	**0.6360**	**0.5961**	**2.3500e-003**	**0.1344**	**5.1400e-003**	**0.1396**	**0.0364**	**4.8800e-003**	**0.0413**	**0.0000**	**220.0285**	**220.0285**	**0.0120**	**0.0000**	**220.3275**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3933	12.1628	9.1418	0.0140		0.7799	0.7799		0.7332	0.7332	0.0000	1,236.3882	1,236.3882	0.3029	0.0000	1,243.9610
Total	**1.3933**	**12.1628**	**9.1418**	**0.0140**		**0.7799**	**0.7799**		**0.7332**	**0.7332**	**0.0000**	**1,236.3882**	**1,236.3882**	**0.3029**	**0.0000**	**1,243.9610**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0208	0.5947	0.1532	1.2400e-003	0.0303	4.2900e-003	0.0346	8.7500e-003	4.1000e-003	0.0129	0.0000	120.1460	120.1460	8.5500e-003	0.0000	120.3598
Worker	0.0504	0.0413	0.4429	1.1100e-003	0.1041	8.5000e-004	0.1050	0.0277	7.8000e-004	0.0284	0.0000	99.8825	99.8825	3.4100e-003	0.0000	99.9677
Total	**0.0713**	**0.6360**	**0.5961**	**2.3500e-003**	**0.1344**	**5.1400e-003**	**0.1396**	**0.0364**	**4.8800e-003**	**0.0413**	**0.0000**	**220.0285**	**220.0285**	**0.0120**	**0.0000**	**220.3275**

3.3 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.6575	7.0084	5.9186	9.1200e-003		0.3825	0.3825		0.3519	0.3519	0.0000	832.4649	832.4649	0.2592	0.0000	838.9439
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.6575**	**7.0084**	**5.9186**	**9.1200e-003**		**0.3825**	**0.3825**		**0.3519**	**0.3519**	**0.0000**	**832.4649**	**832.4649**	**0.2592**	**0.0000**	**838.9439**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9700e-003	6.5200e-003	0.0700	1.7000e-004	0.0165	1.3000e-004	0.0166	4.3700e-003	1.2000e-004	4.4900e-003	0.0000	15.7875	15.7875	5.4000e-004	0.0000	15.8010
Total	**7.9700e-003**	**6.5200e-003**	**0.0700**	**1.7000e-004**	**0.0165**	**1.3000e-004**	**0.0166**	**4.3700e-003**	**1.2000e-004**	**4.4900e-003**	**0.0000**	**15.7875**	**15.7875**	**5.4000e-004**	**0.0000**	**15.8010**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.6575	7.0084	5.9186	9.1200e-003		0.3825	0.3825		0.3519	0.3519	0.0000	832.4639	832.4639	0.2592	0.0000	838.9429
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.6575**	**7.0084**	**5.9186**	**9.1200e-003**		**0.3825**	**0.3825**		**0.3519**	**0.3519**	**0.0000**	**832.4639**	**832.4639**	**0.2592**	**0.0000**	**838.9429**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.9700e-003	6.5200e-003	0.0700	1.7000e-004	0.0165	1.3000e-004	0.0166	4.3700e-003	1.2000e-004	4.4900e-003	0.0000	15.7875	15.7875	5.4000e-004	0.0000	15.8010
Total	**7.9700e-003**	**6.5200e-003**	**0.0700**	**1.7000e-004**	**0.0165**	**1.3000e-004**	**0.0166**	**4.3700e-003**	**1.2000e-004**	**4.4900e-003**	**0.0000**	**15.7875**	**15.7875**	**5.4000e-004**	**0.0000**	**15.8010**

3.4 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0522					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1553	1.0430	0.9642	1.5500e-003		0.0783	0.0783		0.0783	0.0783	0.0000	132.7694	132.7694	0.0126	0.0000	133.0848
Total	**1.2074**	**1.0430**	**0.9642**	**1.5500e-003**		**0.0783**	**0.0783**		**0.0783**	**0.0783**	**0.0000**	**132.7694**	**132.7694**	**0.0126**	**0.0000**	**133.0848**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0104	8.4800e-003	0.0910	2.3000e-004	0.0214	1.7000e-004	0.0216	5.6800e-003	1.6000e-004	5.8400e-003	0.0000	20.5238	20.5238	7.0000e-004	0.0000	20.5413
Total	**0.0104**	**8.4800e-003**	**0.0910**	**2.3000e-004**	**0.0214**	**1.7000e-004**	**0.0216**	**5.6800e-003**	**1.6000e-004**	**5.8400e-003**	**0.0000**	**20.5238**	**20.5238**	**7.0000e-004**	**0.0000**	**20.5413**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0522					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1553	1.0430	0.9642	1.5500e-003		0.0783	0.0783		0.0783	0.0783	0.0000	132.7693	132.7693	0.0126	0.0000	133.0847
Total	**1.2074**	**1.0430**	**0.9642**	**1.5500e-003**		**0.0783**	**0.0783**		**0.0783**	**0.0783**	**0.0000**	**132.7693**	**132.7693**	**0.0126**	**0.0000**	**133.0847**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0104	8.4800e-003	0.0910	2.3000e-004	0.0214	1.7000e-004	0.0216	5.6800e-003	1.6000e-004	5.8400e-003	0.0000	20.5238	20.5238	7.0000e-004	0.0000	20.5413
Total	**0.0104**	**8.4800e-003**	**0.0910**	**2.3000e-004**	**0.0214**	**1.7000e-004**	**0.0216**	**5.6800e-003**	**1.6000e-004**	**5.8400e-003**	**0.0000**	**20.5238**	**20.5238**	**7.0000e-004**	**0.0000**	**20.5413**

Willowbrook Specific Plan- Demolition, Grading, and Residential

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	105.00	Dwelling Unit	2.76	105,000.00	300

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Maximum Emission Scenario

Off-road Equipment - 10 projects

Off-road Equipment - 10 Projects

Off-road Equipment - 5 Projects

Off-road Equipment - 5 Projects

Off-road Equipment - 10 Projects

Demolition - 20,000 square foot demolished max day.

Grading - 10 acres graded max day

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	220.00	120.00
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	6.00	30.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	PhaseEndDate	11/3/2017	1/29/2018
tblConstructionPhase	PhaseEndDate	9/8/2017	6/18/2018
tblConstructionPhase	PhaseEndDate	2/10/2017	1/2/2018
tblConstructionPhase	PhaseEndDate	3/24/2017	2/12/2018
tblConstructionPhase	PhaseEndDate	10/6/2017	1/29/2018
tblConstructionPhase	PhaseStartDate	10/7/2017	1/2/2018
tblConstructionPhase	PhaseStartDate	3/25/2017	1/2/2018
tblConstructionPhase	PhaseStartDate	1/2/2017	1/2/2018
tblConstructionPhase	PhaseStartDate	2/11/2017	1/2/2018
tblConstructionPhase	PhaseStartDate	9/9/2017	1/2/2018
tblGrading	AcresOfGrading	75.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	20.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	20.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	15.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	30.00
tblProjectCharacteristics	OperationalYear	2018	2019

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	104.9297	643.6393	446.2509	0.8005	55.7685	35.7575	91.5260	21.0756	33.6222	54.6978	0.0000	78,617.6198	78,617.6198	17.6689	0.0000	79,059.3430
Maximum	**104.9297**	**643.6393**	**446.2509**	**0.8005**	**55.7685**	**35.7575**	**91.5260**	**21.0756**	**33.6222**	**54.6978**	**0.0000**	**78,617.6198**	**78,617.6198**	**17.6689**	**0.0000**	**79,059.3430**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	104.9297	643.6393	446.2509	0.8005	25.1764	35.7575	60.9339	9.1378	33.6222	42.7600	0.0000	78,617.6198	78,617.6198	17.6689	0.0000	79,059.3430
Maximum	**104.9297**	**643.6393**	**446.2509**	**0.8005**	**25.1764**	**35.7575**	**60.9339**	**9.1378**	**33.6222**	**42.7600**	**0.0000**	**78,617.6198**	**78,617.6198**	**17.6689**	**0.0000**	**79,059.3430**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.86**	**0.00**	**33.42**	**56.64**	**0.00**	**21.82**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/2/2018	2/12/2018	5	30	
3	Building Construction	Building Construction	1/2/2018	6/18/2018	5	120	
4	Paving	Paving	1/2/2018	1/29/2018	5	20	
5	Architectural Coating	Architectural Coating	1/2/2018	1/29/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 212,625; Residential Outdoor: 70,875; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	5	8.00	81	0.73
Demolition	Rubber Tired Dozers	5	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	15	8.00	97	0.37
Grading	Graders	5	8.00	187	0.41
Grading	Rubber Tired Dozers	5	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	10	7.00	97	0.37
Building Construction	Cranes	10	8.00	231	0.29
Building Construction	Forklifts	20	7.00	89	0.20
Building Construction	Generator Sets	10	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	10	6.00	97	0.37
Building Construction	Welders	30	8.00	46	0.45
Paving	Cement and Mortar Mixers	10	8.00	9	0.56
Paving	Pavers	10	8.00	130	0.42
Paving	Paving Equipment	10	8.00	132	0.36
Paving	Rollers	20	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	10	8.00	97	0.37
Architectural Coating	Air Compressors	10	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	25	63.00	0.00	91.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	20	50.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	80	76.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	60	150.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	10	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6871	0.0000	19.6871	2.9808	0.0000	2.9808			0.0000			0.0000
Off-Road	12.4188	121.8204	75.5537	0.1206		7.1822	7.1822		6.7145	6.7145		11,955.8293	11,955.8293	3.0289		12,031.5523
Total	**12.4188**	**121.8204**	**75.5537**	**0.1206**	**19.6871**	**7.1822**	**26.8693**	**2.9808**	**6.7145**	**9.6953**		**11,955.8293**	**11,955.8293**	**3.0289**		**12,031.5523**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.7890	28.0189	5.1885	0.0723	1.5902	0.1077	1.6980	0.4358	0.1031	0.5389		7,796.7544	7,796.7544	0.5333		7,810.0856
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3395	0.2434	3.1611	7.7200e-003	0.7042	5.6100e-003	0.7098	0.1868	5.1700e-003	0.1919		768.1915	768.1915	0.0262		768.8464
Total	**1.1284**	**28.2623**	**8.3496**	**0.0800**	**2.2944**	**0.1133**	**2.4078**	**0.6226**	**0.1082**	**0.7308**		**8,564.9459**	**8,564.9459**	**0.5594**		**8,578.9320**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6780	0.0000	7.6780	1.1625	0.0000	1.1625			0.0000			0.0000
Off-Road	12.4188	121.8204	75.5537	0.1206		7.1822	7.1822		6.7145	6.7145	0.0000	11,955.8293	11,955.8293	3.0289		12,031.5523
Total	**12.4188**	**121.8204**	**75.5537**	**0.1206**	**7.6780**	**7.1822**	**14.8602**	**1.1625**	**6.7145**	**7.8770**	**0.0000**	**11,955.8293**	**11,955.8293**	**3.0289**		**12,031.5523**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.7890	28.0189	5.1885	0.0723	1.5902	0.1077	1.6980	0.4358	0.1031	0.5389		7,796.7544	7,796.7544	0.5333		7,810.0856
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3395	0.2434	3.1611	7.7200e-003	0.7042	5.6100e-003	0.7098	0.1868	5.1700e-003	0.1919		768.1915	768.1915	0.0262		768.8464
Total	**1.1284**	**28.2623**	**8.3496**	**0.0800**	**2.2944**	**0.1133**	**2.4078**	**0.6226**	**0.1082**	**0.7308**		**8,564.9459**	**8,564.9459**	**0.5594**		**8,578.9320**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					30.4639	0.0000	30.4639	16.5893	0.0000	16.5893			0.0000			0.0000
Off-Road	10.7574	121.4474	51.9021	0.1031		5.8415	5.8415		5.3742	5.3742		10,387.3330	10,387.3330	3.2337		10,468.1759
Total	**10.7574**	**121.4474**	**51.9021**	**0.1031**	**30.4639**	**5.8415**	**36.3054**	**16.5893**	**5.3742**	**21.9635**		**10,387.3330**	**10,387.3330**	**3.2337**		**10,468.1759**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2694	0.1932	2.5088	6.1300e-003	0.5589	4.4500e-003	0.5633	0.1482	4.1100e-003	0.1523		609.6758	609.6758	0.0208		610.1955
Total	**0.2694**	**0.1932**	**2.5088**	**6.1300e-003**	**0.5589**	**4.4500e-003**	**0.5633**	**0.1482**	**4.1100e-003**	**0.1523**		**609.6758**	**609.6758**	**0.0208**		**610.1955**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					11.8809	0.0000	11.8809	6.4698	0.0000	6.4698			0.0000			0.0000
Off-Road	10.7574	121.4474	51.9021	0.1031		5.8415	5.8415		5.3742	5.3742	0.0000	10,387.3330	10,387.3330	3.2337		10,468.1759
Total	**10.7574**	**121.4474**	**51.9021**	**0.1031**	**11.8809**	**5.8415**	**17.7224**	**6.4698**	**5.3742**	**11.8440**	**0.0000**	**10,387.3330**	**10,387.3330**	**3.2337**		**10,468.1759**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2694	0.1932	2.5088	6.1300e-003	0.5589	4.4500e-003	0.5633	0.1482	4.1100e-003	0.1523		609.6758	609.6758	0.0208		610.1955
Total	**0.2694**	**0.1932**	**2.5088**	**6.1300e-003**	**0.5589**	**4.4500e-003**	**0.5633**	**0.1482**	**4.1100e-003**	**0.1523**		**609.6758**	**609.6758**	**0.0208**		**610.1955**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	29.1272	207.0767	157.1830	0.2501		12.5748	12.5748		12.0509	12.0509		23,297.7592	23,297.7592	5.0189		23,423.2321
Total	**29.1272**	**207.0767**	**157.1830**	**0.2501**		**12.5748**	**12.5748**		**12.0509**	**12.0509**		**23,297.7592**	**23,297.7592**	**5.0189**		**23,423.2321**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0468	1.3330	0.3320	2.8800e-003	0.0704	9.7400e-003	0.0801	0.0203	9.3200e-003	0.0296		306.5238	306.5238	0.0209		307.0454
Worker	0.4095	0.2936	3.8134	9.3100e-003	0.8495	6.7700e-003	0.8563	0.2253	6.2400e-003	0.2315		926.7073	926.7073	0.0316		927.4972
Total	**0.4563**	**1.6266**	**4.1453**	**0.0122**	**0.9199**	**0.0165**	**0.9364**	**0.2456**	**0.0156**	**0.2611**		**1,233.2311**	**1,233.2311**	**0.0525**		**1,234.5426**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	29.1272	207.0767	157.1830	0.2501		12.5748	12.5748		12.0509	12.0509	0.0000	23,297.7591	23,297.7591	5.0189		23,423.2321
Total	**29.1272**	**207.0767**	**157.1830**	**0.2501**		**12.5748**	**12.5748**		**12.0509**	**12.0509**	**0.0000**	**23,297.7591**	**23,297.7591**	**5.0189**		**23,423.2321**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0468	1.3330	0.3320	2.8800e-003	0.0704	9.7400e-003	0.0801	0.0203	9.3200e-003	0.0296		306.5238	306.5238	0.0209		307.0454
Worker	0.4095	0.2936	3.8134	9.3100e-003	0.8495	6.7700e-003	0.8563	0.2253	6.2400e-003	0.2315		926.7073	926.7073	0.0316		927.4972
Total	**0.4563**	**1.6266**	**4.1453**	**0.0122**	**0.9199**	**0.0165**	**0.9364**	**0.2456**	**0.0156**	**0.2611**		**1,233.2311**	**1,233.2311**	**0.0525**		**1,234.5426**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	14.0462	142.5179	119.7874	0.1784		8.5045	8.5045		7.8357	7.8357		17,742.4299	17,742.4299	5.4186		17,877.8960
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**14.0462**	**142.5179**	**119.7874**	**0.1784**		**8.5045**	**8.5045**		**7.8357**	**7.8357**		**17,742.4299**	**17,742.4299**	**5.4186**		**17,877.8960**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8082	0.5795	7.5264	0.0184	1.6767	0.0134	1.6900	0.4447	0.0123	0.4570		1,829.0275	1,829.0275	0.0624		1,830.5866
Total	**0.8082**	**0.5795**	**7.5264**	**0.0184**	**1.6767**	**0.0134**	**1.6900**	**0.4447**	**0.0123**	**0.4570**		**1,829.0275**	**1,829.0275**	**0.0624**		**1,830.5866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	14.0462	142.5179	119.7874	0.1784		8.5045	8.5045		7.8357	7.8357	0.0000	17,742.4299	17,742.4299	5.4186		17,877.8959
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**14.0462**	**142.5179**	**119.7874**	**0.1784**		**8.5045**	**8.5045**		**7.8357**	**7.8357**	**0.0000**	**17,742.4299**	**17,742.4299**	**5.4186**		**17,877.8959**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8082	0.5795	7.5264	0.0184	1.6767	0.0134	1.6900	0.4447	0.0123	0.4570		1,829.0275	1,829.0275	0.0624		1,830.5866
Total	**0.8082**	**0.5795**	**7.5264**	**0.0184**	**1.6767**	**0.0134**	**1.6900**	**0.4447**	**0.0123**	**0.4570**		**1,829.0275**	**1,829.0275**	**0.0624**		**1,830.5866**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.8506					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.9863	20.0575	18.5420	0.0297		1.5056	1.5056		1.5056	1.5056		2,814.4854	2,814.4854	0.2674		2,821.1713
Total	**35.8369**	**20.0575**	**18.5420**	**0.0297**		**1.5056**	**1.5056**		**1.5056**	**1.5056**		**2,814.4854**	**2,814.4854**	**0.2674**		**2,821.1713**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0808	0.0580	0.7526	1.8400e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		182.9028	182.9028	6.2400e-003		183.0587
Total	**0.0808**	**0.0580**	**0.7526**	**1.8400e-003**	**0.1677**	**1.3400e-003**	**0.1690**	**0.0445**	**1.2300e-003**	**0.0457**		**182.9028**	**182.9028**	**6.2400e-003**		**183.0587**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.8506					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.9863	20.0575	18.5420	0.0297		1.5056	1.5056		1.5056	1.5056	0.0000	2,814.4854	2,814.4854	0.2674		2,821.1713
Total	**35.8369**	**20.0575**	**18.5420**	**0.0297**		**1.5056**	**1.5056**		**1.5056**	**1.5056**	**0.0000**	**2,814.4854**	**2,814.4854**	**0.2674**		**2,821.1713**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0808	0.0580	0.7526	1.8400e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		182.9028	182.9028	6.2400e-003		183.0587
Total	**0.0808**	**0.0580**	**0.7526**	**1.8400e-003**	**0.1677**	**1.3400e-003**	**0.1690**	**0.0445**	**1.2300e-003**	**0.0457**		**182.9028**	**182.9028**	**6.2400e-003**		**183.0587**

Willowbrook Specific Plan- Demolition, Grading, and Residential

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	105.00	Dwelling Unit	2.76	105,000.00	300

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Maximum Emission Scenario

Off-road Equipment - 10 projects

Off-road Equipment - 10 Projects

Off-road Equipment - 5 Projects

Off-road Equipment - 5 Projects

Off-road Equipment - 10 Projects

Demolition - 20,000 square foot demolished max day.

Grading - 10 acres graded max day

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	220.00	120.00
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	6.00	30.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	PhaseEndDate	11/3/2017	1/29/2018
tblConstructionPhase	PhaseEndDate	9/8/2017	6/18/2018
tblConstructionPhase	PhaseEndDate	2/10/2017	1/2/2018
tblConstructionPhase	PhaseEndDate	3/24/2017	2/12/2018
tblConstructionPhase	PhaseEndDate	10/6/2017	1/29/2018
tblConstructionPhase	PhaseStartDate	10/7/2017	1/2/2018
tblConstructionPhase	PhaseStartDate	3/25/2017	1/2/2018
tblConstructionPhase	PhaseStartDate	1/2/2017	1/2/2018
tblConstructionPhase	PhaseStartDate	2/11/2017	1/2/2018
tblConstructionPhase	PhaseStartDate	9/9/2017	1/2/2018
tblGrading	AcresOfGrading	75.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	20.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	20.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	15.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	30.00
tblProjectCharacteristics	OperationalYear	2018	2019

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	105.1216	644.1633	445.0385	0.7963	55.7685	35.7598	91.5283	21.0756	33.6244	54.7000	0.0000	78,190.5705	78,190.5705	17.6857	0.0000	78,632.7131
Maximum	**105.1216**	**644.1633**	**445.0385**	**0.7963**	**55.7685**	**35.7598**	**91.5283**	**21.0756**	**33.6244**	**54.7000**	**0.0000**	**78,190.5705**	**78,190.5705**	**17.6857**	**0.0000**	**78,632.7131**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	105.1216	644.1633	445.0385	0.7963	25.1764	35.7598	60.9362	9.1378	33.6244	42.7622	0.0000	78,190.5705	78,190.5705	17.6857	0.0000	78,632.7130
Maximum	**105.1216**	**644.1633**	**445.0385**	**0.7963**	**25.1764**	**35.7598**	**60.9362**	**9.1378**	**33.6244**	**42.7622**	**0.0000**	**78,190.5705**	**78,190.5705**	**17.6857**	**0.0000**	**78,632.7130**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.86**	**0.00**	**33.42**	**56.64**	**0.00**	**21.82**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/2/2018	2/12/2018	5	30	
3	Building Construction	Building Construction	1/2/2018	6/18/2018	5	120	
4	Paving	Paving	1/2/2018	1/29/2018	5	20	
5	Architectural Coating	Architectural Coating	1/2/2018	1/29/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 212,625; Residential Outdoor: 70,875; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	5	8.00	81	0.73
Demolition	Rubber Tired Dozers	5	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	15	8.00	97	0.37
Grading	Graders	5	8.00	187	0.41
Grading	Rubber Tired Dozers	5	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	10	7.00	97	0.37
Building Construction	Cranes	10	8.00	231	0.29
Building Construction	Forklifts	20	7.00	89	0.20
Building Construction	Generator Sets	10	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	10	6.00	97	0.37
Building Construction	Welders	30	8.00	46	0.45

Paving	Cement and Mortar Mixers	10	8.00	9	0.56
Paving	Pavers	10	8.00	130	0.42
Paving	Paving Equipment	10	8.00	132	0.36
Paving	Rollers	20	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	10	8.00	97	0.37
Architectural Coating	Air Compressors	10	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	25	63.00	0.00	91.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	20	50.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	80	76.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	60	150.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	10	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6871	0.0000	19.6871	2.9808	0.0000	2.9808			0.0000			0.0000
Off-Road	12.4188	121.8204	75.5537	0.1206		7.1822	7.1822		6.7145	6.7145		11,955.8293	11,955.8293	3.0289		12,031.5523
Total	**12.4188**	**121.8204**	**75.5537**	**0.1206**	**19.6871**	**7.1822**	**26.8693**	**2.9808**	**6.7145**	**9.6953**		**11,955.8293**	**11,955.8293**	**3.0289**		**12,031.5523**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8124	28.4101	5.6269	0.0710	1.5902	0.1098	1.7001	0.4358	0.1051	0.5409		7,656.8973	7,656.8973	0.5579		7,670.8439
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3691	0.2666	2.8608	7.2200e-003	0.7042	5.6100e-003	0.7098	0.1868	5.1700e-003	0.1919		718.6279	718.6279	0.0245		719.2410
Total	**1.1815**	**28.6767**	**8.4877**	**0.0782**	**2.2944**	**0.1154**	**2.4099**	**0.6226**	**0.1102**	**0.7328**		**8,375.5252**	**8,375.5252**	**0.5824**		**8,390.0849**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6780	0.0000	7.6780	1.1625	0.0000	1.1625			0.0000			0.0000
Off-Road	12.4188	121.8204	75.5537	0.1206		7.1822	7.1822		6.7145	6.7145	0.0000	11,955.8293	11,955.8293	3.0289		12,031.5523
Total	**12.4188**	**121.8204**	**75.5537**	**0.1206**	**7.6780**	**7.1822**	**14.8602**	**1.1625**	**6.7145**	**7.8770**	**0.0000**	**11,955.8293**	**11,955.8293**	**3.0289**		**12,031.5523**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8124	28.4101	5.6269	0.0710	1.5902	0.1098	1.7001	0.4358	0.1051	0.5409		7,656.8973	7,656.8973	0.5579		7,670.8439
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3691	0.2666	2.8608	7.2200e-003	0.7042	5.6100e-003	0.7098	0.1868	5.1700e-003	0.1919		718.6279	718.6279	0.0245		719.2410
Total	**1.1815**	**28.6767**	**8.4877**	**0.0782**	**2.2944**	**0.1154**	**2.4099**	**0.6226**	**0.1102**	**0.7328**		**8,375.5252**	**8,375.5252**	**0.5824**		**8,390.0849**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					30.4639	0.0000	30.4639	16.5893	0.0000	16.5893			0.0000			0.0000
Off-Road	10.7574	121.4474	51.9021	0.1031		5.8415	5.8415		5.3742	5.3742		10,387.3330	10,387.3330	3.2337		10,468.1759
Total	**10.7574**	**121.4474**	**51.9021**	**0.1031**	**30.4639**	**5.8415**	**36.3054**	**16.5893**	**5.3742**	**21.9635**		**10,387.3330**	**10,387.3330**	**3.2337**		**10,468.1759**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2929	0.2116	2.2705	5.7300e-003	0.5589	4.4500e-003	0.5633	0.1482	4.1100e-003	0.1523		570.3396	570.3396	0.0195		570.8262
Total	**0.2929**	**0.2116**	**2.2705**	**5.7300e-003**	**0.5589**	**4.4500e-003**	**0.5633**	**0.1482**	**4.1100e-003**	**0.1523**		**570.3396**	**570.3396**	**0.0195**		**570.8262**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					11.8809	0.0000	11.8809	6.4698	0.0000	6.4698			0.0000			0.0000
Off-Road	10.7574	121.4474	51.9021	0.1031		5.8415	5.8415		5.3742	5.3742	0.0000	10,387.3330	10,387.3330	3.2337		10,468.1759
Total	**10.7574**	**121.4474**	**51.9021**	**0.1031**	**11.8809**	**5.8415**	**17.7224**	**6.4698**	**5.3742**	**11.8440**	**0.0000**	**10,387.3330**	**10,387.3330**	**3.2337**		**10,468.1759**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2929	0.2116	2.2705	5.7300e-003	0.5589	4.4500e-003	0.5633	0.1482	4.1100e-003	0.1523		570.3396	570.3396	0.0195		570.8262
Total	**0.2929**	**0.2116**	**2.2705**	**5.7300e-003**	**0.5589**	**4.4500e-003**	**0.5633**	**0.1482**	**4.1100e-003**	**0.1523**		**570.3396**	**570.3396**	**0.0195**		**570.8262**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	29.1272	207.0767	157.1830	0.2501		12.5748	12.5748		12.0509	12.0509		23,297.7592	23,297.7592	5.0189		23,423.2321
Total	**29.1272**	**207.0767**	**157.1830**	**0.2501**		**12.5748**	**12.5748**		**12.0509**	**12.0509**		**23,297.7592**	**23,297.7592**	**5.0189**		**23,423.2321**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0489	1.3353	0.3685	2.8000e-003	0.0704	9.8900e-003	0.0803	0.0203	9.4600e-003	0.0297		297.8321	297.8321	0.0224		298.3924
Worker	0.4453	0.3216	3.4511	8.7100e-003	0.8495	6.7700e-003	0.8563	0.2253	6.2400e-003	0.2315		866.9162	866.9162	0.0296		867.6558
Total	**0.4941**	**1.6569**	**3.8196**	**0.0115**	**0.9199**	**0.0167**	**0.9366**	**0.2456**	**0.0157**	**0.2613**		**1,164.7483**	**1,164.7483**	**0.0520**		**1,166.0481**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	29.1272	207.0767	157.1830	0.2501		12.5748	12.5748		12.0509	12.0509	0.0000	23,297.7591	23,297.7591	5.0189		23,423.2321
Total	**29.1272**	**207.0767**	**157.1830**	**0.2501**		**12.5748**	**12.5748**		**12.0509**	**12.0509**	**0.0000**	**23,297.7591**	**23,297.7591**	**5.0189**		**23,423.2321**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0489	1.3353	0.3685	2.8000e-003	0.0704	9.8900e-003	0.0803	0.0203	9.4600e-003	0.0297		297.8321	297.8321	0.0224		298.3924
Worker	0.4453	0.3216	3.4511	8.7100e-003	0.8495	6.7700e-003	0.8563	0.2253	6.2400e-003	0.2315		866.9162	866.9162	0.0296		867.6558
Total	**0.4941**	**1.6569**	**3.8196**	**0.0115**	**0.9199**	**0.0167**	**0.9366**	**0.2456**	**0.0157**	**0.2613**		**1,164.7483**	**1,164.7483**	**0.0520**		**1,166.0481**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	14.0462	142.5179	119.7874	0.1784		8.5045	8.5045		7.8357	7.8357		17,742.4299	17,742.4299	5.4186		17,877.8960
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**14.0462**	**142.5179**	**119.7874**	**0.1784**		**8.5045**	**8.5045**		**7.8357**	**7.8357**		**17,742.4299**	**17,742.4299**	**5.4186**		**17,877.8960**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8788	0.6348	6.8114	0.0172	1.6767	0.0134	1.6900	0.4447	0.0123	0.4570		1,711.0188	1,711.0188	0.0584		1,712.4785
Total	**0.8788**	**0.6348**	**6.8114**	**0.0172**	**1.6767**	**0.0134**	**1.6900**	**0.4447**	**0.0123**	**0.4570**		**1,711.0188**	**1,711.0188**	**0.0584**		**1,712.4785**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	14.0462	142.5179	119.7874	0.1784		8.5045	8.5045		7.8357	7.8357	0.0000	17,742.4299	17,742.4299	5.4186		17,877.8959
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**14.0462**	**142.5179**	**119.7874**	**0.1784**		**8.5045**	**8.5045**		**7.8357**	**7.8357**	**0.0000**	**17,742.4299**	**17,742.4299**	**5.4186**		**17,877.8959**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8788	0.6348	6.8114	0.0172	1.6767	0.0134	1.6900	0.4447	0.0123	0.4570		1,711.0188	1,711.0188	0.0584		1,712.4785
Total	**0.8788**	**0.6348**	**6.8114**	**0.0172**	**1.6767**	**0.0134**	**1.6900**	**0.4447**	**0.0123**	**0.4570**		**1,711.0188**	**1,711.0188**	**0.0584**		**1,712.4785**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.8506					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.9863	20.0575	18.5420	0.0297		1.5056	1.5056		1.5056	1.5056		2,814.4854	2,814.4854	0.2674		2,821.1713
Total	**35.8369**	**20.0575**	**18.5420**	**0.0297**		**1.5056**	**1.5056**		**1.5056**	**1.5056**		**2,814.4854**	**2,814.4854**	**0.2674**		**2,821.1713**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0635	0.6811	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		171.1019	171.1019	5.8400e-003		171.2479
Total	**0.0879**	**0.0635**	**0.6811**	**1.7200e-003**	**0.1677**	**1.3400e-003**	**0.1690**	**0.0445**	**1.2300e-003**	**0.0457**		**171.1019**	**171.1019**	**5.8400e-003**		**171.2479**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.8506					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	2.9863	20.0575	18.5420	0.0297		1.5056	1.5056		1.5056	1.5056	0.0000	2,814.4854	2,814.4854	0.2674		2,821.1713
Total	**35.8369**	**20.0575**	**18.5420**	**0.0297**		**1.5056**	**1.5056**		**1.5056**	**1.5056**	**0.0000**	**2,814.4854**	**2,814.4854**	**0.2674**		**2,821.1713**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0635	0.6811	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		171.1019	171.1019	5.8400e-003		171.2479
Total	**0.0879**	**0.0635**	**0.6811**	**1.7200e-003**	**0.1677**	**1.3400e-003**	**0.1690**	**0.0445**	**1.2300e-003**	**0.0457**		**171.1019**	**171.1019**	**5.8400e-003**		**171.2479**

Willowbrook Specific Plan- Demolition, Grading, and Residential GHG

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	420.00	Dwelling Unit	11.05	420,000.00	1201

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Max case scenario

Off-road Equipment -

Off-road Equipment - 10 projects per day

Off-road Equipment - 10 projects per day

Off-road Equipment - 2 Projects Per day

Off-road Equipment - 2 Projects Per day

Off-road Equipment - 10 Projects per Day

Grading - 50 acres Graded

Demolition -

Architectural Coating -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	100	0
tblAreaCoating	Area_Residential_Exterior	283500	0
tblAreaCoating	Area_Residential_Interior	850500	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	50	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	20.00	260.00
tblConstructionPhase	NumDays	300.00	260.00
tblConstructionPhase	NumDays	20.00	260.00
tblConstructionPhase	NumDays	30.00	260.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	PhaseEndDate	10/4/2018	12/31/2018
tblConstructionPhase	PhaseEndDate	10/4/2018	12/31/2018
tblConstructionPhase	PhaseEndDate	10/4/2018	12/31/2018
tblConstructionPhase	PhaseEndDate	10/4/2018	12/31/2018
tblConstructionPhase	PhaseEndDate	10/4/2018	5/21/2018
tblConstructionPhase	PhaseStartDate	10/5/2018	1/2/2018
tblConstructionPhase	PhaseStartDate	10/5/2018	1/2/2018
tblConstructionPhase	PhaseStartDate	10/5/2018	1/2/2018
tblConstructionPhase	PhaseStartDate	10/5/2018	1/2/2018
tblConstructionPhase	PhaseStartDate	10/5/2018	1/2/2018
tblGrading	AcresOfGrading	1,300.00	50.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	30.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	20.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	20.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	30.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	20.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblProjectCharacteristics	OperationalYear	2018	2020

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	8.6660	68.3786	50.7735	0.0858	2.4482	3.8239	6.2721	1.0790	3.5785	4.6575	0.0000	7,705.5173	7,705.5173	1.8590	0.0000	7,751.9912
Maximum	**8.6660**	**68.3786**	**50.7735**	**0.0858**	**2.4482**	**3.8239**	**6.2721**	**1.0790**	**3.5785**	**4.6575**	**0.0000**	**7,705.5173**	**7,705.5173**	**1.8590**	**0.0000**	**7,751.9912**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	8.6660	68.3785	50.7734	0.0858	1.4087	3.8239	5.2327	0.5419	3.5785	4.1204	0.0000	7,705.5091	7,705.5091	1.8590	0.0000	7,751.9830
Maximum	**8.6660**	**68.3785**	**50.7734**	**0.0858**	**1.4087**	**3.8239**	**5.2327**	**0.5419**	**3.5785**	**4.1204**	**0.0000**	**7,705.5091**	**7,705.5091**	**1.8590**	**0.0000**	**7,751.9830**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**42.46**	**0.00**	**16.57**	**49.77**	**0.00**	**11.53**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	1/2/2018	12/31/2018	5	260	
2	Building Construction	Building Construction	1/2/2018	12/31/2018	5	260	
3	Demolition	Demolition	1/2/2018	12/31/2018	5	260	
4	Grading	Grading	1/2/2018	12/31/2018	5	260	
5	Paving	Paving	1/2/2018	5/21/2018	5	100	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 50

Acres of Paving: 0

Residential Indoor: 850,500; Residential Outdoor: 283,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	10	6.00	78	0.48
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Building Construction	Cranes	10	7.00	231	0.29
Building Construction	Forklifts	30	8.00	89	0.20
Demolition	Excavators	6	8.00	158	0.38
Paving	Pavers	20	8.00	130	0.42
Paving	Rollers	20	8.00	80	0.38
Demolition	Rubber Tired Dozers	4	8.00	247	0.40
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	30	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	4	8.00	158	0.38
Building Construction	Generator Sets	10	8.00	84	0.74
Grading	Graders	2	8.00	187	0.41
Paving	Paving Equipment	20	8.00	132	0.36
Grading	Scrapers	4	8.00	367	0.48
Building Construction	Welders	10	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	10	60.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	90	302.00	45.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	12	30.00	0.00	1,032.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	16	40.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	60	150.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3140					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3882	2.6075	2.4105	3.8600e-003		0.1957	0.1957		0.1957	0.1957	0.0000	331.9236	331.9236	0.0315	0.0000	332.7121
Total	**1.7022**	**2.6075**	**2.4105**	**3.8600e-003**		**0.1957**	**0.1957**		**0.1957**	**0.1957**	**0.0000**	**331.9236**	**331.9236**	**0.0315**	**0.0000**	**332.7121**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0415	0.0339	0.3640	9.1000e-004	0.0856	6.9000e-004	0.0863	0.0227	6.4000e-004	0.0234	0.0000	82.0952	82.0952	2.8000e-003	0.0000	82.1653
Total	**0.0415**	**0.0339**	**0.3640**	**9.1000e-004**	**0.0856**	**6.9000e-004**	**0.0863**	**0.0227**	**6.4000e-004**	**0.0234**	**0.0000**	**82.0952**	**82.0952**	**2.8000e-003**	**0.0000**	**82.1653**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3140					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3882	2.6075	2.4105	3.8600e-003		0.1957	0.1957		0.1957	0.1957	0.0000	331.9232	331.9232	0.0315	0.0000	332.7117
Total	**1.7022**	**2.6075**	**2.4105**	**3.8600e-003**		**0.1957**	**0.1957**		**0.1957**	**0.1957**	**0.0000**	**331.9232**	**331.9232**	**0.0315**	**0.0000**	**332.7117**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0415	0.0339	0.3640	9.1000e-004	0.0856	6.9000e-004	0.0863	0.0227	6.4000e-004	0.0234	0.0000	82.0952	82.0952	2.8000e-003	0.0000	82.1653
Total	**0.0415**	**0.0339**	**0.3640**	**9.1000e-004**	**0.0856**	**6.9000e-004**	**0.0863**	**0.0227**	**6.4000e-004**	**0.0234**	**0.0000**	**82.0952**	**82.0952**	**2.8000e-003**	**0.0000**	**82.1653**

3.3 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.4833	30.4070	22.8546	0.0350		1.9498	1.9498		1.8329	1.8329	0.0000	3,090.9741	3,090.9741	0.7573	0.0000	3,109.9062
Total	**3.4833**	**30.4070**	**22.8546**	**0.0350**		**1.9498**	**1.9498**		**1.8329**	**1.8329**	**0.0000**	**3,090.9741**	**3,090.9741**	**0.7573**	**0.0000**	**3,109.9062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0254	0.7233	0.1864	1.5100e-003	0.0369	5.2100e-003	0.0421	0.0106	4.9900e-003	0.0156	0.0000	146.1235	146.1235	0.0104	0.0000	146.3835
Worker	0.2087	0.1707	1.8323	4.5800e-003	0.4307	3.5000e-003	0.4342	0.1144	3.2200e-003	0.1176	0.0000	413.2127	413.2127	0.0141	0.0000	413.5652
Total	**0.2340**	**0.8940**	**2.0187**	**6.0900e-003**	**0.4676**	**8.7100e-003**	**0.4763**	**0.1250**	**8.2100e-003**	**0.1333**	**0.0000**	**559.3362**	**559.3362**	**0.0245**	**0.0000**	**559.9487**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.4833	30.4070	22.8545	0.0350		1.9498	1.9498		1.8329	1.8329	0.0000	3,090.9704	3,090.9704	0.7573	0.0000	3,109.9025
Total	**3.4833**	**30.4070**	**22.8545**	**0.0350**		**1.9498**	**1.9498**		**1.8329**	**1.8329**	**0.0000**	**3,090.9704**	**3,090.9704**	**0.7573**	**0.0000**	**3,109.9025**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0254	0.7233	0.1864	1.5100e-003	0.0369	5.2100e-003	0.0421	0.0106	4.9900e-003	0.0156	0.0000	146.1235	146.1235	0.0104	0.0000	146.3835
Worker	0.2087	0.1707	1.8323	4.5800e-003	0.4307	3.5000e-003	0.4342	0.1144	3.2200e-003	0.1176	0.0000	413.2127	413.2127	0.0141	0.0000	413.5652
Total	**0.2340**	**0.8940**	**2.0187**	**6.0900e-003**	**0.4676**	**8.7100e-003**	**0.4763**	**0.1250**	**8.2100e-003**	**0.1333**	**0.0000**	**559.3362**	**559.3362**	**0.0245**	**0.0000**	**559.9487**

3.4 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1117	0.0000	0.1117	0.0169	0.0000	0.0169	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.9669	9.9639	5.7991	0.0101		0.5040	0.5040		0.4693	0.4693	0.0000	913.2260	913.2260	0.2516	0.0000	919.5161
Total	**0.9669**	**9.9639**	**5.7991**	**0.0101**	**0.1117**	**0.5040**	**0.6157**	**0.0169**	**0.4693**	**0.4862**	**0.0000**	**913.2260**	**913.2260**	**0.2516**	**0.0000**	**919.5161**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5300e-003	0.1640	0.0305	4.1000e-004	8.8700e-003	6.2000e-004	9.4900e-003	2.4400e-003	5.9000e-004	3.0200e-003	0.0000	39.8046	39.8046	2.8000e-003	0.0000	39.8746
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0207	0.0170	0.1820	4.5000e-004	0.0428	3.5000e-004	0.0431	0.0114	3.2000e-004	0.0117	0.0000	41.0476	41.0476	1.4000e-003	0.0000	41.0826
Total	**0.0253**	**0.1810**	**0.2125**	**8.6000e-004**	**0.0517**	**9.7000e-004**	**0.0526**	**0.0138**	**9.1000e-004**	**0.0147**	**0.0000**	**80.8523**	**80.8523**	**4.2000e-003**	**0.0000**	**80.9572**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0436	0.0000	0.0436	6.6000e-003	0.0000	6.6000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.9669	9.9638	5.7990	0.0101		0.5040	0.5040		0.4693	0.4693	0.0000	913.2249	913.2249	0.2516	0.0000	919.5150
Total	**0.9669**	**9.9638**	**5.7990**	**0.0101**	**0.0436**	**0.5040**	**0.5476**	**6.6000e-003**	**0.4693**	**0.4759**	**0.0000**	**913.2249**	**913.2249**	**0.2516**	**0.0000**	**919.5150**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5300e-003	0.1640	0.0305	4.1000e-004	8.8700e-003	6.2000e-004	9.4900e-003	2.4400e-003	5.9000e-004	3.0200e-003	0.0000	39.8046	39.8046	2.8000e-003	0.0000	39.8746
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0207	0.0170	0.1820	4.5000e-004	0.0428	3.5000e-004	0.0431	0.0114	3.2000e-004	0.0117	0.0000	41.0476	41.0476	1.4000e-003	0.0000	41.0826
Total	**0.0253**	**0.1810**	**0.2125**	**8.6000e-004**	**0.0517**	**9.7000e-004**	**0.0526**	**0.0138**	**9.1000e-004**	**0.0147**	**0.0000**	**80.8523**	**80.8523**	**4.2000e-003**	**0.0000**	**80.9572**

3.5 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5923	0.0000	1.5923	0.8635	0.0000	0.8635	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3234	15.4757	9.1232	0.0161		0.6848	0.6848		0.6300	0.6300	0.0000	1,472.8610	1,472.8610	0.4585	0.0000	1,484.3241
Total	**1.3234**	**15.4757**	**9.1232**	**0.0161**	**1.5923**	**0.6848**	**2.2770**	**0.8635**	**0.6300**	**1.4935**	**0.0000**	**1,472.8610**	**1,472.8610**	**0.4585**	**0.0000**	**1,484.3241**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0276	0.0226	0.2427	6.1000e-004	0.0571	4.6000e-004	0.0575	0.0152	4.3000e-004	0.0156	0.0000	54.7302	54.7302	1.8700e-003	0.0000	54.7768
Total	**0.0276**	**0.0226**	**0.2427**	**6.1000e-004**	**0.0571**	**4.6000e-004**	**0.0575**	**0.0152**	**4.3000e-004**	**0.0156**	**0.0000**	**54.7302**	**54.7302**	**1.8700e-003**	**0.0000**	**54.7768**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6210	0.0000	0.6210	0.3368	0.0000	0.3368	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3234	15.4757	9.1232	0.0161		0.6848	0.6848		0.6300	0.6300	0.0000	1,472.8593	1,472.8593	0.4585	0.0000	1,484.3223
Total	**1.3234**	**15.4757**	**9.1232**	**0.0161**	**0.6210**	**0.6848**	**1.3058**	**0.3368**	**0.6300**	**0.9668**	**0.0000**	**1,472.8593**	**1,472.8593**	**0.4585**	**0.0000**	**1,484.3223**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0276	0.0226	0.2427	6.1000e-004	0.0571	4.6000e-004	0.0575	0.0152	4.3000e-004	0.0156	0.0000	54.7302	54.7302	1.8700e-003	0.0000	54.7768
Total	**0.0276**	**0.0226**	**0.2427**	**6.1000e-004**	**0.0571**	**4.6000e-004**	**0.0575**	**0.0152**	**4.3000e-004**	**0.0156**	**0.0000**	**54.7302**	**54.7302**	**1.8700e-003**	**0.0000**	**54.7768**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398	0.0000	1,040.5811	1,040.5811	0.3240	0.0000	1,048.6798
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**	**0.0000**	**1,040.5811**	**1,040.5811**	**0.3240**	**0.0000**	**1,048.6798**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0399	0.0326	0.3500	8.7000e-004	0.0823	6.7000e-004	0.0830	0.0219	6.2000e-004	0.0225	0.0000	78.9377	78.9377	2.6900e-003	0.0000	79.0051
Total	**0.0399**	**0.0326**	**0.3500**	**8.7000e-004**	**0.0823**	**6.7000e-004**	**0.0830**	**0.0219**	**6.2000e-004**	**0.0225**	**0.0000**	**78.9377**	**78.9377**	**2.6900e-003**	**0.0000**	**79.0051**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.8219	8.7604	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398	0.0000	1,040.5799	1,040.5799	0.3240	0.0000	1,048.6786
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.8219**	**8.7604**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**	**0.0000**	**1,040.5799**	**1,040.5799**	**0.3240**	**0.0000**	**1,048.6786**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0399	0.0326	0.3500	8.7000e-004	0.0823	6.7000e-004	0.0830	0.0219	6.2000e-004	0.0225	0.0000	78.9377	78.9377	2.6900e-003	0.0000	79.0051
Total	**0.0399**	**0.0326**	**0.3500**	**8.7000e-004**	**0.0823**	**6.7000e-004**	**0.0830**	**0.0219**	**6.2000e-004**	**0.0225**	**0.0000**	**78.9377**	**78.9377**	**2.6900e-003**	**0.0000**	**79.0051**

Appendix B, Air Quality Worksheets and Greenhouse Gas Emissions Data Worksheets

Operational Emissions

- CalEEMod Output (Summer)
- CalEEMod Output (Winter)
- CalEEMod Output (Annual)
- CalEEMod Output (Summer)- Hospital LST
- CalEEMod Output (Winter)- Hospital LST

Willowbrook Specific Plan- Demolition, Grading, and Residential

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	385.34	1000sqft	8.85	385,337.00	0
Hospital	1.12	1000sqft	0.03	1,118.00	0
Medical Office Building	3.74	1000sqft	0.09	3,736.00	0
Medical Office Building	35.43	1000sqft	0.81	35,427.00	0
Office Park	224.32	1000sqft	5.15	224,317.00	0
Research & Development	98.51	1000sqft	2.26	98,506.00	0
User Defined Commercial	295.15	User Defined Unit	0.00	295,148.00	0
Library	8.94	1000sqft	0.21	8,939.00	0
Place of Worship	26.43	1000sqft	0.61	26,428.00	0
University/College (4Yr)	825.00	Student	3.48	151,632.91	0
General Light Industry	2.21	1000sqft	0.05	2,215.00	0
Enclosed Parking with Elevator	225.93	1000sqft	5.19	225,926.00	0
Fast Food Restaurant with Drive Thru	2.70	1000sqft	0.06	2,696.00	0
High Turnover (Sit Down Restaurant)	7.09	1000sqft	0.16	7,086.00	0
Apartments Mid Rise	1,585.00	Dwelling Unit	41.71	1,585,000.00	4533
Apartments Mid Rise	105.00	Dwelling Unit	2.76	105,000.00	300
Single Family Housing	262.00	Dwelling Unit	85.06	471,600.00	749
Regional Shopping Center	30.83	1000sqft	0.71	30,830.00	0
Strip Mall	81.57	1000sqft	1.87	81,572.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Energy Use - Title 24 Conversion to 2016 Standards

Water And Wastewater - User Defined Commercial= Institution

Solid Waste - User Defined Commercial= Institution

Construction Off-road Equipment Mitigation -

Area Mitigation - Default

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	50	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblEnergyUse	LightingElect	741.44	533.84
tblEnergyUse	LightingElect	2.63	2.50
tblEnergyUse	LightingElect	8.13	7.72
tblEnergyUse	LightingElect	3.20	3.04
tblEnergyUse	LightingElect	3.88	3.69
tblEnergyUse	LightingElect	8.13	7.72
tblEnergyUse	LightingElect	5.44	5.17
tblEnergyUse	LightingElect	3.20	3.04
tblEnergyUse	LightingElect	3.88	3.69

tblEnergyUse	LightingElect	3.84	3.65
tblEnergyUse	LightingElect	3.20	3.04
tblEnergyUse	LightingElect	6.43	6.11
tblEnergyUse	LightingElect	3.20	3.04
tblEnergyUse	LightingElect	1,608.84	1,158.36
tblEnergyUse	LightingElect	6.43	6.11
tblEnergyUse	LightingElect	3.48	3.31
tblEnergyUse	LightingElect	0.00	3.04
tblEnergyUse	NT24E	0.00	5.75
tblEnergyUse	NT24NG	0.00	4.45
tblEnergyUse	T24E	297.91	214.50
tblEnergyUse	T24E	3.92	3.72
tblEnergyUse	T24E	8.50	8.08
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	4.82	4.58
tblEnergyUse	T24E	8.50	8.08
tblEnergyUse	T24E	10.44	9.92
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	4.82	4.58
tblEnergyUse	T24E	5.89	5.60
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	4.20	3.99
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	502.24	361.61
tblEnergyUse	T24E	4.20	3.99
tblEnergyUse	T24E	3.18	3.02
tblEnergyUse	T24E	0.00	2.24
tblEnergyUse	T24NG	10,118.57	7,285.37
tblEnergyUse	T24NG	0.00	9.57

tblEnergyUse	T24NG	43.19	41.03
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	10.07	9.57
tblEnergyUse	T24NG	43.19	41.03
tblEnergyUse	T24NG	55.22	52.46
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	10.07	9.57
tblEnergyUse	T24NG	9.65	9.17
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	1.16	1.10
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	26,696.95	19,221.80
tblEnergyUse	T24NG	1.16	1.10
tblEnergyUse	T24NG	26.63	25.30
tblEnergyUse	T24NG	0.00	13.02
tblFleetMix	FleetMixLandUseSubType	General Office Building	Apartments Mid Rise
tblFleetMix	FleetMixLandUseSubType	Hospital	Apartments Mid Rise
tblFleetMix	FleetMixLandUseSubType	Medical Office Building	Enclosed Parking with Elevator
tblFleetMix	FleetMixLandUseSubType	Medical Office Building	Fast Food Restaurant with Drive Thru
tblFleetMix	FleetMixLandUseSubType	Office Park	General Light Industry
tblFleetMix	FleetMixLandUseSubType	Research & Development	General Office Building
tblFleetMix	FleetMixLandUseSubType	User Defined Commercial	High Turnover (Sit Down Restaurant)
tblFleetMix	FleetMixLandUseSubType	Library	Hospital
tblFleetMix	FleetMixLandUseSubType	Place of Worship	Library
tblFleetMix	FleetMixLandUseSubType	University/College (4Yr)	Medical Office Building
tblFleetMix	FleetMixLandUseSubType	General Light Industry	Medical Office Building
tblFleetMix	FleetMixLandUseSubType	Enclosed Parking with Elevator	Office Park
tblFleetMix	FleetMixLandUseSubType	Fast Food Restaurant with Drive Thru	Place of Worship

tblFleetMix	FleetMixLandUseSubType	High Turnover (Sit Down Restaurant)	Regional Shopping Center
tblFleetMix	FleetMixLandUseSubType	Apartments Mid Rise	Research & Development
tblFleetMix	FleetMixLandUseSubType	Apartments Mid Rise	Single Family Housing
tblFleetMix	FleetMixLandUseSubType	Single Family Housing	Strip Mall
tblFleetMix	FleetMixLandUseSubType	Regional Shopping Center	University/College (4Yr)
tblFleetMix	FleetMixLandUseSubType	Strip Mall	User Defined Commercial
tblLandUse	BuildingSpaceSquareFeet	385,340.00	385,337.00
tblLandUse	BuildingSpaceSquareFeet	1,120.00	1,118.00
tblLandUse	BuildingSpaceSquareFeet	3,740.00	3,736.00
tblLandUse	BuildingSpaceSquareFeet	35,430.00	35,427.00
tblLandUse	BuildingSpaceSquareFeet	224,320.00	224,317.00
tblLandUse	BuildingSpaceSquareFeet	98,510.00	98,506.00
tblLandUse	BuildingSpaceSquareFeet	0.00	295,148.00
tblLandUse	BuildingSpaceSquareFeet	8,940.00	8,939.00
tblLandUse	BuildingSpaceSquareFeet	26,430.00	26,428.00
tblLandUse	BuildingSpaceSquareFeet	2,210.00	2,215.00
tblLandUse	BuildingSpaceSquareFeet	225,930.00	225,926.00
tblLandUse	BuildingSpaceSquareFeet	2,700.00	2,696.00
tblLandUse	BuildingSpaceSquareFeet	7,090.00	7,086.00
tblLandUse	BuildingSpaceSquareFeet	81,570.00	81,572.00
tblLandUse	LandUseSquareFeet	385,340.00	385,337.00
tblLandUse	LandUseSquareFeet	1,120.00	1,118.00
tblLandUse	LandUseSquareFeet	3,740.00	3,736.00
tblLandUse	LandUseSquareFeet	35,430.00	35,427.00
tblLandUse	LandUseSquareFeet	224,320.00	224,317.00
tblLandUse	LandUseSquareFeet	98,510.00	98,506.00
tblLandUse	LandUseSquareFeet	0.00	295,148.00
tblLandUse	LandUseSquareFeet	8,940.00	8,939.00
tblLandUse	LandUseSquareFeet	26,430.00	26,428.00

tblLandUse	LandUseSquareFeet	2,210.00	2,215.00
tblLandUse	LandUseSquareFeet	225,930.00	225,926.00
tblLandUse	LandUseSquareFeet	2,700.00	2,696.00
tblLandUse	LandUseSquareFeet	7,090.00	7,086.00
tblLandUse	LandUseSquareFeet	81,570.00	81,572.00
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.00	7.49
tblVehicleTrips	ST_TR	6.39	4.70
tblVehicleTrips	ST_TR	722.03	207.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	2.46	8.82
tblVehicleTrips	ST_TR	158.37	81.27
tblVehicleTrips	ST_TR	10.18	0.00
tblVehicleTrips	ST_TR	46.55	42.20
tblVehicleTrips	ST_TR	8.96	25.80
tblVehicleTrips	ST_TR	1.64	10.04
tblVehicleTrips	ST_TR	10.37	6.83
tblVehicleTrips	ST_TR	49.97	26.88
tblVehicleTrips	ST_TR	1.90	6.51
tblVehicleTrips	ST_TR	9.91	5.56
tblVehicleTrips	ST_TR	42.04	17.71
tblVehicleTrips	ST_TR	1.30	1.45
tblVehicleTrips	SU_TR	5.86	4.70
tblVehicleTrips	SU_TR	542.72	207.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	1.05	8.82
tblVehicleTrips	SU_TR	131.84	81.27
tblVehicleTrips	SU_TR	8.91	0.00
tblVehicleTrips	SU_TR	25.49	42.20

tblVehicleTrips	SU_TR	1.55	25.80
tblVehicleTrips	SU_TR	0.76	10.04
tblVehicleTrips	SU_TR	36.63	6.83
tblVehicleTrips	SU_TR	25.24	26.88
tblVehicleTrips	SU_TR	1.11	6.51
tblVehicleTrips	SU_TR	8.62	5.56
tblVehicleTrips	SU_TR	20.43	17.71
tblVehicleTrips	SU_TR	0.00	1.45
tblVehicleTrips	WD_TR	6.65	4.70
tblVehicleTrips	WD_TR	496.12	207.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	11.03	8.82
tblVehicleTrips	WD_TR	127.15	81.27
tblVehicleTrips	WD_TR	13.22	0.00
tblVehicleTrips	WD_TR	56.24	42.20
tblVehicleTrips	WD_TR	36.13	25.80
tblVehicleTrips	WD_TR	11.42	10.04
tblVehicleTrips	WD_TR	9.11	6.83
tblVehicleTrips	WD_TR	42.70	26.88
tblVehicleTrips	WD_TR	8.11	6.51
tblVehicleTrips	WD_TR	9.52	5.56
tblVehicleTrips	WD_TR	44.32	17.71
tblVehicleTrips	WD_TR	1.71	1.45
tblWater	IndoorWaterUseRate	0.00	48,436,770.74

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,036.0595	77.4207	2,013.2653	4.7335		279.0998	279.0998		279.0998	279.0998	34,114.3168	65,846.4675	99,960.7843	102.0145	2.3154	103,201.1460
Energy	1.5437	13.5528	8.2649	0.0842		1.0665	1.0665		1.0665	1.0665		16,839.8809	16,839.8809	0.3228	0.3087	16,939.9519
Mobile	42.5780	194.5746	545.2927	2.2843	150.1971	1.5786	151.7757	41.3712	1.4662	42.8374		233,181.8548	233,181.8548	9.8307		233,427.6228
Total	**1,080.1812**	**285.5481**	**2,566.8228**	**7.1020**	**150.1971**	**281.7450**	**431.9421**	**41.3712**	**281.6325**	**323.0037**	**34,114.3168**	**315,868.2031**	**349,982.5199**	**112.1679**	**2.6242**	**353,568.7207**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,036.0595	77.4207	2,013.2653	4.7335		279.0998	279.0998		279.0998	279.0998	34,114.3168	65,846.4675	99,960.7843	102.0145	2.3154	103,201.1460
Energy	1.5437	13.5528	8.2649	0.0842		1.0665	1.0665		1.0665	1.0665		16,839.8809	16,839.8809	0.3228	0.3087	16,939.9519
Mobile	42.5780	194.5746	545.2927	2.2843	150.1971	1.5786	151.7757	41.3712	1.4662	42.8374		233,181.8548	233,181.8548	9.8307		233,427.6228
Total	**1,080.1812**	**285.5481**	**2,566.8228**	**7.1020**	**150.1971**	**281.7450**	**431.9421**	**41.3712**	**281.6325**	**323.0037**	**34,114.3168**	**315,868.2031**	**349,982.5199**	**112.1679**	**2.6242**	**353,568.7207**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	42.5780	194.5746	545.2927	2.2843	150.1971	1.5786	151.7757	41.3712	1.4662	42.8374		233,181.8548	233,181.8548	9.8307		233,427.6228
Unmitigated	42.5780	194.5746	545.2927	2.2843	150.1971	1.5786	151.7757	41.3712	1.4662	42.8374		233,181.8548	233,181.8548	9.8307		233,427.6228

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	7,449.50	7,449.50	7449.50	25,456,073	25,456,073
Apartments Mid Rise	493.50	493.50	493.50	1,686,364	1,686,364
Enclosed Parking with Elevator	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	558.90	558.90	558.90	588,179	588,179
General Light Industry	0.00	0.00	0.00		
General Office Building	3,398.70	3,398.70	3398.70	10,948,776	10,948,776
High Turnover (Sit Down Restaurant)	576.20	576.20	576.20	785,269	785,269
Hospital	0.00	0.00	0.00		
Library	377.27	377.27	377.27	952,483	952,483
Medical Office Building	96.49	96.49	96.49	250,287	250,287
Medical Office Building	914.09	914.09	914.09	2,371,031	2,371,031
Office Park	2,252.17	2,252.17	2252.17	7,609,305	7,609,305
Place of Worship	180.52	180.52	180.52	385,005	385,005
Regional Shopping Center	828.71	828.71	828.71	1,792,371	1,792,371
Research & Development	641.30	641.30	641.30	2,166,729	2,166,729
Single Family Housing	1,456.72	1,456.72	1456.72	4,977,834	4,977,834
Strip Mall	1,444.60	1,444.60	1444.60	2,748,498	2,748,498
University/College (4Yr)	1,196.25	1,196.25	1196.25	3,593,401	3,593,401
User Defined Commercial	0.00	0.00	0.00		
Total	21,864.93	21,864.93	21,864.93	66,311,604	66,311,604

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Library	16.60	8.40	6.90	52.00	43.00	5.00	44	44	12
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Research & Development	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15
University/College (4Yr)	16.60	8.40	6.90	6.40	88.60	5.00	91	9	0
User Defined Commercial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Apartments Mid Rise	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Enclosed Parking with Elevator	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Fast Food Restaurant with Drive Thru	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
General Light Industry	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
General Office Building	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
High Turnover (Sit Down Restaurant)	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Hospital	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Library	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Medical Office Building	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Medical Office Building	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Office Park	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Place of Worship	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Regional Shopping Center	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Research & Development	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Single Family Housing	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Strip Mall	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
University/College (4Yr)	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
User Defined Commercial	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.5437	13.5528	8.2649	0.0842		1.0665	1.0665		1.0665	1.0665		16,839.8809	16,839.8809	0.3228	0.3087	16,939.9519
NaturalGas Unmitigated	1.5437	13.5528	8.2649	0.0842		1.0665	1.0665		1.0665	1.0665		16,839.8809	16,839.8809	0.3228	0.3087	16,939.9519

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3932.28	0.0424	0.3624	0.1542	2.3100e-003		0.0293	0.0293		0.0293	0.0293		462.6217	462.6217	8.8700e-003	8.4800e-003	465.3708
Apartments Mid Rise	59358.8	0.6401	5.4703	2.3278	0.0349		0.4423	0.4423		0.4423	0.4423		6,983.3848	6,983.3848	0.1339	0.1280	7,024.8836
Enclosed Parking with Elevator	5923.59	0.0639	0.5807	0.4878	3.4800e-003		0.0441	0.0441		0.0441	0.0441		696.8934	696.8934	0.0134	0.0128	701.0347
Fast Food Restaurant with Drive Thru	1690.06	0.0182	0.1657	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126		198.8305	198.8305	3.8100e-003	3.6500e-003	200.0121
General Light Industry	106.017	1.1400e-003	0.0104	8.7300e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004		12.4725	12.4725	2.4000e-004	2.3000e-004	12.5467
General Office Building	10514.9	0.1134	1.0309	0.8659	6.1900e-003		0.0784	0.0784		0.0784	0.0784		1,237.0529	1,237.0529	0.0237	0.0227	1,244.4041
High Turnover (Sit Down Restaurant)	4442.05	0.0479	0.4355	0.3658	2.6100e-003		0.0331	0.0331		0.0331	0.0331		522.5939	522.5939	0.0100	9.5800e-003	525.6994
Hospital	190.764	2.0600e-003	0.0187	0.0157	1.1000e-004		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003		22.4429	22.4429	4.3000e-004	4.1000e-004	22.5763
Library	427.847	4.6100e-003	0.0420	0.0352	2.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003		50.3350	50.3350	9.6000e-004	9.2000e-004	50.6341
Medical Office Building	101.947	1.1000e-003	9.9900e-003	8.4000e-003	6.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		11.9937	11.9937	2.3000e-004	2.2000e-004	12.0650

Medical Office Building	966.72	0.0104	0.0948	0.0796	5.7000e-004		7.2000e-003	7.2000e-003		7.2000e-003	7.2000e-003		113.7318	113.7318	2.1800e-003	2.0900e-003	114.4077
Office Park	5752.35	0.0620	0.5640	0.4737	3.3800e-003		0.0429	0.0429		0.0429	0.0429		676.7469	676.7469	0.0130	0.0124	680.7684
Place of Worship	1264.92	0.0136	0.1240	0.1042	7.4000e-004		9.4200e-003	9.4200e-003		9.4200e-003	9.4200e-003		148.8146	148.8146	2.8500e-003	2.7300e-003	149.6989
Regional Shopping Center	134.301	1.4500e-003	0.0132	0.0111	8.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003		15.8001	15.8001	3.0000e-004	2.9000e-004	15.8940
Research & Development	4714.79	0.0509	0.4622	0.3883	2.7700e-003		0.0351	0.0351		0.0351	0.0351		554.6817	554.6817	0.0106	0.0102	557.9779
Single Family Housing	18380.1	0.1982	1.6939	0.7208	0.0108		0.1370	0.1370		0.1370	0.1370		2,162.3593	2,162.3593	0.0415	0.0396	2,175.2091
Strip Mall	355.341	3.8300e-003	0.0348	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003		41.8048	41.8048	8.0000e-004	7.7000e-004	42.0533
University/College (4Yr)	10755.6	0.1160	1.0545	0.8858	6.3300e-003		0.0801	0.0801		0.0801	0.0801		1,265.3589	1,265.3589	0.0243	0.0232	1,272.8783
User Defined Commercial	14126.7	0.1524	1.3850	1.1634	8.3100e-003		0.1053	0.1053		0.1053	0.1053		1,661.9615	1,661.9615	0.0319	0.0305	1,671.8377
Total		**1.5437**	**13.5528**	**8.2649**	**0.0842**		**1.0665**	**1.0665**		**1.0665**	**1.0665**		**16,839.8809**	**16,839.8809**	**0.3228**	**0.3088**	**16,939.9519**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3.93228	0.0424	0.3624	0.1542	2.3100e-003		0.0293	0.0293		0.0293	0.0293		462.6217	462.6217	8.8700e-003	8.4800e-003	465.3708
Apartments Mid Rise	59.3588	0.6401	5.4703	2.3278	0.0349		0.4423	0.4423		0.4423	0.4423		6,983.3848	6,983.3848	0.1339	0.1280	7,024.8836
Enclosed Parking with Elevator	5.92359	0.0639	0.5807	0.4878	3.4800e-003		0.0441	0.0441		0.0441	0.0441		696.8934	696.8934	0.0134	0.0128	701.0347
Fast Food Restaurant with Drive Thru	1.69006	0.0182	0.1657	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126		198.8305	198.8305	3.8100e-003	3.6500e-003	200.0121
General Light Industry	0.106017	1.1400e-003	0.0104	8.7300e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004		12.4725	12.4725	2.4000e-004	2.3000e-004	12.5467
General Office Building	10.5149	0.1134	1.0309	0.8659	6.1900e-003		0.0784	0.0784		0.0784	0.0784		1,237.0529	1,237.0529	0.0237	0.0227	1,244.4041
High Turnover (Sit Down Restaurant)	4.44205	0.0479	0.4355	0.3658	2.6100e-003		0.0331	0.0331		0.0331	0.0331		522.5939	522.5939	0.0100	9.5800e-003	525.6994
Hospital	0.190764	2.0600e-003	0.0187	0.0157	1.1000e-004		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003		22.4429	22.4429	4.3000e-004	4.1000e-004	22.5763

Library	0.427847	4.6100e-003	0.0420	0.0352	2.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003		50.3350	50.3350	9.6000e-004	9.2000e-004	50.6341
Medical Office Building	0.101947	1.1000e-003	9.9900e-003	8.4000e-003	6.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		11.9937	11.9937	2.3000e-004	2.2000e-004	12.0650
Medical Office Building	0.96672	0.0104	0.0948	0.0796	5.7000e-004		7.2000e-003	7.2000e-003		7.2000e-003	7.2000e-003		113.7318	113.7318	2.1800e-003	2.0900e-003	114.4077
Office Park	5.75235	0.0620	0.5640	0.4737	3.3800e-003		0.0429	0.0429		0.0429	0.0429		676.7469	676.7469	0.0130	0.0124	680.7684
Place of Worship	1.26492	0.0136	0.1240	0.1042	7.4000e-004		9.4200e-003	9.4200e-003		9.4200e-003	9.4200e-003		148.8146	148.8146	2.8500e-003	2.7300e-003	149.6989
Regional Shopping Center	0.134301	1.4500e-003	0.0132	0.0111	8.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003		15.8001	15.8001	3.0000e-004	2.9000e-004	15.8940
Research & Development	4.71479	0.0509	0.4622	0.3883	2.7700e-003		0.0351	0.0351		0.0351	0.0351		554.6817	554.6817	0.0106	0.0102	557.9779
Single Family Housing	18.3801	0.1982	1.6939	0.7208	0.0108		0.1370	0.1370		0.1370	0.1370		2,162.3593	2,162.3593	0.0415	0.0396	2,175.2091
Strip Mall	0.355341	3.8300e-003	0.0348	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003		41.8048	41.8048	8.0000e-004	7.7000e-004	42.0533
University/College (4Yr)	10.7556	0.1160	1.0545	0.8858	6.3300e-003		0.0801	0.0801		0.0801	0.0801		1,265.3589	1,265.3589	0.0243	0.0232	1,272.8783
User Defined Commercial	14.1267	0.1524	1.3850	1.1634	8.3100e-003		0.1053	0.1053		0.1053	0.1053		1,661.9615	1,661.9615	0.0319	0.0305	1,671.8377
Total		**1.5437**	**13.5528**	**8.2649**	**0.0842**		**1.0665**	**1.0665**		**1.0665**	**1.0665**		**16,839.8809**	**16,839.8809**	**0.3228**	**0.3088**	**16,939.9519**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1,036.0595	77.4207	2,013.2653	4.7335		279.0998	279.0998		279.0998	279.0998	34,114.3168	65,846.4675	99,960.7843	102.0145	2.3154	103,201.1460
Unmitigated	1,036.0595	77.4207	2,013.2653	4.7335		279.0998	279.0998		279.0998	279.0998	34,114.3168	65,846.4675	99,960.7843	102.0145	2.3154	103,201.1460

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.1642					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	69.7085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	954.3351	75.5654	1,852.1458	4.7250		278.2063	278.2063		278.2063	278.2063	34,114.3168	65,556.0000	99,670.3168	101.7355	2.3154	102,903.7044
Landscaping	4.8518	1.8553	161.1195	8.5200e-003		0.8936	0.8936		0.8936	0.8936		290.4675	290.4675	0.2790		297.4416
Total	**1,036.0595**	**77.4207**	**2,013.2653**	**4.7335**		**279.0998**	**279.0998**		**279.0998**	**279.0998**	**34,114.3168**	**65,846.4675**	**99,960.7843**	**102.0145**	**2.3154**	**103,201.1460**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.1642					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	69.7085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	954.3351	75.5654	1,852.1458	4.7250		278.2063	278.2063		278.2063	278.2063	34,114.3168	65,556.0000	99,670.3168	101.7355	2.3154	102,903.7044
Landscaping	4.8518	1.8553	161.1195	8.5200e-003		0.8936	0.8936		0.8936	0.8936		290.4675	290.4675	0.2790		297.4416
Total	**1,036.0595**	**77.4207**	**2,013.2653**	**4.7335**		**279.0998**	**279.0998**		**279.0998**	**279.0998**	**34,114.3168**	**65,846.4675**	**99,960.7843**	**102.0145**	**2.3154**	**103,201.1460**

Willowbrook Specific Plan- Demolition, Grading, and Residential

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	385.34	1000sqft	8.85	385,337.00	0
Hospital	1.12	1000sqft	0.03	1,118.00	0
Medical Office Building	3.74	1000sqft	0.09	3,736.00	0
Medical Office Building	35.43	1000sqft	0.81	35,427.00	0
Office Park	224.32	1000sqft	5.15	224,317.00	0
Research & Development	98.51	1000sqft	2.26	98,506.00	0
User Defined Commercial	295.15	User Defined Unit	0.00	295,148.00	0
Library	8.94	1000sqft	0.21	8,939.00	0
Place of Worship	26.43	1000sqft	0.61	26,428.00	0
University/College (4Yr)	825.00	Student	3.48	151,632.91	0
General Light Industry	2.21	1000sqft	0.05	2,215.00	0
Enclosed Parking with Elevator	225.93	1000sqft	5.19	225,926.00	0
Fast Food Restaurant with Drive Thru	2.70	1000sqft	0.06	2,696.00	0
High Turnover (Sit Down Restaurant)	7.09	1000sqft	0.16	7,086.00	0
Apartments Mid Rise	1,585.00	Dwelling Unit	41.71	1,585,000.00	4533
Apartments Mid Rise	105.00	Dwelling Unit	2.76	105,000.00	300
Single Family Housing	262.00	Dwelling Unit	85.06	471,600.00	749
Regional Shopping Center	30.83	1000sqft	0.71	30,830.00	0
Strip Mall	81.57	1000sqft	1.87	81,572.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Energy Use - Title 24 Conversion to 2016 Standards

Water And Wastewater - User Defined Commercial= Institution

Solid Waste - User Defined Commercial= Institution

Construction Off-road Equipment Mitigation -

Area Mitigation - Default

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	50	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblEnergyUse	LightingElect	741.44	533.84
tblEnergyUse	LightingElect	2.63	2.50
tblEnergyUse	LightingElect	8.13	7.72
tblEnergyUse	LightingElect	3.20	3.04
tblEnergyUse	LightingElect	3.88	3.69
tblEnergyUse	LightingElect	8.13	7.72
tblEnergyUse	LightingElect	5.44	5.17
tblEnergyUse	LightingElect	3.20	3.04

tblEnergyUse	LightingElect	3.88	3.69
tblEnergyUse	LightingElect	3.84	3.65
tblEnergyUse	LightingElect	3.20	3.04
tblEnergyUse	LightingElect	6.43	6.11
tblEnergyUse	LightingElect	3.20	3.04
tblEnergyUse	LightingElect	1,608.84	1,158.36
tblEnergyUse	LightingElect	6.43	6.11
tblEnergyUse	LightingElect	3.48	3.31
tblEnergyUse	LightingElect	0.00	3.04
tblEnergyUse	NT24E	0.00	5.75
tblEnergyUse	NT24NG	0.00	4.45
tblEnergyUse	T24E	297.91	214.50
tblEnergyUse	T24E	3.92	3.72
tblEnergyUse	T24E	8.50	8.08
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	4.82	4.58
tblEnergyUse	T24E	8.50	8.08
tblEnergyUse	T24E	10.44	9.92
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	4.82	4.58
tblEnergyUse	T24E	5.89	5.60
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	4.20	3.99
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	502.24	361.61
tblEnergyUse	T24E	4.20	3.99
tblEnergyUse	T24E	3.18	3.02
tblEnergyUse	T24E	0.00	2.24
tblEnergyUse	T24NG	10,118.57	7,285.37

tblEnergyUse	T24NG	0.00	9.57
tblEnergyUse	T24NG	43.19	41.03
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	10.07	9.57
tblEnergyUse	T24NG	43.19	41.03
tblEnergyUse	T24NG	55.22	52.46
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	10.07	9.57
tblEnergyUse	T24NG	9.65	9.17
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	1.16	1.10
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	26,696.95	19,221.80
tblEnergyUse	T24NG	1.16	1.10
tblEnergyUse	T24NG	26.63	25.30
tblEnergyUse	T24NG	0.00	13.02
tblFleetMix	FleetMixLandUseSubType	General Office Building	Apartments Mid Rise
tblFleetMix	FleetMixLandUseSubType	Hospital	Apartments Mid Rise
tblFleetMix	FleetMixLandUseSubType	Medical Office Building	Enclosed Parking with Elevator
tblFleetMix	FleetMixLandUseSubType	Medical Office Building	Fast Food Restaurant with Drive Thru
tblFleetMix	FleetMixLandUseSubType	Office Park	General Light Industry
tblFleetMix	FleetMixLandUseSubType	Research & Development	General Office Building
tblFleetMix	FleetMixLandUseSubType	User Defined Commercial	High Turnover (Sit Down Restaurant)
tblFleetMix	FleetMixLandUseSubType	Library	Hospital
tblFleetMix	FleetMixLandUseSubType	Place of Worship	Library
tblFleetMix	FleetMixLandUseSubType	University/College (4Yr)	Medical Office Building
tblFleetMix	FleetMixLandUseSubType	General Light Industry	Medical Office Building
tblFleetMix	FleetMixLandUseSubType	Enclosed Parking with Elevator	Office Park

tblFleetMix	FleetMixLandUseSubType	Fast Food Restaurant with Drive Thru	Place of Worship
tblFleetMix	FleetMixLandUseSubType	High Turnover (Sit Down Restaurant)	Regional Shopping Center
tblFleetMix	FleetMixLandUseSubType	Apartments Mid Rise	Research & Development
tblFleetMix	FleetMixLandUseSubType	Apartments Mid Rise	Single Family Housing
tblFleetMix	FleetMixLandUseSubType	Single Family Housing	Strip Mall
tblFleetMix	FleetMixLandUseSubType	Regional Shopping Center	University/College (4Yr)
tblFleetMix	FleetMixLandUseSubType	Strip Mall	User Defined Commercial
tblLandUse	BuildingSpaceSquareFeet	385,340.00	385,337.00
tblLandUse	BuildingSpaceSquareFeet	1,120.00	1,118.00
tblLandUse	BuildingSpaceSquareFeet	3,740.00	3,736.00
tblLandUse	BuildingSpaceSquareFeet	35,430.00	35,427.00
tblLandUse	BuildingSpaceSquareFeet	224,320.00	224,317.00
tblLandUse	BuildingSpaceSquareFeet	98,510.00	98,506.00
tblLandUse	BuildingSpaceSquareFeet	0.00	295,148.00
tblLandUse	BuildingSpaceSquareFeet	8,940.00	8,939.00
tblLandUse	BuildingSpaceSquareFeet	26,430.00	26,428.00
tblLandUse	BuildingSpaceSquareFeet	2,210.00	2,215.00
tblLandUse	BuildingSpaceSquareFeet	225,930.00	225,926.00
tblLandUse	BuildingSpaceSquareFeet	2,700.00	2,696.00
tblLandUse	BuildingSpaceSquareFeet	7,090.00	7,086.00
tblLandUse	BuildingSpaceSquareFeet	81,570.00	81,572.00
tblLandUse	LandUseSquareFeet	385,340.00	385,337.00
tblLandUse	LandUseSquareFeet	1,120.00	1,118.00
tblLandUse	LandUseSquareFeet	3,740.00	3,736.00
tblLandUse	LandUseSquareFeet	35,430.00	35,427.00
tblLandUse	LandUseSquareFeet	224,320.00	224,317.00
tblLandUse	LandUseSquareFeet	98,510.00	98,506.00
tblLandUse	LandUseSquareFeet	0.00	295,148.00
tblLandUse	LandUseSquareFeet	8,940.00	8,939.00

tblLandUse	LandUseSquareFeet	26,430.00	26,428.00
tblLandUse	LandUseSquareFeet	2,210.00	2,215.00
tblLandUse	LandUseSquareFeet	225,930.00	225,926.00
tblLandUse	LandUseSquareFeet	2,700.00	2,696.00
tblLandUse	LandUseSquareFeet	7,090.00	7,086.00
tblLandUse	LandUseSquareFeet	81,570.00	81,572.00
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.00	7.49
tblVehicleTrips	ST_TR	6.39	4.70
tblVehicleTrips	ST_TR	722.03	207.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	2.46	8.82
tblVehicleTrips	ST_TR	158.37	81.27
tblVehicleTrips	ST_TR	10.18	0.00
tblVehicleTrips	ST_TR	46.55	42.20
tblVehicleTrips	ST_TR	8.96	25.80
tblVehicleTrips	ST_TR	1.64	10.04
tblVehicleTrips	ST_TR	10.37	6.83
tblVehicleTrips	ST_TR	49.97	26.88
tblVehicleTrips	ST_TR	1.90	6.51
tblVehicleTrips	ST_TR	9.91	5.56
tblVehicleTrips	ST_TR	42.04	17.71
tblVehicleTrips	ST_TR	1.30	1.45
tblVehicleTrips	SU_TR	5.86	4.70
tblVehicleTrips	SU_TR	542.72	207.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	1.05	8.82
tblVehicleTrips	SU_TR	131.84	81.27
tblVehicleTrips	SU_TR	8.91	0.00

tblVehicleTrips	SU_TR	25.49	42.20
tblVehicleTrips	SU_TR	1.55	25.80
tblVehicleTrips	SU_TR	0.76	10.04
tblVehicleTrips	SU_TR	36.63	6.83
tblVehicleTrips	SU_TR	25.24	26.88
tblVehicleTrips	SU_TR	1.11	6.51
tblVehicleTrips	SU_TR	8.62	5.56
tblVehicleTrips	SU_TR	20.43	17.71
tblVehicleTrips	SU_TR	0.00	1.45
tblVehicleTrips	WD_TR	6.65	4.70
tblVehicleTrips	WD_TR	496.12	207.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	11.03	8.82
tblVehicleTrips	WD_TR	127.15	81.27
tblVehicleTrips	WD_TR	13.22	0.00
tblVehicleTrips	WD_TR	56.24	42.20
tblVehicleTrips	WD_TR	36.13	25.80
tblVehicleTrips	WD_TR	11.42	10.04
tblVehicleTrips	WD_TR	9.11	6.83
tblVehicleTrips	WD_TR	42.70	26.88
tblVehicleTrips	WD_TR	8.11	6.51
tblVehicleTrips	WD_TR	9.52	5.56
tblVehicleTrips	WD_TR	44.32	17.71
tblVehicleTrips	WD_TR	1.71	1.45
tblWater	IndoorWaterUseRate	0.00	48,436,770.74

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,036.0595	77.4207	2,013.2653	4.7335		279.0998	279.0998		279.0998	279.0998	34,114.3168	65,846.4675	99,960.7843	102.0145	2.3154	103,201.1460
Energy	1.5437	13.5528	8.2649	0.0842		1.0665	1.0665		1.0665	1.0665		16,839.8809	16,839.8809	0.3228	0.3087	16,939.9519
Mobile	40.2615	197.5413	509.4156	2.1633	150.1971	1.5853	151.7824	41.3712	1.4726	42.8438		220,998.0141	220,998.0141	9.8455		221,244.1505
Total	**1,077.8647**	**288.5148**	**2,530.9457**	**6.9810**	**150.1971**	**281.7517**	**431.9488**	**41.3712**	**281.6389**	**323.0101**	**34,114.3168**	**303,684.3625**	**337,798.6793**	**112.1827**	**2.6242**	**341,385.2484**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,036.0595	77.4207	2,013.2653	4.7335		279.0998	279.0998		279.0998	279.0998	34,114.3168	65,846.4675	99,960.7843	102.0145	2.3154	103,201.1460
Energy	1.5437	13.5528	8.2649	0.0842		1.0665	1.0665		1.0665	1.0665		16,839.8809	16,839.8809	0.3228	0.3087	16,939.9519
Mobile	40.2615	197.5413	509.4156	2.1633	150.1971	1.5853	151.7824	41.3712	1.4726	42.8438		220,998.0141	220,998.0141	9.8455		221,244.1505
Total	**1,077.8647**	**288.5148**	**2,530.9457**	**6.9810**	**150.1971**	**281.7517**	**431.9488**	**41.3712**	**281.6389**	**323.0101**	**34,114.3168**	**303,684.3625**	**337,798.6793**	**112.1827**	**2.6242**	**341,385.2484**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	40.2615	197.5413	509.4156	2.1633	150.1971	1.5853	151.7824	41.3712	1.4726	42.8438		220,998.0141	220,998.0141	9.8455		221,244.1505
Unmitigated	40.2615	197.5413	509.4156	2.1633	150.1971	1.5853	151.7824	41.3712	1.4726	42.8438		220,998.0141	220,998.0141	9.8455		221,244.1505

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	7,449.50	7,449.50	7449.50	25,456,073	25,456,073
Apartments Mid Rise	493.50	493.50	493.50	1,686,364	1,686,364
Enclosed Parking with Elevator	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	558.90	558.90	558.90	588,179	588,179
General Light Industry	0.00	0.00	0.00		
General Office Building	3,398.70	3,398.70	3398.70	10,948,776	10,948,776
High Turnover (Sit Down Restaurant)	576.20	576.20	576.20	785,269	785,269
Hospital	0.00	0.00	0.00		
Library	377.27	377.27	377.27	952,483	952,483
Medical Office Building	96.49	96.49	96.49	250,287	250,287
Medical Office Building	914.09	914.09	914.09	2,371,031	2,371,031
Office Park	2,252.17	2,252.17	2252.17	7,609,305	7,609,305
Place of Worship	180.52	180.52	180.52	385,005	385,005
Regional Shopping Center	828.71	828.71	828.71	1,792,371	1,792,371
Research & Development	641.30	641.30	641.30	2,166,729	2,166,729
Single Family Housing	1,456.72	1,456.72	1456.72	4,977,834	4,977,834
Strip Mall	1,444.60	1,444.60	1444.60	2,748,498	2,748,498
University/College (4Yr)	1,196.25	1,196.25	1196.25	3,593,401	3,593,401
User Defined Commercial	0.00	0.00	0.00		
Total	21,864.93	21,864.93	21,864.93	66,311,604	66,311,604

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Fast Food Restaurant with Drive Th	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down Re	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Library	16.60	8.40	6.90	52.00	43.00	5.00	44	44	12
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Research & Development	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15
University/College (4Yr)	16.60	8.40	6.90	6.40	88.60	5.00	91	9	0
User Defined Commercial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Apartments Mid Rise	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Enclosed Parking with Elevator	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Fast Food Restaurant with Drive Thru	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
General Light Industry	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
General Office Building	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
High Turnover (Sit Down Restaurant)	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Hospital	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Library	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Medical Office Building	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Medical Office Building	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Office Park	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Place of Worship	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Regional Shopping Center	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Research & Development	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Single Family Housing	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Strip Mall	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
University/College (4Yr)	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
User Defined Commercial	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.5437	13.5528	8.2649	0.0842		1.0665	1.0665		1.0665	1.0665		16,839.8809	16,839.8809	0.3228	0.3087	16,939.9519
NaturalGas Unmitigated	1.5437	13.5528	8.2649	0.0842		1.0665	1.0665		1.0665	1.0665		16,839.8809	16,839.8809	0.3228	0.3087	16,939.9519

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3932.28	0.0424	0.3624	0.1542	2.3100e-003		0.0293	0.0293		0.0293	0.0293		462.6217	462.6217	8.8700e-003	8.4800e-003	465.3708
Apartments Mid Rise	59358.8	0.6401	5.4703	2.3278	0.0349		0.4423	0.4423		0.4423	0.4423		6,983.3848	6,983.3848	0.1339	0.1280	7,024.8836
Enclosed Parking with Elevator	5923.59	0.0639	0.5807	0.4878	3.4800e-003		0.0441	0.0441		0.0441	0.0441		696.8934	696.8934	0.0134	0.0128	701.0347
Fast Food Restaurant with Drive Thru	1690.06	0.0182	0.1657	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126		198.8305	198.8305	3.8100e-003	3.6500e-003	200.0121
General Light Industry	106.017	1.1400e-003	0.0104	8.7300e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004		12.4725	12.4725	2.4000e-004	2.3000e-004	12.5467
General Office Building	10514.9	0.1134	1.0309	0.8659	6.1900e-003		0.0784	0.0784		0.0784	0.0784		1,237.0529	1,237.0529	0.0237	0.0227	1,244.4041
High Turnover (Sit Down Restaurant)	4442.05	0.0479	0.4355	0.3658	2.6100e-003		0.0331	0.0331		0.0331	0.0331		522.5939	522.5939	0.0100	9.5800e-003	525.6994
Hospital	190.764	2.0600e-003	0.0187	0.0157	1.1000e-004		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003		22.4429	22.4429	4.3000e-004	4.1000e-004	22.5763
Library	427.847	4.6100e-003	0.0420	0.0352	2.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003		50.3350	50.3350	9.6000e-004	9.2000e-004	50.6341
Medical Office Building	101.947	1.1000e-003	9.9900e-003	8.4000e-003	6.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		11.9937	11.9937	2.3000e-004	2.2000e-004	12.0650

Medical Office Building	966.72	0.0104	0.0948	0.0796	5.7000e-004		7.2000e-003	7.2000e-003		7.2000e-003	7.2000e-003		113.7318	113.7318	2.1800e-003	2.0900e-003	114.4077
Office Park	5752.35	0.0620	0.5640	0.4737	3.3800e-003		0.0429	0.0429		0.0429	0.0429		676.7469	676.7469	0.0130	0.0124	680.7684
Place of Worship	1264.92	0.0136	0.1240	0.1042	7.4000e-004		9.4200e-003	9.4200e-003		9.4200e-003	9.4200e-003		148.8146	148.8146	2.8500e-003	2.7300e-003	149.6989
Regional Shopping Center	134.301	1.4500e-003	0.0132	0.0111	8.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003		15.8001	15.8001	3.0000e-004	2.9000e-004	15.8940
Research & Development	4714.79	0.0509	0.4622	0.3883	2.7700e-003		0.0351	0.0351		0.0351	0.0351		554.6817	554.6817	0.0106	0.0102	557.9779
Single Family Housing	18380.1	0.1982	1.6939	0.7208	0.0108		0.1370	0.1370		0.1370	0.1370		2,162.3593	2,162.3593	0.0415	0.0396	2,175.2091
Strip Mall	355.341	3.8300e-003	0.0348	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003		41.8048	41.8048	8.0000e-004	7.7000e-004	42.0533
University/College (4Yr)	10755.6	0.1160	1.0545	0.8858	6.3300e-003		0.0801	0.0801		0.0801	0.0801		1,265.3589	1,265.3589	0.0243	0.0232	1,272.8783
User Defined Commercial	14126.7	0.1524	1.3850	1.1634	8.3100e-003		0.1053	0.1053		0.1053	0.1053		1,661.9615	1,661.9615	0.0319	0.0305	1,671.8377
Total		**1.5437**	**13.5528**	**8.2649**	**0.0842**		**1.0665**	**1.0665**		**1.0665**	**1.0665**		**16,839.8809**	**16,839.8809**	**0.3228**	**0.3088**	**16,939.9519**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	59.3588	0.6401	5.4703	2.3278	0.0349		0.4423	0.4423		0.4423	0.4423		6,983.3848	6,983.3848	0.1339	0.1280	7,024.8836
Apartments Mid Rise	3.93228	0.0424	0.3624	0.1542	2.3100e-003		0.0293	0.0293		0.0293	0.0293		462.6217	462.6217	8.8700e-003	8.4800e-003	465.3708
Enclosed Parking with Elevator	5.92359	0.0639	0.5807	0.4878	3.4800e-003		0.0441	0.0441		0.0441	0.0441		696.8934	696.8934	0.0134	0.0128	701.0347
Fast Food Restaurant with Drive Thru	1.69006	0.0182	0.1657	0.1392	9.9000e-004		0.0126	0.0126		0.0126	0.0126		198.8305	198.8305	3.8100e-003	3.6500e-003	200.0121
General Light Industry	0.106017	1.1400e-003	0.0104	8.7300e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004		12.4725	12.4725	2.4000e-004	2.3000e-004	12.5467
General Office Building	10.5149	0.1134	1.0309	0.8659	6.1900e-003		0.0784	0.0784		0.0784	0.0784		1,237.0529	1,237.0529	0.0237	0.0227	1,244.4041
High Turnover (Sit Down Restaurant)	4.44205	0.0479	0.4355	0.3658	2.6100e-003		0.0331	0.0331		0.0331	0.0331		522.5939	522.5939	0.0100	9.5800e-003	525.6994
Hospital	0.190764	2.0600e-003	0.0187	0.0157	1.1000e-004		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003		22.4429	22.4429	4.3000e-004	4.1000e-004	22.5763
Library	0.427847	4.6100e-003	0.0420	0.0352	2.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003		50.3350	50.3350	9.6000e-004	9.2000e-004	50.6341

Medical Office Building	0.101947	1.1000e-003	9.9900e-003	8.4000e-003	6.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		11.9937	11.9937	2.3000e-004	2.2000e-004	12.0650
Medical Office Building	0.96672	0.0104	0.0948	0.0796	5.7000e-004		7.2000e-003	7.2000e-003		7.2000e-003	7.2000e-003		113.7318	113.7318	2.1800e-003	2.0900e-003	114.4077
Office Park	5.75235	0.0620	0.5640	0.4737	3.3800e-003		0.0429	0.0429		0.0429	0.0429		676.7469	676.7469	0.0130	0.0124	680.7684
Place of Worship	1.26492	0.0136	0.1240	0.1042	7.4000e-004		9.4200e-003	9.4200e-003		9.4200e-003	9.4200e-003		148.8146	148.8146	2.8500e-003	2.7300e-003	149.6989
Regional Shopping Center	0.134301	1.4500e-003	0.0132	0.0111	8.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003		15.8001	15.8001	3.0000e-004	2.9000e-004	15.8940
Research & Development	4.71479	0.0509	0.4622	0.3883	2.7700e-003		0.0351	0.0351		0.0351	0.0351		554.6817	554.6817	0.0106	0.0102	557.9779
Single Family Housing	18.3801	0.1982	1.6939	0.7208	0.0108		0.1370	0.1370		0.1370	0.1370		2,162.3593	2,162.3593	0.0415	0.0396	2,175.2091
Strip Mall	0.355341	3.8300e-003	0.0348	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003		41.8048	41.8048	8.0000e-004	7.7000e-004	42.0533
University/College (4Yr)	10.7556	0.1160	1.0545	0.8858	6.3300e-003		0.0801	0.0801		0.0801	0.0801		1,265.3589	1,265.3589	0.0243	0.0232	1,272.8783
User Defined Commercial	14.1267	0.1524	1.3850	1.1634	8.3100e-003		0.1053	0.1053		0.1053	0.1053		1,661.9615	1,661.9615	0.0319	0.0305	1,671.8377
Total		**1.5437**	**13.5528**	**8.2649**	**0.0842**		**1.0665**	**1.0665**		**1.0665**	**1.0665**		**16,839.8809**	**16,839.8809**	**0.3228**	**0.3088**	**16,939.9519**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1,036.0595	77.4207	2,013.2653	4.7335		279.0998	279.0998		279.0998	279.0998	34,114.3168	65,846.4675	99,960.7843	102.0145	2.3154	103,201.1460
Unmitigated	1,036.0595	77.4207	2,013.2653	4.7335		279.0998	279.0998		279.0998	279.0998	34,114.3168	65,846.4675	99,960.7843	102.0145	2.3154	103,201.1460

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.1642					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	69.7085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	954.3351	75.5654	1,852.1458	4.7250		278.2063	278.2063		278.2063	278.2063	34,114.3168	65,556.0000	99,670.3168	101.7355	2.3154	102,903.7044
Landscaping	4.8518	1.8553	161.1195	8.5200e-003		0.8936	0.8936		0.8936	0.8936		290.4675	290.4675	0.2790		297.4416
Total	**1,036.0595**	**77.4207**	**2,013.2653**	**4.7335**		**279.0998**	**279.0998**		**279.0998**	**279.0998**	**34,114.3168**	**65,846.4675**	**99,960.7843**	**102.0145**	**2.3154**	**103,201.1460**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.1642					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	69.7085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	954.3351	75.5654	1,852.1458	4.7250		278.2063	278.2063		278.2063	278.2063	34,114.3168	65,556.0000	99,670.3168	101.7355	2.3154	102,903.7044
Landscaping	4.8518	1.8553	161.1195	8.5200e-003		0.8936	0.8936		0.8936	0.8936		290.4675	290.4675	0.2790		297.4416
Total	**1,036.0595**	**77.4207**	**2,013.2653**	**4.7335**		**279.0998**	**279.0998**		**279.0998**	**279.0998**	**34,114.3168**	**65,846.4675**	**99,960.7843**	**102.0145**	**2.3154**	**103,201.1460**

Willowbrook Specific Plan- Demolition, Grading, and Residential

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	385.34	1000sqft	8.85	385,337.00	0
Hospital	1.12	1000sqft	0.03	1,118.00	0
Medical Office Building	3.74	1000sqft	0.09	3,736.00	0
Medical Office Building	35.43	1000sqft	0.81	35,427.00	0
Office Park	224.32	1000sqft	5.15	224,317.00	0
Research & Development	98.51	1000sqft	2.26	98,506.00	0
User Defined Commercial	295.15	User Defined Unit	0.00	295,148.00	0
Library	8.94	1000sqft	0.21	8,939.00	0
Place of Worship	26.43	1000sqft	0.61	26,428.00	0
University/College (4Yr)	825.00	Student	3.48	151,632.91	0
General Light Industry	2.21	1000sqft	0.05	2,215.00	0
Enclosed Parking with Elevator	225.93	1000sqft	5.19	225,926.00	0
Fast Food Restaurant with Drive Thru	2.70	1000sqft	0.06	2,696.00	0
High Turnover (Sit Down Restaurant)	7.09	1000sqft	0.16	7,086.00	0
Apartments Mid Rise	1,585.00	Dwelling Unit	41.71	1,585,000.00	4533
Apartments Mid Rise	105.00	Dwelling Unit	2.76	105,000.00	300
Single Family Housing	262.00	Dwelling Unit	85.06	471,600.00	749
Regional Shopping Center	30.83	1000sqft	0.71	30,830.00	0
Strip Mall	81.57	1000sqft	1.87	81,572.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Energy Use - Title 24 Conversion to 2016 Standards

Water And Wastewater - User Defined Commercial= Institution

Solid Waste - User Defined Commercial= Institution

Construction Off-road Equipment Mitigation -

Area Mitigation - Default

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	50	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblEnergyUse	LightingElect	741.44	533.84
tblEnergyUse	LightingElect	2.63	2.50
tblEnergyUse	LightingElect	8.13	7.72
tblEnergyUse	LightingElect	3.20	3.04
tblEnergyUse	LightingElect	3.88	3.69
tblEnergyUse	LightingElect	8.13	7.72
tblEnergyUse	LightingElect	5.44	5.17
tblEnergyUse	LightingElect	3.20	3.04

tblEnergyUse	LightingElect	3.88	3.69
tblEnergyUse	LightingElect	3.84	3.65
tblEnergyUse	LightingElect	3.20	3.04
tblEnergyUse	LightingElect	6.43	6.11
tblEnergyUse	LightingElect	3.20	3.04
tblEnergyUse	LightingElect	1,608.84	1,158.36
tblEnergyUse	LightingElect	6.43	6.11
tblEnergyUse	LightingElect	3.48	3.31
tblEnergyUse	LightingElect	0.00	3.04
tblEnergyUse	NT24E	0.00	5.75
tblEnergyUse	NT24NG	0.00	4.45
tblEnergyUse	T24E	297.91	214.50
tblEnergyUse	T24E	3.92	3.72
tblEnergyUse	T24E	8.50	8.08
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	4.82	4.58
tblEnergyUse	T24E	8.50	8.08
tblEnergyUse	T24E	10.44	9.92
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	4.82	4.58
tblEnergyUse	T24E	5.89	5.60
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	4.20	3.99
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	502.24	361.61
tblEnergyUse	T24E	4.20	3.99

tblEnergyUse	T24E	3.18	3.02
tblEnergyUse	T24E	0.00	2.24
tblEnergyUse	T24NG	10,118.57	7,285.37
tblEnergyUse	T24NG	0.00	9.57
tblEnergyUse	T24NG	43.19	41.03
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	10.07	9.57
tblEnergyUse	T24NG	43.19	41.03
tblEnergyUse	T24NG	55.22	52.46
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	10.07	9.57
tblEnergyUse	T24NG	9.65	9.17
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	1.16	1.10
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	26,696.95	19,221.80
tblEnergyUse	T24NG	1.16	1.10
tblEnergyUse	T24NG	26.63	25.30
tblEnergyUse	T24NG	0.00	13.02
tblFleetMix	FleetMixLandUseSubType	General Office Building	Apartments Mid Rise
tblFleetMix	FleetMixLandUseSubType	Hospital	Apartments Mid Rise
tblFleetMix	FleetMixLandUseSubType	Medical Office Building	Enclosed Parking with Elevator
tblFleetMix	FleetMixLandUseSubType	Medical Office Building	Fast Food Restaurant with Drive Thru
tblFleetMix	FleetMixLandUseSubType	Office Park	General Light Industry
tblFleetMix	FleetMixLandUseSubType	Research & Development	General Office Building
tblFleetMix	FleetMixLandUseSubType	User Defined Commercial	High Turnover (Sit Down Restaurant)
tblFleetMix	FleetMixLandUseSubType	Library	Hospital
tblFleetMix	FleetMixLandUseSubType	Place of Worship	Library
tblFleetMix	FleetMixLandUseSubType	University/College (4Yr)	Medical Office Building

tblFleetMix	FleetMixLandUseSubType	General Light Industry	Medical Office Building
tblFleetMix	FleetMixLandUseSubType	Enclosed Parking with Elevator	Office Park
tblFleetMix	FleetMixLandUseSubType	Fast Food Restaurant with Drive Thru	Place of Worship
tblFleetMix	FleetMixLandUseSubType	High Turnover (Sit Down Restaurant)	Regional Shopping Center
tblFleetMix	FleetMixLandUseSubType	Apartments Mid Rise	Research & Development
tblFleetMix	FleetMixLandUseSubType	Apartments Mid Rise	Single Family Housing
tblFleetMix	FleetMixLandUseSubType	Single Family Housing	Strip Mall
tblFleetMix	FleetMixLandUseSubType	Regional Shopping Center	University/College (4Yr)
tblFleetMix	FleetMixLandUseSubType	Strip Mall	User Defined Commercial
tblLandUse	BuildingSpaceSquareFeet	385,340.00	385,337.00
tblLandUse	BuildingSpaceSquareFeet	1,120.00	1,118.00
tblLandUse	BuildingSpaceSquareFeet	3,740.00	3,736.00
tblLandUse	BuildingSpaceSquareFeet	35,430.00	35,427.00
tblLandUse	BuildingSpaceSquareFeet	224,320.00	224,317.00
tblLandUse	BuildingSpaceSquareFeet	98,510.00	98,506.00
tblLandUse	BuildingSpaceSquareFeet	0.00	295,148.00
tblLandUse	BuildingSpaceSquareFeet	8,940.00	8,939.00
tblLandUse	BuildingSpaceSquareFeet	26,430.00	26,428.00
tblLandUse	BuildingSpaceSquareFeet	2,210.00	2,215.00
tblLandUse	BuildingSpaceSquareFeet	225,930.00	225,926.00
tblLandUse	BuildingSpaceSquareFeet	2,700.00	2,696.00
tblLandUse	BuildingSpaceSquareFeet	7,090.00	7,086.00
tblLandUse	BuildingSpaceSquareFeet	81,570.00	81,572.00
tblLandUse	LandUseSquareFeet	385,340.00	385,337.00
tblLandUse	LandUseSquareFeet	1,120.00	1,118.00
tblLandUse	LandUseSquareFeet	3,740.00	3,736.00
tblLandUse	LandUseSquareFeet	35,430.00	35,427.00
tblLandUse	LandUseSquareFeet	224,320.00	224,317.00
tblLandUse	LandUseSquareFeet	98,510.00	98,506.00

tblLandUse	LandUseSquareFeet	0.00	295,148.00
tblLandUse	LandUseSquareFeet	8,940.00	8,939.00
tblLandUse	LandUseSquareFeet	26,430.00	26,428.00
tblLandUse	LandUseSquareFeet	2,210.00	2,215.00
tblLandUse	LandUseSquareFeet	225,930.00	225,926.00
tblLandUse	LandUseSquareFeet	2,700.00	2,696.00
tblLandUse	LandUseSquareFeet	7,090.00	7,086.00
tblLandUse	LandUseSquareFeet	81,570.00	81,572.00
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.00	7.49
tblVehicleTrips	ST_TR	6.39	4.70
tblVehicleTrips	ST_TR	722.03	207.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	2.46	8.82
tblVehicleTrips	ST_TR	158.37	81.27
tblVehicleTrips	ST_TR	10.18	0.00
tblVehicleTrips	ST_TR	46.55	42.20
tblVehicleTrips	ST_TR	8.96	25.80
tblVehicleTrips	ST_TR	1.64	10.04
tblVehicleTrips	ST_TR	10.37	6.83
tblVehicleTrips	ST_TR	49.97	26.88
tblVehicleTrips	ST_TR	1.90	6.51
tblVehicleTrips	ST_TR	9.91	5.56
tblVehicleTrips	ST_TR	42.04	17.71
tblVehicleTrips	ST_TR	1.30	1.45
tblVehicleTrips	SU_TR	5.86	4.70
tblVehicleTrips	SU_TR	542.72	207.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	1.05	8.82

tblVehicleTrips	SU_TR	131.84	81.27
tblVehicleTrips	SU_TR	8.91	0.00
tblVehicleTrips	SU_TR	25.49	42.20
tblVehicleTrips	SU_TR	1.55	25.80
tblVehicleTrips	SU_TR	0.76	10.04
tblVehicleTrips	SU_TR	36.63	6.83
tblVehicleTrips	SU_TR	25.24	26.88
tblVehicleTrips	SU_TR	1.11	6.51
tblVehicleTrips	SU_TR	8.62	5.56
tblVehicleTrips	SU_TR	20.43	17.71
tblVehicleTrips	SU_TR	0.00	1.45
tblVehicleTrips	WD_TR	6.65	4.70
tblVehicleTrips	WD_TR	496.12	207.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	11.03	8.82
tblVehicleTrips	WD_TR	127.15	81.27
tblVehicleTrips	WD_TR	13.22	0.00
tblVehicleTrips	WD_TR	56.24	42.20
tblVehicleTrips	WD_TR	36.13	25.80
tblVehicleTrips	WD_TR	11.42	10.04
tblVehicleTrips	WD_TR	9.11	6.83
tblVehicleTrips	WD_TR	42.70	26.88
tblVehicleTrips	WD_TR	8.11	6.51
tblVehicleTrips	WD_TR	9.52	5.56
tblVehicleTrips	WD_TR	44.32	17.71
tblVehicleTrips	WD_TR	1.71	1.45
tblWater	IndoorWaterUseRate	0.00	48,436,770.74

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	26.5649	1.1765	43.2918	0.0601		3.5893	3.5893		3.5893	3.5893	386.8499	776.3310	1,163.1808	1.1853	0.0263	1,200.6377
Energy	0.2817	2.4734	1.5083	0.0154		0.1946	0.1946		0.1946	0.1946	0.0000	17,956.9929	17,956.9929	0.4117	0.1252	18,004.6056
Mobile	7.1721	36.5394	94.2366	0.3996	26.8705	0.2875	27.1580	7.4153	0.2670	7.6823	0.0000	37,028.4312	37,028.4312	1.6140	0.0000	37,068.7816
Waste						0.0000	0.0000		0.0000	0.0000	537.3719	0.0000	537.3719	31.7578	0.0000	1,331.3161
Water						0.0000	0.0000		0.0000	0.0000	111.7205	3,527.4506	3,639.1710	11.5581	0.2882	4,014.0007
Total	**34.0187**	**40.1893**	**139.0367**	**0.4751**	**26.8705**	**4.0714**	**30.9419**	**7.4153**	**4.0509**	**11.4663**	**1,035.9422**	**59,289.2057**	**60,325.1479**	**46.5268**	**0.4397**	**61,619.3417**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	26.5649	1.1765	43.2918	0.0601		3.5893	3.5893		3.5893	3.5893	386.8499	776.3310	1,163.1808	1.1853	0.0263	1,200.6377
Energy	0.2817	2.4734	1.5083	0.0154		0.1946	0.1946		0.1946	0.1946	0.0000	17,956.9929	17,956.9929	0.4117	0.1252	18,004.6056
Mobile	7.1721	36.5394	94.2366	0.3996	26.8705	0.2875	27.1580	7.4153	0.2670	7.6823	0.0000	37,028.4312	37,028.4312	1.6140	0.0000	37,068.7816
Waste						0.0000	0.0000		0.0000	0.0000	537.3719	0.0000	537.3719	31.7578	0.0000	1,331.3161
Water						0.0000	0.0000		0.0000	0.0000	111.7205	3,527.4506	3,639.1710	11.5581	0.2882	4,014.0007
Total	**34.0187**	**40.1893**	**139.0367**	**0.4751**	**26.8705**	**4.0714**	**30.9419**	**7.4153**	**4.0509**	**11.4663**	**1,035.9422**	**59,289.2057**	**60,325.1479**	**46.5268**	**0.4397**	**61,619.3417**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	7.1721	36.5394	94.2366	0.3996	26.8705	0.2875	27.1580	7.4153	0.2670	7.6823	0.0000	37,028.4312	37,028.4312	1.6140	0.0000	37,068.7816
Unmitigated	7.1721	36.5394	94.2366	0.3996	26.8705	0.2875	27.1580	7.4153	0.2670	7.6823	0.0000	37,028.4312	37,028.4312	1.6140	0.0000	37,068.7816

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	7,449.50	7,449.50	7449.50	25,456,073	25,456,073
Apartments Mid Rise	493.50	493.50	493.50	1,686,364	1,686,364
Enclosed Parking with Elevator	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	558.90	558.90	558.90	588,179	588,179
General Light Industry	0.00	0.00	0.00		
General Office Building	3,398.70	3,398.70	3398.70	10,948,776	10,948,776
High Turnover (Sit Down Restaurant)	576.20	576.20	576.20	785,269	785,269
Hospital	0.00	0.00	0.00		
Library	377.27	377.27	377.27	952,483	952,483
Medical Office Building	96.49	96.49	96.49	250,287	250,287
Medical Office Building	914.09	914.09	914.09	2,371,031	2,371,031
Office Park	2,252.17	2,252.17	2252.17	7,609,305	7,609,305
Place of Worship	180.52	180.52	180.52	385,005	385,005
Regional Shopping Center	828.71	828.71	828.71	1,792,371	1,792,371
Research & Development	641.30	641.30	641.30	2,166,729	2,166,729
Single Family Housing	1,456.72	1,456.72	1456.72	4,977,834	4,977,834
Strip Mall	1,444.60	1,444.60	1444.60	2,748,498	2,748,498
University/College (4Yr)	1,196.25	1,196.25	1196.25	3,593,401	3,593,401
User Defined Commercial	0.00	0.00	0.00		
Total	21,864.93	21,864.93	21,864.93	66,311,604	66,311,604

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Library	16.60	8.40	6.90	52.00	43.00	5.00	44	44	12
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Research & Development	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15
University/College (4Yr)	16.60	8.40	6.90	6.40	88.60	5.00	91	9	0
User Defined Commercial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Apartments Mid Rise	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Enclosed Parking with Elevator	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Fast Food Restaurant with Drive Thru	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
General Light Industry	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
General Office Building	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
High Turnover (Sit Down Restaurant)	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Hospital	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Library	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Medical Office Building	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Medical Office Building	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Office Park	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Place of Worship	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Regional Shopping Center	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Research & Development	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Single Family Housing	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Strip Mall	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
University/College (4Yr)	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
User Defined Commercial	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	15,168.9618	15,168.9618	0.3583	0.0741	15,200.0066
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	15,168.9618	15,168.9618	0.3583	0.0741	15,200.0066
NaturalGas Mitigated	0.2817	2.4734	1.5083	0.0154		0.1946	0.1946		0.1946	0.1946	0.0000	2,788.0311	2,788.0311	0.0534	0.0511	2,804.5990
NaturalGas Unmitigated	0.2817	2.4734	1.5083	0.0154		0.1946	0.1946		0.1946	0.1946	0.0000	2,788.0311	2,788.0311	0.0534	0.0511	2,804.5990

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.43528e+006	7.7400e-003	0.0661	0.0281	4.2000e-004		5.3500e-003	5.3500e-003		5.3500e-003	5.3500e-003	0.0000	76.5922	76.5922	1.4700e-003	1.4000e-003	77.0474
Apartments Mid Rise	2.1666e+007	0.1168	0.9983	0.4248	6.3700e-003		0.0807	0.0807		0.0807	0.0807	0.0000	1,156.1777	1,156.1777	0.0222	0.0212	1,163.0483
Enclosed Parking with Elevator	2.16211e+006	0.0117	0.1060	0.0890	6.4000e-004		8.0500e-003	8.0500e-003		8.0500e-003	8.0500e-003	0.0000	115.3785	115.3785	2.2100e-003	2.1200e-003	116.0642
Fast Food Restaurant with Drive Thru	616872	3.3300e-003	0.0302	0.0254	1.8000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	32.9186	32.9186	6.3000e-004	6.0000e-004	33.1143
General Light Industry	38696	2.1000e-004	1.9000e-003	1.5900e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0650	2.0650	4.0000e-005	4.0000e-005	2.0772
General Office Building	3.83796e+006	0.0207	0.1881	0.1580	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.8080	204.8080	3.9300e-003	3.7500e-003	206.0251
High Turnover (Sit Down Restaurant)	1.62135e+006	8.7400e-003	0.0795	0.0668	4.8000e-004		6.0400e-003	6.0400e-003		6.0400e-003	6.0400e-003	0.0000	86.5213	86.5213	1.6600e-003	1.5900e-003	87.0354
Hospital	69629	3.8000e-004	3.4100e-003	2.8700e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.7157	3.7157	7.0000e-005	7.0000e-005	3.7378
Library	156164	8.4000e-004	7.6600e-003	6.4300e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	8.3335	8.3335	1.6000e-004	1.5000e-004	8.3831
Medical Office Building	352853	1.9000e-003	0.0173	0.0145	1.0000e-004		1.3100e-003	1.3100e-003		1.3100e-003	1.3100e-003	0.0000	18.8296	18.8296	3.6000e-004	3.5000e-004	18.9415

Medical Office Building	37210.6	2.0000e-004	1.8200e-003	1.5300e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	1.9857	1.9857	4.0000e-005	4.0000e-005	1.9975
Office Park	2.09961e+006	0.0113	0.1029	0.0865	6.2000e-004		7.8200e-003	7.8200e-003		7.8200e-003	7.8200e-003	0.0000	112.0430	112.0430	2.1500e-003	2.0500e-003	112.7089
Place of Worship	461697	2.4900e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.6379	24.6379	4.7000e-004	4.5000e-004	24.7843
Regional Shopping Center	49019.7	2.6000e-004	2.4000e-003	2.0200e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6159	2.6159	5.0000e-005	5.0000e-005	2.6314
Research & Development	1.7209e+006	9.2800e-003	0.0844	0.0709	5.1000e-004		6.4100e-003	6.4100e-003		6.4100e-003	6.4100e-003	0.0000	91.8338	91.8338	1.7600e-003	1.6800e-003	92.3795
Single Family Housing	6.70872e+006	0.0362	0.3091	0.1315	1.9700e-003		0.0250	0.0250		0.0250	0.0250	0.0000	358.0028	358.0028	6.8600e-003	6.5600e-003	360.1303
Strip Mall	129699	7.0000e-004	6.3600e-003	5.3400e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.9213	6.9213	1.3000e-004	1.3000e-004	6.9624
University/College (4Yr)	3.92578e+006	0.0212	0.1924	0.1617	1.1500e-003		0.0146	0.0146		0.0146	0.0146	0.0000	209.4944	209.4944	4.0200e-003	3.8400e-003	210.7393
User Defined Commercial	5.15624e+006	0.0278	0.2528	0.2123	1.5200e-003		0.0192	0.0192		0.0192	0.0192	0.0000	275.1564	275.1564	5.2700e-003	5.0400e-003	276.7915
Total		**0.2817**	**2.4734**	**1.5083**	**0.0154**		**0.1946**	**0.1946**		**0.1946**	**0.1946**	**0.0000**	**2,788.0312**	**2,788.0312**	**0.0534**	**0.0511**	**2,804.5990**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.43528e+006	7.7400e-003	0.0661	0.0281	4.2000e-004		5.3500e-003	5.3500e-003		5.3500e-003	5.3500e-003	0.0000	76.5922	76.5922	1.4700e-003	1.4000e-003	77.0474
Apartments Mid Rise	2.1666e+007	0.1168	0.9983	0.4248	6.3700e-003		0.0807	0.0807		0.0807	0.0807	0.0000	1,156.1777	1,156.1777	0.0222	0.0212	1,163.0483
Enclosed Parking with Elevator	2.16211e+006	0.0117	0.1060	0.0890	6.4000e-004		8.0500e-003	8.0500e-003		8.0500e-003	8.0500e-003	0.0000	115.3785	115.3785	2.2100e-003	2.1200e-003	116.0642
Fast Food Restaurant with Drive Thru	616872	3.3300e-003	0.0302	0.0254	1.8000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	32.9186	32.9186	6.3000e-004	6.0000e-004	33.1143
General Light Industry	38696	2.1000e-004	1.9000e-003	1.5900e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0650	2.0650	4.0000e-005	4.0000e-005	2.0772
General Office Building	3.83796e+006	0.0207	0.1881	0.1580	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.8080	204.8080	3.9300e-003	3.7500e-003	206.0251
High Turnover (Sit Down Restaurant)	1.62135e+006	8.7400e-003	0.0795	0.0668	4.8000e-004		6.0400e-003	6.0400e-003		6.0400e-003	6.0400e-003	0.0000	86.5213	86.5213	1.6600e-003	1.5900e-003	87.0354
Hospital	69629	3.8000e-004	3.4100e-003	2.8700e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.7157	3.7157	7.0000e-005	7.0000e-005	3.7378
Library	156164	8.4000e-004	7.6600e-003	6.4300e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	8.3335	8.3335	1.6000e-004	1.5000e-004	8.3831

Medical Office Building	352853	1.9000e-003	0.0173	0.0145	1.0000e-004		1.3100e-003	1.3100e-003		1.3100e-003	1.3100e-003	0.0000	18.8296	18.8296	3.6000e-004	3.5000e-004	18.9415
Medical Office Building	37210.6	2.0000e-004	1.8200e-003	1.5300e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	1.9857	1.9857	4.0000e-005	4.0000e-005	1.9975
Office Park	2.09961e+006	0.0113	0.1029	0.0865	6.2000e-004		7.8200e-003	7.8200e-003		7.8200e-003	7.8200e-003	0.0000	112.0430	112.0430	2.1500e-003	2.0500e-003	112.7089
Place of Worship	461697	2.4900e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.6379	24.6379	4.7000e-004	4.5000e-004	24.7843
Regional Shopping Center	49019.7	2.6000e-004	2.4000e-003	2.0200e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6159	2.6159	5.0000e-005	5.0000e-005	2.6314
Research & Development	1.7209e+006	9.2800e-003	0.0844	0.0709	5.1000e-004		6.4100e-003	6.4100e-003		6.4100e-003	6.4100e-003	0.0000	91.8338	91.8338	1.7600e-003	1.6800e-003	92.3795
Single Family Housing	6.70872e+006	0.0362	0.3091	0.1315	1.9700e-003		0.0250	0.0250		0.0250	0.0250	0.0000	358.0028	358.0028	6.8600e-003	6.5600e-003	360.1303
Strip Mall	129699	7.0000e-004	6.3600e-003	5.3400e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.9213	6.9213	1.3000e-004	1.3000e-004	6.9624
University/College (4Yr)	3.92578e+006	0.0212	0.1924	0.1617	1.1500e-003		0.0146	0.0146		0.0146	0.0146	0.0000	209.4944	209.4944	4.0200e-003	3.8400e-003	210.7393
User Defined Commercial	5.15624e+006	0.0278	0.2528	0.2123	1.5200e-003		0.0192	0.0192		0.0192	0.0192	0.0000	275.1564	275.1564	5.2700e-003	5.0400e-003	276.7915
Total		**0.2817**	**2.4734**	**1.5083**	**0.0154**		**0.1946**	**0.1946**		**0.1946**	**0.1946**	**0.0000**	**2,788.0312**	**2,788.0312**	**0.0534**	**0.0511**	**2,804.5990**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	422667	235.4093	5.5600e-003	1.1500e-003	235.8911
Apartments Mid Rise	6.38026e+006	3,553.5589	0.0839	0.0174	3,560.8316
Enclosed Parking with Elevator	1.44819e+006	806.5837	0.0191	3.9400e-003	808.2345
Fast Food Restaurant with [illegible]	118516	66.0089	1.5600e-003	3.2000e-004	66.1440
General Light Industry	24431.5	13.6074	3.2000e-004	7.0000e-005	13.6352
General Office Building	4.96699e+006	2,766.4246	0.0653	0.0135	2,772.0863

High Turnover (Sit Down Restaurant)	311501	173.4938	4.1000e-003	8.5000e-004	173.8489
Hospital	25311.5	14.0975	3.3000e-004	7.0000e-005	14.1264
Library	98597.2	54.9148	1.3000e-003	2.7000e-004	55.0272
Medical Office Building	456654	254.3387	6.0100e-003	1.2400e-003	254.8593
Medical Office Building	48157	26.8216	6.3000e-004	1.3000e-004	26.8765
Office Park	3.14941e+006	1,754.1006	0.0414	8.5700e-003	1,757.6906
Place of Worship	291501	162.3548	3.8300e-003	7.9000e-004	162.6870
Regional Shopping Center	410964	228.8911	5.4100e-003	1.1200e-003	229.3595
Research & Development	1.08652e+006	605.1505	0.0143	2.9600e-003	606.3890
Single Family Housing	2.1485e+006	1,196.6316	0.0283	5.8500e-003	1,199.0806
Strip Mall	1.08735e+006	605.6148	0.0143	2.9600e-003	606.8542
University/College (4Yr)	1.5042e+006	837.7807	0.0198	4.0900e-003	839.4953
User Defined Commercial	3.25548e+006	1,813.1785	0.0428	8.8600e-003	1,816.8894
Total		**15,168.9618**	**0.3583**	**0.0741**	**15,200.0066**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	422667	235.4093	5.5600e-003	1.1500e-003	235.8911
Apartments Mid Rise	6.38026e+006	3,553.5589	0.0839	0.0174	3,560.8316
Enclosed Parking with Elevator	1.44819e+006	806.5837	0.0191	3.9400e-003	808.2345
Fast Food Restaurant with	118516	66.0089	1.5600e-003	3.2000e-004	66.1440

General Light Industry	24431.5	13.6074	3.2000e-004	7.0000e-005	13.6352
General Office Building	4.96699e+006	2,766.4246	0.0653	0.0135	2,772.0863
High Turnover (Sit Down Restaurant)	311501	173.4938	4.1000e-003	8.5000e-004	173.8489
Hospital	25311.5	14.0975	3.3000e-004	7.0000e-005	14.1264
Library	98597.2	54.9148	1.3000e-003	2.7000e-004	55.0272
Medical Office Building	456654	254.3387	6.0100e-003	1.2400e-003	254.8593
Medical Office Building	48157	26.8216	6.3000e-004	1.3000e-004	26.8765
Office Park	3.14941e+006	1,754.1006	0.0414	8.5700e-003	1,757.6906
Place of Worship	291501	162.3548	3.8300e-003	7.9000e-004	162.6870
Regional Shopping Center	410964	228.8911	5.4100e-003	1.1200e-003	229.3595
Research & Development	1.08652e+006	605.1505	0.0143	2.9600e-003	606.3890
Single Family Housing	2.1485e+006	1,196.6316	0.0283	5.8500e-003	1,199.0806
Strip Mall	1.08735e+006	605.6148	0.0143	2.9600e-003	606.8542
University/College (4Yr)	1.5042e+006	837.7807	0.0198	4.0900e-003	839.4953
User Defined Commercial	3.25548e+006	1,813.1785	0.0428	8.8600e-003	1,816.8894
Total		**15,168.9618**	**0.3583**	**0.0741**	**15,200.0066**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	26.5649	1.1765	43.2918	0.0601		3.5893	3.5893		3.5893	3.5893	386.8499	776.3310	1,163.1808	1.1853	0.0263	1,200.6377
Unmitigated	26.5649	1.1765	43.2918	0.0601		3.5893	3.5893		3.5893	3.5893	386.8499	776.3310	1,163.1808	1.1853	0.0263	1,200.6377

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.3075					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	12.7218					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	11.9292	0.9446	23.1518	0.0591		3.4776	3.4776		3.4776	3.4776	386.8499	743.3925	1,130.2424	1.1537	0.0263	1,166.9084
Landscaping	0.6065	0.2319	20.1399	1.0700e-003		0.1117	0.1117		0.1117	0.1117	0.0000	32.9385	32.9385	0.0316	0.0000	33.7293
Total	**26.5649**	**1.1765**	**43.2918**	**0.0601**		**3.5893**	**3.5893**		**3.5893**	**3.5893**	**386.8499**	**776.3310**	**1,163.1808**	**1.1853**	**0.0263**	**1,200.6377**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.3075					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	12.7218					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	11.9292	0.9446	23.1518	0.0591		3.4776	3.4776		3.4776	3.4776	386.8499	743.3925	1,130.2424	1.1537	0.0263	1,166.9084
Landscaping	0.6065	0.2319	20.1399	1.0700e-003		0.1117	0.1117		0.1117	0.1117	0.0000	32.9385	32.9385	0.0316	0.0000	33.7293
Total	**26.5649**	**1.1765**	**43.2918**	**0.0601**		**3.5893**	**3.5893**		**3.5893**	**3.5893**	**386.8499**	**776.3310**	**1,163.1808**	**1.1853**	**0.0263**	**1,200.6377**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3,639.1710	11.5581	0.2882	4,014.0007
Unmitigated	3,639.1710	11.5581	0.2882	4,014.0007

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	110.11 / 69.4174	1,263.0182	3.6170	0.0907	1,380.4765
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0.819541 / 0.0523111	6.5272	0.0269	6.6000e-004	7.3955
General Light Industry	0.511062 / 0	3.8685	0.0167	4.1000e-004	4.4096
General Office Building	68.4879 / 41.9765	778.1597	2.2496	0.0564	851.2029
High Turnover (Sit Down Restaurant)	2.15205 / 0.137365	17.1399	0.0705	1.7400e-003	19.4201
Hospital	0.140538 / 0.0267692	1.2294	4.6100e-003	1.1000e-004	1.3786
Library	0.279723 / 0.437515	4.8246	9.2300e-003	2.4000e-004	5.1263
Medical Office Building	4.91507 / 0.936204	42.9975	0.1611	3.9800e-003	48.2132
Office Park	39.8692 / 24.436	452.9942	1.3095	0.0328	495.5152
Place of Worship	0.826966 / 1.29346	14.2634	0.0273	7.0000e-004	15.1553
Regional Shopping Center	2.28366 / 1.39966	25.9469	0.0750	1.8800e-003	28.3824
Research & Development	48.4368 / 0	366.6397	1.5866	0.0390	417.9221
Single Family Housing	17.0704 / 10.7617	195.8052	0.5607	0.0141	214.0147
Strip Mall	6.0421 / 3.70322	68.6503	0.1985	4.9700e-003	75.0943
University/College (4Yr)	1.76641 / 2.76284	30.4668	0.0583	1.5100e-003	32.3719
User Defined Commercial	48.4368 / 0	366.6397	1.5866	0.0390	417.9221
Total		**3,639.1710**	**11.5581**	**0.2882**	**4,014.0007**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	110.11 / 69.4174	1,263.0182	3.6170	0.0907	1,380.4765
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0.819541 / 0.0523111	6.5272	0.0269	6.6000e-004	7.3955
General Light Industry	0.511062 / 0	3.8685	0.0167	4.1000e-004	4.4096
General Office Building	68.4879 / 41.9765	778.1597	2.2496	0.0564	851.2029
High Turnover (Sit Down Restaurant)	2.15205 / 0.137365	17.1399	0.0705	1.7400e-003	19.4201
Hospital	0.140538 / 0.0267692	1.2294	4.6100e-003	1.1000e-004	1.3786
Library	0.279723 / 0.437515	4.8246	9.2300e-003	2.4000e-004	5.1263
Medical Office Building	4.91507 / 0.936204	42.9975	0.1611	3.9800e-003	48.2132
Office Park	39.8692 / 24.436	452.9942	1.3095	0.0328	495.5152
Place of Worship	0.826966 / 1.29346	14.2634	0.0273	7.0000e-004	15.1553
Regional Shopping Center	2.28366 / 1.39966	25.9469	0.0750	1.8800e-003	28.3824
Research & Development	48.4368 / 0	366.6397	1.5866	0.0390	417.9221
Single Family Housing	17.0704 / 10.7617	195.8052	0.5607	0.0141	214.0147
Strip Mall	6.0421 / 3.70322	68.6503	0.1985	4.9700e-003	75.0943
University/College (4Yr)	1.76641 / 2.76284	30.4668	0.0583	1.5100e-003	32.3719
User Defined Commercial	48.4368 / 0	366.6397	1.5866	0.0390	417.9221
Total		**3,639.1710**	**11.5581**	**0.2882**	**4,014.0007**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	537.3719	31.7578	0.0000	1,331.3161
Unmitigated	537.3719	31.7578	0.0000	1,331.3161

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	777.4	157.8052	9.3260	0.0000	390.9556
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	31.1	6.3130	0.3731	0.0000	15.6402
General Light Industry	2.74	0.5562	0.0329	0.0000	1.3780
General Office Building	358.37	72.7459	4.2992	0.0000	180.2248
High Turnover (Sit Down Restaurant)	84.37	17.1264	1.0121	0.0000	42.4298
Hospital	12.1	2.4562	0.1452	0.0000	6.0851
Library	8.23	1.6706	0.0987	0.0000	4.1389
Medical Office Building	423.04	85.8733	5.0750	0.0000	212.7475
Office Park	208.62	42.3480	2.5027	0.0000	104.9153
Place of Worship	150.65	30.5806	1.8073	0.0000	75.7621
Regional Shopping Center	32.37	6.5708	0.3883	0.0000	16.2789
Research & Development	7.49	1.5204	0.0899	0.0000	3.7667
Single Family Housing	307.09	62.3365	3.6840	0.0000	154.4360
Strip Mall	85.65	17.3862	1.0275	0.0000	43.0735
University/College (4Yr)	150.56	30.5623	1.8062	0.0000	75.7169
User Defined Commercial	7.49	1.5204	0.0899	0.0000	3.7667
Total		**537.3719**	**31.7578**	**0.0000**	**1,331.3161**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	777.4	157.8052	9.3260	0.0000	390.9556
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	31.1	6.3130	0.3731	0.0000	15.6402
General Light Industry	2.74	0.5562	0.0329	0.0000	1.3780
General Office Building	358.37	72.7459	4.2992	0.0000	180.2248
High Turnover (Sit Down Restaurant)	84.37	17.1264	1.0121	0.0000	42.4298
Hospital	12.1	2.4562	0.1452	0.0000	6.0851
Library	8.23	1.6706	0.0987	0.0000	4.1389
Medical Office Building	423.04	85.8733	5.0750	0.0000	212.7475
Office Park	208.62	42.3480	2.5027	0.0000	104.9153
Place of Worship	150.65	30.5806	1.8073	0.0000	75.7621
Regional Shopping Center	32.37	6.5708	0.3883	0.0000	16.2789
Research & Development	7.49	1.5204	0.0899	0.0000	3.7667
Single Family Housing	307.09	62.3365	3.6840	0.0000	154.4360
Strip Mall	85.65	17.3862	1.0275	0.0000	43.0735
University/College (4Yr)	150.56	30.5623	1.8062	0.0000	75.7169
User Defined Commercial	7.49	1.5204	0.0899	0.0000	3.7667
Total		**537.3719**	**31.7578**	**0.0000**	**1,331.3161**

Willowbrook Specific Plan- Hospital Scenario (LST)

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hospital	312.00	1000sqft	7.16	312,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase -

Off-road Equipment -

Vehicle Trips -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	WorkerTripNumber	18.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	23.00	18.00
tblTripsAndVMT	WorkerTripNumber	13.00	5.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.1807	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729
Energy	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546
Mobile	9.2035	48.6894	127.9076	0.4169	33.9871	0.4920	34.4790	9.0939	0.4629	9.5568		42,320.0932	42,320.0932	2.2665		42,376.7552
Total	**15.9838**	**54.1402**	**132.5182**	**0.4496**	**33.9871**	**0.9063**	**34.8934**	**9.0939**	**0.8773**	**9.9712**		**48,860.8480**	**48,860.8480**	**2.3920**	**0.1199**	**48,956.3827**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.1807	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729
Energy	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546
Mobile	9.2035	48.6894	127.9076	0.4169	33.9871	0.4920	34.4790	9.0939	0.4629	9.5568		42,320.0932	42,320.0932	2.2665		42,376.7552
Total	**15.9838**	**54.1402**	**132.5182**	**0.4496**	**33.9871**	**0.9063**	**34.8934**	**9.0939**	**0.8773**	**9.9712**		**48,860.8480**	**48,860.8480**	**2.3920**	**0.1199**	**48,956.3827**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.2035	48.6894	127.9076	0.4169	33.9871	0.4920	34.4790	9.0939	0.4629	9.5568		42,320.0932	42,320.0932	2.2665		42,376.7552
Unmitigated	9.2035	48.6894	127.9076	0.4169	33.9871	0.4920	34.4790	9.0939	0.4629	9.5568		42,320.0932	42,320.0932	2.2665		42,376.7552

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Hospital	4,124.64	3,176.16	2779.92	14,720,523	14,720,523
Total	4,124.64	3,176.16	2,779.92	14,720,523	14,720,523

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Hospital	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546
NaturalGas Unmitigated	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Hospital	55595.8	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546
Total		**0.5996**	**5.4506**	**4.5785**	**0.0327**		**0.4142**	**0.4142**		**0.4142**	**0.4142**		**6,540.6865**	**6,540.6865**	**0.1254**	**0.1199**	**6,579.5546**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Hospital	55.5958	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546
Total		**0.5996**	**5.4506**	**4.5785**	**0.0327**		**0.4142**	**0.4142**		**0.4142**	**0.4142**		**6,540.6865**	**6,540.6865**	**0.1254**	**0.1199**	**6,579.5546**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.1807	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729
Unmitigated	6.1807	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.1776					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0500e-003	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729
Total	**6.1807**	**3.0000e-004**	**0.0322**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0683**	**0.0683**	**1.9000e-004**		**0.0729**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.1776					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0500e-003	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729
Total	**6.1807**	**3.0000e-004**	**0.0322**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0683**	**0.0683**	**1.9000e-004**		**0.0729**

Willowbrook Specific Plan- Hospital Scenario (LST)

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hospital	312.00	1000sqft	7.16	312,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase -

Off-road Equipment -

Vehicle Trips -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	ConstructionPhaseStartDate	2/6/2017 2:32:22 PM	2/6/2017 12:00:00 AM
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	WorkerTripNumber	18.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	23.00	18.00
tblTripsAndVMT	WorkerTripNumber	13.00	5.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.1807	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729
Energy	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546
Mobile	9.5358	47.2851	136.3961	0.4397	33.9871	0.4891	34.4762	9.0939	0.4602	9.5541		44,606.3221	44,606.3221	2.2855		44,663.4595
Total	**16.3160**	**52.7360**	**141.0067**	**0.4724**	**33.9871**	**0.9035**	**34.8906**	**9.0939**	**0.8746**	**9.9685**		**51,147.0769**	**51,147.0769**	**2.4110**	**0.1199**	**51,243.0870**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.1807	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729
Energy	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546
Mobile	9.5358	47.2851	136.3961	0.4397	33.9871	0.4891	34.4762	9.0939	0.4602	9.5541		44,606.3221	44,606.3221	2.2855		44,663.4595
Total	**16.3160**	**52.7360**	**141.0067**	**0.4724**	**33.9871**	**0.9035**	**34.8906**	**9.0939**	**0.8746**	**9.9685**		**51,147.0769**	**51,147.0769**	**2.4110**	**0.1199**	**51,243.0870**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5358	47.2851	136.3961	0.4397	33.9871	0.4891	34.4762	9.0939	0.4602	9.5541		44,606.3221	44,606.3221	2.2855		44,663.4595
Unmitigated	9.5358	47.2851	136.3961	0.4397	33.9871	0.4891	34.4762	9.0939	0.4602	9.5541		44,606.3221	44,606.3221	2.2855		44,663.4595

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Hospital	4,124.64	3,176.16	2779.92	14,720,523	14,720,523
Total	4,124.64	3,176.16	2,779.92	14,720,523	14,720,523

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Hospital	0.548893	0.044275	0.199565	0.124385	0.017503	0.005874	0.020174	0.028962	0.001990	0.002015	0.004673	0.000702	0.000989

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546
NaturalGas Unmitigated	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Hospital	55595.8	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546
Total		**0.5996**	**5.4506**	**4.5785**	**0.0327**		**0.4142**	**0.4142**		**0.4142**	**0.4142**		**6,540.6865**	**6,540.6865**	**0.1254**	**0.1199**	**6,579.5546**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Hospital	55.5958	0.5996	5.4506	4.5785	0.0327		0.4142	0.4142		0.4142	0.4142		6,540.6865	6,540.6865	0.1254	0.1199	6,579.5546
Total		**0.5996**	**5.4506**	**4.5785**	**0.0327**		**0.4142**	**0.4142**		**0.4142**	**0.4142**		**6,540.6865**	**6,540.6865**	**0.1254**	**0.1199**	**6,579.5546**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.1807	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729
Unmitigated	6.1807	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.1776					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0500e-003	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729
Total	**6.1807**	**3.0000e-004**	**0.0322**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0683**	**0.0683**	**1.9000e-004**		**0.0729**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.1776					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0500e-003	3.0000e-004	0.0322	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0683	0.0683	1.9000e-004		0.0729
Total	**6.1807**	**3.0000e-004**	**0.0322**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0683**	**0.0683**	**1.9000e-004**		**0.0729**

Willowbrook

Air Quality Assessment

Title 24 Energy Savings Adjustment

Project Energy Use Factors Adjustment

Nonresidential % savings over Title 24 (2013) =	5.0%
Residential % savings over Title 24 (2013) =	28.0%

	T24 Electricity	NT24 Electricity	Lighting Electricity	T24 NG	NT24 NG
Title 24 (2013 - CalEEMod Default)					
Project Nonresidential Land Uses					
Enclosed Parking with Elevator	3.92	0.19	2.63	10.07	-
Fast Food Restaurant with Drive thru	8.5	28.16	8.13	43.19	187.78
General Light Industry (Fire Station)	2.36	5.75	3.2	13.71	4.45
General Office Building	4.82	4.62	3.88	10.07	0.39
High Turnover (Sit Down Restaurant)	8.5	28.16	8.13	43.19	187.78
Hospital	10.44	7.55	5.44	55.22	9.82
Library	2.36	5.75	3.2	13.71	4.45
Medical Office Building	4.82	4.62	3.88	10.07	0.39
Office Park	5.89	4.79	3.84	9.65	0.19
Place of Worship	2.36	5.75	3.2	13.71	4.45
Regional Shopping Center	4.2	3.23	6.43	1.16	0.49
Research and Development	2.36	5.75	3.20	13.71	4.45
Strip Mall	4.20	3.23	6.43	1.16	0.49
University/College (4yr)	3.18	3.59	3.48	26.63	0.59
User Defined Commercial (Institution)	2.36	5.75	3.20	13.71	4.45
Project Residential Land Uses					
Apartment Mid Rise	297.91	3,277.06	741.44	10,118.57	6,384.00
Single Family Housing	502.24	6,680.41	1,608.84	26,696.95	6,384.00
Title 24 (2016)					
Project Nonresidential Land Uses					
Enclosed Parking with Elevator	3.72	0.19	2.50	9.57	-
Fast Food Restaurant with Drive thru	8.08	28.16	7.72	41.03	187.78
General Light Industry (Fire Station)	2.24	5.75	3.04	13.02	4.45
General Office Building	4.58	4.62	3.69	9.57	0.39
High Turnover (Sit Down Restaurant)	8.08	28.16	7.72	41.03	187.78
Hospital	9.92	7.55	5.17	52.46	9.82
Library	2.24	5.75	3.04	13.02	4.45
Medical Office Building	4.58	4.62	3.69	9.57	0.39
Office Park	5.60	4.79	3.65	9.17	0.19
Place of Worship	2.24	5.75	3.04	13.02	4.45
Regional Shopping Center	3.99	3.23	6.11	1.10	0.49
Research and Development	2.24	5.75	3.04	13.02	4.45
Strip Mall	3.99	3.23	6.11	1.10	0.49
University/College (4yr)	3.02	3.59	3.31	25.30	0.59
User Defined Commercial (Institution)	2.24	5.75	3.04	13.02	4.45
0					
Project Residential Land Uses					
Apartment Mid Rise	214.50	3,277.06	533.84	7,285.37	6,384.00
Single Family Housing	361.61	6,680.41	1,158.36	19,221.80	6,384.00

Sources:

California Emissions Estimator Model (CalEEMod), version 2016.3.1.

California Energy Commission, Adoption Hearing, 2016 Building Energy Efficiency Standards, June 10, 2015. Available: http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2015-06-10_hearing/2015-06-10_Adoption_Hearing_Presentation.pdf. Accessed December 2016.

Appendix C

Cultural Resources Correspondence and Record Searches

ESA

C-1 SB18 Consultation Correspondence

Local Government Tribal Consultation List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

☐ **CEQA Tribal Consultation List (AB 52)** – ***Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2***

☒ **General Plan (SB 18)** - ***Per Government Code § 65352.3.***

Local Action Type:

___ **General Plan** ___ **General Plan Element** ___ **General Plan Amendment**

✔ **Specific Plan** ___ **Specific Plan Amendment** ___ **Pre-planning Outreach Activity**

Required Information

Project Title: Willowbrook Transit Oriented District Specific Plan

Local Government/Lead Agency: Los Angeles County Department of Regional Planning

Contact Person: Leon Freeman

Street Address: 320 West Temple Street, 13th Floor

City: Los Angeles **Zip:** 90012

Phone: 213-974-6406 **Fax:**

Email: LFreeman@planning.lacounty.gov

Specific Area Subject to Proposed Action

County: Los Angeles **City/Community:** Willowbrook (Uninc)

Project Description:

The proposed Specific Plan is a planning document that has been prepared to introduce a transit oriented development pattern to the area, which would promote active transportation and improve quality of life for residents by reducing vehicle miles traveled, improving the public realm, improving economic vitality and employment opportunities, and streamlining the environmental review process for future projects.The proposed Specific Plan would facilitate development by rezoning and amending the General Plan land uses of parcels within a half mile radius south of the Willowbrook/Rosa Parks Station to include mixed uses, increased housing densities, and additional neighborhood-serving retail uses.

Additional Request

☒ **Sacred Lands File Search** - ***Required Information:***

USGS Quadrangle Name(s): Southgate

Township: **Range:** **Section(s):**

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 - Fax

February 2, 2016

Leon Freeman
Los Angeles County Department of Regional Planning

Sent via e-mail: lfreeman@planning.lacounty.gov

RE: Proposed Willowbrook Transit Oriented District Specific Plan Project, Community of Willowbrook; South Gate USGS Quadrangle, Los Angeles County, California

Dear Mr. Freeman:

Government Code §65352.3 requires local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places in creating or amending general plans, including specific plans. Attached is a consultation list of tribes traditionally and culturally affiliated with the area that may have cultural places located within the boundaries of the project referenced above.

As a part of consultation, the NAHC recommends that local governments conduct record searches through the NAHC and California Historic Resources Information System (CHRIS) to determine if any cultural places are located within the area(s) affected by the proposed action. A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE. Records maintained by the NAHC and CHRIS are not exhaustive, and a negative response to these searches does not preclude the existence of a cultural place. A tribe may be the only source of information regarding the existence of tribal cultural resources.

The list should provide a starting place to locate areas of potential adverse impact within the APE. I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes on the attached list, please notify me. With your assistance we are able to assure that our consultation list contains current information.

If you have any questions, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

Native American Heritage Commission
Tribal Consultation List
Los Angeles County
2/2/2017

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chariperson
P.O. Box 393 Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
gabrielenoindians@yahoo.com

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 Gabrieleno
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626)286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., Gabrielino
#231
Los Angeles, CA, 90012
Phone: (951)807-0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490 Gabrielino
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
1999 Avenue of the Stars, Suite Gabrielino
1100
Los Angeles, CA, 90067
Phone: (626) 676 - 1184

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 6097.98 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Government Code Sections 65352.3 and 65362.4 et seq for the proposed Willowbrook Transit Oriented Specific Plan Project, Los Angeles County.

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

February 2, 2017

Linda Candelario, Co-Chairperson
Gabrielino-Tongva Tribe
1999 Avenue of the Stars, Suite 1100
Los Angeles, CA 90067

SUBJECT: SENATE BILL (SB) 18 CONSULTATION (GOVERNMENT CODE §65352.3)
WILLOWBROOK TRANSIT ORIENTED DISTRICT SPECIFIC PLAN
PROJECT NO. R2015-02007–(2)
RSPT201500001 RZCT201500006
RADVT201500004 RENVT201500136
RPAT201500005

The Native American Heritage Commission (NAHC) has identified your tribe as one with traditional lands or cultural places located within the proposed boundary of the above-referenced project. Because this project requires the amendment of the General Plan and adoption of a Specific Plan, it is subject to the SB 18 Tribal Consultation requirements (Government Code Section 65352.3). This letter serves as a formal notification and invitation to consult with the County of Los Angeles on the proposed project identified above.

The project area is located in the Willowbrook community, which is an unincorporated community within Los Angeles County. It is located along the I-105 Freeway at the Wilmington Avenue interchange, and at the junction of the Metro Blue and Green lines. The project area is approximately 10 miles south of Downtown Los Angeles and is bordered by the City of Los Angeles to the north and the City of Lynwood and City of Compton to the east. The project area is bounded by Compton Avenue, Imperial Highway, Mona Boulevard and 121st/122nd Streets. A map depicting the project site location is enclosed for your reference.

Project Description: The proposed Specific Plan is a planning document that has been prepared to introduce a transit oriented development pattern to the area, which would promote active transportation and improve quality of life for residents by reducing vehicle miles traveled, improving the public realm, improving economic vitality and employment opportunities, and streamlining the environmental review process for future projects. The proposed Specific Plan would facilitate development by rezoning and amending the General Plan land uses of parcels within a half mile radius south of the Willowbrook/Rosa Parks Station to include mixed uses, increased housing densities, and additional neighborhood-serving retail uses.

A Sacred Lands File Search conducted by the NAHC did not find the presence of Native American cultural resources sites within the area of potential effect (APE) of the project area. In addition, Native American resources are not recorded in close proximity to the project site. The NAHC has also provided the Los Angeles County Department of Regional Planning with a list of Native

320 West Temple Street ▪ Los Angeles, CA 90012 ▪ 213-974-6411 ▪ Fax: 213-626-0434 ▪ TDD: 213-617-2292

American Tribes with traditional lands or cultural places located within the proposed project site. This letter was sent to each of the listed tribes.

Your participation in this local planning process is important. Pursuant to Government Code Section 65352.3(a)(2), you have 90 days from the receipt of this letter to request consultation with the County of Los Angeles. Please submit your request to the contact information listed below.

Lead Agency Contact Information:

Leon Freeman, Regional Planning Assistant II
Community Studies West Section
Department of Regional Planning
320 W. Temple Street, Room 1356
Los Angeles, CA 90012
Tel: (213) 974-6406
Email: LFreeman@planning.lacounty.gov

Sincerely,

DEPARTMENT OF REGIONAL PLANNING
Richard J. Bruckner

Anita Gutierrez, AICP
Supervising Regional Planner
Community Studies West Section

Encl: Map of Project Location
Notice of Preparation

CC: Gabrieleno Band of Mission Indians – Kizh Nation; Gabrieleno/Tongva San Gabriel Band of Mission Indians; Gabrielino/Tongva Nation; Gabrielino Tongva Indians of California Tribal Council

AG:LF

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

NOTICE OF PREPARATION

DATE: October 29, 2015

PROJECT TITLE: Willowbrook Transit Oriented District Specific Plan
County Project Number: R2015-02007
Environmental Review Number: RENVT201500136

PROJECT LOCATION: The Specific Plan area is located in the unincorporated community of Willowbrook within Los Angeles County. It is located along the I-105 Freeway and includes the junction of the Metro Blue and Green lines. The project area is approximately 10 miles south of Downtown Los Angeles and is bordered by the City of Los Angeles to the north and the City of Lynwood and the City of Compton to the east.

The County of Los Angeles is the lead agency and, after conducting an Initial Study for the Project, has determined that it will prepare an Environmental Impact Report (EIR). In compliance with Section 15082 of the California Environmental Quality Act (CEQA) Guidelines, the County of Los Angeles is sending this Notice of Preparation (NOP) to responsible agencies, interested parties, and trustee agencies responsible for natural resources that may be affected by the Project.

PROJECT LOCATION AND ENVIRONMENTAL SETTING

The Specific Plan area generally encompasses a half mile radius south of the Willowbrook/Rosa Parks Metro station, which is a major transfer point between the Metro Blue Line and Green Line. At the station, the Green Line is located in the median of the I-105 Freeway (Glenn Anderson). The Specific Plan area totals 312 acres. Major activity centers within the Specific Plan area are the Martin Luther King Jr. Medical Center, Charles R. Drew University of Medicine and Science, Kenneth Hahn Plaza, Willowbrook Library, and Martin Luther King Jr. Center for Public Health. See attached project boundary map.

North of the Specific Plan area is predominantly residential with some commercial uses. The City of Lynwood is directly adjacent to the Specific Plan's eastern border and land uses are manufacturing, public uses and commercial. South and west of the Specific Plan area is predominantly residential.

PROJECT SUMMARY

The Specific Plan has been prepared to introduce a transit oriented development (TOD) pattern to the area, which would promote active transportation and improve quality of life for residents by reducing vehicles miles traveled, improving the public realm, improving economic vitality and employment opportunities, and streamlining the environmental review process for future projects.

The Specific Plan would facilitate development by rezoning and amending General Plan land uses to include mixed uses, increased residential densities, and additional neighborhood-serving retail uses. A key part of the Specific Plan is also to preserve existing residential uses and densities in certain areas. The proposed zoning includes: Mixed Use 1 (MU-1); Mixed Use 2 (MU-2); MLK Medical; Drew Educational; Imperial Commercial; Willowbrook Residential 1; Willowbrook Residential 2; Willowbrook Residential 3; and Open Space (O-S). Overall, the Specific Plan would accommodate an additional 1,734 dwelling units and 2,630,306 square feet of non-residential land use.

The Specific Plan would largely maintain the existing street system in its current configuration, with some improvements designed to improve access, circulation, and walkability. Road diets would also be used to aid the circulation system.

The Specific Plan would improve pedestrian circulation by connecting all major activity areas through sidewalk and intersection improvements. In addition, a combination of Class I, Class II, Class III and potentially Class IV facilities would provide a connected and integrated bicycle network throughout the Specific Plan area that connects activity centers and neighborhoods to the Willowbrook/Rosa Parks Station and adjacent communities. Bicycle amenities, such as bicycle stations, would be provided at appropriate locations.

In 2012, Los Angeles County prepared the *MLK Medical Center Campus Master Plan & the Willowbrook MLK Wellness Community Vision* to guide the development of the campus. It is the County's intent that the Specific Plan serve as the regulatory document for the buildout of the campus. Future development within the campus will be required to comply with the provisions of the Specific Plan; all subsequent development within the campus will be subject to the mitigation requirements of the EIR being prepared for the Specific Plan.

The draft Specific Plan is available for viewing at http://planning.lacounty.gov/willowbrook/tod.

POTENTIAL PROJECT IMPACTS: Based on the Initial Study determination, an EIR is necessary for the proposed Project. Based on a preliminary assessment of potential environmental impacts that may occur as a result of the Project, the areas of potential environmental impact to be addressed in the Programmatic EIR will include at least the following:

Potential Hazards

- Geology/Soils
- Noise
- Hazards/Hazardous Materials

Potential Impacts to Resources

- Aesthetics
- Air Quality
- Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Land Use/Planning

Potential Impacts to Services

- Transportation/Traffic

- Public Services
- Recreation
- Utilities/Services
- Population/Housing

The only environmental factors that were not found to be potentially affected are Agriculture/Forest Resources, Biological Resources, and Mineral Resources. There are multiple mandatory findings of significance. In addition, environmental issues that do not rise to the level of significant impacts will be addressed in the EIR in a separate section entitled "Impacts Found to Be Less Than Significant."

NOTICE OF PREPARATION REVIEW AND COMMENTS

The NOP is being distributed to solicit written comments regarding the scope and content of the environmental analysis to be included in the EIR. The County has prepared this NOP in accordance with the State CEQA Guidelines.

The review period for this NOP is from **November 2, 2015 to December 1, 2015**. Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than **December 1, 2015**. Please direct all written comments to the following address:

Connie Chung, AICP
County of Los Angeles
Department of Regional Planning
320 W. Temple Street
Los Angeles, California 90012
Telephone: (213) 974-6417
Fax: (213) 626-0434
Email: cchung@planning.lacounty.gov

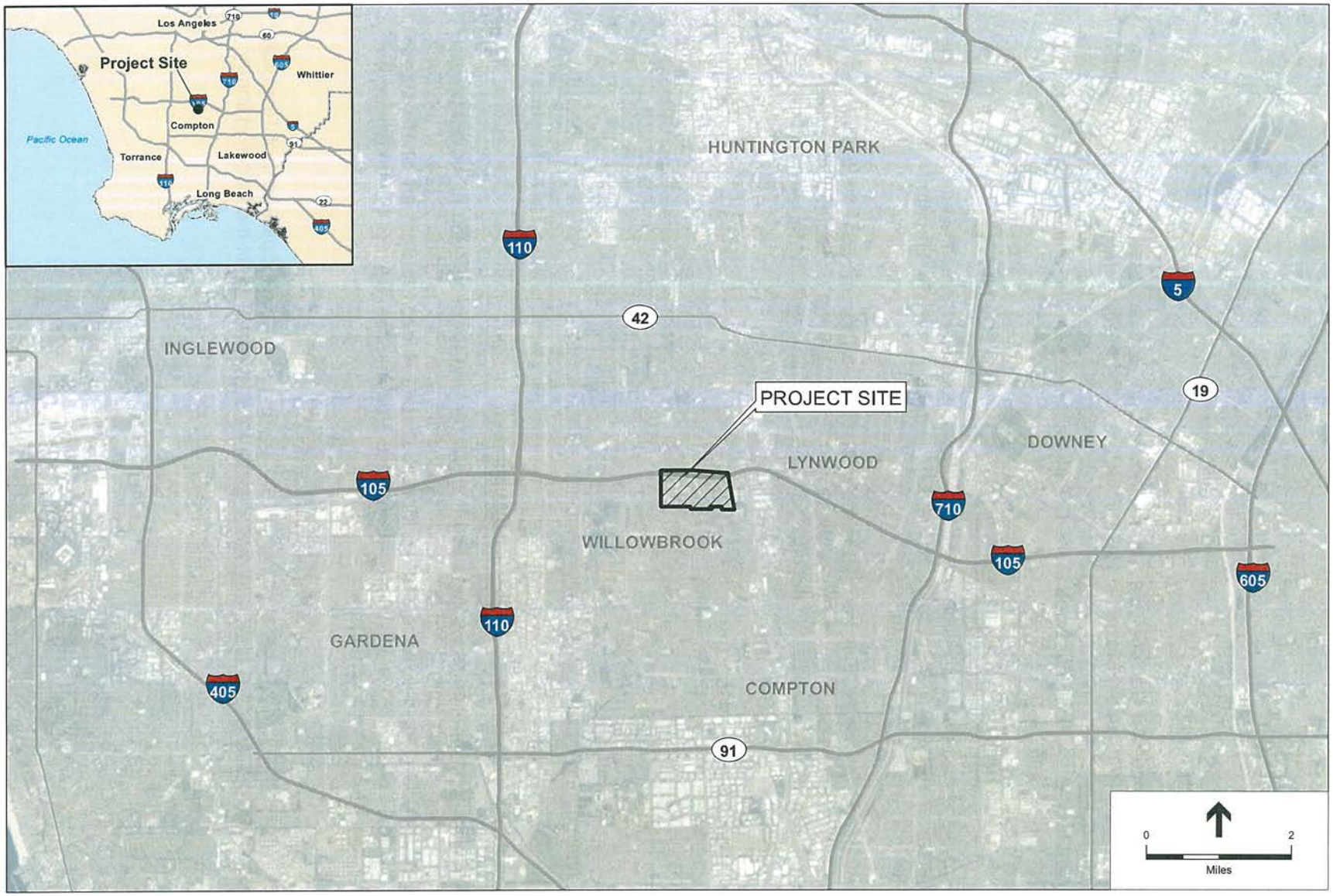
SCOPING MEETING

To assist in local participation, a Scoping Meeting will be held to present the proposed project and to solicit suggestions from the public and responsible agencies on the content of the Draft EIR. The Scoping Meeting will be held at the MLK H. Claude Hudson Auditorium, Martin Luther King, Jr. Medical Center, 12021 S. Wilmington Avenue, Los Angeles, CA, 90059, on **November 21, 2015, from 10:00 am to 12:00 pm.**

REVIEW MATERIALS

Additional copies of this NOP are available for public review on the Department of Regional Planning website: http://planning.lacounty.gov/willowbrook/tod as well as at the following library:

Willowbrook Library
11838 Wilmington Ave
Los Angeles, CA 90059



SOURCE: ESRI

Willowbrook TOD Specific Plan . 130631

Figure 1

Regional Location

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

February 2, 2017

Robert Dorame, Chairperson
Gabrielino Tongva Indians of California Tribal Council
PO Box 490
Bellflower, CA 90707

SUBJECT: SENATE BILL (SB) 18 CONSULTATION (GOVERNMENT CODE §65352.3)
WILLOWBROOK TRANSIT ORIENTED DISTRICT SPECIFIC PLAN
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DEPARTMENT OF REGIONAL PLANNING
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Encl: Map of Project Location
Notice of Preparation

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AG:LF

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

NOTICE OF PREPARATION

DATE: October 29, 2015

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County Project Number: R2015-02007
Environmental Review Number: RENVT201500136

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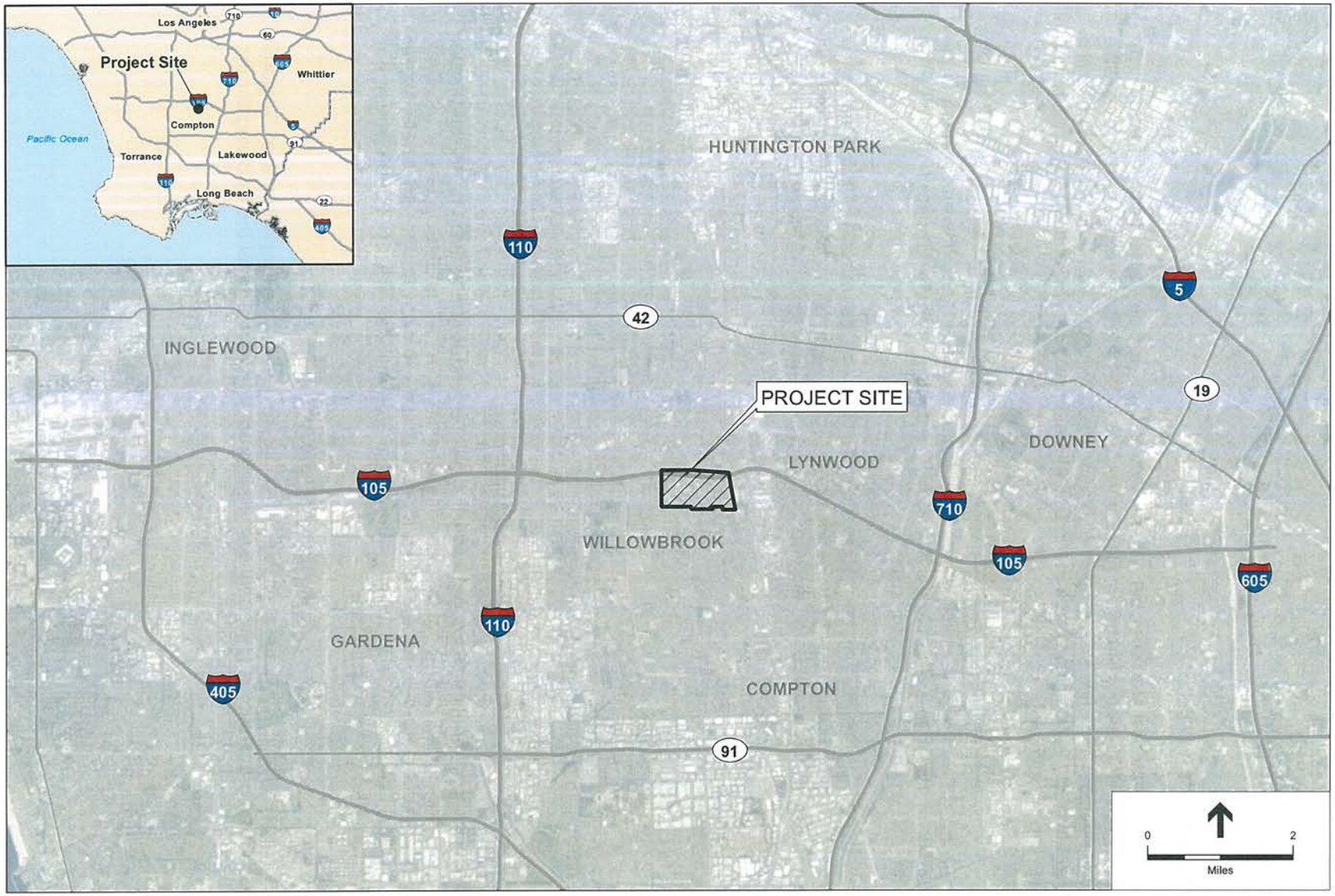
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Figure 1

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Planning for the Challenges Ahead

Richard J. Bruckner
Director

February 2, 2017

Sandonne Goad, Chairperson
Gabrielino/Tongva Nation
106 ½ Judge John Also Street #231
Los Angeles, CA 90012

SUBJECT: SENATE BILL (SB) 18 CONSULTATION (GOVERNMENT CODE §65352.3)
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DEPARTMENT OF REGIONAL PLANNING
Richard J. Bruckner

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Encl: Map of Project Location
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AG:LF

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

NOTICE OF PREPARATION

DATE: October 29, 2015

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County Project Number: R2015-02007
Environmental Review Number: RENVT201500136

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- Noise
- Hazards/Hazardous Materials

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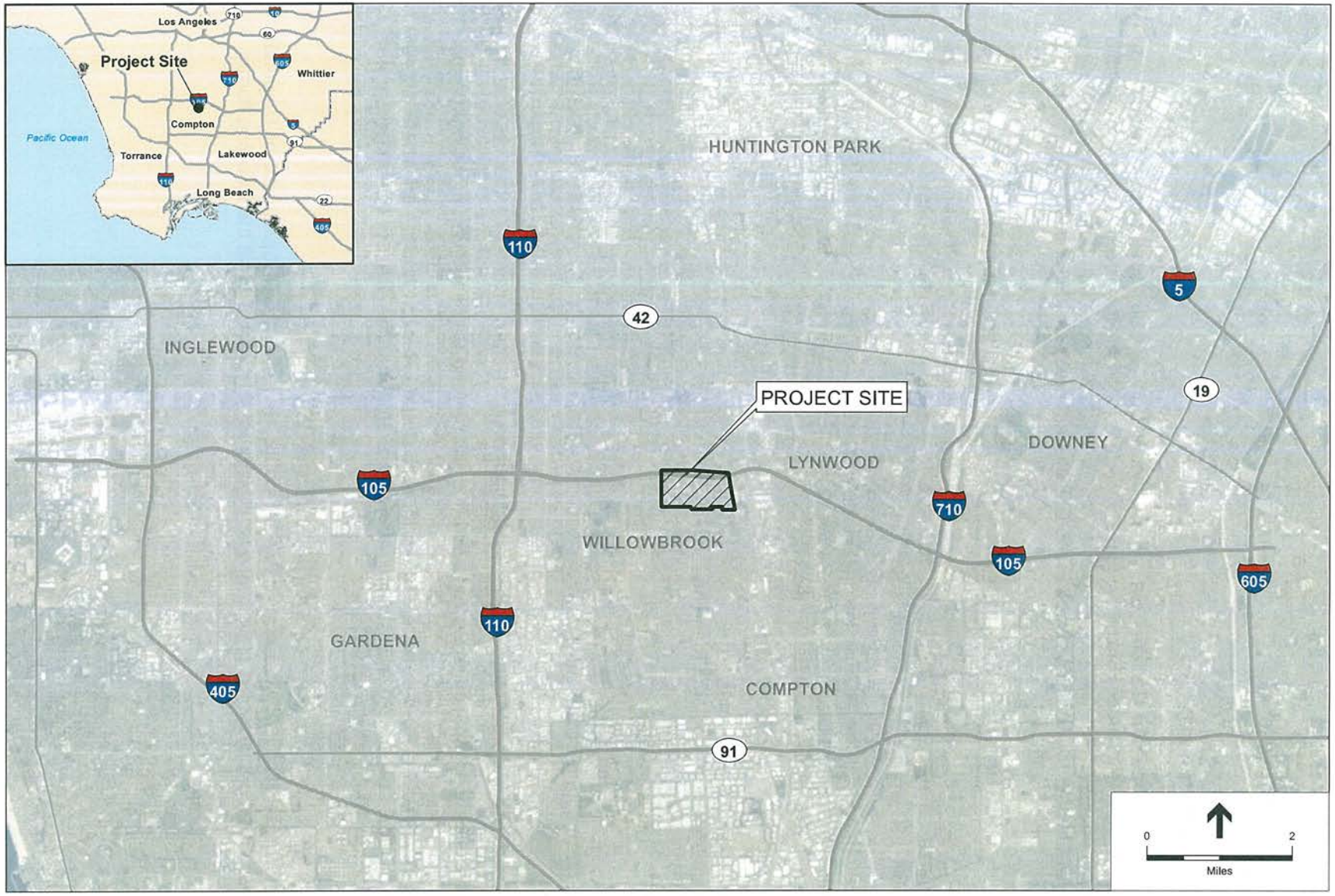
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Los Angeles, CA 90059



SOURCE: ESRI

Willowbrook TOD Specific Plan . 130631

Figure 1

Regional Location

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

February 2, 2017

Anthony Morales, Chairperson
Gabrieleno/Tongva San Gabriel Band of Mission Indians
PO Box 693
San Gabriel, CA 91778

SUBJECT: SENATE BILL (SB) 18 CONSULTATION (GOVERNMENT CODE §65352.3)
WILLOWBROOK TRANSIT ORIENTED DISTRICT SPECIFIC PLAN
PROJECT NO. R2015-02007–(2)
RSPT201500001 RZCT201500006
RADVT201500004 RENVT201500136
RPAT201500005

The Native American Heritage Commission (NAHC) has identified your tribe as one with traditional lands or cultural places located within the proposed boundary of the above-referenced project. Because this project requires the amendment of the General Plan and adoption of a Specific Plan, it is subject to the SB 18 Tribal Consultation requirements (Government Code Section 65352.3). This letter serves as a formal notification and invitation to consult with the County of Los Angeles on the proposed project identified above.

The project area is located in the Willowbrook community, which is an unincorporated community within Los Angeles County. It is located along the I-105 Freeway at the Wilmington Avenue interchange, and at the junction of the Metro Blue and Green lines. The project area is approximately 10 miles south of Downtown Los Angeles and is bordered by the City of Los Angeles to the north and the City of Lynwood and City of Compton to the east. The project area is bounded by Compton Avenue, Imperial Highway, Mona Boulevard and 121st/122nd Streets. A map depicting the project site location is enclosed for your reference.

Project Description: The proposed Specific Plan is a planning document that has been prepared to introduce a transit oriented development pattern to the area, which would promote active transportation and improve quality of life for residents by reducing vehicle miles traveled, improving the public realm, improving economic vitality and employment opportunities, and streamlining the environmental review process for future projects. The proposed Specific Plan would facilitate development by rezoning and amending the General Plan land uses of parcels within a half mile radius south of the Willowbrook/Rosa Parks Station to include mixed uses, increased housing densities, and additional neighborhood-serving retail uses.

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320 West Temple Street ▪ Los Angeles, CA 90012 ▪ 213-974-6411 ▪ Fax: 213-626-0434 ▪ TDD: 213-617-2292

American Tribes with traditional lands or cultural places located within the proposed project site. This letter was sent to each of the listed tribes.

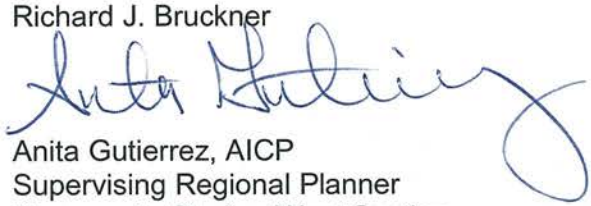
Your participation in this local planning process is important. Pursuant to Government Code Section 65352.3(a)(2), you have 90 days from the receipt of this letter to request consultation with the County of Los Angeles. Please submit your request to the contact information listed below.

Lead Agency Contact Information:

Leon Freeman, Regional Planning Assistant II
Community Studies West Section
Department of Regional Planning
320 W. Temple Street, Room 1356
Los Angeles, CA 90012
Tel: (213) 974-6406
Email: LFreeman@planning.lacounty.gov

Sincerely,

DEPARTMENT OF REGIONAL PLANNING
Richard J. Bruckner



Anita Gutierrez, AICP
Supervising Regional Planner
Community Studies West Section

Encl: Map of Project Location
Notice of Preparation

CC: Gabrieleno Band of Mission Indians – Kizh Nation; Gabrielino/Tongva Nation; Gabrielino Tongva Indians of California Tribal Council; Gabrielino-Tongva Tribe

AG:LF

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

NOTICE OF PREPARATION

DATE: October 29, 2015

PROJECT TITLE: Willowbrook Transit Oriented District Specific Plan
County Project Number: R2015-02007
Environmental Review Number: RENVT201500136

PROJECT LOCATION: The Specific Plan area is located in the unincorporated community of Willowbrook within Los Angeles County. It is located along the I-105 Freeway and includes the junction of the Metro Blue and Green lines. The project area is approximately 10 miles south of Downtown Los Angeles and is bordered by the City of Los Angeles to the north and the City of Lynwood and the City of Compton to the east.

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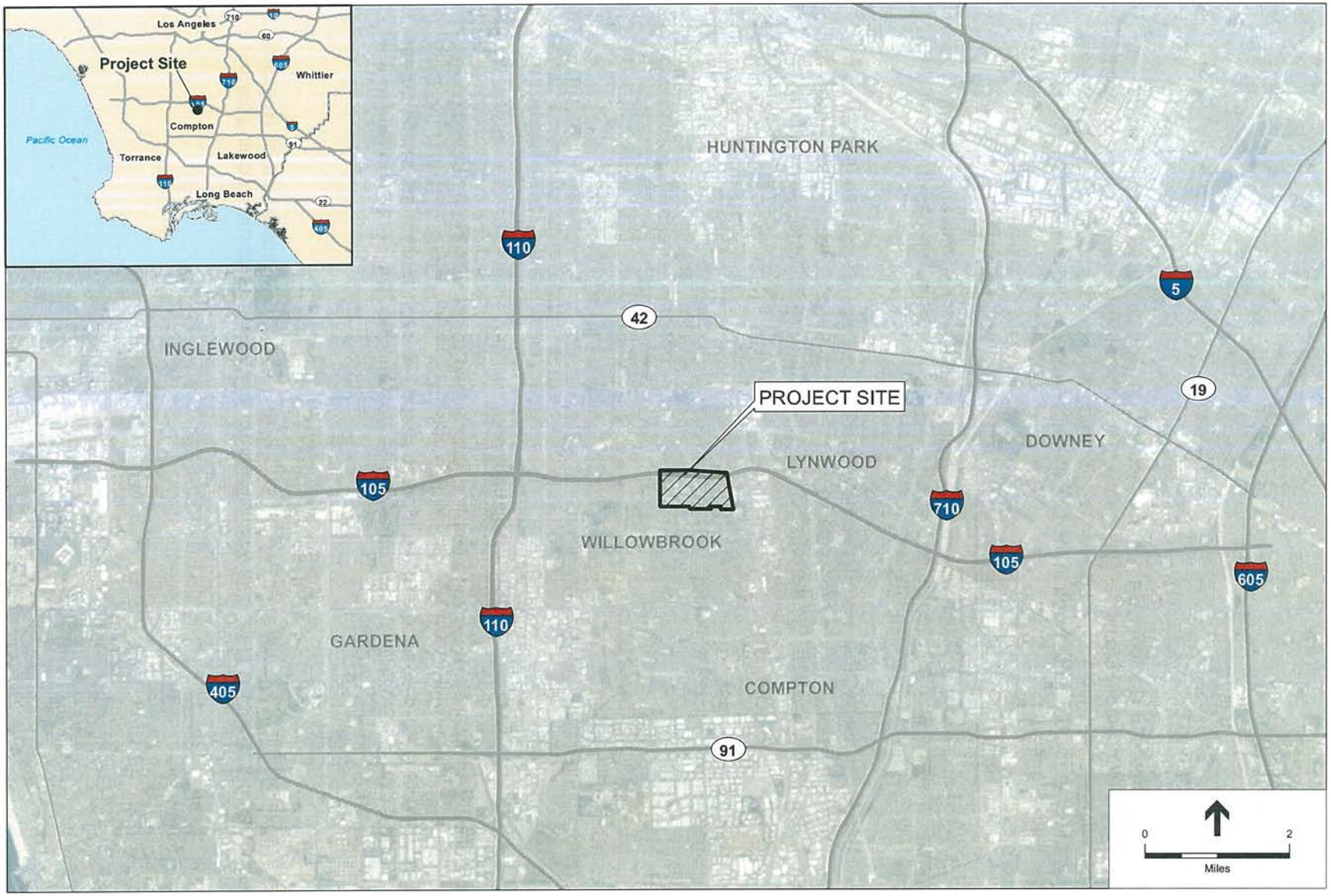
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SOURCE: ESRI

Willowbrook TOD Specific Plan . 130631

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Los Angeles County
Department of Regional Planning

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Richard J. Bruckner
Director

February 2, 2017

Andrew Salas, Chairman
Gabrieleno Band of Mission Indians – Kizh Nation
PO Box 393
Covina, CA 91723

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Encl: Map of Project Location
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CC: Gabrieleno/Tongva San Gabriel Band of Mission Indians; Gabrielino/Tongva Nation; Gabrielino Tongva Indians of California Tribal Council; Gabrielino-Tongva Tribe

AG:LF

Los Angeles County
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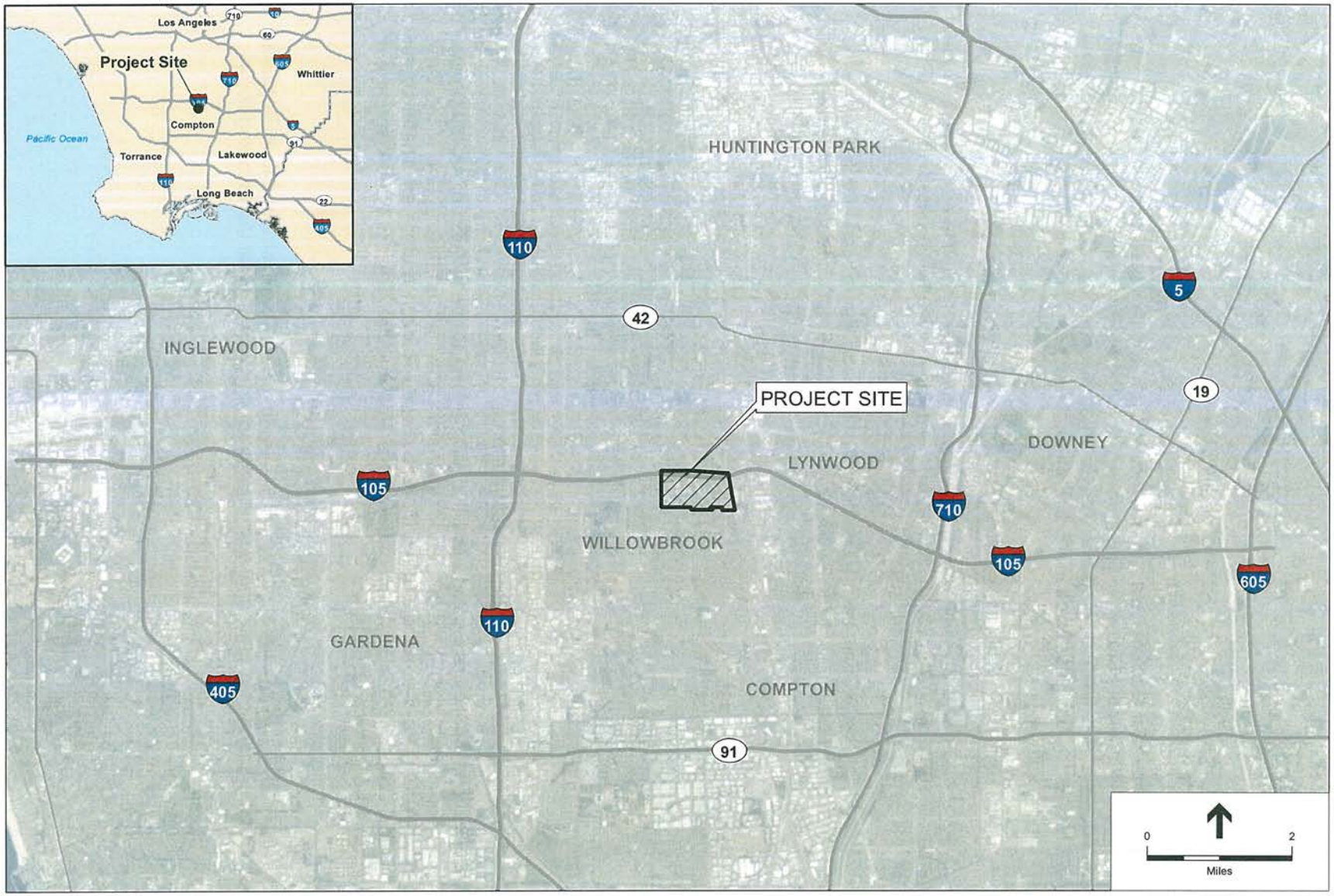
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SOURCE: ESRI

Willowbrook TOD Specific Plan . 130631

Figure 1

Regional Location

GABRIELENO BAND OF MISSION INDIANS - KIZH NATION
Historically known as The San Gabriel Band of Mission Indians
Recognized by the State of California as the aboriginal tribe of the Los Angeles basin

Dear Leon Freeman
Regional Planning Assistant ll

Subject: SB18 Formal Notification – Willow brook TOD Specific Plan

"The project locale lies in an area where the Ancestral & traditional territories of the Kizh(Kitc) Gabrieleño villages , adjoined and overlapped with each other, at least during the Late Prehistoric and Protohistoric Periods. The homeland of the Kizh (Kitc) Gabrieleños , probably the most influential Native American group in aboriginal southern California (Bean and Smith 1978a:538 https://nrmsecure.dfg.ca.gov/FileHandler.ashx?DocumentID=9497 *), was centered in the Los Angeles Basin, and reached as far east as the San Bernardino-Riverside area. The homeland of the Serranos was primarily the San Bernardino Mountains, including the slopes and lowlands on the north and south flanks. Whatever the linguistic affiliation, Native Americans in and around the project area exhibited similar organization and resource procurement strategies. Villages were based on clan or lineage groups. Their home/ base sites are marked by midden deposits, often with bedrock mortars. During their seasonal rounds to exploit plant resources, small groups would migrate within their traditional territory in search of specific plants and animals. Their gathering strategies often left behind signs of special use sites, usually grinding slicks on bedrock boulders, at the locations of the resources. Therefore, in order to protect our resources we're requesting one of our experienced & certified Native American monitors to be on site during any & all ground disturbances (this includes but is not limited to pavement removal, pot-holing or grubbing, auguring, boring, grading, excavation and trenching).*

In all cases, when the NAHC states there are "No" records of sacred sites" in the subject area; they always refer the contractors back to the Native American Tribes whose tribal territory the project area is in. This is due to the fact, that the NAHC is only aware of general information on each California NA Tribe they are "NOT " the "experts" on our Tribe. Our Elder Committee & Tribal Historians are the experts and is the reason why the NAHC will always refer contractors to the local tribes.

In addition, we are also often told that an area has been previously developed or disturbed and thus there are no concerns for cultural resources and thus minimal impacts would be expected. I have two major recent examples of how similar statements on other projects were proven very inadequate. An archaeological study claimed there would be no impacts to an area adjacent to the Plaza Church at Olvera Street, the original Spanish settlement of Los Angeles, now in downtown Los Angeles. In fact, this site was the Gabrieleno village of Yangna long before it became what it is now today. The new development wrongfully began their construction and they, in the process, dug up and desecrated 118 burials. The area that was dismissed as culturally sensitive was in fact the First Cemetery of Los Angeles where it had been well documented at the Huntington Library that 400 of our Tribe's ancestors were buried there along with the founding families of Los Angeles (Pico's, Sepulveda's, and Alvarado's to name a few). In addition, there was another inappropriate study for the development of a new sports complex at Fedde Middle School in the City of Hawaiian Gardens could commence. Again, a village and burial site were desecrated despite their mitigation measures. Thankfully, we were able to work alongside the school district to quickly and respectfully mitigate a mutually beneficial resolution.

Given all the above, the proper thing to do for your project would be for our Tribe to monitor ground disturbing construction work. Native American monitors and/or consultant can see that cultural resources are treated appropriately from the Native American point of view. Because we are the lineal descendants of the vast area of Los Angeles and Orange Counties, we hold sacred the ability to protect what little of our culture remains. We thank you for taking seriously your role and responsibility in assisting us in preserving our culture.

With respect,

Please contact our office regarding this project to coordinate a Native American Monitor to be present. Thank You

Andrew Salas, Chairman
Nadine Salas, Vice-Chairman
Christina Swindall Martinez, secretary
Albert Perez, treasurer I
Martha Gonzalez Lemos, treasurer II
Richard Gradias, Chairman of the council of Elders

PO Box 393 Covina, CA 91723 www.gabrielenoindians@yahoo.com gabrielenoindians@yahoo.com

Andrew Salas, Chairman
Cell (626) 926-4131
Addendum: clarification regarding some confusions regarding consultation under AB52:

AB52 clearly states that consultation must occur with tribes that claim traditional and cultural affiliation with a project site. Unfortunately, this statement has been left open to interpretation so much that neighboring tribes are claiming affiliation with projects well outside their traditional tribal territory. The territories of our surrounding Native American tribes such as the Luiseno, Chumash, and Cahuilla tribal entities. Each of our tribal territories has been well defined by historians, ethnographers, archaeologists, and ethnographers – a list of resources we can provide upon request. Often, each Tribe as well educates the public on their very own website as to the definition of their tribal boundaries. You may have received a consultation request from another Tribe. However we are responding because your project site lies within our Ancestral tribal territory, which, again, has been well documented. What does Ancestrally or Ancestral mean? The people who were in your family in past times, Of, belonging to, inherited from, or denoting an ancestor or ancestors http://www.thefreedictionary.com/ancestral. . If you have questions regarding the validity of the "traditional and cultural affiliation" of another Tribe, we urge you to contact the Native American Heritage Commission directly. Section 5 section 21080.3.1 (c) states "…the Native American Heritage Commission shall assist the lead agency in identifying the California Native American tribes that are traditionally and culturally affiliated with the project area." In addition, ***please see the map below.***

CC: NAHC

APPENDIX 1: Map 1-2; Bean and Smith 1978 map.

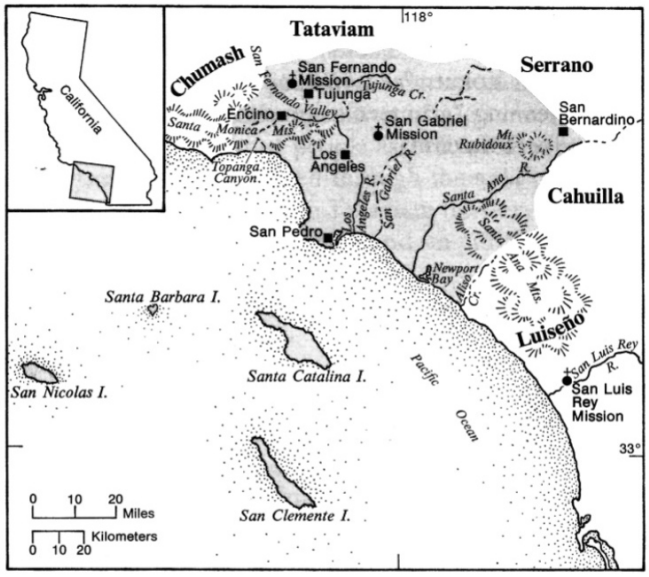


Fig. 1. Tribal territory.

The United States National Museum's Map of Gabrielino Territory:

Bean, Lowell John and Charles R. Smith
1978 Gabrielino IN *Handbook of North American Indians, California,* Vol. 8, edited by R.F. Heizer, Smithsonian Institution Press, Washington, D.C., pp. 538-549

C-2 AB52 Consultation Correspondence

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

January 30, 2017

Andrew Salas, Chairman
Gabrieleno Band of Mission Indians – Kizh Nation
PO Box 393
Covina, CA 91723

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of the Proposed Project pursuant to Public Resources Code (PRC) §21080.3.1.

The Los Angeles County Department of Regional Planning is issuing this formal notification of the proposed project. Below please find a description of the proposed project, a map showing the project location, and our contact information along with the name of our point of contact, pursuant to PRC §21080.3.1(d).

Proposed Project: Willowbrook Transit Oriented District Specific Plan
Project No. R2015-02007–(2)
RSPT201500001 RZCT201500006
RADVT201500004 RENVT201500136
RPAT201500005

Project Description: The proposed Specific Plan is a planning document that has been prepared to introduce a transit oriented development pattern to the area, which would promote active transportation and improve quality of life for residents by reducing vehicle miles traveled, improving the public realm, improving economic vitality and employment opportunities, and streamlining the environmental review process for future projects. The proposed Specific Plan would facilitate development by rezoning and amending the General Plan land uses of parcels within a half mile radius south of the Willowbrook/Rosa Parks Station to include mixed uses, increased housing densities, and additional neighborhood-serving retail uses.

Project Location: The Specific Plan area is located in the Willowbrook community, which is an unincorporated community within Los Angeles County. It is located along the I-105 Freeway at the Wilmington Avenue interchange, and at the junction of the Metro Blue and Green lines. The project area is approximately 10 miles south of Downtown Los Angeles and is bordered by the City of Los Angeles to the north and the City of Lynwood and City of Compton to the east (**Figure 1, Regional Location**). The plan area is bounded by Compton Avenue, Imperial Highway, Mona Boulevard and 121st/122nd Streets.

Lead Agency Contact Information:

Leon Freeman, Regional Planning Assistant II
Community Studies West Section
Department of Regional Planning
320 W. Temple Street, Room 1356
Los Angeles, CA 90012
Tel: (213) 974-6406
Email: LFreeman@planning.lacounty.gov

Pursuant to PRC §21080.3.1(b), you have 30 days from the receipt of this letter to request consultation, in writing, with the Department of Regional Planning. Written request must be submitted to the contact information listed above.

Our office hours are Monday through Thursday, 7:00 a.m. to 5:30 p.m. We are closed on Fridays.

Sincerely,
DEPARTMENT OF REGIONAL PLANNING
Richard J. Bruckner

Anita Gutierrez, AICP
Supervising Regional Planner
Community Studies West Section

Encl: Notice of Preparation, Regional Location Map

AG:LF

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

NOTICE OF PREPARATION

DATE: October 29, 2015

PROJECT TITLE: Willowbrook Transit Oriented District Specific Plan
County Project Number: R2015-02007
Environmental Review Number: RENVT201500136

PROJECT LOCATION: The Specific Plan area is located in the unincorporated community of Willowbrook within Los Angeles County. It is located along the I-105 Freeway and includes the junction of the Metro Blue and Green lines. The project area is approximately 10 miles south of Downtown Los Angeles and is bordered by the City of Los Angeles to the north and the City of Lynwood and the City of Compton to the east.

The County of Los Angeles is the lead agency and, after conducting an Initial Study for the Project, has determined that it will prepare an Environmental Impact Report (EIR). In compliance with Section 15082 of the California Environmental Quality Act (CEQA) Guidelines, the County of Los Angeles is sending this Notice of Preparation (NOP) to responsible agencies, interested parties, and trustee agencies responsible for natural resources that may be affected by the Project.

PROJECT LOCATION AND ENVIRONMENTAL SETTING

The Specific Plan area generally encompasses a half mile radius south of the Willowbrook/Rosa Parks Metro station, which is a major transfer point between the Metro Blue Line and Green Line. At the station, the Green Line is located in the median of the I-105 Freeway (Glenn Anderson). The Specific Plan area totals 312 acres. Major activity centers within the Specific Plan area are the Martin Luther King Jr. Medical Center, Charles R. Drew University of Medicine and Science, Kenneth Hahn Plaza, Willowbrook Library, and Martin Luther King Jr. Center for Public Health. See attached project boundary map.

North of the Specific Plan area is predominantly residential with some commercial uses. The City of Lynwood is directly adjacent to the Specific Plan's eastern border and land uses are manufacturing, public uses and commercial. South and west of the Specific Plan area is predominantly residential.

PROJECT SUMMARY

The Specific Plan has been prepared to introduce a transit oriented development (TOD) pattern to the area, which would promote active transportation and improve quality of life for residents by reducing vehicles miles traveled, improving the public realm, improving economic vitality and employment opportunities, and streamlining the environmental review process for future projects.

The Specific Plan would facilitate development by rezoning and amending General Plan land uses to include mixed uses, increased residential densities, and additional neighborhood-serving retail uses. A key part of the Specific Plan is also to preserve existing residential uses and densities in certain areas. The proposed zoning includes: Mixed Use 1 (MU-1); Mixed Use 2 (MU-2); MLK Medical; Drew Educational; Imperial Commercial; Willowbrook Residential 1; Willowbrook Residential 2; Willowbrook Residential 3; and Open Space (O-S). Overall, the Specific Plan would accommodate an additional 1,734 dwelling units and 2,630,306 square feet of non-residential land use.

The Specific Plan would largely maintain the existing street system in its current configuration, with some improvements designed to improve access, circulation, and walkability. Road diets would also be used to aid the circulation system.

The Specific Plan would improve pedestrian circulation by connecting all major activity areas through sidewalk and intersection improvements. In addition, a combination of Class I, Class II, Class III and potentially Class IV facilities would provide a connected and integrated bicycle network throughout the Specific Plan area that connects activity centers and neighborhoods to the Willowbrook/Rosa Parks Station and adjacent communities. Bicycle amenities, such as bicycle stations, would be provided at appropriate locations.

In 2012, Los Angeles County prepared the *MLK Medical Center Campus Master Plan & the Willowbrook MLK Wellness Community Vision* to guide the development of the campus. It is the County's intent that the Specific Plan serve as the regulatory document for the buildout of the campus. Future development within the campus will be required to comply with the provisions of the Specific Plan; all subsequent development within the campus will be subject to the mitigation requirements of the EIR being prepared for the Specific Plan.

The draft Specific Plan is available for viewing at http://planning.lacounty.gov/willowbrook/tod.

POTENTIAL PROJECT IMPACTS: Based on the Initial Study determination, an EIR is necessary for the proposed Project. Based on a preliminary assessment of potential environmental impacts that may occur as a result of the Project, the areas of potential environmental impact to be addressed in the Programmatic EIR will include at least the following:

Potential Hazards

- Geology/Soils
- Noise
- Hazards/Hazardous Materials

Potential Impacts to Resources

- Aesthetics
- Air Quality
- Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Land Use/Planning

Potential Impacts to Services

- Transportation/Traffic

- Public Services
- Recreation
- Utilities/Services
- Population/Housing

The only environmental factors that were not found to be potentially affected are Agriculture/Forest Resources, Biological Resources, and Mineral Resources. There are multiple mandatory findings of significance. In addition, environmental issues that do not rise to the level of significant impacts will be addressed in the EIR in a separate section entitled "Impacts Found to Be Less Than Significant."

NOTICE OF PREPARATION REVIEW AND COMMENTS

The NOP is being distributed to solicit written comments regarding the scope and content of the environmental analysis to be included in the EIR. The County has prepared this NOP in accordance with the State CEQA Guidelines.

The review period for this NOP is from **November 2, 2015 to December 1, 2015**. Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than **December 1, 2015**. Please direct all written comments to the following address:

Connie Chung, AICP
County of Los Angeles
Department of Regional Planning
320 W. Temple Street
Los Angeles, California 90012
Telephone: (213) 974-6417
Fax: (213) 626-0434
Email: cchung@planning.lacounty.gov

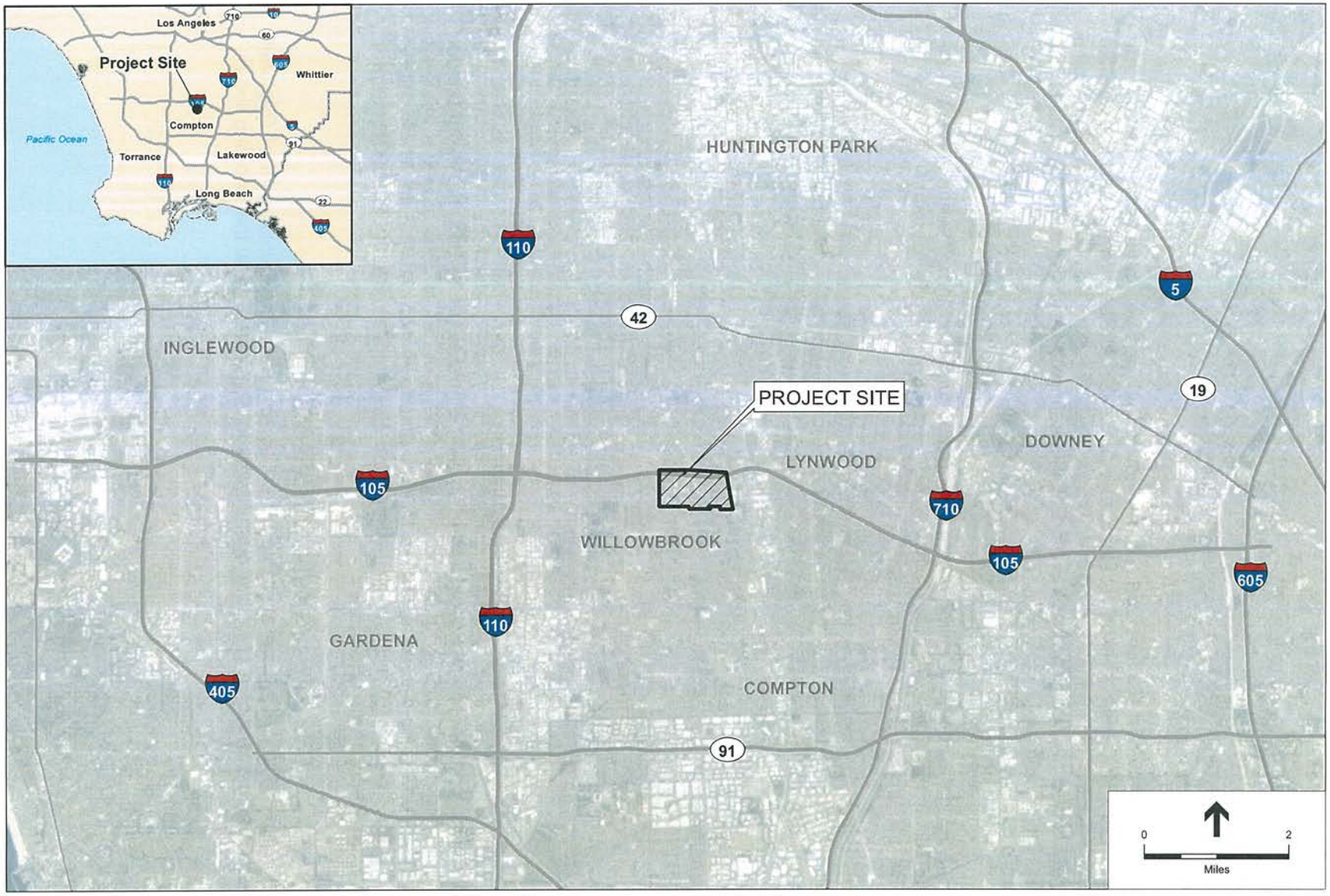
SCOPING MEETING

To assist in local participation, a Scoping Meeting will be held to present the proposed project and to solicit suggestions from the public and responsible agencies on the content of the Draft EIR. The Scoping Meeting will be held at the MLK H. Claude Hudson Auditorium, Martin Luther King, Jr. Medical Center, 12021 S. Wilmington Avenue, Los Angeles, CA, 90059, on **November 21, 2015, from 10:00 am to 12:00 pm.**

REVIEW MATERIALS

Additional copies of this NOP are available for public review on the Department of Regional Planning website: http://planning.lacounty.gov/willowbrook/tod as well as at the following library:

Willowbrook Library
11838 Wilmington Ave
Los Angeles, CA 90059



SOURCE: ESRI

Willowbrook TOD Specific Plan . 130631

Figure 1

Regional Location

GABRIELENO BAND OF MISSION INDIANS - KIZH NATION
Historically known as The San Gabriel Band of Mission Indians
recognized by the State of California as the aboriginal tribe of the Los Angeles basin

AB 52 - 30-day Consultation Notice

Project name**: Tribal Cultural Resources under the California Environmental Quality Act AB 52 (Gatto, 2014). Formal Notification of the Proposed Project pursuant to Public Resources Code (PRC).**

Dear Leon Freeman,

February 9, 2017

Please find this letter in response to your request for consultation dated January 30, 2017. I have reviewed the project site and do have concerns for cultural resources. Your project lies in an area where the Ancestral territories of the Kizh (Kitc) Gabrieleño's prominent villages adjoined and overlapped with each other, at least during the Late Prehistoric and Protohistoric Periods. The Kizh Gabrieleño were probably the most influential Native American group in aboriginal southern California (Bean and Smith 1978a:538; https://nrmsecure.dfg.ca.gov/FileHandler.ashx?DocumentID=9497**)**. Our homeland was centered in the Los Angeles Basin, and reached as far east as the San Bernardino-Riverside area. The homeland of our neighbors, the Serranos, was primarily the San Bernardino Mountains, including the slopes and lowlands on the north and south flanks. Whatever the linguistic affiliation, Native Americans in and around the project area exhibited similar organization and resource procurement strategies. Villages were based on clan or lineage groups. Their home base sites are marked by midden deposits often with bedrock mortars. During their seasonal rounds to exploit plant resources, small groups would migrate within their traditional territory in search of specific plants and animals. Their gathering strategies of ten left behind signs of special use sites, usually grinding slicks on bedrock boulders, at the locations of the resources.

Due to the project location and the high sensitivity of the area location, we would like to request one of our certified Native American monitors to be on site during any and all ground disturbances (including but not limited to pavement removal, post holing, auguring, boring, grading, excavation and trenching) to protect any cultural resources which may be affected during construction or development. When the Native American Heritage Commission states there are "no records of sacred sites in the project area," they will always refer lead agencies to the respective Native American Tribe. The NAHC is only aware of general information and are not the experts on each California Tribe. Our Elder Committee & Tribal Historians are the experts for our Tribe and are able to provide a more complete history (both written and oral) regarding the location of historic villages, trade routes, cemeteries and sacred/religious sites in the project area. In some instances, the project location may be in an area that has been previously developed and one may question the need for monitoring. Unfortunately, we have numerous examples that we can share where cultural resources including human remains were outright destroyed or at least significantly impacted before a Tribe was present. Please note, if sacred sites haven't been listed with the NAHC, it doesn't mean that they aren't there. Not everyone reports what they know.

The recent implementation of AB52 dictates that lead agencies consult with Native American Tribes who can prove and document traditional and cultural affiliation with the area of said project. Our tribe is connected ancestrally to your project location area. What does "ancestrally" or "ancestral" mean? It simply means the people who were in your family in past times - of, belonging to, inherited from, or denoting an ancestor or ancestors (see http://www.thefreedictionary.com/ancestral). Our main priority is to avoid and protect cultural and biological resources that still exist in our ancestral land for the benefit and education of future generations. We hold strongly to the values of accomplishing this goal without delay or conflicts to the lead agency and project manager.

At your convenience, we are available for consultations via phone or in person. Thank you.

CC: NAHC

With respect,

Andrew Salas, Chairman
Nadine Salas, Vice-Chairman
Christina Swindall Martinez, secretary
Albert Perez, treasurer I
Martha Gonzalez Lemos, treasurer II
Richard Gradias, Chairman of the council of Elders

PO Box 393 Covina, CA 91723 www.gabrielenoindians@yahoo.com gabrielenoindians@yahoo.com

Andrew Salas, Chairman
cell (626)926-4131

Andrew Salas, Chairman
Nadine Salas, Vice-Chairman
Christina Swindall Martinez, secretary
Albert Perez, treasurer I
Martha Gonzalez Lemos, treasurer II
Richard Gradias, Chairman of the council of Elders

PO Box 393 Covina, CA 91723
www.gabrielenoindians@yahoo.com
gabrielenoindians@yahoo.com

From: Leon Freeman
Sent: Monday, April 17, 2017 4:10 PM
To: 'Andy' <gabrielenoindians@yahoo.com>
Cc: Matt Teutimez.Kizh Gabrieleno <matt.teutimez@gmail.com>; Anita Gutierrez <agutierrez@planning.lacounty.gov>
Subject: SB 18 and AB 52 Consultation (Willowbrook TOD Specific Plan)

Dear Chairman Salas,

Thank you engaging in consultation with us regarding the proposed Willowbrook Transit Oriented District Specific Plan, as provided for in SB 18 and AB 52.

The Department of Regional Planning received your letters requesting consultation under SB 18 and AB 52, both dated February 9, 2017, in which you provided background reference information and requested a Kizh Nation certified Native American monitor to be on site during any and all ground disturbances (including but not limited to pavement removal, post holing, auguring, boring, grading, excavation and trenching).

Subsequently, we engaged in consultation via telephone on March 13, 2017, and in-person on April 4, 2017. In our meetings, we discussed potential tribal cultural resources that could be present in the area and your suggested mitigation measures. We also discussed the challenges related to a project-level document versus a plan-level document like the Willowbrook Transit Oriented District Specific Plan, which does not authorize actual ground disturbance or construction. While we are not able to incorporate your suggested mitigations for an on-site monitor for every ground disturbance, we can agree to a mitigation measure that provides for Native American tribes to be contacted if resources are encountered in the project area. This language shall be recommended for inclusion in the project environmental document.

During project-level construction, should prehistoric or historic subsurface cultural resources be discovered, all activity in the vicinity of the find shall stop and a qualified archaeologist will be contacted to assess the significance of the find according to CEQA Guidelines Section 15064.5. If any find is determined to be significant, the archaeologist shall determine, in consultation with the County, and local Native American groups expressing interest, appropriate avoidance measures or other appropriate mitigation. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant cultural resources. Methods of avoidance may include, but shall not be limited to, project re-route or re-design, project cancellation, or identification of protection measures such as capping or fencing. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. All significant cultural materials recovered will be, as necessary and at the discretion of the consulting archaeologist and in consultation with local Native American groups expressing interest, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.

We also discussed incorporating some language into the plan document itself that references the historical significance of the early Gabrielinos in Southern California. On April 11, 2017, we provided you with draft text for your input and requested some images to include. The current language is as follows:

Early Peoples
The project site is located within the territory of the native population known as the Gabrielino. Prior to European contact, the Gabrielino occupied a diverse area that included the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and offshore islands. They were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply and some measure of protection from flooding. Community populations generally ranged from 50-100 inhabitants, although larger settlements may have existed. Houses were made of tule mats on a framework of poles. Basketry and steatite vessels were used rather than ceramics; ceramics became common only toward the end of the Mission Period in the nineteenth century.

The Department of Regional Planning met with representatives of the Gabrielino Band of Mission Indians - Kizh Nation, to determine whether known tribal cultural resources are present in the project area. While specific resources have not yet been identified, the project area is proximate to a known early trade route that connected to the coast at San Pedro. Additionally, its characteristics of being relatively near historical water sources and hunting grounds would have been favorable to settlement. As is common in Southern California, it's possible that artifacts with tribal significance could be discovered in the Specific Plan Area in activities that involve ground disturbance. Therefore, these activities should be undertaken with care to adequately protect potential resources.

Please note that under our current schedule constraints, if we do not receive input from you on the historical language **before Monday, April 24, 2017,** we will plan to include the text as indicated.

This concludes our consultation. If you have any questions or need further information, please feel free to contact me.

Again thanks,
Leon

C-3 NAHC Sacred Lands File Search

ESA

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

January 26, 2017

Gayle Totton
Native American Heritage Commission
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
FAX 916.373.5471

Subject: SLF Search Request for the Willowbrook Transit Oriented Specific Plan Project, Community of Willowbrook, Los Angeles County, California (D130631.00)

Dear Ms. Tutton:

Environmental Science Associates (ESA) is preparing a Program Environmental Impact Report (PEIR) for the proposed Willowbrook Transit Oriented Specific Plan. The Specific Plan area is approximately 312 acres and is located within the northwestern portion of the unincorporated Willowbrook community. The proposed Specific Plan would amend General Plan Land Use designations of several individual parcels to provide consistency with the General Plan policy direction for mixed use parcels along transportation corridors. In addition, the proposed Specific Plan would facilitate transit oriented development by establishing a new Specific Plan zone for the project area. Within the Specific Plan zone, new designations for land uses would be implemented. Further, minor changes/improvements to the existing street system would be implemented to improve access, circulation, and walkability between the major land uses within the Specific Plan area, such as the MLK Medical Center, CDU, Kenneth Hahn Plaza, Willowbrook Library, Martin Luther King, Jr. Center for Public Health, and the Willowbrook/Rosa Parks Metro Station. The specific plan area is currently developed.

The enclosed map shows the specific plan project area located in:

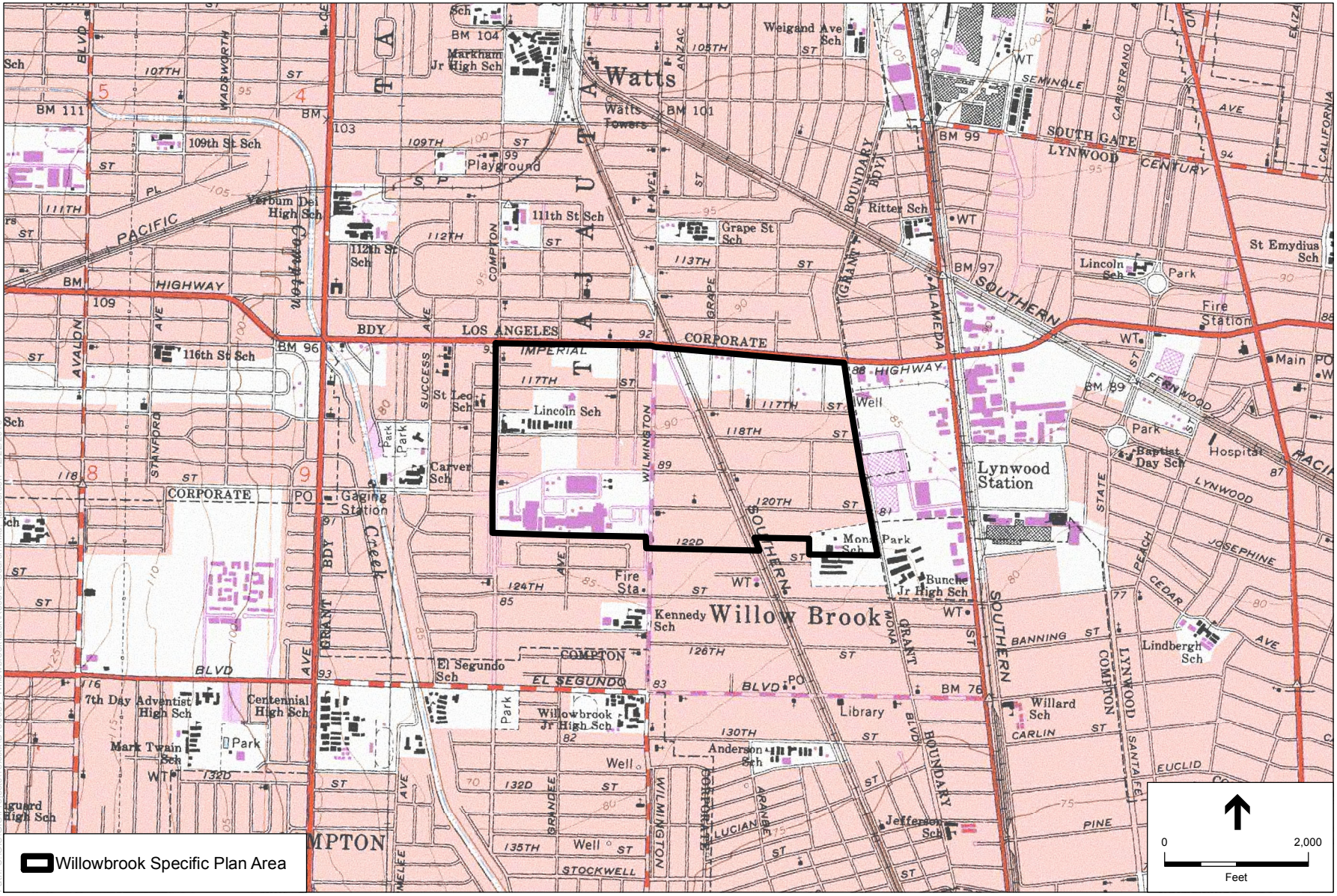
- Un-sectioned area of the South Gate USGS 7.5' Quadrangle, Township 3 South, Range 13 West.

In an effort to provide an adequate appraisal of all potential impacts to cultural resources that may result from the proposed project, ESA is requesting that a records search be conducted for sacred lands or traditional cultural properties that may exist within the specific plan area.

Thank you for your time. To expedite delivery of search results, please email them to aabdelwahed@esassoc.com or fax 949.753.7002. Please contact me at 213.542.6041 or email if you have any questions.

Sincerely,

Arabesque Said-Abdelwahed, MPP
Senior Associate



SOURCE: South Gate and Inglewood Topoquads

Willowbrook Transit Orientated District Specific Plan . D130631

Figure 1

Record Search

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
Fax (916) 373-5471

January 30, 2017

Arabesque Said-Abdelwahed, MMP, Senior Associate
ES Associates

Sent by Email: aabdelwahed@esassoc.com

RE: Proposed Willowbrook Transit Oriented Specific Plan Project, Community of Willowbrook; South Gate USGS Quadrangle, Los Angeles County, California

Dear Ms. Said-Abdelwahed:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.

Attached is a list of tribes culturally affiliated to the project area. I suggest you contact all of the listed Tribes. If they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

Native American Heritage Commission
Tribal Contact List
Los Angeles County
1/30/2017

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chariperson
P.O. Box 393 Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
gabrielenoindians@yahoo.com

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 Gabrieleno
San Gabriel, CA, 91778
Phone: (626)483-3564
Fax: (626)286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 Gabrielino
Los Angeles, CA, 90012
Phone: (951)807-0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490 Gabrielino
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
1999 Avenue of the Stars, Suite 1100 Gabrielino
Los Angeles, CA, 90067
Phone: (626)676-1184

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Willowbrook Transit Oriented Specific Plan Project, Los Angeles County.

C-4 Paleontological Records Search Results

ESA

2121 Alton Parkway
Suite 100
Irvine, CA 92606
949.753.7001 phone
949.753.7002 fax

www.esassoc.com

January 3, 2017

Dr. Sam McLeod
Natural History Museum of Los Angeles County
Vertebrate Paleontology
900 Exposition Blvd.
Los Angeles, CA 90007
213.763.3325

Subject: Request for a Database Search for the Willowbrook Transit Oriented District Specific Plan Project, Community of Willowbrook, Los Angeles County, California (D130631.00)

Dear Dr. McLeod:

Environmental Science Associates (ESA) is preparing a Program Environmental Impact Report (PEIR) for the Willowbrook Transit Oriented District Specific Plan (Project). The Specific Plan is a County-initiated, Los Angeles County Metropolitan Transit Authority (Metro) grant-funded project that is being proposed pursuant to the County General Plan to enhance the transit oriented development pattern, promote active transportation, reduce vehicle miles traveled, and improve the public realm in the Willowbrook area.

The Specific Plan area is approximately 312 acres and is located within the northwestern portion of the Willowbrook community, in unincorporated Los Angeles County. The Specific Plan area generally encompasses parcels located south of Imperial Highway, north of East 122nd Street, east of Compton Avenue, and west of South Mona Boulevard. The Specific Plan contains a range of land uses, including: residential, retail, office, educational, institutional facilities, and service facilities.

The enclosed map shows the Project area located in:

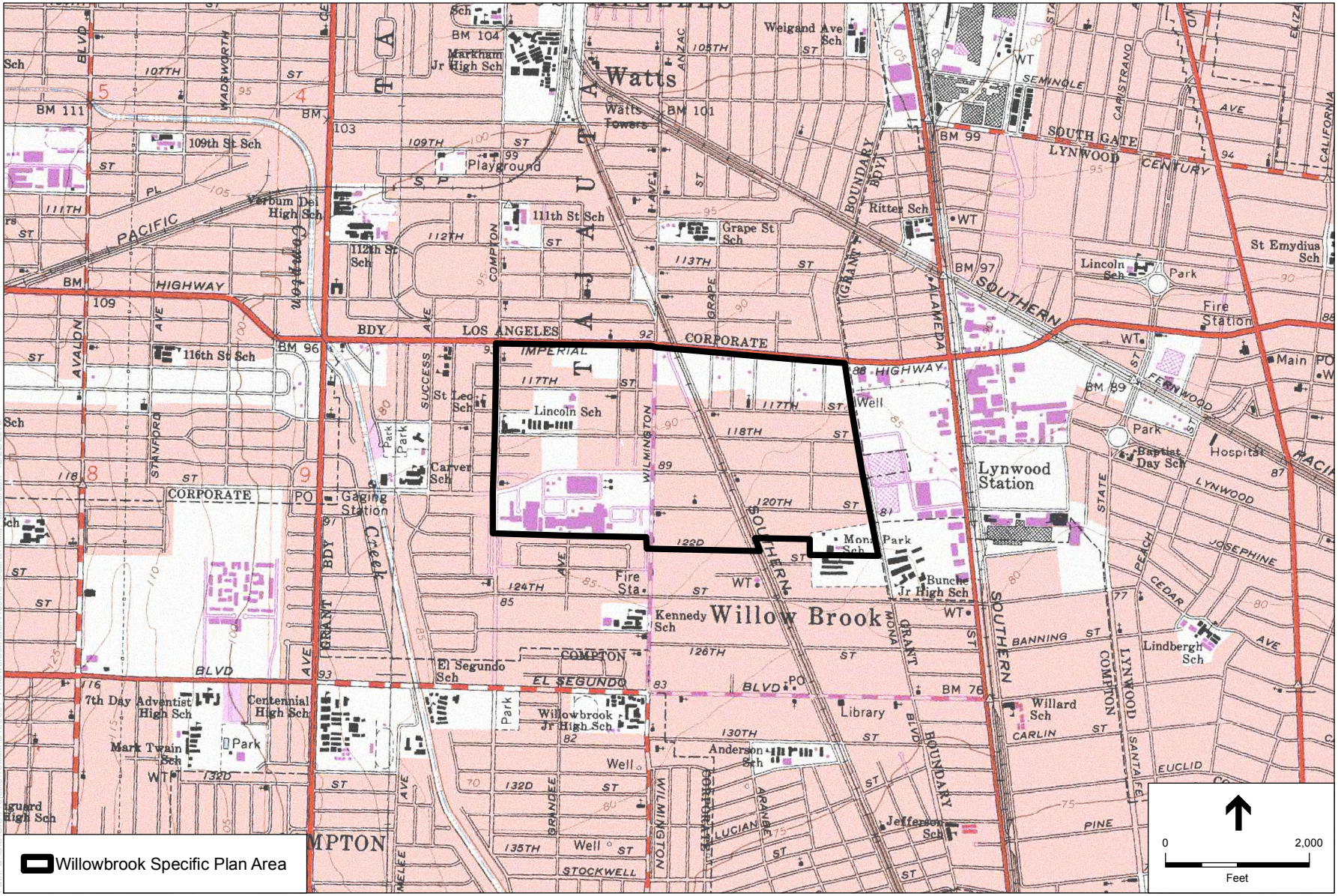
- Un-sectioned area of the South Gate USGS 7.5' Quadrangle, Township 3 South, Range 13 West.

In an effort to provide an adequate appraisal of all potential impacts that may result from the proposed Project, ESA is requesting that a paleontological resource records search be conducted for paleontological resources that may exist within the Project area.

Thank you for your time and cooperation regarding this matter. To expedite the delivery of search results, please email them to aabdelwahed@esassoc.com. Please contact me at 213.599.4300 or email if you have any questions.

Sincerely,

Arabesque Said-Abdelwahed, MPP
Senior Associate



SOURCE: South Gate and Inglewood Topoquads

Willowbrook Transit Orientated District Specific Plan . D130631

Figure 1

Record Search

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

17 January 2017

ESA
2121 Alton Parkway, Suite 100
Irvine, CA 92606

Attn: Arabesque Said-Abdelwahed, Senior Associate

re: Paleontological resources for the proposed Willowbrook Transit Oriented District Specific Plan Project, ESA Project # D130631.00, in the Community of Willowbrook, Los Angeles County, project area

Dear Arabesque:

I have thoroughly searched our paleontology collection records for the locality and specimen data for the proposed Willowbrook Transit Oriented District Specific Plan Project, ESA Project # D130631.00, in the Community of Willowbrook, Los Angeles County, project area as outlined on the portion of the South Gate USGS topographic quadrangle map that you sent to me via e-mail on 3 January 2017. We do not have any vertebrate fossil localities that occur directly within the proposed project area, but we do have localities somewhat nearby from the same type of sediments that probably occur as subsurface deposits in the proposed project area.

The entire proposed project site area has surface deposits composed of younger Quaternary Alluvium, derived as fluvial deposits from the floodplain of the Los Angeles River that currently flows in a concrete channel just to the east and from Compton Creek that currently flows just to the west. These younger Quaternary deposits usually do not contain significant fossil vertebrate remains, at least in the uppermost layers, but the underlying older Quaternary deposits found at varying depths may well contain significant vertebrate fossils. Our closest vertebrate fossil locality from these older Quaternary deposits is probably LACM 4685, southwest of the proposed project area between 135th and 136th Streets just east of Avalon

Boulevard, that produced a fossil specimen of undetermined elephantoid, Proboscidea, from an unstated depth.

Our next closest vertebrate fossil localities from these older Quaternary deposits, LACM 1344, 3266 and 3365, all occurring just south of west of the southern portion of the proposed project area around the Harbor Freeway and Athens on the Hill, produced fossil specimens of mammoth, *Mammuthus*, squirrel, Sciuridae, horse, *Equus*, and pronghorn antelope, *Breameryx*, at depths between 15 and 20 feet below the surface. Just north of west of the northern portion of the proposed project area, at the Harbor Freeway (I-110) between 112th and 113th Streets and along Imperial Highway near Main Street, we have additional older Quaternary localities LACM 1295 and 4206 that produced a typical late Pleistocene fauna including fossil specimens of pond turtle, *Clemmys*, puffin, *Mancalla*, turkey, *Parapavo*, ground sloth, *Paramylodon*, mammoth, *Mammuthus*, dire wolf, *Canis dirus*, rabbit, *Sylvilagus*, squirrel, Sciuridae, deer mouse, *Microtus*, pocket gopher, *Thomomys*, horse, *Equus*, deer, *Cervus*, pronghorn antelope, *Capromeryx*, and bison, *Bison*, at unstated but relatively shallow depths. A little further away but directly south of the proposed project area east of Wilmington Boulevard and north of Artesia Boulevard, we have locality LACM 3382 that produced a fossil specimen of mammoth Mammuthus, at a depth of approximately five feet below the surface.

Shallow excavations in the younger Quaternary Alluvium exposed throughout the proposed project area are unlikely to uncover significant vertebrate fossils. Deeper excavations that extend down into older Quaternary deposits, however, possibly as shallow as five feet in depth, may well encounter significant fossil vertebrate remains. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils collected should be placed in an accredited scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

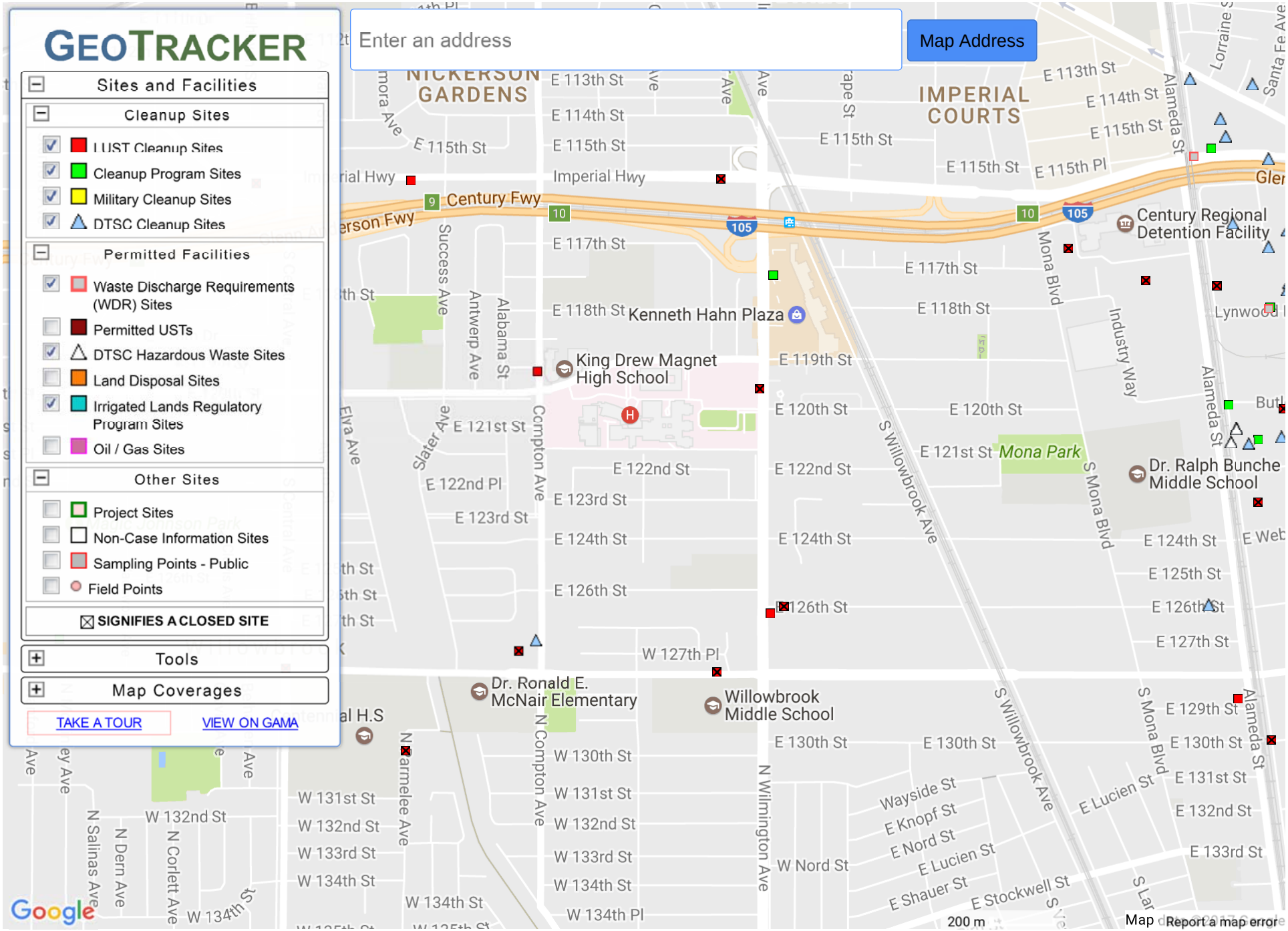
Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

Appendix D

Hazardous Materials Database Search Results

ESA


GEOTRACKER
Enter an address
Map Address
Sites and Facilities
Cleanup Sites
LUST Cleanup Sites
Cleanup Program Sites
Military Cleanup Sites
DTSC Cleanup Sites
Permitted Facilities
Waste Discharge Requirements (WDR) Sites
Permitted USTs
DTSC Hazardous Waste Sites
Land Disposal Sites
Irrigated Lands Regulatory Program Sites
Oil / Gas Sites
Other Sites
Project Sites
Non-Case Information Sites
Sampling Points - Public
Field Points
SIGNIFIES A CLOSED SITE
Tools
Map Coverages
TAKE A TOUR
VIEW ON GAMA
NICKERSON GARDENS
IMPERIAL COURTS
Century Fwy
Imperial Hwy
Century Regional Detention Facility
Kenneth Hahn Plaza
King Drew Magnet High School
Mona Park
Dr. Ralph Bunche Middle School
Dr. Ronald E. McNair Elementary
Willowbrook Middle School
E 113th St
E 114th St
E 115th St
E 115th Pl
E 117th St
E 118th St
E 119th St
E 120th St
E 121st St
E 122nd St
E 122nd Pl
E 123rd St
E 124th St
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W 127th Pl
W 130th St
W 131st St
W 132nd St
W 133rd St
W 134th St
W 134th Pl
Success Ave
Antwerp Ave
Alabama St
Compton Ave
Slater Ave
Elva Ave
Mona Blvd
Industry Way
Alameda St
S Willowbrook Ave
N Wilmington Ave
N Compton Ave
N Carmelee Ave
N Salinas Ave
N Dern Ave
N Corlett Ave
Wayside St
E Knopf St
E Nord St
E Lucien St
E Shauer St
W Nord St
E Stockwell St
Lorraine
Santa Fe Ave
Google
200 m
Map
Report a map error
SITES CURRENTLY VISIBLE ON MAP

GeoTracker Hazardous Materials Sites List

SITE NAME	GLOBAL ID	SITE_TYPE	STATUS	ADDRESS	CITY	LATITUDE	LONGITUDE
2700 EAST IMPERIAL HIGHWAY, INC	60001258	VOLUNTARY CLEANUP	NO FURTHER ACTION	2700 EAST IMPERIAL HIGHWAY	LYNWOOD	33.92994	-118.22282
3000 EAST IMPERIAL PROJECT	60000653	VOLUNTARY CLEANUP	ACTIVE	3000 EAST IMPERIAL HIGHWAY	LYNWOOD	33.9301082	-118.21771
AAA PLATING & INSPECTION	71002452	EVALUATION	INACTIVE - NEEDS EVALUATION	424 DIXON STREET	COMPTON	33.9213669	-118.22161
BESTWAY TRANSPORTATION	T0603703843	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	575 WEBER ST E	COMPTON	33.92119	-118.219421
BOWMAN PLATING CO., INC.	71002231	VOLUNTARY CLEANUP	ACTIVE	2631 E. 126TH STREET	COMPTON	33.918047	-118.22472
BROWN AND BROWN MACHINE CO.	T0603704185	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3200 ALAMEDA ST N	COMPTON	33.920782	-118.223135
CALTRANS - WITCO CHEMICAL CO. (FORMER)	T0603701301	CLEANUP PROGRAM SITE	OPEN - ASSESSMENT & INTERIM REMEDIAL ACTION	2601 E. IMPERIAL HIGHWAY	LYNWOOD	33.930231	-118.224656
CALTRANS WITCO	60000486	VOLUNTARY CLEANUP	ACTIVE	2601 E. EMPERIAL HWY.	LYNWOOD	33.927589	-118.22282
CHEMICAL TECHNOLOGY LABS	80001543	CORRECTIVE ACTION	ACTIVE	12150 S ALAMEDA ST	LYNWOOD	33.922749	-118.22384
CHEROKEE TRUCKING	19470007	EVALUATION	NO FURTHER ACTION	414 EAST BANNING STREET	COMPTON	33.9177288	-118.2214
CITY OF LYNWOOD REDEVELOPMENT - PHASE II (PLAZA MEXICO EXTENSION)	60001357	EVALUATION	ACTIVE	AREA BETWEEN IMPERIAL HIGHWAY, STATE STREET AND 105 FREEWAY	LYNWOOD	33.9301082	-118.21771
CITY OF LYNWOOD REDEVELOPMENT PHASE I (ALAMEDA TRIANGLE)	60001308	VOLUNTARY CLEANUP	ACTIVE	NORTHEAST CORNER OF ALAMEDA STREET & IMPERIAL HIGHWAY	LYNWOOD	33.9310051	-118.22434
COORDINATED RIDLEY TRUSTS	T0603704449	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	2903 LYNWOOD RD	LYNWOOD	33.9260244	-118.2209999
DV INDUSTRIES, INC.	71002759	TIERED PERMIT	REFER: OTHER AGENCY	2605 INDUSTRY WAY	LYNWOOD	33.9240739	-118.22647
DV INDUSTRIES, INC.	71003813	TIERED PERMIT	REFER: OTHER AGENCY	2588 INDUSTRY WAY	LYNWOOD	33.923565	-118.22808
FLASK CHEMICAL CO.	T0603705067	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	11642 MONA BLVD	LYNWOOD	33.92756	-118.229266
FORMER ATHENS TANK FARM/FORMER UJIMA VILLAGE & APARTMENTS	19290308	VOLUNTARY CLEANUP	ACTIVE	941 EAST 126TH STREET	LOS ANGELES	33.919905	-118.25643
GREG BELL TRUCKING CO	T10000000186	LUST CLEANUP SITE	OPEN - SITE ASSESSMENT	430 WEBER AVE. E.	COMPTON	33.919594	-118.221093
H M GREENFIELD AND SONS INC	T0603703850	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	522 WEBER AVE E	COMPTON	33.9200235	-118.2204768
HOOPER TEXACO SERVICE	T0603704553	LUST CLEANUP SITE	OPEN - ASSESSMENT & INTERIM REMEDIAL ACTION	11913 COMPTON AVE S	LOS ANGELES	33.9242817	-118.2463258
IDEAL METALS PROCESSING	T0603704183	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	1437 EL SEGUNDO BLVD W	COMPTON	33.9168329	-118.246922
JESSE BELL	T0603704207	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	1916 126TH ST E	WILLOWBROOK	33.9180075	-118.2383703
KENNETH HAHN PLAZA	SLT43677675	CLEANUP PROGRAM SITE	OPEN - ASSESSMENT & INTERIM REMEDIAL ACTION	11700 S. WILMINGTON AVE	LOS ANGELES	33.92683005	-118.2387444
LINDBERGH ELEMENTARY SCHOOL	19880079	SCHOOL	NO FURTHER ACTION	3171-3215 EL SEGUNDO BOULEVARD	LYNWOOD	33.9174	-118.2146
LOGISTICS EXPRESS	T0603704380	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	11711 ALAMEDA ST S	LYNWOOD	33.926699	-118.226745
LYNWOOD FACILITY	WDR100007622	* WDR SITE	ACTIVE - WDR	2801 LYNWOOD ROAD	LYNWOOD	33.92595	-118.22282
LYNWOOD TSI #1	70000022	EVALUATION	INACTIVE - NEEDS EVALUATION	11400, 11410, 11420 SOUTH ALAMEDA AVENUE	LYNWOOD	33.93206	-118.22533
LYNWOOD TSI #2	70000021	EVALUATION	INACTIVE - ACTION REQUIRED	FERNWOOD AVENUE OF THE ALAMEDA TRIANGLE	LYNWOOD	33.931944	-118.22333
MAGNETEK	60000484	VOLUNTARY CLEANUP	ACTIVE	11510 S. ALAMEDA STREET	LYNWOOD	33.930549	-118.22416
MARTIN LUTHER KING JR HOSPITAL	T0603705300	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	12021 WILMINGTON AVE S	WILLOWBROOK	33.9238136	-118.239165
MARTIN METAL FINISHING	SL2043E1562	CLEANUP PROGRAM SITE	OPEN - INACTIVE	12150 SOUTH ALAMEDA ST	LYNWOOD	33.92245893	-118.2231688
MARTIN METAL FINISHING	T0603704973	CLEANUP PROGRAM SITE	OPEN - INACTIVE	12150 ALAMEDA ST S	LYNWOOD	33.9234015	-118.224093
MARTIN METAL FINISHING INC.	80001435	CORRECTIVE ACTION	ACTIVE	12150 S ALAMEDA ST	LYNWOOD	33.9223698	-118.22345
MCWHORTER TECH/ CARGILL CHEM.	T0603701300	CLEANUP PROGRAM SITE	OPEN - INACTIVE	2801 LYNWOOD RD	LYNWOOD	33.9259854	-118.22274
MICHAEL'S FURNITURE MFG. CO.	T0603705063	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	2828 BUTLER AVE	LYNWOOD	33.9232935	-118.2223499
MOBIL (FORMER)	T0603704325	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	1836 IMPERIAL HWY E	LOS ANGELES	33.9294145	-118.2404056
MONTGOMERY WARDS	T0603705101	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3100 IMPERIAL HWY E	LYNWOOD	33.929226	-118.214942
NATIONAL CYLINDER GAS CO.	80001109	FUDS	INACTIVE - NEEDS EVALUATION		LOS ANGELES	33.9333333	-118.23083
PCCR USA INC.	80001674	CORRECTIVE ACTION	ACTIVE	2801 LYNWOOD RD	LYNWOOD	33.9264383	-118.22219
POLYNT COMPOSITES USA INC	3000252	INSPECTION	NO ACTION	2801 LYNWOOD RD	LYNWOOD	33.9266078	-118.22218
POLYNT COMPOSITES USA INC	CAD076180843	RCRA	UNDERGOING CLOSURE	2801 LYNWOOD RD	LYNWOOD	33.926689	-118.22193
PROCESSES BY MARTIN INC	CAD059794974	RCRA	UNDERGOING CLOSURE	12150 S ALAMEDA ST	LYNWOOD	33.922385	-118.22402
PROCESSES BY MARTIN INC	CAD008275885	RCRA	UNDERGOING CLOSURE	12150 S ALAMEDA ST	LYNWOOD	33.922749	-118.22384
PROCESSES BY MARTIN INC	3000019	INSPECTION	NO ACTION	12150 S ALAMEDA ST	LYNWOOD	33.9225301	-118.22239
PROCESSES BY MARTIN INC	3000983	INSPECTION	NO ACTION	12150 S ALAMEDA ST	LYNWOOD	33.922749	-118.22384
PROPERTY @ 3000 E. IMPERIAL LLC	WDR100001833	* WDR SITE	ACTIVE - WDR	3000 EAST IMPERIAL HIGHWAY	LYNWOOD	33.93011	-118.21773
QUALITY METALS REFINISHING	T0603703831	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	11754 ALAMEDA ST S	LYNWOOD	33.9265404	-118.2244641
S & K PLATING COMPANY	60001461	EVALUATION	INACTIVE - ACTION REQUIRED	2727 NORTH COMPTON AVENUE 2727 NORTH COMPTON AVENUE	COMPTON	33.91712	-118.24638
S&K INDUSTRIES, INC.	71003327	TIERED PERMIT	REFER: OTHER AGENCY	1821 W. EL SEGUNDO BOULEVARD	COMPTON	33.9168469	-118.25165
SHELL #204-4531-4105	T0603701148	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	1150 IMPERIAL HWY E	LOS ANGELES	33.9293006	-118.2553301
TMB OIL	T0603774661	LUST CLEANUP SITE	OPEN - REMEDIATION	1340 IMPERIAL HWY E.	WILLOWBROOK	33.929363	-118.250357
UJIMA VILLAGE APARTMENTS / FORMER ATHENS TANK FARM	SLT4L3741812	CLEANUP PROGRAM SITE	OPEN - REMEDIATION	941 EAST 126TH ST	LOS ANGELES	33.91715274	-118.2616425
UNOCAL #5840	T0603701150	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	611 IMPERIAL HWY E	LOS ANGELES	33.9310716	-118.2646594
USF BESTWAY	T0603761502	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	575 WEBER ST. E.	COMPTON	33.921163	-118.219421
WESTECH LYNWOOD SITE	60002028	VOLUNTARY CLEANUP	ACTIVE	2600 EAST IMPERIAL HIGHWAY	LYNWOOD	33.928237	-118.22396
WESTECH SITE	WDR100039476	* WDR SITE	ACTIVE - WDR	2600 EAST IMPERIAL HIGHWAY	LYNWOOD	33.93002	-118.22521
WESTERN GEAR WORKS	80000673	FUDS	INACTIVE - NEEDS EVALUATION		LOS ANGELES	33.9280555	-118.22222
WESTERN WASTE INDUSTRIAL	T0603703847	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	407 EL SEGUNDO BLVD E	COMPTON	33.9164094	-118.2215112
WILLOW APARTMENTS	SL204DG2390	LUST CLEANUP SITE	OPEN - REMEDIATION	12612 SOUTH WILMINGTON STREET	COMPTON	33.91782048	-118.238833

Appendix E
Noise Modeling

ESA

Project: Willowbrook Transit Oriented District Specific Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Avalon Boulevard n/o Imperial Hwy	40			18350	70.1	67.6	66.1	71.3	68.9	67.3
Avalon Boulevard between Imperial Hwy and Rosecrans Ave	40			17490	69.5	67.2	65.7	70.7	68.4	66.9
Central Avenue between Century Blvd and 108th St	40			28050	71.5	69.2	67.8	72.7	70.5	69.0
Central Avenue between 108th St and 120th St	40			24370	71.3	68.9	67.3	72.5	70.1	68.5
Central Avenue between 120th St and Rosecrans Ave	40			21990	70.5	68.2	66.7	71.7	69.4	67.9
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Avalon Boulevard n/o Imperial Hwy	40			20550	70.6	68.1	66.6	71.8	69.3	67.8
Avalon Boulevard between Imperial Hwy and Rosecrans Ave	40			18710	69.8	67.5	66.0	71.0	68.7	67.2
Central Avenue between Century Blvd and 108th St	40			31770	72.1	69.8	68.3	73.3	71.0	69.5
Central Avenue between 108th St and 120th St	40			27980	71.9	69.5	67.9	73.1	70.7	69.1
Central Avenue between 120th St and Rosecrans Ave	40			25470	71.1	68.8	67.3	72.3	70.0	68.6
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Avalon Boulevard n/o Imperial Hwy	40			21250	70.7	68.3	66.7	71.9	69.5	67.9
Avalon Boulevard between Imperial Hwy and Rosecrans Ave	40			19450	69.9	67.7	66.2	71.1	68.9	67.4
Central Avenue between Century Blvd and 108th St	40			32760	72.2	69.9	68.4	73.4	71.1	69.7
Central Avenue between 108th St and 120th St	40			38110	73.3	70.8	69.3	74.5	72.0	70.5
Central Avenue between 120th St and Rosecrans Ave	40			26630	71.3	69.0	67.5	72.5	70.2	68.8

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Avalon Boulevard n/o Imperial Hwy	0.2	0.6	0.1	0.6
Avalon Boulevard between Imperial Hwy and Rosecrans Ave	0.2	0.5	0.2	0.5
Central Avenue between Century Blvd and 108th St	0.1	0.6	0.2	0.7
Central Avenue between 108th St and 120th St	1.3	1.9	1.4	2.0
Central Avenue between 120th St and Rosecrans Ave	0.2	0.8	0.2	0.9

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Compton Avenue between Century Blvd and 120th St	40			13270	68.7	66.2	64.7	69.9	67.4	65.9
Compton Avenue between 120th St and El Segundo Blvd	40			9810	67.0	64.7	63.2	68.2	65.9	64.4
Wilmington Avenue between Century Blvd and 112th St	35			14800	68.9	66.0	64.2	70.2	67.2	65.4
Wilmington Avenue between 112th St and I-105	35			16670	69.5	66.5	64.7	70.7	67.7	65.9
Wilmington Avenue between I-105 and 119th St	40			22090	72.5	69.3	67.5	73.8	70.5	68.7
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Compton Avenue between Century Blvd and 120th St	40			13390	68.7	66.3	64.7	69.9	67.5	65.9
Compton Avenue between 120th St and El Segundo Blvd	40			10000	67.0	64.8	63.3	68.3	66.0	64.5
Wilmington Avenue between Century Blvd and 112th St	35			16350	69.4	66.4	64.6	70.6	67.6	65.9
Wilmington Avenue between 112th St and I-105	35			17650	69.7	66.7	65.0	70.9	67.9	66.2
Wilmington Avenue between I-105 and 119th St	40			23430	72.8	69.6	67.7	74.0	70.8	68.9
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Compton Avenue between Century Blvd and 120th St	40			17910	70.0	67.5	66.0	71.2	68.7	67.2
Compton Avenue between 120th St and El Segundo Blvd	40			12470	68.0	65.7	64.2	69.2	66.9	65.5
Wilmington Avenue between Century Blvd and 112th St	35			16790	69.5	66.5	64.8	70.7	67.7	66.0
Wilmington Avenue between 112th St and I-105	35			22520	70.8	67.8	66.0	72.0	69.0	67.3
Wilmington Avenue between I-105 and 119th St	40			33740	74.4	71.1	69.3	75.6	72.4	70.5

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Compton Avenue between Century Blvd and 120th St	1.2	1.3	1.3	1.3
Compton Avenue between 120th St and El Segundo Blvd	0.9	1.0	1.0	1.1
Wilmington Avenue between Century Blvd and 112th St	0.1	0.5	0.1	0.6
Wilmington Avenue between 112th St and I-105	1.1	1.3	1.1	1.4
Wilmington Avenue between I-105 and 119th St	1.6	1.9	1.6	1.8

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Wilmington Avenue between 119th St and Rosecrans Ave	40			19700	70.0	67.7	66.2	71.2	68.9	67.4
Mona Boulevard between Imperial Hwy and 119th St	40			9680	69.0	65.7	63.9	70.2	66.9	65.1
Alameda Street between 103rd and Imperial Hwy	40			23840	72.4	69.4	67.7	73.6	70.6	68.9
Alameda Street between Imperial Hwy and Rosecrans Ave	40			20480	71.7	68.7	67.0	72.9	70.0	68.2
103rd Street w/o Central Ave	40			6130	65.3	62.9	61.3	66.5	64.1	62.5
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Wilmington Avenue between 119th St and Rosecrans Ave	40			20300	70.1	67.8	66.4	71.3	69.1	67.6
Mona Boulevard between Imperial Hwy and 119th St	40			9680	69.0	65.7	63.9	70.2	66.9	65.1
Alameda Street between 103rd and Imperial Hwy	40			23930	72.4	69.4	67.7	73.6	70.6	68.9
Alameda Street between Imperial Hwy and Rosecrans Ave	40			20500	71.7	68.8	67.0	73.0	70.0	68.2
103rd Street w/o Central Ave	40			6780	65.8	63.3	61.8	67.0	64.5	63.0
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Wilmington Avenue between 119th St and Rosecrans Ave	40			25450	71.1	68.8	67.3	72.3	70.0	68.6
Mona Boulevard between Imperial Hwy and 119th St	40			10190	69.2	65.9	64.1	70.4	67.2	65.3
Alameda Street between 103rd and Imperial Hwy	40			25660	72.7	69.7	68.0	73.9	70.9	69.2
Alameda Street between Imperial Hwy and Rosecrans Ave	40			20660	71.8	68.8	67.0	73.0	70.0	68.2
103rd Street w/o Central Ave	40			6830	65.8	63.3	61.8	67.0	64.6	63.0

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Wilmington Avenue between 119th St and Rosecrans Ave	0.9	1.1	1.0	1.2
Mona Boulevard between Imperial Hwy and 119th St	0.3	0.3	0.2	0.2
Alameda Street between 103rd and Imperial Hwy	0.3	0.3	0.3	0.3
Alameda Street between Imperial Hwy and Rosecrans Ave	0.0	0.0	0.0	0.0
103rd Street w/o Central Ave	0.1	0.5	0.0	0.5

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
103rd Street between Central Ave and Wilmington Ave	40			10970	67.4	65.2	63.7	68.7	66.4	64.9
103rd Street between Wilmington Ave Alameda St	35			9080	66.8	63.8	62.1	68.0	65.1	63.3
112th Street between Railroad and Mona Blvd	35			990	57.2	54.2	52.5	58.4	55.4	53.7
Imperial Highway between San Pedro St and Avalon Blvd	40			23590	70.1	68.1	66.7	71.3	69.3	67.9
Imperial Highway between Avalon Blvd and Slater Ave	40			32090	71.5	69.4	68.1	72.7	70.7	69.3
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
103rd Street between Central Ave and Wilmington Ave	40			12130	67.9	65.6	64.1	69.1	66.8	65.3
103rd Street between Wilmington Ave Alameda St	35			10100	67.3	64.3	62.6	68.5	65.5	63.8
112th Street between Railroad and Mona Blvd	35			1070	57.5	54.6	52.8	58.7	55.8	54.0
Imperial Highway between San Pedro St and Avalon Blvd	40			25780	70.5	68.5	67.1	71.7	69.7	68.3
Imperial Highway between Avalon Blvd and Slater Ave	40			35370	71.9	69.9	68.5	73.1	71.1	69.7
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
103rd Street between Central Ave and Wilmington Ave	40			12160	67.9	65.6	64.1	69.1	66.8	65.3
103rd Street between Wilmington Ave Alameda St	35			10270	67.4	64.4	62.6	68.6	65.6	63.8
112th Street between Railroad and Mona Blvd	35			2240	60.7	57.8	56.0	62.0	59.0	57.2
Imperial Highway between San Pedro St and Avalon Blvd	40			27660	70.8	68.8	67.4	72.0	70.0	68.6
Imperial Highway between Avalon Blvd and Slater Ave	40			37410	72.1	70.1	68.7	73.3	71.3	69.9

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
103rd Street between Central Ave and Wilmington Ave	0.0	0.4	0.0	0.4
103rd Street between Wilmington Ave Alameda St	0.1	0.5	0.0	0.5
112th Street between Railroad and Mona Blvd	3.2	3.6	3.2	3.5
Imperial Highway between San Pedro St and Avalon Blvd	0.3	0.7	0.3	0.7
Imperial Highway between Avalon Blvd and Slater Ave	0.2	0.6	0.2	0.6

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Imperial Highway between Slater Ave and Wilmington Ave	40			28730	71.6	69.3	67.9	72.8	70.6	69.1
Imperial Highway between Wilmington Ave and Alameda St	40			34110	71.7	69.7	68.3	72.9	70.9	69.5
Imperial Highway e/o Alameda St	40			23650	70.1	68.1	66.7	71.4	69.3	68.0
118th Street between Compton Ave and Wilmington Ave	35			4940	64.2	61.2	59.5	65.4	62.4	60.7
120th Street between San Pedro St and Central Ave	40			13230	69.2	66.5	64.9	70.4	67.7	66.1
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Imperial Highway between Slater Ave and Wilmington Ave	40			28960	71.7	69.4	67.9	72.9	70.6	69.1
Imperial Highway between Wilmington Ave and Alameda St	40			35330	71.9	69.9	68.5	73.1	71.1	69.7
Imperial Highway e/o Alameda St	40			24520	70.3	68.3	66.9	71.5	69.5	68.1
118th Street between Compton Ave and Wilmington Ave	35			13290	68.5	65.5	63.7	69.7	66.7	65.0
120th Street between San Pedro St and Central Ave	40			15120	69.7	67.1	65.4	71.0	68.3	66.7
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Imperial Highway between Slater Ave and Wilmington Ave	40			31340	72.0	69.7	68.2	73.2	70.9	69.5
Imperial Highway between Wilmington Ave and Alameda St	40			43100	72.7	70.7	69.3	74.0	71.9	70.6
Imperial Highway e/o Alameda St	40			25960	70.5	68.5	67.1	71.8	69.7	68.4
118th Street between Compton Ave and Wilmington Ave	35			13850	68.7	65.7	63.9	69.9	66.9	65.1
120th Street between San Pedro St and Central Ave	40			16530	70.1	67.5	65.8	71.3	68.7	67.0

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Imperial Highway between Slater Ave and Wilmington Ave	0.3	0.3	0.3	0.4
Imperial Highway between Wilmington Ave and Alameda St	0.8	1.0	0.9	1.1
Imperial Highway e/o Alameda St	0.2	0.4	0.3	0.4
118th Street between Compton Ave and Wilmington Ave	0.2	4.5	0.2	4.5
120th Street between San Pedro St and Central Ave	0.4	1.0	0.3	0.9

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
120th Street between Central Ave and Compton Ave	40			16420	69.2	66.9	65.4	70.4	68.1	66.7
119th Street between Compton Ave and Wilmington Ave	35			14020	68.7	65.7	64.0	69.9	66.9	65.2
119th Street between Wilmington Ave and Willowbrook Ave	35			9660	67.1	64.1	62.4	68.3	65.3	63.6
119th Street between Willowbrook Ave and Mona Blvd	35			6020	65.0	62.1	60.3	66.2	63.3	61.5
El Segundo Boulevard between San Pedro St and Slater Ave	40			25090	70.4	68.4	67.0	71.6	69.6	68.2
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
120th Street between Central Ave and Compton Ave	40			17710	69.5	67.2	65.8	70.7	68.5	67.0
119th Street between Compton Ave and Wilmington Ave	35			14190	68.8	65.8	64.0	70.0	67.0	65.2
119th Street between Wilmington Ave and Willowbrook Ave	35			9660	67.1	64.1	62.4	68.3	65.3	63.6
119th Street between Willowbrook Ave and Mona Blvd	35			6020	65.0	62.1	60.3	66.2	63.3	61.5
El Segundo Boulevard between San Pedro St and Slater Ave	40			28760	71.0	69.0	67.6	72.2	70.2	68.8
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
120th Street between Central Ave and Compton Ave	40			22320	70.5	68.3	66.8	71.7	69.5	68.0
119th Street between Compton Ave and Wilmington Ave	35			19620	70.2	67.2	65.4	71.4	68.4	66.7
119th Street between Wilmington Ave and Willowbrook Ave	35			10270	67.4	64.4	62.6	68.6	65.6	63.8
119th Street between Willowbrook Ave and Mona Blvd	35			6490	65.4	62.4	60.6	66.6	63.6	61.9
El Segundo Boulevard between San Pedro St and Slater Ave	40			29380	71.1	69.1	67.7	72.3	70.3	68.9

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
	Project	Cumulative	Project	Cumulative
Roadway/Segment	Increment	Increment	Increment	Increment
120th Street between Central Ave and Compton Ave	1.0	1.4	1.0	1.3
119th Street between Compton Ave and Wilmington Ave	1.4	1.5	1.5	1.5
119th Street between Wilmington Ave and Willowbrook Ave	0.3	0.3	0.2	0.2
119th Street between Willowbrook Ave and Mona Blvd	0.3	0.3	0.4	0.4
El Segundo Boulevard between San Pedro St and Slater Ave	0.1	0.7	0.1	0.7

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
El Segundo Boulevard between Slater Ave and Wilmington Ave	40			23840	70.8	68.5	67.1	72.0	69.8	68.3
El Segundo Boulevard between Wilmington Ave and Alameda Ave	40			15500	68.9	66.7	65.2	70.2	67.9	66.4
Rosecrans Avenue between San Pedro St and Willowbrook Ave	40			22220	70.5	68.2	66.7	71.7	69.4	68.0
Rosecrans Avenue between Willowbrook Ave and Alameda Ave	40			24330	70.9	68.6	67.1	72.1	69.8	68.4
I-105 between Compton Ave and Mona Blvd	65			101360	80.4	78.8	77.7	81.6	80.0	78.9
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
El Segundo Boulevard between Slater Ave and Wilmington Ave	40			24840	71.0	68.7	67.2	72.2	69.9	68.4
El Segundo Boulevard between Wilmington Ave and Alameda Ave	40			16200	69.1	66.9	65.4	70.3	68.1	66.6
Rosecrans Avenue between San Pedro St and Willowbrook Ave	40			22930	70.6	68.4	66.9	71.9	69.6	68.1
Rosecrans Avenue between Willowbrook Ave and Alameda Ave	40			25040	71.0	68.8	67.3	72.2	70.0	68.5
I-105 between Compton Ave and Mona Blvd	65			111210	80.8	79.2	78.1	82.0	80.4	79.3
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
El Segundo Boulevard between Slater Ave and Wilmington Ave	40			27090	71.4	69.1	67.6	72.6	70.3	68.8
El Segundo Boulevard between Wilmington Ave and Alameda Ave	40			17560	69.5	67.2	65.7	70.7	68.4	66.9
Rosecrans Avenue between San Pedro St and Willowbrook Ave	40			24110	70.9	68.6	67.1	72.1	69.8	68.3
Rosecrans Avenue between Willowbrook Ave and Alameda Ave	40			26410	71.3	69.0	67.5	72.5	70.2	68.7
I-105 between Compton Ave and Mona Blvd	65			114940	80.9	79.4	78.2	82.1	80.6	79.4

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
	Project	Cumulative	Project	Cumulative
Roadway/Segment	Increment	Increment	Increment	Increment
El Segundo Boulevard between Slater Ave and Wilmington Ave	0.4	0.5	0.4	0.5
El Segundo Boulevard between Wilmington Ave and Alameda Ave	0.3	0.5	0.3	0.5
Rosecrans Avenue between San Pedro St and Willowbrook Ave	0.2	0.4	0.2	0.3
Rosecrans Avenue between Willowbrook Ave and Alameda Ave	0.2	0.4	0.2	0.3
I-105 between Compton Ave and Mona Blvd	0.2	0.6	0.1	0.5

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Willowbrook Transit Oriented District Specific Plan

	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Avalon Boulevard n/o Imperial Hwy	40			18350	70.1	67.6	66.1	71.3	68.9	67.3
Avalon Boulevard between Imperial Hwy and Rosecrans Ave	40			17490	69.5	67.2	65.7	70.7	68.4	66.9
Central Avenue between Century Blvd and 108th St	40			28050	71.5	69.2	67.8	72.7	70.5	69.0
Central Avenue between 108th St and 120th St	40			24370	71.3	68.9	67.3	72.5	70.1	68.5
Central Avenue between 120th St and Rosecrans Ave	40			21990	70.5	68.2	66.7	71.7	69.4	67.9
Existing With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Avalon Boulevard n/o Imperial Hwy	40			19050	70.2	67.8	66.2	71.5	69.0	67.5
Avalon Boulevard between Imperial Hwy and Rosecrans Ave	40			18230	69.6	67.4	65.9	70.9	68.6	67.1
Central Avenue between Century Blvd and 108th St	40			29040	71.7	69.4	67.9	72.9	70.6	69.1
Central Avenue between 108th St and 120th St	40			34500	72.8	70.4	68.8	74.0	71.6	70.0
Central Avenue between 120th St and Rosecrans Ave	40			23150	70.7	68.4	66.9	71.9	69.6	68.1

CNEL

Summary	**25 ft. from ROW**		**50 ft. from ROW**	
	Project	**Cumulative**	**Project**	**Cumulative**
Roadway/Segment	**Increment**	**Increment**	**Increment**	**Increment**
Avalon Boulevard n/o Imperial Hwy	0.1	-	0.2	-
Avalon Boulevard between Imperial Hwy and Rosecrans Ave	0.2	-	0.2	-
Central Avenue between Century Blvd and 108th St	0.1	-	0.1	-
Central Avenue between 108th St and 120th St	1.5	-	1.5	-
Central Avenue between 120th St and Rosecrans Ave	0.2	-	0.2	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
Compton Avenue between Century Blvd and 120th St	40			13270	68.7	66.2	64.7	69.9	67.4	65.9
Compton Avenue between 120th St and El Segundo Blvd	40			9810	67.0	64.7	63.2	68.2	65.9	64.4
Wilmington Avenue between Century Blvd and 112th St	35			14800	68.9	66.0	64.2	70.2	67.2	65.4
Wilmington Avenue between 112th St and I-105	35			16670	69.5	66.5	64.7	70.7	67.7	65.9
Wilmington Avenue between I-105 and 119th St	40			22090	72.5	69.3	67.5	73.8	70.5	68.7
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
Compton Avenue between Century Blvd and 120th St	40			17790	69.9	67.5	66.0	71.2	68.7	67.2
Compton Avenue between 120th St and El Segundo Blvd	40			12280	67.9	65.7	64.2	69.1	66.9	65.4
Wilmington Avenue between Century Blvd and 112th St	35			15420	69.1	66.1	64.4	70.3	67.4	65.6
Wilmington Avenue between 112th St and I-105	35			21540	70.6	67.6	65.8	71.8	68.8	67.1
Wilmington Avenue between I-105 and 119th St	40			32400	74.2	71.0	69.1	75.4	72.2	70.4

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Compton Avenue between Century Blvd and 120th St	1.3	-	1.3	-
Compton Avenue between 120th St and El Segundo Blvd	1.0	-	1.0	-
Wilmington Avenue between Century Blvd and 112th St	0.2	-	0.2	-
Wilmington Avenue between 112th St and I-105	1.1	-	1.2	-
Wilmington Avenue between I-105 and 119th St	1.7	-	1.7	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Willowbrook Transit Oriented District Specific Plan

	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Wilmington Avenue between 119th St and Rosecrans Ave	40			19700	70.0	67.7	66.2	71.2	68.9	67.4
Mona Boulevard between Imperial Hwy and 119th St	40			9680	69.0	65.7	63.9	70.2	66.9	65.1
Alameda Street between 103rd and Imperial Hwy	40			23840	72.4	69.4	67.7	73.6	70.6	68.9
Alameda Street between Imperial Hwy and Rosecrans Ave	40			20480	71.7	68.7	67.0	72.9	70.0	68.2
103rd Street w/o Central Ave	40			6130	65.3	62.9	61.3	66.5	64.1	62.5
Existing With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Wilmington Avenue between 119th St and Rosecrans Ave	40			24850	71.0	68.7	67.2	72.2	69.9	68.4
Mona Boulevard between Imperial Hwy and 119th St	40			10190	69.2	65.9	64.1	70.4	67.2	65.3
Alameda Street between 103rd and Imperial Hwy	40			25570	72.7	69.7	68.0	73.9	70.9	69.2
Alameda Street between Imperial Hwy and Rosecrans Ave	40			20640	71.8	68.8	67.0	73.0	70.0	68.2
103rd Street w/o Central Ave	40			6180	65.4	62.9	61.4	66.6	64.1	62.6

CNEL

Summary	**25 ft. from ROW**		**50 ft. from ROW**	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Wilmington Avenue between 119th St and Rosecrans Ave	1.0	-	1.0	-
Mona Boulevard between Imperial Hwy and 119th St	0.3	-	0.2	-
Alameda Street between 103rd and Imperial Hwy	0.3	-	0.3	-
Alameda Street between Imperial Hwy and Rosecrans Ave	0.0	-	0.0	-
103rd Street w/o Central Ave	0.0	-	0.1	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
103rd Street between Central Ave and Wilmington Ave	40			10970	67.4	65.2	63.7	68.7	66.4	64.9
103rd Street between Wilmington Ave Alameda St	35			9080	66.8	63.8	62.1	68.0	65.1	63.3
112th Street between Railroad and Mona Blvd	35			990	57.2	54.2	52.5	58.4	55.4	53.7
Imperial Highway between San Pedro St and Avalon Blvd	40			23590	70.1	68.1	66.7	71.3	69.3	67.9
Imperial Highway between Avalon Blvd and Slater Ave	40			32090	71.5	69.4	68.1	72.7	70.7	69.3
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
103rd Street between Central Ave and Wilmington Ave	40			11000	67.5	65.2	63.7	68.7	66.4	64.9
103rd Street between Wilmington Ave Alameda St	35			9250	66.9	63.9	62.2	68.1	65.1	63.4
112th Street between Railroad and Mona Blvd	35			2160	60.6	57.6	55.9	61.8	58.8	57.1
Imperial Highway between San Pedro St and Avalon Blvd	40			25470	70.5	68.4	67.1	71.7	69.7	68.3
Imperial Highway between Avalon Blvd and Slater Ave	40			34130	71.7	69.7	68.3	72.9	70.9	69.5

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
103rd Street between Central Ave and Wilmington Ave	0.0	-	0.0	-
103rd Street between Wilmington Ave Alameda St	0.0	-	0.1	-
112th Street between Railroad and Mona Blvd	3.4	-	3.4	-
Imperial Highway between San Pedro St and Avalon Blvd	0.4	-	0.4	-
Imperial Highway between Avalon Blvd and Slater Ave	0.2	-	0.2	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Willowbrook Transit Oriented District Specific Plan

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
Imperial Highway between Slater Ave and Wilmington Ave	40			28730	71.6	69.3	67.9	72.8	70.6	69.1
Imperial Highway between Wilmington Ave and Alameda St	40			34110	71.7	69.7	68.3	72.9	70.9	69.5
Imperial Highway e/o Alameda St	40			23650	70.1	68.1	66.7	71.4	69.3	68.0
118th Street between Compton Ave and Wilmington Ave	35			4940	64.2	61.2	59.5	65.4	62.4	60.7
120th Street between San Pedro St and Central Ave	40			13230	69.2	66.5	64.9	70.4	67.7	66.1
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
Imperial Highway between Slater Ave and Wilmington Ave	40			31110	72.0	69.7	68.2	73.2	70.9	69.4
Imperial Highway between Wilmington Ave and Alameda St	40			41880	72.6	70.6	69.2	73.8	71.8	70.4
Imperial Highway e/o Alameda St	40			25090	70.4	68.4	67.0	71.6	69.6	68.2
118th Street between Compton Ave and Wilmington Ave	35			5500	64.6	61.7	59.9	65.9	62.9	61.1
120th Street between San Pedro St and Central Ave	40			14640	69.6	66.9	65.3	70.8	68.2	66.5

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Imperial Highway between Slater Ave and Wilmington Ave	0.3	-	0.3	-
Imperial Highway between Wilmington Ave and Alameda St	0.9	-	0.9	-
Imperial Highway e/o Alameda St	0.3	-	0.2	-
118th Street between Compton Ave and Wilmington Ave	0.5	-	0.4	-
120th Street between San Pedro St and Central Ave	0.5	-	0.4	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
120th Street between Central Ave and Compton Ave	40			16420	69.2	66.9	65.4	70.4	68.1	66.7
119th Street between Compton Ave and Wilmington Ave	35			14020	68.7	65.7	64.0	69.9	66.9	65.2
119th Street between Wilmington Ave and Willowbrook Ave	35			9660	67.1	64.1	62.4	68.3	65.3	63.6
119th Street between Willowbrook Ave and Mona Blvd	35			6020	65.0	62.1	60.3	66.2	63.3	61.5
El Segundo Boulevard between San Pedro St and Slater Ave	40			25090	70.4	68.4	67.0	71.6	69.6	68.2
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
120th Street between Central Ave and Compton Ave	40			21030	70.3	68.0	66.5	71.5	69.2	67.7
119th Street between Compton Ave and Wilmington Ave	35			19450	70.1	67.2	65.4	71.3	68.4	66.6
119th Street between Wilmington Ave and Willowbrook Ave	35			10270	67.4	64.4	62.6	68.6	65.6	63.8
119th Street between Willowbrook Ave and Mona Blvd	35			6490	65.4	62.4	60.6	66.6	63.6	61.9
El Segundo Boulevard between San Pedro St and Slater Ave	40			25710	70.5	68.5	67.1	71.7	69.7	68.3

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
120th Street between Central Ave and Compton Ave	1.1	-	1.0	-
119th Street between Compton Ave and Wilmington Ave	1.5	-	1.4	-
119th Street between Wilmington Ave and Willowbrook Ave	0.3	-	0.2	-
119th Street between Willowbrook Ave and Mona Blvd	0.3	-	0.4	-
El Segundo Boulevard between San Pedro St and Slater Ave	0.1	-	0.1	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
El Segundo Boulevard between Slater Ave and Wilmington Ave	40			23840	70.8	68.5	67.1	72.0	69.8	68.3
El Segundo Boulevard between Wilmington Ave and Alameda Ave	40			15500	68.9	66.7	65.2	70.2	67.9	66.4
Rosecrans Avenue between San Pedro St and Willowbrook Ave	40			22220	70.5	68.2	66.7	71.7	69.4	68.0
Rosecrans Avenue between Willowbrook Ave and Alameda Ave	40			24330	70.9	68.6	67.1	72.1	69.8	68.4
I-105 between Compton Ave and Mona Blvd	65			101360	80.4	78.8	77.7	81.6	80.0	78.9
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
El Segundo Boulevard between Slater Ave and Wilmington Ave	40			26090	71.2	68.9	67.4	72.4	70.1	68.7
El Segundo Boulevard between Wilmington Ave and Alameda Ave	40			16860	69.3	67.0	65.6	70.5	68.2	66.8
Rosecrans Avenue between San Pedro St and Willowbrook Ave	40			23400	70.7	68.5	67.0	71.9	69.7	68.2
Rosecrans Avenue between Willowbrook Ave and Alameda Ave	40			25700	71.1	68.9	67.4	72.4	70.1	68.6
I-105 between Compton Ave and Mona Blvd	65			104860	80.5	79.0	77.8	81.7	80.2	79.0

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
El Segundo Boulevard between Slater Ave and Wilmington Ave	0.3	-	0.4	-
El Segundo Boulevard between Wilmington Ave and Alameda Ave	0.3	-	0.4	-
Rosecrans Avenue between San Pedro St and Willowbrook Ave	0.3	-	0.2	-
Rosecrans Avenue between Willowbrook Ave and Alameda Ave	0.3	-	0.2	-
I-105 between Compton Ave and Mona Blvd	0.2	-	0.1	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Main Street, N/O and S/O Imperial Hwy	35			11840	67.3	64.7	63.0	68.5	65.9	64.2
San Pedro Street, 108th St to 135th St	40			11320	68.0	65.5	64.0	69.2	66.8	65.2
Avalon Boulevard, N/O Imperial Hwy	40			20440	70.5	68.1	66.6	71.8	69.3	67.8
Central Avenue, Rosecrans Ave to Walnut St	40			19320	69.9	67.6	66.1	71.1	68.8	67.4
Wilmington Avenue, Rosecrans Avenue to SR-91	40			21370	70.3	68.1	66.6	71.6	69.3	67.8
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Main Street, N/O and S/O Imperial Hwy	35			13490	67.9	65.2	63.6	69.1	66.4	64.8
San Pedro Street, 108th St to 135th St	40			12480	68.4	66.0	64.4	69.6	67.2	65.6
Avalon Boulevard, N/O Imperial Hwy	40			22850	71.0	68.6	67.0	72.2	69.8	68.3
Central Avenue, Rosecrans Ave to Walnut St	40			20860	70.2	68.0	66.5	71.4	69.2	67.7
Wilmington Avenue, Rosecrans Avenue to SR-91	40			21950	70.5	68.2	66.7	71.7	69.4	67.9
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Main Street, N/O and S/O Imperial Hwy	35			13650	67.9	65.3	63.6	69.2	66.5	64.8
San Pedro Street, 108th St to 135th St	40			12560	68.4	66.0	64.4	69.6	67.2	65.7
Avalon Boulevard, N/O Imperial Hwy	40			23550	71.2	68.7	67.2	72.4	69.9	68.4
Central Avenue, Rosecrans Ave to Walnut St	40			21600	70.4	68.1	66.6	71.6	69.3	67.8
Wilmington Avenue, Rosecrans Avenue to SR-91	40			25170	71.0	68.8	67.3	72.3	70.0	68.5

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Main Street, N/O and S/O Imperial Hwy	0.1	0.6	0.0	0.6
San Pedro Street, 108th St to 135th St	0.0	0.4	0.1	0.5
Avalon Boulevard, N/O Imperial Hwy	0.1	0.6	0.1	0.6
Central Avenue, Rosecrans Ave to Walnut St	0.1	0.5	0.1	0.4
Wilmington Avenue, Rosecrans Avenue to SR-91	0.6	0.7	0.6	0.7

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Alameda Street, Rosecrans Ave to SR-91	45			19730	71.2	69.0	67.5	72.4	70.2	68.7
State St/Santa Fe Ave, N/O Imperial Hwy to S/O El Segundo Blvd	40			13910	68.9	66.4	64.9	70.1	67.7	66.1
108th Street, Central Ave to W/O Avalon Blvd	40			7320	66.6	63.9	62.3	67.8	65.1	63.5
Imperial Highway, San Pedro St to W/O Main St	45			24610	72.2	69.9	68.4	73.4	71.1	69.6
Imperial Highway, Alameda St to E/O State St	45			24220	72.1	69.8	68.4	73.3	71.1	69.6
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Alameda Street, Rosecrans Ave to SR-91	45			19860	71.3	69.0	67.5	72.5	70.2	68.7
State St/Santa Fe Ave, N/O Imperial Hwy to S/O El Segundo Blvd	40			13910	68.9	66.4	64.9	70.1	67.7	66.1
108th Street, Central Ave to W/O Avalon Blvd	40			8060	67.0	64.3	62.7	68.2	65.6	63.9
Imperial Highway, San Pedro St to W/O Main St	45			27410	72.7	70.4	68.9	73.9	71.6	70.1
Imperial Highway, Alameda St to E/O State St	45			25090	72.3	70.0	68.5	73.5	71.2	69.7
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Alameda Street, Rosecrans Ave to SR-91	45			21160	71.5	69.3	67.8	72.7	70.5	69.0
State St/Santa Fe Ave, N/O Imperial Hwy to S/O El Segundo Blvd	40			14010	68.9	66.5	64.9	70.1	67.7	66.1
108th Street, Central Ave to W/O Avalon Blvd	40			8140	67.1	64.4	62.7	68.3	65.6	64.0
Imperial Highway, San Pedro St to W/O Main St	45			28680	72.9	70.6	69.1	74.1	71.8	70.3
Imperial Highway, Alameda St to E/O State St	45			26530	72.5	70.2	68.8	73.7	71.5	70.0

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
	Project	Cumulative	Project	Cumulative
Roadway/Segment	Increment	Increment	Increment	Increment
Alameda Street, Rosecrans Ave to SR-91	0.3	0.3	0.3	0.3
State St/Santa Fe Ave, N/O Imperial Hwy to S/O El Segundo Blvd	0.0	0.0	0.0	0.0
108th Street, Central Ave to W/O Avalon Blvd	0.0	0.5	0.1	0.5
Imperial Highway, San Pedro St to W/O Main St	0.2	0.7	0.2	0.7
Imperial Highway, Alameda St to E/O State St	0.3	0.4	0.3	0.4

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
El Segundo Boulevard, W/O and E/O State St	35			8660	66.6	63.6	61.9	67.8	64.9	63.1
Comption Boulevard, W/O Central Ave to E/O Willowbrook Ave	40			19660	70.4	67.9	66.4	71.6	69.2	67.6
Alondra Boulevard, W/O Central Ave to E/O Willowbrook Ave	40			18540	69.9	67.6	66.2	71.1	68.7	67.2
0	0			0	-	-	-	-	-	-
0	0			0	-	-	-	-	-	-
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
El Segundo Boulevard, W/O and E/O State St	35			9260	66.9	63.9	62.2	68.1	65.1	63.4
Comption Boulevard, W/O Central Ave to E/O Willowbrook Ave	40			19700	70.4	67.9	66.4	71.6	69.2	67.6
Alondra Boulevard, W/O Central Ave to E/O Willowbrook Ave	40			19440	69.9	67.6	66.1	71.1	68.9	67.4
0	0			0	-	-	-	-	-	-
0	0			0	-	-	-	-	-	-
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
El Segundo Boulevard, W/O and E/O State St	35			9730	67.1	64.1	62.4	68.3	65.4	63.6
Comption Boulevard, W/O Central Ave to E/O Willowbrook Ave	40			19830	70.4	68.0	66.4	71.6	69.2	67.6
Alondra Boulevard, W/O Central Ave to E/O Willowbrook Ave	40			19530	69.9	67.7	66.2	71.2	68.9	67.4
0	0			0	-	-	-	-	-	-
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
El Segundo Boulevard, W/O and E/O State St	0.3	0.5	0.2	0.5
Comption Boulevard, W/O Central Ave to E/O Willowbrook Ave	0.0	0.0	0.0	0.0
Alondra Boulevard, W/O Central Ave to E/O Willowbrook Ave	0.0	0.2	0.0	0.2
0	-	-	-	-
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
				0	-	-	-	-	-	-
Existing										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
Main Street, N/O and S/O Imperial Hwy	35			11840	67.3	64.7	63.0	68.5	65.9	64.2
San Pedro Street, 108th St to 135th St	40			11320	68.0	65.5	64.0	69.2	66.8	65.2
Avalon Boulevard, N/O Imperial Hwy	40			20440	70.5	68.1	66.6	71.8	69.3	67.8
Central Avenue, Rosecrans Ave to Walnut St	40			19320	69.9	67.6	66.1	71.1	68.8	67.4
Wilmington Avenue, Rosecrans Avenue to SR-91	40			21370	70.3	68.1	66.6	71.6	69.3	67.8
Existing With Project										
Roadway/Segment	**Speed MPH**	**Traffic Volumes AM**	**PM**	**ADT**	**Leq ROW**	**Leq 25 Feet**	**Leq 50 Feet**	**CNEL ROW**	**CNEL 25 Feet**	**CNEL 50 Feet**
Main Street, N/O and S/O Imperial Hwy	35			12000	67.4	64.7	63.1	68.6	65.9	64.3
San Pedro Street, 108th St to 135th St	40			11400	68.0	65.6	64.0	69.2	66.8	65.2
Avalon Boulevard, N/O Imperial Hwy	40			21140	70.7	68.3	66.7	71.9	69.5	67.9
Central Avenue, Rosecrans Ave to Walnut St	40			20060	70.1	67.8	66.3	71.3	69.0	67.5
Wilmington Avenue, Rosecrans Avenue to SR-91	40			24590	70.9	68.7	67.2	72.2	69.9	68.4

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Main Street, N/O and S/O Imperial Hwy	0.0	-	0.1	-
San Pedro Street, 108th St to 135th St	0.0	-	0.0	-
Avalon Boulevard, N/O Imperial Hwy	0.2	-	0.1	-
Central Avenue, Rosecrans Ave to Walnut St	0.2	-	0.1	-
Wilmington Avenue, Rosecrans Avenue to SR-91	0.6	-	0.6	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Willowbrook Transit Oriented District Specific Plan

Existing											
	Speed	Traffic Volumes			Leq			CNEL			
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet	
					-	-	-	-	-	-	
					-	-	-	-	-	-	
					-	-	-	-	-	-	
					-	-	-	-	-	-	
					-	-	-	-	-	-	
Future No Project											
	Speed	Traffic Volumes			Leq			CNEL			
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet	
Alameda Street, Rosecrans Ave to SR-91	45			19730	71.2	69.0	67.5	72.4	70.2	68.7	
State St/Santa Fe Ave, N/O Imperial Hwy to S/O El Segundo Blvd	40			13910	68.9	66.4	64.9	70.1	67.7	66.1	
108th Street, Central Ave to W/O Avalon Blvd	40			7320	66.6	63.9	62.3	67.8	65.1	63.5	
Imperial Highway, San Pedro St to W/O Main St	45			24610	72.2	69.9	68.4	73.4	71.1	69.6	
Imperial Highway, Alameda St to E/O State St	45			24220	72.1	69.8	68.4	73.3	71.1	69.6	
Future With Project											
	Speed	Traffic Volumes			Leq			CNEL			
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet	
Alameda Street, Rosecrans Ave to SR-91	45			21030	71.5	69.2	67.7	72.7	70.4	69.0	
State St/Santa Fe Ave, N/O Imperial Hwy to S/O El Segundo Blvd	40			14010	68.9	66.5	64.9	70.1	67.7	66.1	
108th Street, Central Ave to W/O Avalon Blvd	40			7400	66.6	64.0	62.3	67.9	65.2	63.5	
Imperial Highway, San Pedro St to W/O Main St	45			25880	72.4	70.1	68.6	73.6	71.3	69.9	
Imperial Highway, Alameda St to E/O State St	45			25660	72.4	70.1	68.6	73.6	71.3	69.8	

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
	Project	Cumulative	Project	Cumulative
Roadway/Segment	Increment	Increment	Increment	Increment
Alameda Street, Rosecrans Ave to SR-91	0.2	-	0.3	-
State St/Santa Fe Ave, N/O Imperial Hwy to S/O El Segundo Blvd	0.0	-	0.0	-
108th Street, Central Ave to W/O Avalon Blvd	0.1	-	0.0	-
Imperial Highway, San Pedro St to W/O Main St	0.2	-	0.3	-
Imperial Highway, Alameda St to E/O State St	0.2	-	0.2	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Roadway Traffic Noise Calculations

Project: Willowbrook Transit Oriented District Specific Plan

	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
					-	-	-	-	-	-
Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
El Segundo Boulevard, W/O and E/O State St	35			8660	66.6	63.6	61.9	67.8	64.9	63.1
Comption Boulevard, W/O Central Ave to E/O Willowbrook Ave	40			19660	70.4	67.9	66.4	71.6	69.2	67.6
Alondra Boulevard, W/O Central Ave to E/O Willowbrook Ave	40			19420	69.9	67.6	66.2	71.1	68.7	67.2
0	0			0	-	-	-	-	-	-
0	0			0	-	-	-	-	-	-
Existing With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
El Segundo Boulevard, W/O and E/O State St	35			9130	66.8	63.9	62.1	68.1	65.1	63.3
Comption Boulevard, W/O Central Ave to E/O Willowbrook Ave	40			19790	70.4	68.0	66.4	71.6	69.2	67.6
Alondra Boulevard, W/O Central Ave to E/O Willowbrook Ave	40			19620	70.0	67.7	66.2	71.2	68.7	67.2
0	0			0	-	-	-	-	-	-
0	0			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		50 ft. from ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
El Segundo Boulevard, W/O and E/O State St	0.2	-	0.2	-
Comption Boulevard, W/O Central Ave to E/O Willowbrook Ave	0.0	-	0.0	-
Alondra Boulevard, W/O Central Ave to E/O Willowbrook Ave	0.0	-	0.0	-
0	-	-	-	-
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Appendix F
Traffic Study

ESA

Appendix F
Traffic Study

ESA

Willowbrook TOD Specific Plan

EIR Traffic Study

May 4, 2017

Prepared by

The **Mobility** Group

Willowbrook TOD Specific Plan

EIR Traffic Study

May 4, 2017



Matthew L. Simons
TR 2154

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1. Introduction

This report documents a traffic analysis to support a Program EIR for the Willowbrook TOD Specific Plan. The area is located in the unincorporated community of Willowbrook in Los Angeles County. The Specific Plan is focused around the Willowbrook/Rosa Parks Station, which serves the Metro Blue Line and Metro Green Line. The Specific Plan Area generally contains the southern portion of the area within a half mile radius of the station, and extends from Imperial Highway in the north, to 121st/122nd Streets in the south, Mona Boulevard in the east and Compton Avenue in the west. The Specific Plan Area is shown in Figure 1.1.

1.1 Project Description

The proposed project involves the establishment of the Willowbrook TOD Specific Plan, including goals, and establishment of a land use program and circulation system that will provide a pedestrian-friendly, mixed-use environment, in a transit-oriented district around the existing Metro Station. The Specific Plan is fully described in the Draft Willowbrook TOD Specific Plan[1] document.

Some of the key facilities and land uses in the Specific Plan area include (see Figure 1.1): the Willowbrook/Rosa Parks Station, the Martin Luther King Jr. Medical Center, Charles R. Drew University of Medicine and Science, Kenneth Hahn Plaza shopping center, the Willowbrook Library, and the Martin Luther King Jr. Center for Public Health.

The purpose of the Willowbrook TOD Specific Plan is to revitalize the community within the project area and to improve access to all modes of transportation, including transit, walking, and bicycling. Building off the goals and policies outlined in the General Plan, the Willowbrook TOD Specific Plan will encourage transit oriented development, promote active transportation and reduce vehicle miles travelled. The Specific Plan is anticipated to facilitate development, especially residential and employment-generating uses proximate to the Willowbrook/Rosa Parks Station.

The primary objectives of the Specific Plan are to identify land use options that include mixed uses, increased housing opportunities', and neighborhood–serving retail uses, In addition the Specific Plan is intended to foster a healthy community by improving pedestrian linkages between the Willowbrook/Rosa Parks Station, the Kenneth Hahn Plaza, the Martin Luther King Jr. Medical Center, the Charles R. Drew University of Medicine and Science, future mixed use areas, and existing residential neighborhoods.

[1] Draft Willowbrook TOD Specific Plan, County of Los Angeles – October, 2015.

1.2 Study Scope

The scope for the analysis in this study was determined in conjunction with the County of Los Angeles staff including the geographic coverage, input assumptions, and methodologies used in the analysis. The analysis addresses the AM and PM peak hours which are the times of the day when the street traffic volumes in the area are highest. For purposes of analysis a future horizon year of 2035 is assumed.

The study area includes a total of 66 analyzed intersections, which are located in four jurisdictions, as follows:

- 28 in the County of Los Angeles
- 16 in the City of Compton
- 3 in the City of Lynwood
- 19 in the City of Los Angeles

Four of the intersections in the County are shared with the City of Compton, and two are shared with the City of Lynwood. Four of the intersections in the City of Los Angeles are shared with the County.

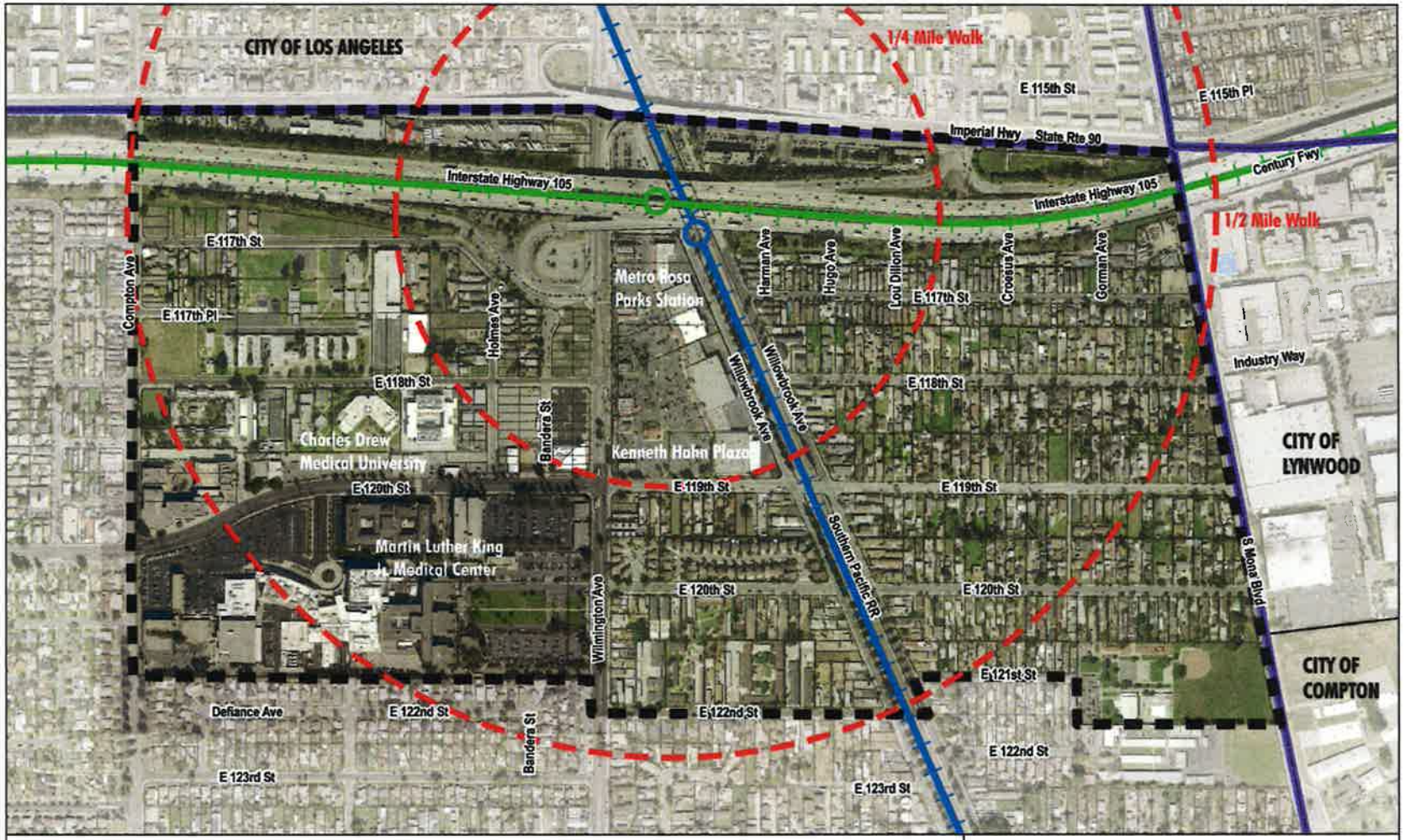
The study follows the methodology procedures of Los Angeles County as the lead agency. However, the intersections in each jurisdiction were analyzed with the methodology appropriate to that jurisdiction, as described in Chapter 2.

The Traffic Study addresses the following scenarios:

- Existing Conditions
- Existing Plus Project Conditions
- Existing Plus Project Conditions Plus Mitigations
- Existing Plus Project Plus Cumulative Conditions (Year 2035)
- Existing Plus Project Plus Cumulative Conditions (Year 2035) Plus Mitigations

1.3 Organization of this Report

The remainder of this report is organized as follows. Chapter 2 describes the existing transportation conditions in the area of the Project. Chapter 3 describes the transportation characteristics of the Specific Plan Project. Chapter 4 addresses impacts for the Existing Plus Project Conditions. Chapter 5 describes transportation parameter inputs for future conditions (2035). Chapter 6 addresses impacts for the Existing Plus Project plus Cumulative Conditions. Chapter 7 provides an analysis of the freeway system for Caltrans. Chapter 8 addresses mitigations for significant transportation impacts.



Source: The Arroyo Group

11/7/16

Figure 1.1
Specific Plan Area

Willowbrook TOD Specific Plan EIR Traffic Study

The **Mobility** Group
Transportation Strategies & Solutions

2. Existing Conditions

The Specific Plan is focused around the Willowbrook/Rosa Parks Station, which serves the Metro Blue Line and Metro Green Line. The Specific Plan Area generally contains the southern portion of the area within a half mile radius of the station, and extends from Imperial Highway in the north, to 121st/122nd Streets in the south, Mona Boulevard in the east and Compton Avenue in the west. The Specific Plan Area is shown in Figure 1.1.

The street system in the Specific Plan area is under the jurisdiction of the County of Los Angeles. Some streets and study intersections outside of the Specific Plan area are under the jurisdiction of the City of Compton, the City of Lynwood and the City of Los Angeles.

2.1 Roadway System

Regional access to the Project site is provided by the Century (I-105) freeway which is located immediately to the north and east of the Project Site. The I-710 Freeway runs north-south approximately 3.4 miles east of the Project Site. The I-110 Freeway runs north-south approximately 2.8 miles west of the Project Site, and the SR-91 Freeway runs east-west-approximately 3.4 miles south of the Project Site.

The Project site is served by a comprehensive grid system of surface streets, with multiple access points to the I-105 freeway. The key surface streets serving the area of the Specific Plan are described below (street classification references are from the County of Los Angeles General Plan).

North-South Streets

San Pedro Street: San Pedro Street is a two-way street and is classified as a Secondary Highway. South of 120th Street it has two travel lanes in each direction, and north of 120th Street it has one travel lane in each direction with left turn lanes at intersections. North of 120th Street it also has a central left turn lane. North of Alondra Boulevard it connects to Avalon Boulevard. On-street parking is generally allowed on both sides of the street.

Main Street: Main Street is a two-way street and is classified as a Major Highway. South of 120th Street it has two travel lanes in each direction, and north of 120th Street it has one travel lane in each direction with left turn lanes at intersections. North of 119th Street and south of El Segundo Boulevard it also has a central left turn lane. On-street parking is generally allowed on both sides of the street.

Avalon Boulevard: Avalon Boulevard is a two-way street and is classified as a Major Highway. It has two travel lanes in each direction with left turn lanes at intersections, and on-street parking is generally allowed. Between 119th Street and 126th Street it also has a central left turn lane.

Central Avenue: Central Avenue is a two-way street and is classified as a Major Highway. Its configuration varies, but generally has two travel lanes in each direction with left turn lanes at intersections, and on-street parking is generally allowed. Between 121st Street and 127th Street it has local access streets immediately adjacent to it on either side, which each allow travel in both directions with parking permitted on both sides.

Compton Avenue: Compton Avenue is a two-way street and is classified as a Secondary Highway. It has two travel lanes in each direction. On-street parking is generally allowed on both sides of the street.

Wilmington Avenue: Wilmington Avenue is a two-way street and is classified as a Major Highway. North of 119th Street, it has three travel lanes northbound and two travel lanes southbound with left turn lanes at intersections, and on-street parking is generally prohibited. North of Imperial Highway it reduces to one lane in each direction. South of 119th Street it has two travel lanes in each direction, and on-street parking is permitted without restriction.

Willowbrook Avenue - West: Willowbrook Avenue West is classified as a Secondary Highway. It does not connect directly to Imperial Highway, but is accessed from Wilmington Avenue and provides one southbound lane past the Willowbrook/Rosa Parks Station (and adjacent bus bays). From the Willowbrook/Rosa Parks station south to 119th Street it is a one-way southbound street and has two southbound travel lanes. On-street parking is prohibited on both sides of the street. South of 119th Street, it is a two-way street with one lane in each direction. On-street parking is generally allowed on the west side of the street and prohibited on the east side.

Willowbrook Avenue - East: Willowbrook Avenue East is a two-way street and is classified as a Secondary Highway. It has one travel lane in each direction. On-street parking is generally allowed on the east side of the street and prohibited on the west side. It does not extend north of I-105 as a though street, as the section between just north of 117th Street and Imperial Highway is restricted to southbound buses serving the Willowbrook/Rosa Parks Station.

Mona Boulevard: Mona Boulevard is a two-way street and is classified as a Secondary Highway. It has two travel lanes in each direction. On-street parking is generally prohibited.

Alameda Street: Alameda Street is split into an eastern section and a western section, separated by a train line. The western section is a two-way street and is classified as a Secondary Highway. It has two travel lanes in each direction and on-street parking is

generally allowed on both sides of the street. The eastern section of Alameda Street has a single travel lane in each direction and is a local street and parking is generally allowed on both sides of the street.

State Street / Santa Fe Avenue: State Street is a two-way street and is classified as a Secondary Highway north of Lynwood Road. South of Lynwood Avenue it is classified as a Major Highway. It has two travel lanes in each direction with left turn lanes at intersections. On-street parking is generally allowed on both sides of the street.

East-West Streets

103th Street: 103th Street is a two-way street extending between Alameda Street and S Broadway, and is classified as a local street. It has one travel lane in each direction. On-street parking is generally allowed on both sides of the street.

108th Street: 108th Street is a two-way street extending west from Wilmington Avenue past I-110, and is classified as a Secondary Highway. It has one travel lane in each direction. On-street parking is generally allowed on both sides of the street. East of Wilmington Avenue it continues as the southern section of Santa Ana Boulevard South.

Santa Ana Boulevard North: Santa Ana Boulevard North is a two-way street extending between Willowbrook Avenue and Alameda Street, and is a local street. It has one travel lane in each direction. On-street parking is generally allowed on both sides of the street. East of Alameda Street it continues as Fernwood Avenue.

Santa Ana Boulevard South: Santa Ana Boulevard South is a two-way street extending between Wilmington Avenue and Alameda Street, and is a local street. It has one travel lane in each direction. On-street parking is generally allowed on both sides of the street. West of Wilmington Avenue it continues as 108th Street.

Imperial Highway: Imperial Highway is a two-way street and is classified as a Major Highway. The configuration varies by location. It generally has three travel lanes in each direction with left turn lanes at intersections. It is grade separated from Wilmington Avenue and Willowbrook Avenue on an overpass with two lanes in each direction, and one-way frontage roads. On-street parking is allowed in some locations, with some restrictions.

119th Street: 119th Street is a two-way street extending between Wilmington Avenue and Mona Boulevard, and is classified as a Secondary Highway. It has one travel lane in each direction with a central turn lane. On-street parking is generally allowed on both sides of the street. West of Wilmington Avenue it continues as 120th Street.

120th Street: 120th Street, extending west of Wilmington Avenue, is a two-way street and is classified as a Secondary Highway. It has two travel lanes in each direction. On-street

parking is generally allowed with some restrictions. East of Wilmington Avenue, 120th Street extends east to Mona Boulevard, on an alignment south of 120th Street west of Wilmington Avenue, but does not connect across the Metro Blue Line tracks on Willowbrook Avenue. Along this section, it is a Local Street, with one lane in each direction with parking allowed on both sides of the street.

El Segundo Boulevard: El Segundo Boulevard is a two-way street and is classified as a Major Highway. The configuration varies by location. It generally has two travel lanes in each direction with left turn lanes at intersections. On-street parking is generally allowed on both sides of the street.

Rosecrans Avenue: Rosecrans Avenue is a two-way street and is classified as a Major Highway. The configuration varies by location. It generally has two travel lanes in each direction with left turn lanes at intersections. On-street parking is generally allowed on both sides of the street.

West Compton Boulevard: West Compton Boulevard is a two-way street and is classified as a Secondary Highway east of Central Avenue. West of Central Avenue it connects to Redondo Beach Boulevard and is classified as a Major Highway. It generally has two travel lanes in each direction with left turn lanes at intersections. On-street parking is generally prohibited.

Alondra Boulevard: Alondra Boulevard is a two-way street and is classified as a Major Highway. It generally has two travel lanes in each direction with left turn lanes at intersections. On-street parking is generally allowed on both sides of the street.

Greenleaf Boulevard: Greenleaf Boulevard is a two-way street extending between Central Avenue and Atlantic Drive and is classified as a Secondary Highway. It generally has one travel lane in each direction with left turn lanes at intersections and a central left turn lane. On-street parking is generally allowed on both sides of the street.

Walnut Street: Walnut Street is a two-way street extending between Billings Drive and Acacia Court and is classified as a Secondary Highway. Between Avalon Boulevard and Central Avenue it has two travel lanes in each direction with a central left turn lane. West of Avalon Boulevard and east of Central Avenue it has one travel lane in each direction. On-street parking is generally prohibited.

2.2 Study Intersections

A total of sixty-six study intersections were identified, in conjunction with Los Angeles County staff, for inclusion in the traffic analysis. The analyzed locations are shown in Figure 2.1 and were identified as locations where the majority of trips associated with the Project would be focused based on the trip distribution developed for the Project. These locations

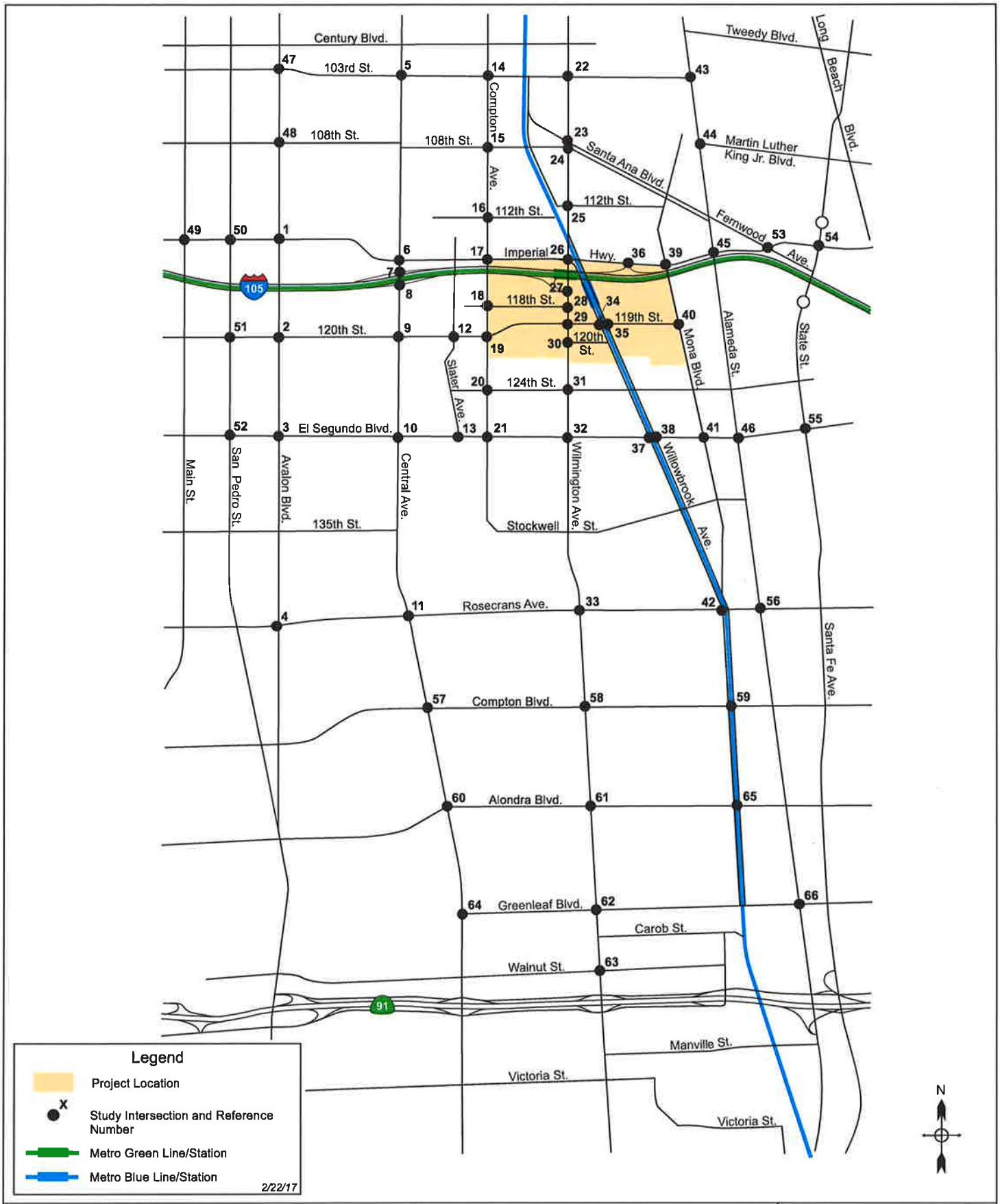


Figure 2.1
Study Intersections

Willowbrook TOD Specific Plan EIR Traffic Study

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consist of the intersections through which Project trips would travel before dispersing to multiple routes and therefore were the locations where potential traffic impacts were most likely to occur. The intersections identified for analysis are as follows:

1. Avalon Blvd & Imperial Hwy
2. Avalon Blvd & 120th St
3. Avalon Blvd & El Segundo Blvd
4. Avalon Blvd & Rosecrans Ave
5. Central Ave & 103rd St
6. Central Ave & Imperial Hwy
7. Central Ave & I-105 w/b Ramps
8. Central Ave & I-105 e/b Ramps
9. Central Ave & 120th St
10. Central Ave & El Segundo Blvd
11. Central Ave & Rosecrans Ave
12. Slater Ave & 120th St
13. Slater Ave & El Segundo Blvd
14. Compton Ave & 103rd St
15. Compton Ave & 108th St
16. Compton Ave & 112th St
17. Compton Ave & Imperial Hwy
18. Compton Ave & 118th St
19. Compton Ave & 120th St
20. Compton Ave & 124th St
21. Compton Ave & El Segundo Blvd
22. Wilmington Ave & 103rd St
23. Wilmington Ave & Santa Ana Blvd
24. Wilmington Ave & 108th St
25. Wilmington Ave & 112th St
26. Wilmington Ave & Imperial Hwy
27. Wilmington Ave & I-105 e/b Ramps
28. Wilmington Ave & 118th St
29. Wilmington Ave & 120th St West
30. Wilmington Ave & 120th St East
31. Wilmington Ave & 124th St
32. Wilmington Ave & El Segundo Blvd
33. Wilmington Ave & Rosecrans Ave
34. Willowbrook Ave W & 119th Street
35. Willowbrook Ave E & 119th Street
36. Imperial Hwy & I-105 w/b Ramps
37. Willowbrook Ave W & El Segundo Blvd
38. Willowbrook Ave E & El Segundo Blvd
39. Mona Blvd & Imperial Hwy

40. Mona Blvd & 119th St
41. Mona Blvd & El Segundo Blvd
42. Willowbrook Ave & Rosecrans Ave
43. Alameda St & 103rd St
44. Alameda St & Abbott Rd
45. Alameda St & Imperial Hwy
46. Alameda St & El Segundo Blvd
47. Avalon Blvd & 103rd St
48. Avalon Blvd & 108th St
49. Imperial Hwy & Main St
50. Imperial Hwy & San Pedro St
51. San Pedro St & 120th St
52. El Segundo Blvd & San Pedro St
53. Imperial Hwy & Fernwood Ave
54. Imperial Hwy & State St
55. El Segundo Blvd & Santa Fe Ave
56. Alameda St & Rosecrans Ave
57. Central Ave & W Compton Blvd
58. Wilmington Ave & W Compton Blvd
59. Willowbrook Ave & W Compton Blvd
60. Central Ave & Alondra Blvd
61. Wilmington Ave & Alondra Blvd
62. Wilmington Ave & Greenleaf Blvd
63. Wilmington Ave & Walnut St
64. Central Ave & Greenleaf Blvd
65. Willowbrook Ave & Alondra Blvd
66. Alameda St & Greenleaf Blvd

The existing lane configurations for these sixty six analyzed intersections are shown in Figure 2.2.

Intersections in the City of Los Angeles are signalized and currently operate under the City's ATSAC system (Automated Traffic Surveillance and Control) which is a centralized control system that provides for the coordination of traffic signal timing to maximize the street capacities and to minimize traffic delays on City streets. Per the City of Los Angeles, a capacity increase of 7% (0.07 volume/capacity adjustment) was applied for ATSAC at these intersections.

2.3 Existing Intersection Conditions

Existing Traffic Volumes

Recent traffic counts were used for all of the analyzed intersections. AM and PM peak period

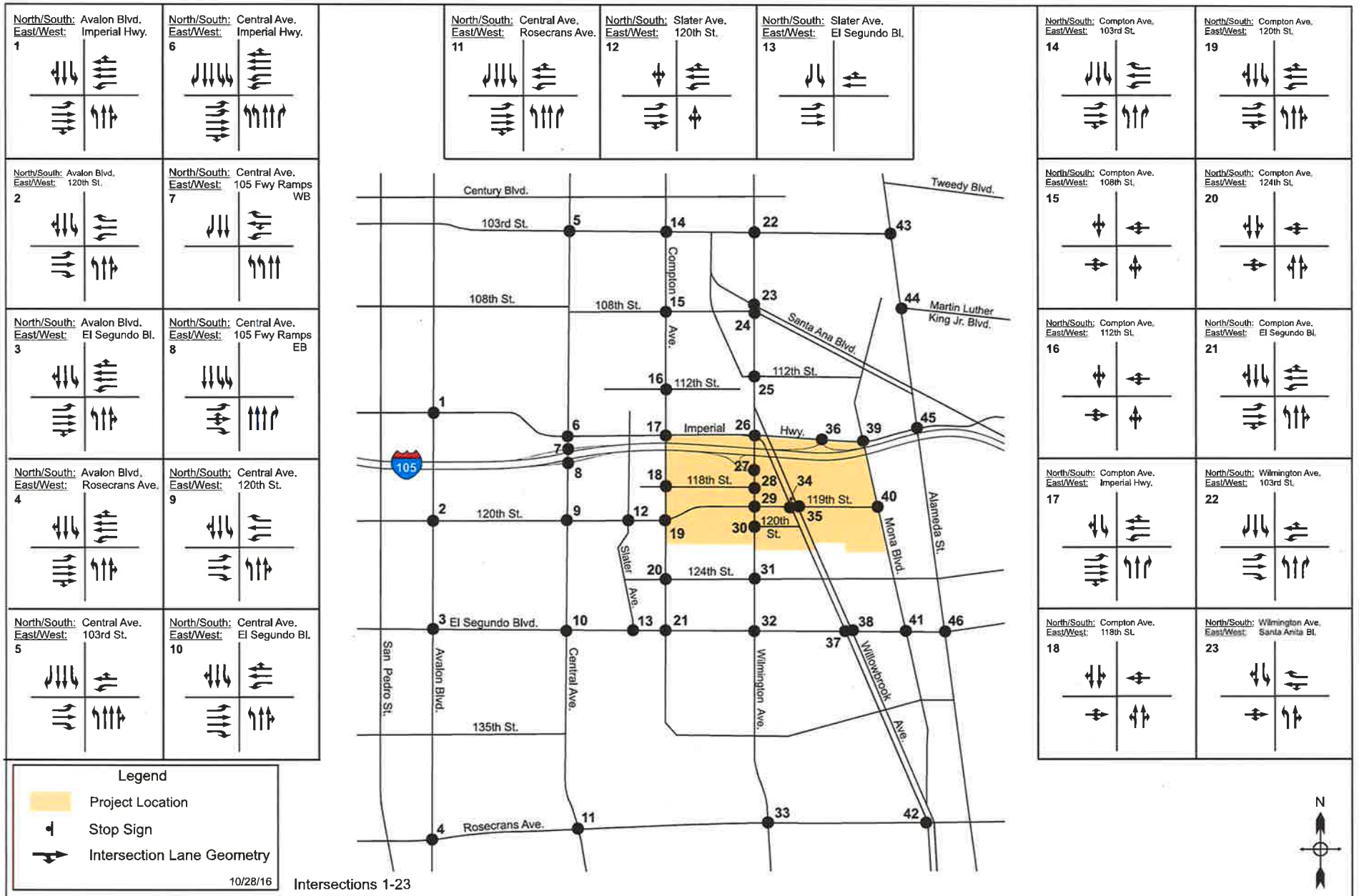


Figure 2.2
Configuration of Analyzed Intersections

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Intersections 24-46

Figure 2.2
Configuration of Analyzed Intersections

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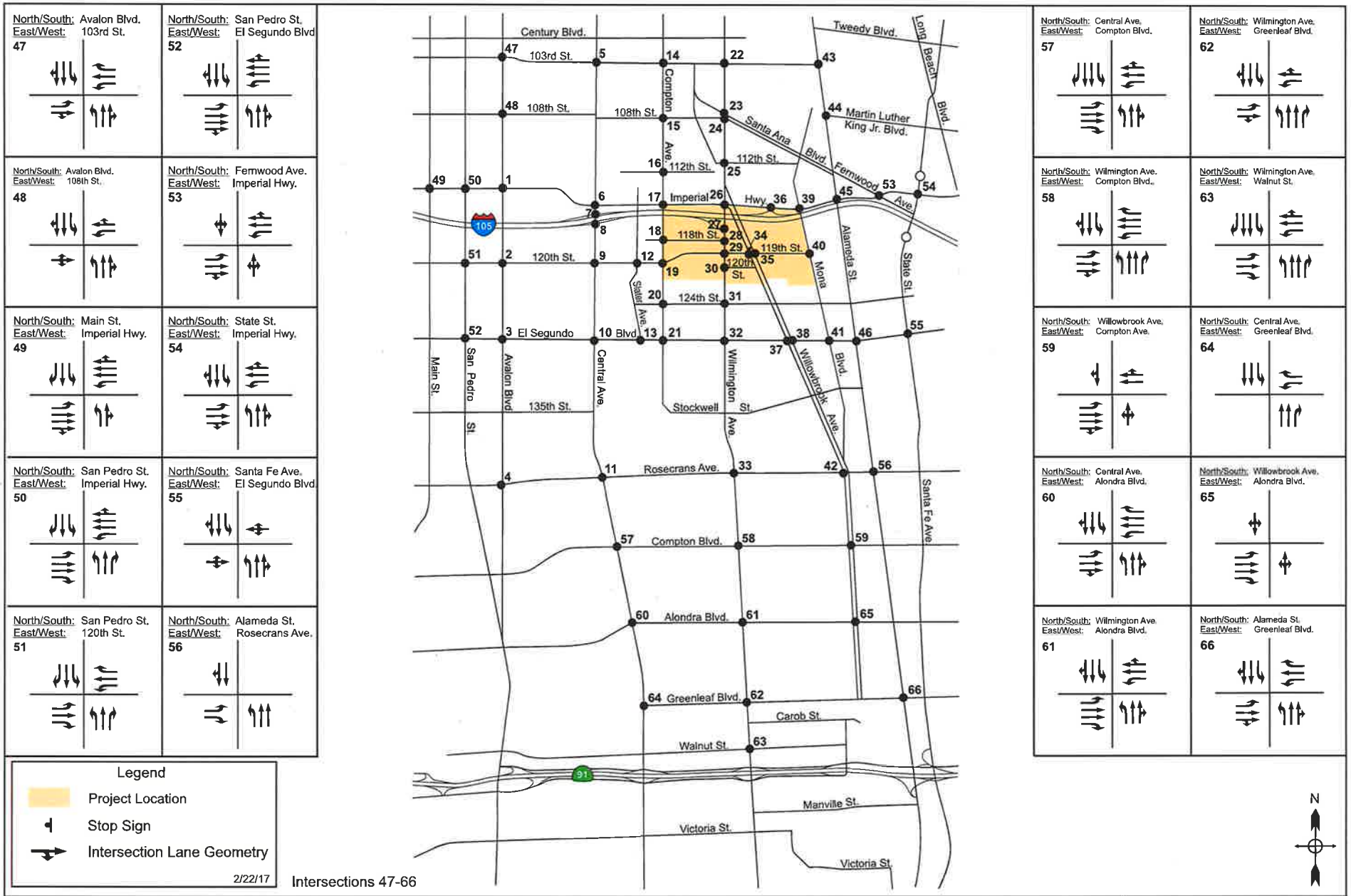


Figure 2.2
Configuration of Analyzed Intersections

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traffic counts (7-10 AM and 3-6 PM) were conducted in May of 2015 for intersections 1-46 and were conducted in December 2016 for intersections 47-66. The 2015 counts were factored by 1% to reflect 2016 conditions. The existing peak hour traffic volumes are illustrated in Figure 2.3 and 2.4 for the AM and PM peak hours respectively, and were used in all subsequent analyses. The traffic volume counts are shown in Appendix C.

Level of Service Methodology

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F, with each level defined by a range of volume/capacity (V/C) ratios. Table 2.1 defines the ranges of V/C ratios and their corresponding levels of service for signalized intersections. Three study intersections are unsignalized. Levels of service for unsignalized intersections are defined instead by the average delay in seconds per vehicle occurring at the intersection. In contrast to signalized intersections, where all approaches to the intersection must stop at a red light and wait for the next green light, at stop-controlled intersections only the minor street traffic controlled by the stop sign is required to stop (at two-way stop intersections). Through traffic movements on the major street do not stop, and turning movements from the major street must stop only if there is conflicting traffic approaching in the opposite direction. At all-way stop intersections, all approaches have to stop. Table 2.2 defines the ranges of delay and their corresponding levels of service for unsignalized intersections. For unsignalized intersections these parameters are reported for the minor movements only and not for the major street through moves or for the intersection as a whole.

SB 743

Senate Bill 743 mandated that CEQA review of transportation impacts of proposed development projects no longer be based on delay and capacity methods such as delay and level of service and instead use another methodology. The Office of Planning and Research (OPR) is currently in the process of updating CEQA guidelines to these ends and has proposed that the impact methodology be based on vehicle miles travelled. At this time, OPR is finalizing its recommendations but no official procedures have been adopted at the statewide level. In anticipation of SB743 being implemented, the County of Los Angeles is in the process of developing procedures and methodologies but similarly has not yet finalized or adopted such procedures. The analysis in this study therefore follows the current County of Los Angeles Traffic Study Guidelines and is based on intersection level of service analysis.

Los Angeles County Methodology

Per the County of Los Angeles Traffic Impact Analysis guidelines, the Intersection Capacity Utilization (ICU) method of intersection analysis was used to obtain volume/capacity (V/C) ratios for each signalized study intersection in the county. A capacity of 1,600 vehicles per hour per lane and 2,880 vehicles per hour for dual left-turn lanes, and a ten percent yellow

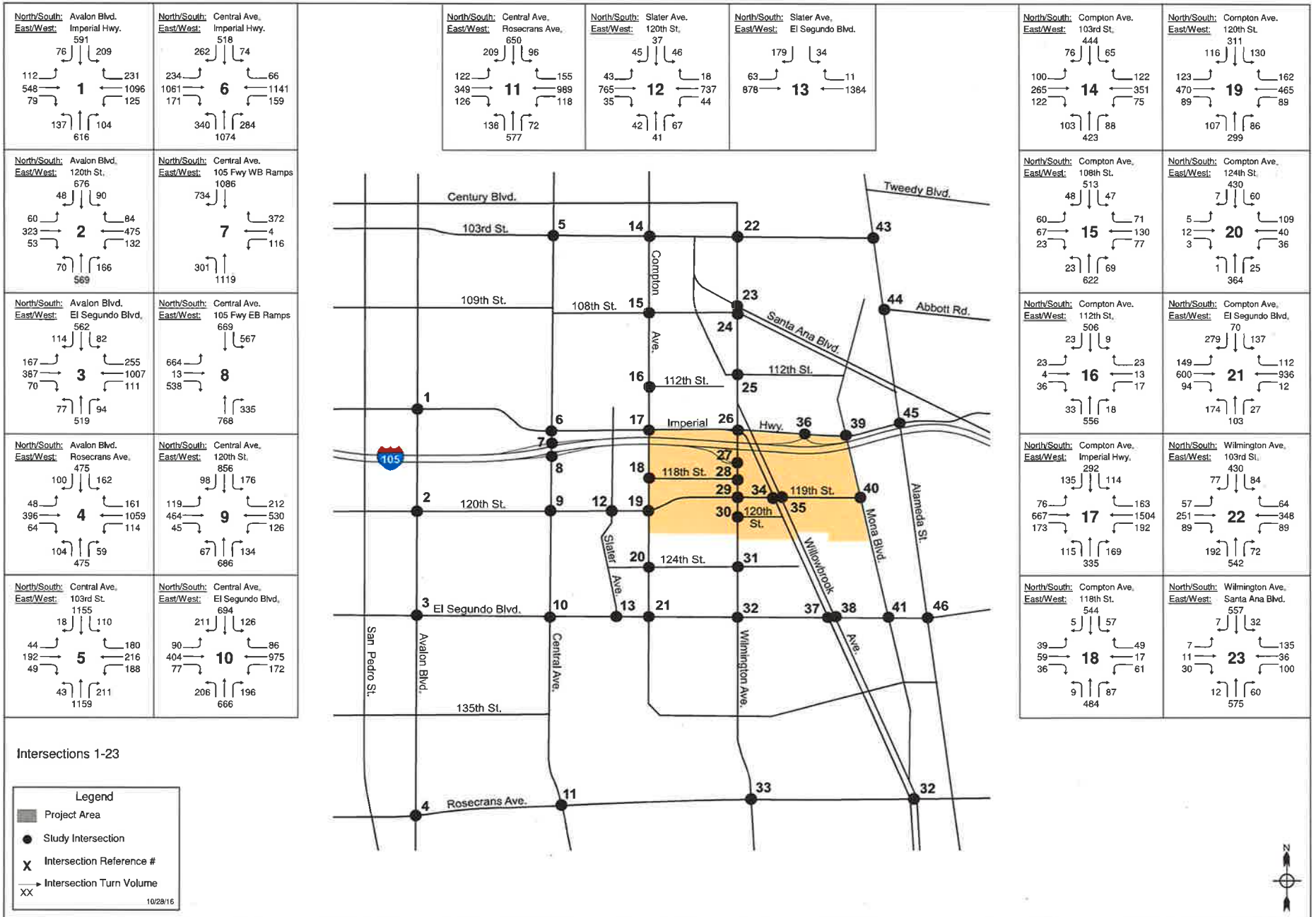


Figure 2.3
Existing Traffic Volumes - AM Peak Hour

Willowbrook TOD Specific Plan EIR Traffic Study

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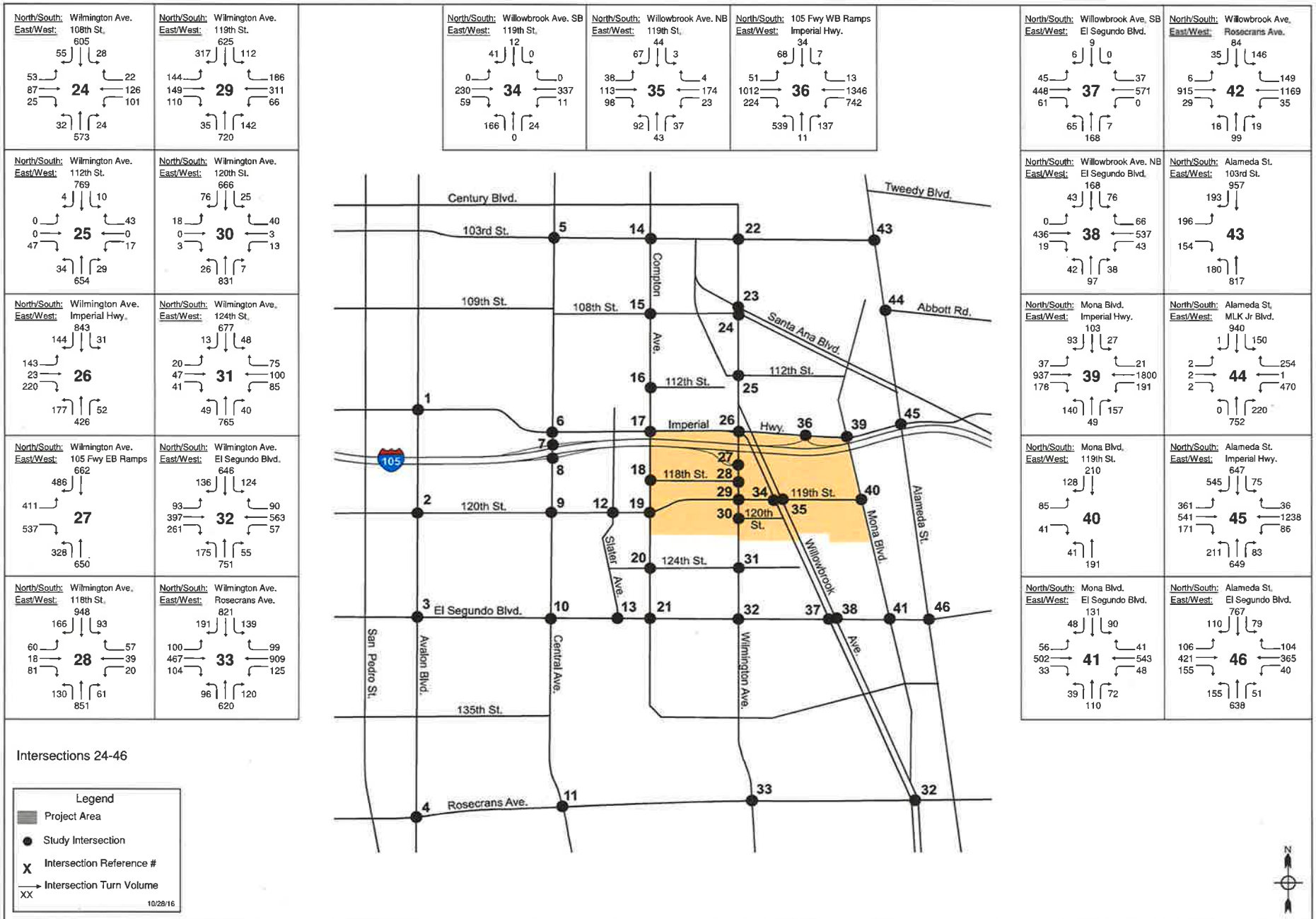


Figure 2.3
Existing Traffic Volumes - AM Peak Hour

Willowbrook TOD Specific Plan EIR Traffic Study

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North/South: Avalon Blvd.
East/West: 103rd St.
789
38 | 78
33 → 47 ← 109
70 → 107
19 → 84
22 | 60
970

North/South: San Pedro St.
East/West: El Segundo Blvd.
245
153 | 95
96 → 52 ← 46
518 → 1186
41 → 49
77 | 34
232

North/South: Avalon Blvd.
East/West: 108th St.
796
27 | 86
21 → 48 ← 63
165 → 90
36 → 109
35 | 92
976

North/South: Fernwood Ave.
East/West: Imperial Hwy.
45
17 | 159
23 → 53 ← 124
665 → 1289
45 → 2
60 | 3
40

North/South: Main St.
East/West: Imperial Hwy.
341
101 | 88
91 → 49 ← 180
631 → 1066
61 → 115
57 | 47
349

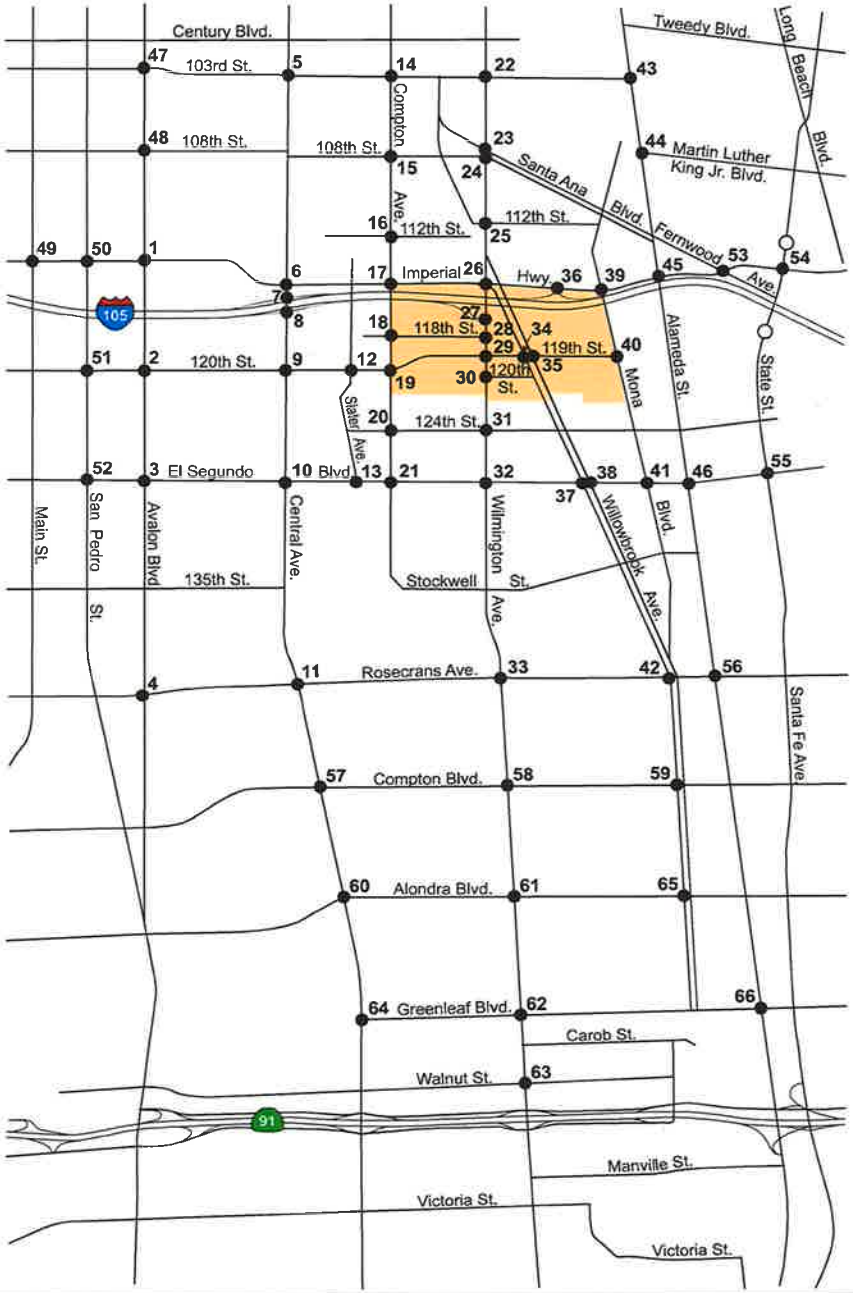
North/South: State St.
East/West: Imperial Hwy.
367
271 | 106
98 → 54 ← 37
736 → 1141
3 → 114
15 | 134
240

North/South: San Pedro St.
East/West: Imperial Hwy.
308
107 | 82
155 → 50 ← 140
354 → 1145
73 → 39
92 | 11
340

North/South: Santa Fe Ave.
East/West: El Segundo Blvd.
451
64 | 16
62 → 55 ← 33
115 → 114
163 → 46
143 | 27
356

North/South: San Pedro St.
East/West: 120th St.
342
56 | 73
41 → 51 ← 98
255 → 464
50 → 45
50 | 86
303

North/South: Alameda St.
East/West: Rosecrans Ave.
883
115
104 → 56
193 → 45
118
606



North/South: Central Ave.
East/West: Compton Blvd.
655
148 | 138
104 → 57 ← 120
345 → 758
138 → 164
182 | 83
573

North/South: Wilmington Ave.
East/West: Greenleaf Blvd.
1031
21 | 104
38 → 62 ← 74
192 → 361
86 → 276
35 | 114
471

North/South: Wilmington Ave.
East/West: Compton Blvd.
718
128 | 179
70 → 58 ← 139
515 → 682
127 → 133
86 | 169
460

North/South: Wilmington Ave.
East/West: Walnut St.
1228
87 | 33
26 → 63 ← 46
60 → 95
58 → 24
81 | 41
530

North/South: Willowbrook Ave.
East/West: Compton Blvd.
179
67 | 0
24 → 59 ← 29
627 → 764
63 → 0
24 | 6
117

North/South: Central Ave.
East/West: Greenleaf Blvd.
976
137
191
64
206
76
467

North/South: Central Ave.
East/West: Alondra Blvd.
795
130 | 173
75 → 60 ← 204
327 → 735
120 → 85
142 | 69
524

North/South: Willowbrook Ave.
East/West: Alondra Blvd.
102
44 | 33
26 → 65 ← 36
666 → 913
24 → 0
11 | 29
68

North/South: Wilmington Ave.
East/West: Alondra Blvd.
833
87 | 170
100 → 61 ← 142
498 → 850
105 → 137
104 | 142
444

North/South: Alameda St.
East/West: Greenleaf Blvd.
659
59 | 48
21 → 66 ← 34
190 → 313
107 → 264
73 | 105
415

Intersections 47-66

Legend
Project Area
Study Intersection
X Intersection Reference #
XX Intersection Turn Volume
2/22/17

Figure 2.3
Existing Traffic Volumes - AM Peak Hour

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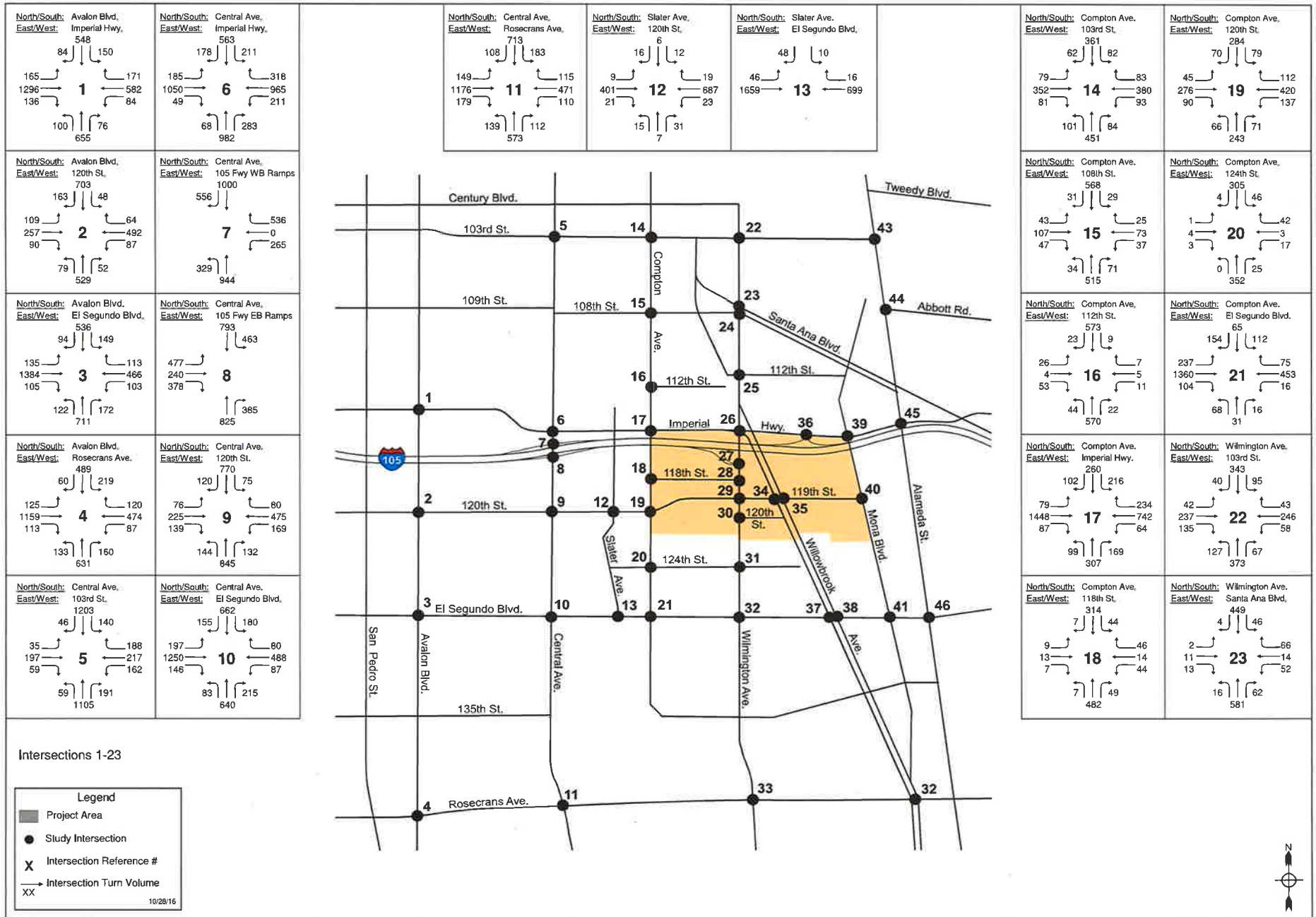


Figure 2.4
Existing Traffic Volumes - PM Peak Hour

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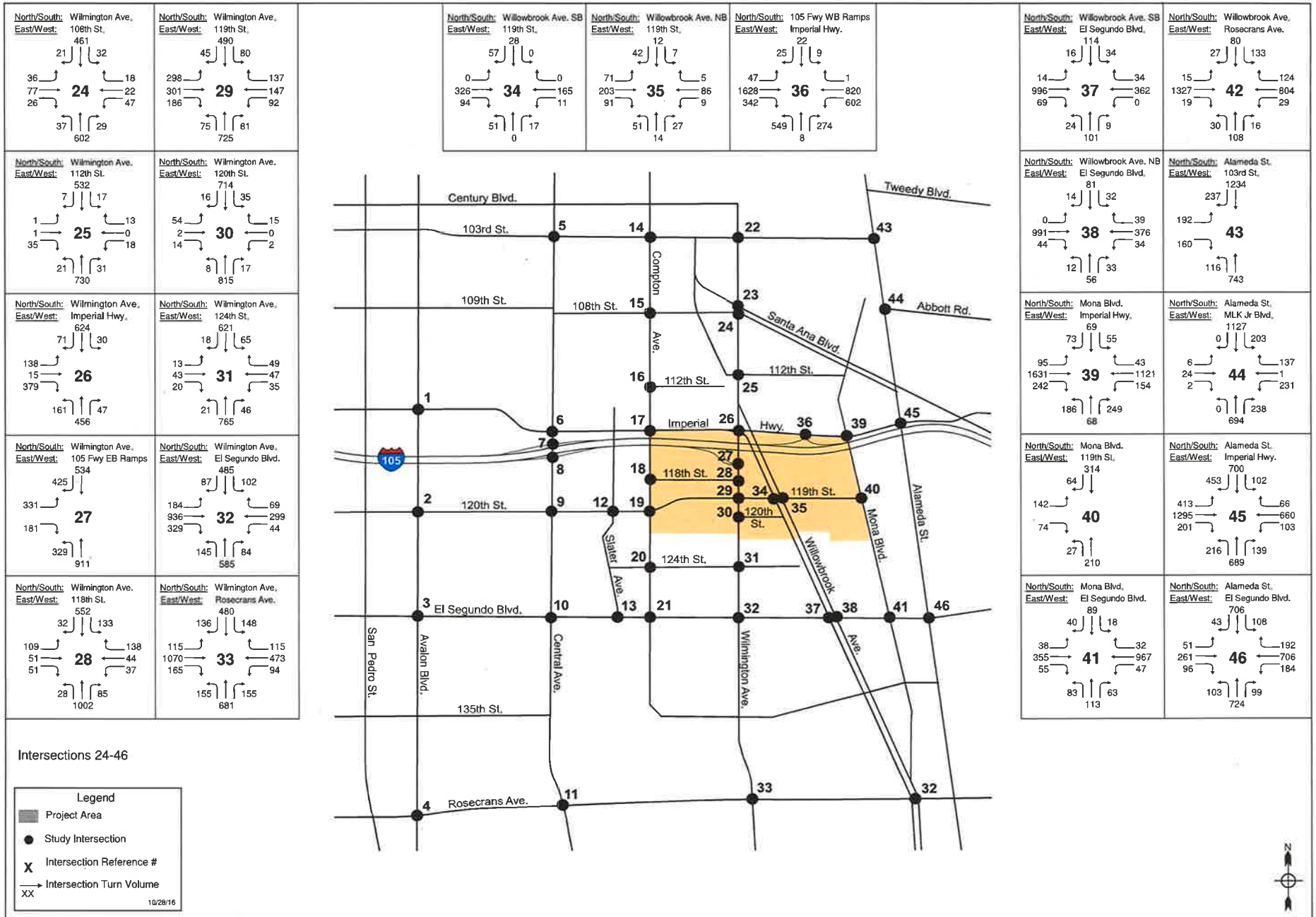


Figure 2.4
Existing Traffic Volumes - PM Peak Hour

Willowbrook TOD Specific Plan EIR Traffic Study

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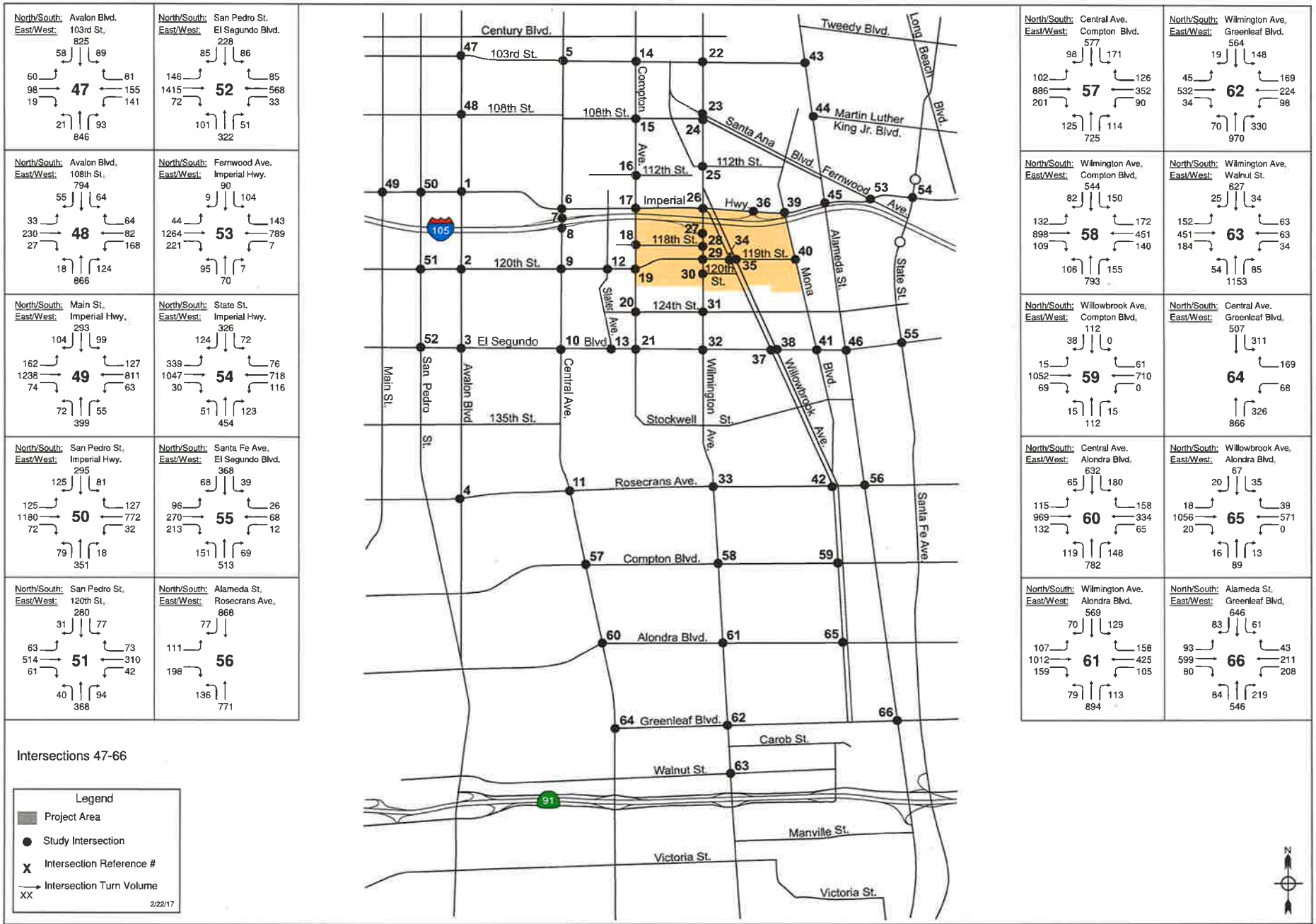


Figure 2.4
Existing Traffic Volumes - PM Peak Hour

Willowbrook TOD Specific Plan EIR Traffic Study

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Table 2.1 Level of Service Definitions for Signalized Intersections

Level of Service	Description	Volume to Capacity Ratio
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	<0.600
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.601 – 0.700
C	Good operation. Occasionally drivers may have to wait for more than 60 seconds, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.701 – 0.800
D	Fair operation. Cars are sometimes required to wait for more than 60 seconds during short peaks. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	0.801 – 0.900
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	0.901 – 1.000
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersections approach lanes; therefore, volumes carried are not predictable. Potential for stop-and-go type traffic flow.	Over 1.000

Source: *Highway Capacity Manual*, Special Report 209, Transportation Research Board, Washington, D.C., 1985 and *Interim Materials on Highway Capacity*, MCHRP Circular 212, 1982.

Table 2.2 Level Of Service Definitions For Unsignalized Intersections

Level of Service	Average Control Delay (seconds/veh)
A	0 to 10
B	>10 to 15
C	>15 to 25
D	>25 to 35
E	>35 to 50
F	> 50

Source: *HCM2010 Highway Capacity Manual 2010*, Transportation Research Board, Washington, D.C.

clearance cycle was assumed in conducting the capacity analysis. For unsignalized intersections the Highway Capacity Manual (HCM) 2010 methodology was used.

City of Compton, and City of Lynwood Methodology

The County of Los Angeles methodology of ICU analysis was used to determine volume/capacity (V/C) ratios for each study intersection in the City of Compton and in the City of Lynwood.

City of Los Angeles

For intersections in the City of Los Angeles, intersection analysis was conducted using the "Critical Movement Analysis (Planning Method)" as described in "Transportation Research Circular 212, Transportation Research Board, Washington D.C. 1980", and as required by LADOT's Traffic Study Policy and Procedures, to obtain volume/capacity (V/C) ratios for each intersection. The City's CMA Spreadsheet was used for all intersection LOS calculations. For unsignalized intersections the Highway Capacity Manual (HCM) 2010 methodology was used.

Existing Conditions – Intersection Levels of Service

Table 2.3 summarizes the existing AM and PM peak hour V/C ratios and corresponding levels of service at the analyzed intersections. Intersection worksheets are shown in Appendix D.

AM Peak Hour

All of the studied intersections currently operate at LOS D or better during the AM peak hour, except the following two intersections:

25.	Wilmington Ave & 112th St	LOS E
17.	Compton Ave & Imperial Hwy	LOS F

PM Peak Hour

All of the studied intersections currently operate at LOS D or better during the PM peak hour, except the following four intersections:

10.	Central Ave & El Segundo Blvd	LOS E
16.	Compton Ave & 112th St	LOS E
25.	Wilmington Ave & 112th St	LOS E
62.	Wilmington Ave & Greenleaf Blvd	LOS E

2.4 Existing Transit Service

The Specific Plan area is served by significant levels of transit including two Metro rail lines (Blue and Green Lines), seven regional bus lines, and five local shuttle routes. There are five Metro Local regional bus lines, one Compton Renaissance bus line and 1 GTrans (formerly Gardena Municipal Bus Lines) bus line, and also two LA County The Link shuttle bus lines, one Lynwood Breeze shuttle bus line and one LADOT DASH shuttle bus line, serving the Specific Plan area.

The focus of transit service is the Willowbrook/Rosa Parks Station which serves the Metro Blue and Green Lines and many of the bus lines. Regional rail and regional bus transit lines are shown in Figure 2.5, and shuttle bus routes are shown in Figure 2.6 and all transit lines are listed in Table 2.4 which shows the frequency of service (headways) during the peak periods.

Rail Transit Service

Metro Blue Line

The Willowbrook/Rosa Parks Station is served by the Metro Blue Line, which runs between Downtown Los Angeles and Downtown Long Beach. The Blue Line operates between approximately 4:00 am and 1:00 am, and until about 2:00 am on weekend nights. It operates every 6 to 12 minutes during weekday peak periods and at about 10 to 15 minutes on weekends. There is a transfer to the Metro Green Line at this station.

Table 2.3 Existing Conditions - Intersection Level of Service 2/9/2017

Intersection		*Intersection Type*	*Existing Conditions*			
			Weekday AM Peak Hour		*Weekday PM Peak Hour*	
			V/C or (Delay)	LOS	V/C or (Delay)	LOS
Los Angeles County						
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.726	C	0.844	D
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.652	B	0.804	C
10.	Central Ave & El Segundo Blvd [1]	Signalized	0.899	D	0.925	E
11.	Central Ave & Rosecrans Ave [1]	Signalized	0.822	D	0.761	C
12.	Slater Ave & 120th St	Signalized	0.501	A	0.367	A
17.	Compton Ave & Imperial Hwy [2]	Signalized	1.007	F	0.781	C
18.	Compton Ave & 118th St	Signalized	0.438	A	0.367	A
19.	Compton Ave & 120th St	Signalized	0.574	A	0.448	A
20.	Compton Ave & 124th St	Signalized	0.378	A	0.287	A
26.	Wilmington Ave & Imperial Hwy [2]	Signalized	0.657	B	0.654	B
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.848	D	0.680	B
28.	Wilmington Ave & 118th St	Signalized	0.641	B	0.527	A
29.	Wilmington Ave & 120th St (West)	Signalized	0.840	D	0.766	C
30.	Wilmington Ave & 120th St (East)	Signalized	0.424	A	0.426	A
31.	Wilmington Ave & 124th St	Signalized	0.557	A	0.485	A
32.	Wilmington Ave & El Segundo Blvd [1]	Signalized	0.716	C	0.793	C
34.	Willowbrook Ave W & 119th Street	Signalized	0.447	A	0.436	A
35.	Willowbrook Ave E & 119th Street	Signalized	0.375	A	0.359	A
36.	Imperial Hwy & I-105 w/b Ramps [2]	Signalized	0.775	C	0.792	C
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.416	A	0.508	A
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.447	A	0.507	A
39.	Mona Blvd & Imperial Hwy [3]	Signalized	0.730	C	0.825	D
40.	Mona Blvd & 119th St [4]	Unsignalized [5]	(13.5)	B	(17.0)	C
41.	Mona Blvd & El Segundo Blvd	Signalized	0.512	A	0.609	B
43.	Alameda St & 103rd St [4]	Signalized	0.790	C	0.852	D
45.	Alameda St & Imperial Hwy [4]	Signalized	0.772	C	0.799	C
46.	Alameda St & El Segundo Blvd [1]	Signalized	0.765	C	0.898	D
52.	El Segundo Blvd & San Pedro St	Signalized	0.589	A	0.601	B
City of Compton						
13.	Slater Ave & El Segundo Blvd	Signalized	0.687	B	0.649	B
21.	Compton Ave & El Segundo Blvd	Signalized	0.804	C	0.706	C
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.854	D	0.847	D
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.693	B	0.719	C
55.	El Segundo Blvd & Santa Fe Ave [4]	Signalized	0.592	A	0.700	B
56.	Alameda St & Rosecrans Ave	Signalized	0.606	B	0.604	B
57.	Cental Ave & W Compton Blvd	Signalized	0.758	C	0.802	C
58.	Wilmington Ave & W Compton Blvd	Signalized	0.702	B	0.888	D
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.532	A	0.453	A
60.	Central Ave & Alondra Blvd	Signalized	0.754	C	0.842	D

Table 2.3 Existing Conditions - Intersection Level of Service 2/9/2017

Intersection		*Intersection Type*	*Existing Conditions*			
			Weekday AM Peak Hour		*Weekday PM Peak Hour*	
			V/C or (Delay)	LOS	V/C or (Delay)	LOS
61.	Wilmington Blvd & Alondra Blvd	Signalized	0.825	D	0.877	D
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.797	C	0.911	E
63.	Wilmington Ave & Walnut St	Signalized	0.595	A	0.785	C
64.	Central Ave & Greenleaf Blvd	Signalized	0.534	A	0.671	B
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.532	A	0.526	A
66.	Alameda St & Greenleaf Blvd	Signalized	0.628	B	0.723	C
City of Lynwood						
44.	Alameda St & Abbott Rd	Signalized	0.660	B	0.624	B
53.	Imperial Hwy & Fernwood Ave	Signalized	0.732	C	0.755	C
54.	Imperial Hwy & State St	Signalized	0.738	C	0.785	C
City of Los Angeles						
1.	Avalon Blvd & Imperial Hwy	Signalized	0.747	C	0.713	C
2.	Avalon Blvd & 120th St	Signalized	0.592	A	0.672	B
5.	Central Ave & 103rd St	Signalized	0.637	B	0.664	B
6.	Central Ave & Imperial Hwy	Signalized	0.737	C	0.757	C
7.	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.823	D
8.	Central Ave & I-105 e/b Ramps	Signalized	0.668	B	0.635	B
9.	Central Ave & 120th St	Signalized	0.753	C	0.690	B
14.	Compton Ave & 103rd St	Signalized	0.604	B	0.587	A
15.	Compton Ave & 108th St	Signalized	0.663	B	0.527	A
16.	Compton Ave & 112th St	Unsignalized [5]	(31.0)	D	(38.5)	E
22.	Wilmington Ave & 103rd St	Signalized	0.660	B	0.463	A
23.	Wilmington Ave & Santa Ana Blvd N	Signalized	0.473	A	0.441	A
24.	Wilmington Ave & 108th St	Signalized	0.593	A	0.496	A
25.	Wilmington Ave & 112th St	Unsignalized [5]	(44.5)	E	(42.1)	E
47.	Avalon Blvd & 103rd St	Signalized	0.441	A	0.475	A
48.	Avalon Blvd & 108th St	Signalized	0.564	B	0.608	A
49.	Imperial Hwy & Main St	Signalized	0.590	B	0.632	A
50.	Imperial Hwy & San Pedro St	Signalized	0.661	B	0.697	B
51.	San Pedro St & 120th St	Signalized	0.528	A	0.597	A
City of Los Angeles & Los Angeles County [6]						
17.	Compton Ave & Imperial Hwy	Signalized	0.898	D	0.663	B
26.	Wilmington Ave & Imperial Hwy	Signalized	0.501	A	0.497	A
36.	Imperial Hwy & I-105 w/b Ramps	Signalized	0.69	B	0.71	C
39.	Mona Blvd & Imperial Hwy	Signalized	0.601	B	0.704	C

Note:

[1] Shares jurisdiction with City of Compton.

[2] Shares jurisdiction with City of Los Angeles.

[3] Shares jurisdiction with City of Los Angeles & City of Lynwood.

[4] Shares jurisdiction with City of Lynwood.

[5] Unsignalized intersection show delay/LOS for controlled approach.

[6] Analyzed per City of Los Angeles methodology.

Metro Green Line

The Willowbrook/Rosa Parks Station is also served by the Metro Green Line, which runs between Redondo Beach and Norwalk. The Green Line operates between approximately 4:00 am and 12:00 am, and until about 2:00 am on weekend nights. It operates every 7 to 10 minutes during weekday peak periods and at about 15 minutes on weekends. There is a transfer to the Metro Blue Line at this station.

The Willowbrook/Rosa Parks Station

The Willowbrook/Rosa Parks station is located on the southeast corner of Wilmington Avenue and Imperial Highway. It is a three-level station where the ground level platform provides access to the Metro Blue Line, the second level is a mezzanine area connecting both platforms, and the third-level provides access to the Metro Green Line.

The station is also directly served by the following bus lines via off-street bus loading bays (the route names refer to communities not street names):

- Metro Local 55/355 - Willowbrook to Downtown Los Angeles.
- Metro Local 120 - Whittier to El Segundo.
- Metro Local 202 - Wilmington to Willowbrook.
- Metro Local 205 - Willowbrook to San Pedro.
- Gardena Municipal Bus Lines Route 5 - Willowbrook to Hawthorne.
- Metro Local 612 – Local Area Circulator Shuttle.
- Los Angeles County Link Route B - Local Willowbrook Shuttle.
- Lynwood Breeze Route A - Shuttle between Willowbrook and Lynwood.

Regional Bus Transit Service Serving the Specific Plan Area

Metro Local 55/355 runs between Willowbrook/Rosa Parks Station and Downtown Los Angeles via Wilmington Avenue in the study area. It operates at about 10-30 minute headways during weekday peak periods and at about 20-60 minute headways on weekends. It operates 24-hours.

Metro Local 120 runs between Whittier and El Segundo via Imperial Highway in the study area. It operates at about 30-40 minute headways during weekday peak periods and at 60 minute headways on weekends.

Metro Local 202 runs between Wilmington and Willowbrook/Rosa Parks Station via Willowbrook Avenue in the study area. It operates at about 50 to 60 minute headways during weekday peak periods and at about 60 minute headways overnight. There is no mid-day service and no service at weekends.

Table 2.4 Existing Public Transit Services

10/28/2016

Route	Description	Approximate Headway (minutes)	
		AM Peak	PM Peak
Metro Rail			
Blue Line	Long Beach - Downtown Los Angeles	6	6
Green Line	Redondo Beach - Norwalk	8	8
Metro Local			
55/355	Willowbrook - Downtown Los Angeles	20	13
120	El Segundo - Whittier	40	40
202	Wilmington - Willowbrook	60	60
205	San Pedro - Willowbrook	30	40
612	Willowbrook - Huntington Park	60	60
LA County The Link			
Route A	San Pedro St. & 135th St. - Hahn Plaza	60	60
Route B	Mona Blvd. & Otis St. - Willowbrook Station	30	30
KMC Shuttle	King Medical Center - Willowbrook Station	20	20
Gardena Municipal			
GA 5	Hawthorne - Willowbrook	30	30
Compton			
C5	Compton - Willowbrook	60	0
Lynwood Breeze			
Route D	Willowbrook - Lynwood	30	30
LADOT DASH			
Dash Watts	Watts - Willowbrook	20	20

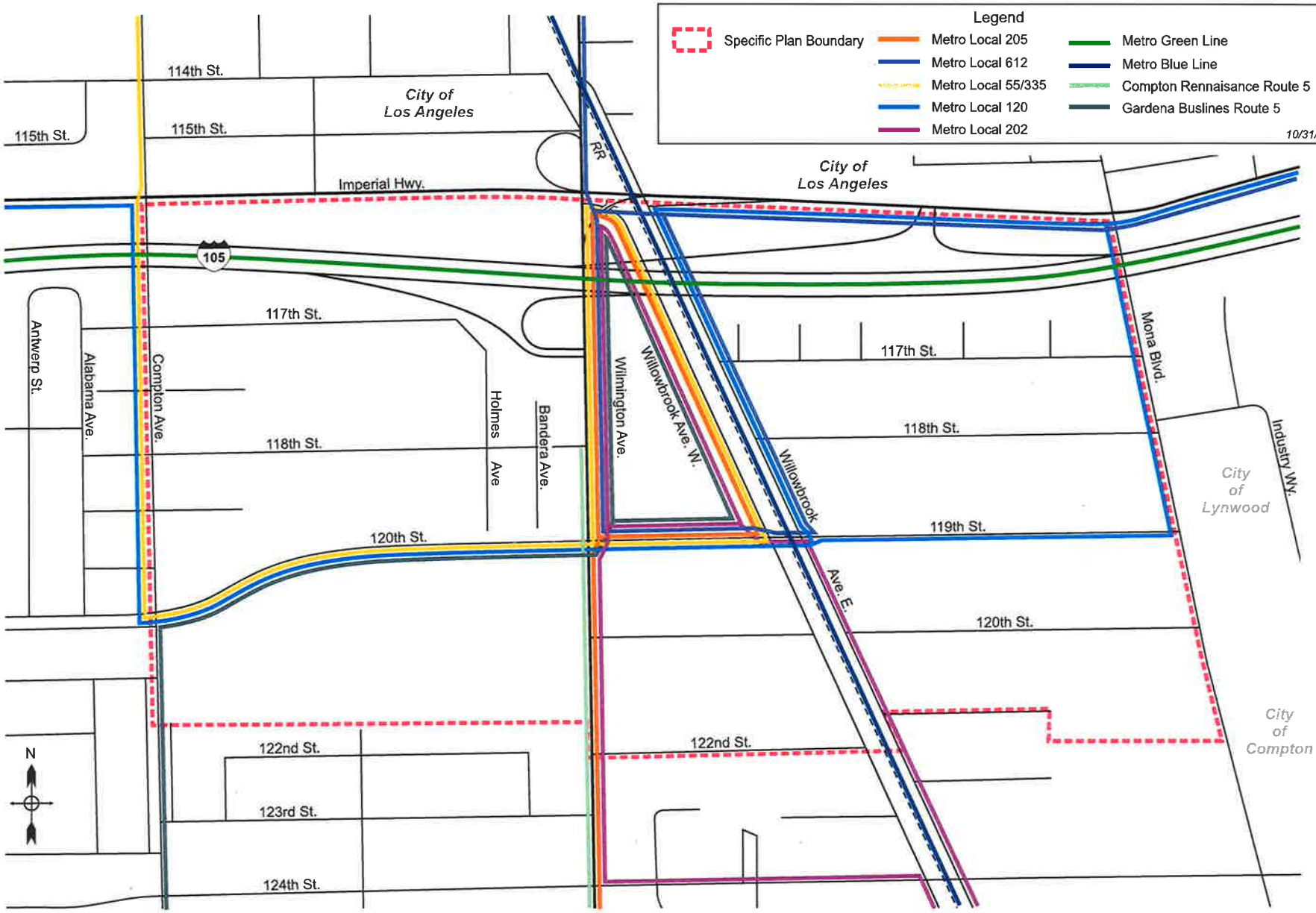


Figure 2-5
Existing Transit - Regional Lines

Willowbrook TOD Specific Plan

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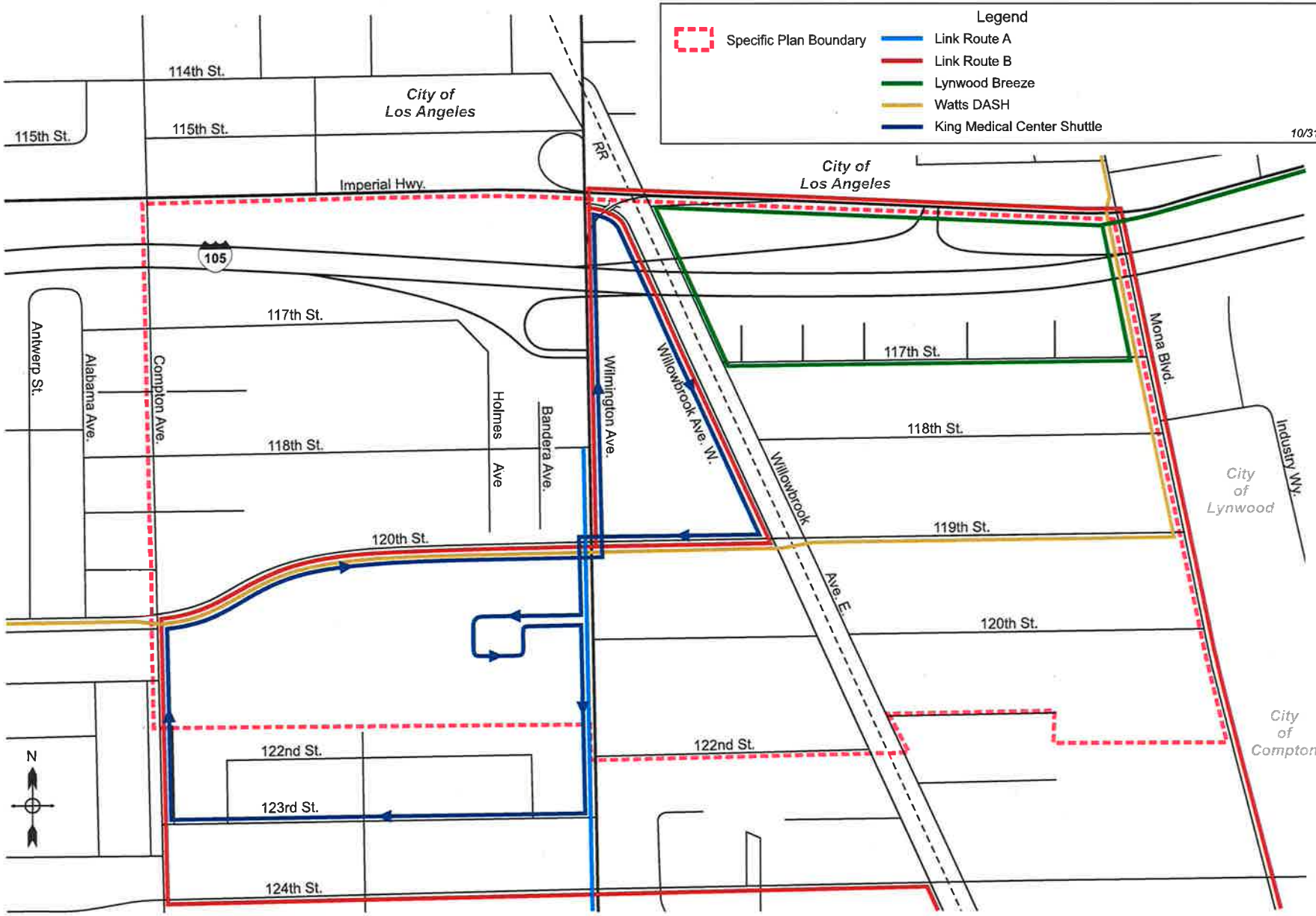


Figure 2.6
Existing Transit - Shuttle Routes

Willowbrook TOD Specific Plan

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Metro Local 205 runs between Willowbrook/Rosa Parks Station and San Pedro via Wilmington Avenue in the study area. It operates at about 25 to 50 minute headways during weekday peak periods and at 55-60 minute headways on weekends.

Metro Local 612 runs as a circulator shuttle, connecting the Willowbrook/Rosa Parks Station to Lynwood, South Gate, Cudahy, Bell, Walnut Park, and Watts. It operates at about 60 minute headways every day.

GTrans (formerly Gardena Municipal Bus Lines) Route 5 runs between Willowbrook/Rosa Parks Station and Hawthorne via Wilmington Avenue in the study area. It operates at about 30 minute headways on weekdays.

Compton Renaissance Route 5 operates as a circulator shuttle between Willowbrook (Martin Luther King Jr. Hopsital) and Compton. Based on available schedules, it operates at about 60 minute headways between 8am and 3pm on weekdays and between 10am and 3pm on Saturdays.

Shuttle Bus Routes Serving the Specific Plan Area

Los Angeles County

Los Angeles County's The Link Route A is a clockwise loop linking Hahn Plaza, MLK Medical Center via Wilmington Avenue, El Segundo Boulevard, Central Avenue, Rosecrans Avenue, Broadway and Imperial Highway. It provides connections to the MLK Medical Center, Carver Park, the Magic Johnson Park, the Avalon Green Line Station and other points throughout Willowbrook. It operates at about 60 minute headways on weekdays and Saturdays.

Los Angeles County's The Link Route B runs as circulator shuttle throughout Willowbrook, mostly running along Willowbrook Avenue, Mona Boulevard, Wilmington Avenue, 120th Street, 124th Street, 126th Street and 130th Street. It provides connections to the MLK Medical Center, Drew University, Mona Park, Jefferson Elementary school, and the Willowbrook Rosa Parks Metro Station. It operates at about 30 minute headways on weekdays and Saturdays.

Los Angeles County's King Medical Center Shuttle runs between the Medical Center and the Willowbrook/Rosa Parks Station and also served the Hahn Shopping Center. It operates at 20 minute headways on weekdays and Saturdays.

Los Angeles DOT (DASH)

The DASH Watts shuttle (LDWTS) runs as a circulator shuttle connecting Willowbrook to areas throughout Watts, mainly via Mona Boulevard, 103rd Street, Wilmington Avenue, 92nd

Street, McKinley Avenue, Avalon Boulevard, and 120th Street. It operates at 20 minute headways on weekdays and Saturdays.

Lynwood Breeze

The Lynwood Breeze Route D shuttle runs between Willowbrook and Lynwood. It operates at about 30 minute headways on weekdays.

Transit Routes by Key Street

The streets with the most transit service are Wilmington Avenue, Willowbrook Avenue and 119th/120th Street. The lines that run along each street are listed below.

Wilmington Avenue

- Metro Local 202 - Willowbrook to Wilmington.
- Metro Local 205 - Willowbrook to San Pedro.
- Metro Local 612 – Local Circulator Shuttle.
- Los Angeles County Link Route A – Local Circulator Shuttle.
- Los Angeles County King Medical Center Shuttle – Local Circulator Shuttle
- Compton Renaissance Route 5 – Local Shuttle between Willowbrook and Compton.

Willowbrook Avenue

- Metro Local 202 - Wilmington to Willowbrook.
- Metro Blue Line – Downtown Long Beach to Downtown Los Angeles.

Imperial Highway

- Metro Local 120 - Whittier to El Segundo.
- Lynwood Breeze Route D - Shuttle Imperial/Wilmington Station and Lynwood.

120th Street

- Metro Local 55/355 – Willowbrook to Downtown Los Angeles.
- Metro Local 120 - Whittier to El Segundo.
- Gardena Municipal Bus Lines Route 5 - Willowbrook to Hawthorne.
- Los Angeles County Link Route B – Local Circulator Shuttle.
- Los Angeles County King Medical Center Shuttle – Local Circulator Shuttle
- DASH Watts Shuttle – Local Circulator Shuttle.

Routes Connecting the Martin Luther King Jr. Medical Center and the Charles R. Drew University Campus to the Willowbrook Rosa Parks Metro Station

The following transit routes run along 120th Street between Compton Avenue and Wilmington Avenue, and connect the Martin Luther King Jr. Medical Center and the Charles R. Drew University Campus to the Willowbrook Rosa Parks Metro Station.

- Metro Local 55/355
- Metro Local 120
- Gardena Municipal Bus Lines Route 5
- The Link Route B
- King Medical Center Shuttle

Service frequencies for these routes are identified earlier in this section, and generally range from as low as 8-15 minutes in the peak periods for Route 55/355, to 30-60 minutes for the other routes on weekdays, and 30-60 minutes on Saturdays. The Route 5/355 operates 24 hours a day, the Route 120 operates up to about midnight. Only the two Metro Lines operate on Sundays. The Gardena Route 5 does not operate late evenings or weekends. The Link Route B and the King Medical Center Shuttle run 20-30 minute service frequencies, but do not operate evenings after 6pm or on Sundays.

2.5 Bicycle and Pedestrian Facilities

Bicycle Facilities

The Los Angeles County Bicycle Master Plan designates a countywide network of bicycle paths, bicycle-lanes, and bicycle routes in the area of the Project. The following designations are used by type of facility:

- Bicycle Paths (Class I) are paved right-of-way for exclusive use by bicyclists, pedestrians and other non-motorized modes of travel. They are physically separated from vehicular traffic.

- Bicycle Lanes (Class II) have an allocated portion of the roadway exclusive for bicycle travel, defined by pavement striping and signage. Bicycle lanes are one-way facilities on either side of the roadway. They are located adjacent to the curb, where there is no on-street parking and adjacent to the parking lane, where on-street parking exists. .

- Bicycle Routes (Class III) provide shared use with motor vehicle traffic within the same traffic lane and are designated by signage.

There are no current bike paths, bike lanes, or bike routes in the Specific Plan area. The existing bicycle facilities in the study area are shown in Figure 2.7. There is a single Bicycle Path which runs along Compton Creek. There are also Bike Lanes on the following streets:

- Central Avenue (Between Century Boulevard and Imperial Highway)
- Central Avenue (Between El Segundo Boulevard and south of Compton Boulevard)

Pedestrian Facilities

Sidewalks exist on all streets in the Specific Plan Area. Pedestrian crosswalks exist at signalized intersections. There is a mid-block crosswalk on 120th Street midway between Compton Avenue & Wilmington Avenue, which is a signalized crosswalk. There are also two unsignalized crosswalks on 118th Street between Compton Avenue & Wilmington Avenue.

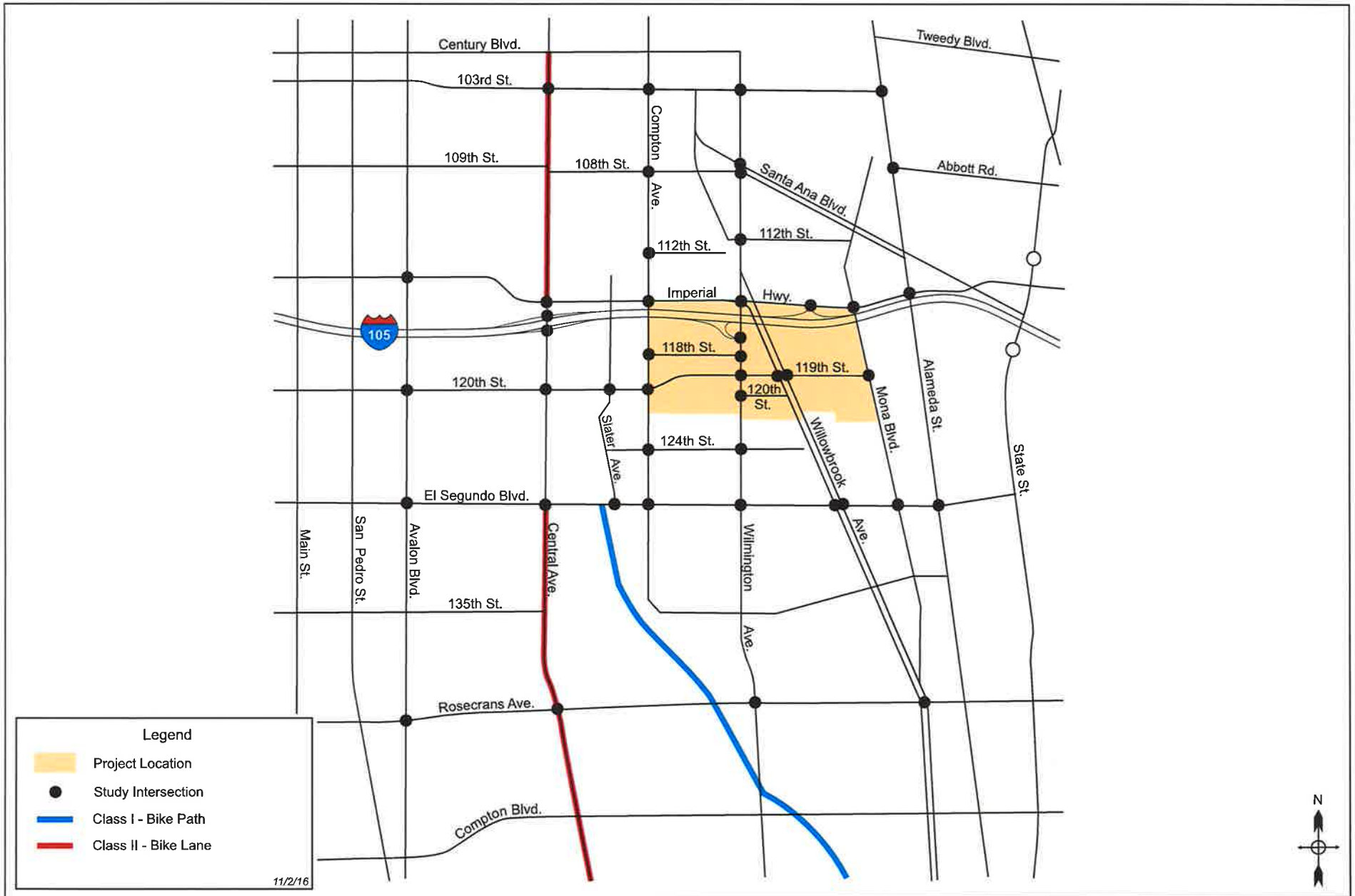


Figure 2.7
Existing Bicycle Facilities

Willowbrook TOD Specific Plan EIR Traffic Study

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3. The Specific Plan - Transportation Characteristics

This section of the report describes the transportation characteristics of the proposed project (the Specific Plan). To set the context, the Specific Plan purpose and objectives are first described, followed by a summary of Specific Plan land uses. The resultant transportation characteristics of the Specific Plan are then discussed.

3.1 Specific Plan Purpose and Objectives

As identified in Chapter 1, the purpose of the Willowbrook TOD Specific Plan is to revitalize the community within the project area and to improve access to all modes of transportation, including transit, walking, and bicycling. Building off the goals and policies outlined in the General Plan, the Willowbrook TOD Specific Plan will encourage transit oriented development, promote active transportation and reduce vehicle miles travelled. The Specific Plan is anticipated to facilitate development, especially residential and employment-generating uses proximate to the Willowbrook/Rosa Parks Station.

The primary objectives of the Specific Plan are to identify land use options that include mixed uses, increased housing opportunities', and neighborhood–serving retail uses, In addition the Specific Plan is intended to foster a healthy community by improving pedestrian linkages between the Willowbrook/Rosa Parks Station, the Kenneth Hahn Plaza, the Martin Luther King Jr. Medical Center, the Charles R. Drew University of Medicine and Science, future mixed use areas, and existing residential neighborhoods.

3.2 Specific Plan Land Uses

For the purposes of the EIR analysis, land use forecasts were developed for the Specific Plan. These comprised land use types and quantities that could be added in the Specific Plan area and land use types and quantities that could be replaced (removed). A total of seven sub-areas were identified and divided into thirteen geographic zones. Land use projections made for each zone, and also aggregated to sub-areas. The sub-areas are shown in Figure 3.1. The thirteen zones are shown in Figure A-1 in Appendix A.

Land Use Changes in the Specific Plan

The Specific Plan includes three key land use areas: the Martin Luther King Jr. Medical Center, the Charles R. Drew University of Medicine and Science, and the remaining areas of the Specific Plan. Land use changes were forecast for all three components. Table 3.1 summaries the land use quantities by key type of use.

Martin Luther King Jr. Medical Center

An EIR for modification and expansion of the Medical Center was approved in 2010[1]. The EIR identified two tiers of construction. Tier 1 is now complete, and is included in the existing traffic counts (comprising the baseline existing conditions for the traffic analysis). The EIR Traffic Study identified Tier 2 development assumptions totaling 1,814,695 sq. ft. with 100 DU's. For this Specific Plan, Tier 2 growth was updated to an amount considered more realistic for the current environment at 1,248,522 sq. ft. and 100 DU's (which represents 75% of the Tier 2 growth assumed in the EIR). This adjustment was made by by County staff in coordination with the Second Supervisorial District.

Charles R. Drew University of Medicine and Science (CDU) Master Plan.

The CDU Master Plan is also included in the Specific Plan land use forecasts. CDU provided information on their Master Plan for growth at the university, representing an increase of 825 students from 625 existing to 1,450 total, and an additional 70 dwelling units from 49 existing to 119 total.

Other Specific Plan Land Uses

Land use forecasts were also prepared for the remaining areas of the Specific Plan. These represent an increase of 1,945 residential dwelling units (DU'S), of which the vast majority are multi-family; and approximately 865,770 sq. ft. of commercial uses (comprised primarily of approximately743,590 sq. ft. of office/R&D/business park/medical uses, and 122,185 sq. ft. of retail commercial uses)[2].

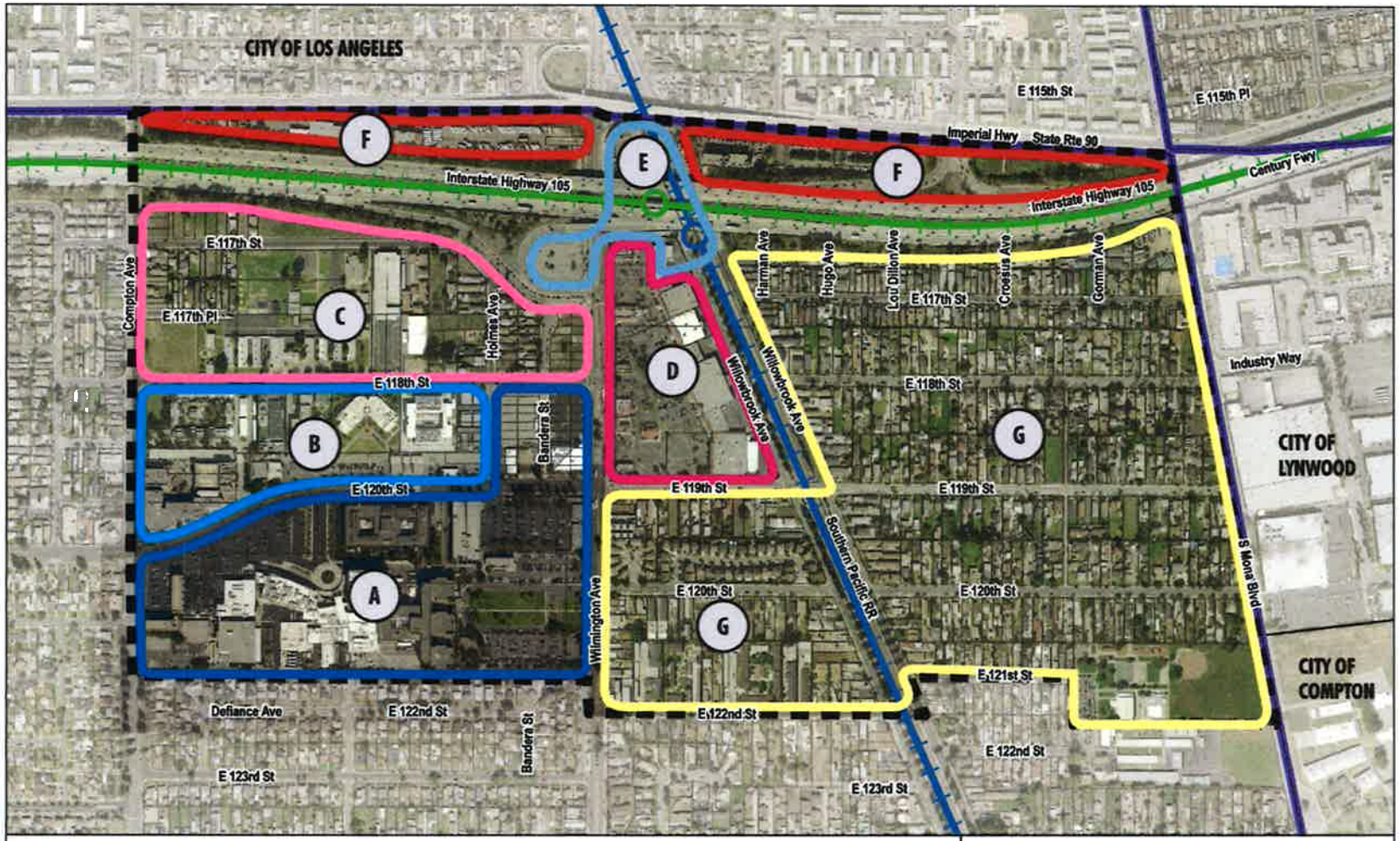
3.2 Specific Plan Trip Generation

Vehicular trip generation was estimated for the existing land uses and for the projected future land uses, to determine a net increase in trip generation. As described above, for purposes of traffic analysis, the Specific Plan area was divided into 13 geographic zones, and potential changes in land uses were identified for each zone.

Trip generation from the project was estimated using trip rates from *Trip Generation Manual – 9th Edition* (Institute of Transportation Engineers, 2012). However, ITE trip rates are generally for suburban stand-alone land uses with negligible transit use. They were thus adjusted to be more representative of the existing and proposed land uses in the Specific Plan area and a transit oriented district – where the proximity to transit allows some trips to be

[1] Traffic Study for the Martin Luther King Jr. Medical Center Campus Project, County of Los Angeles, July 2010.

[2] The breakdown of mixed use land use categories s to specific land use types was made in consultation with County staff.



Source: The Arroyo Group

11/3/16

Figure 3.1
Specific Plan Sub-Areas

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Willowbrook TOD Specific Plan EIR Traffic Study

Table 3.1 Specific Plan Land Use Summary - By Type of Use

Category	Land Use	Existing	Future	Net Change
Martin Luther King Jr. Medical Campus	Single Family Housing (DU's)	0	100	100
	MLK Medical Campus (sf)	890,891	2,139,413	1,248,522
Charles R. Drew University	Multi-Family Housing (DU's)	49	119	70
	University Students	625	1,450	825
		477,842	772,990	295,148
Other Specifc Plan Land Uses	Single Family Housing (DU's)	347	609	262
	Multi-Family Housing (DU's)	572	1,987	1,415
	Senior Housing (DU's)	0	105	105
	General Office (sf)	8,408	393,745	385,337
	Business Park (sf)	0	224,317	224,317
	Medical Office (sf)	0	35,427	35,427
	R & D Office (sf)	0	98,506	98,506
	Restaurant-High Turnover (sf)	0	7,086	7,086
	Restaurant-Fast Food (sf)	0	2,696	2,696
	Retail (sf)	0	81,572	81,572
	Shopping Center (sf)	189,286	220,116	30,830
	Other/Miscellaneous/Parking (sf)	344,096	600,691	256,595
Total	Total			
	Residential (DU's)	968	2,920	1,952
	Non-Residential (sf)	1,910,523	4,576,559	2,666,036

made by transit, where the proximity of land uses allows for some trips to be made by walking rather than driving, and where some of the trips are between destinations within the Specific Plan area and thus do not leave the area.

The following methodology was used to calculate trip generation for each of the three separate land use areas area in the Specific Plan.

Martin Luther King Jr. (MLK) Medical Center

Trip generation information for the Martin Luther King Jr. Medical Center was taken directly from the approved EIR for that project[1]. As the Tier I development has been completed, it is already included in the existing conditions baseline and is reflected in the existing traffic counts conducted for the study. The Approved EIR Traffic Study identified Tier 2 development assumptions totaling 1,814,695 sq. ft. and associated trip generation totals. As discussed above, this Specific Plan assumes Tier 2 growth at 75% of that level. Trip generation was therefore calculated as 75% of the Tier 2 totals in the MLK EIR and input to the impact analyses described in later chapters.

CDU Master Plan

The Specific Plan includes the Master Plan projections for the CDU Master Plan provided by CDU, and totaling an increase of 825 students from 625 existing to 1,450 total, and an additional 70 dwelling units from 49 existing to 119 total. Trip generation estimates were developed for the CDU Master Plan based on *ITE Trip Generation 9th Edition*, with adjustment factors appropriate for the CDU campus and a TOD area (see further discussion below).

Remainder of the Specific Plan area (the "Non-MLK/CDU area")

The Specific Plan Project includes land use projections for the remainder of the Specific Plan area (the "Non-MLK/CDU area"), as described above.

Trip generation was generally calculated according to trip rates from *ITE Trip Generation 9th Edition*. The base trip rates are shown in Table A-1 in Appendix A. However, the typical methodology of estimating trip generation using trip rates from Institute of Transportation Engineers (ITE) data[2] does not adequately reflect the mixed use characteristics and the TOD environment of the proposed Project, because those trip rates were derived from data typically collected from stand-alone (single use) suburban sites, rather than sites with the characteristics of the Specific Plan area.

[1] Ibid
[2] Institute of Transportation Engineers, *9th Edition Trip Generation Manual*, Washington D.C., 2012

The Specific Plan is in a heavily urbanized area with significant levels of transit service. As discussed at the beginning of this chapter, the purpose of the Specific Plan with respect to transportation is to "... *improve access to all modes of transportation, including transit, walking and bicycling.... to encourage transit oriented development, and promote active transportation.... to facilitate development, especially residential and employment-generating uses proximate to the Willowbrook/Rosa Parks Station... identify land use options that include mixed uses, increased housing opportunities, and neighborhood-serving retail uses...and improve pedestrian linkages between the Willowbrook/Rosa Parks Station, Kenneth Hahn Plaza, Martin Luther King Jr. Medical Center, Charles R. Drew University of Medicine and Science, future mixed use areas, and existing residential neighborhoods*".

The trip rates therefore required the following types of adjustments to reflect the characteristics of the Specific Plan area. These adjustments were developed in consultation with, and approved by, County staff.

Trips Internal to the Project

With a large mixed use Proposed Project area, there is a high potential for internal synergy between land uses, such that some trips will both start and end within the Project area itself – and thus will not leave the Specific Plan area. These will include people who live in the Project going to the retail, restaurant, and/or other commercial uses, or to the office uses if they both live and work in the Project. It will also include people who drive to the Project, but visit multiple destinations within the Project (for example office and retail, or retail and restaurant). Because these people will walk between those multiple destinations in the Project they will make only one vehicle trip rather than driving to each destination.

The adjustment factors to account for trips remaining internal to the Project area were based on a variety of sources. Studies conducted for the Florida Department of Transportation[1] documented internal trip capture rates at mixed use developments of 7% to 24% in the PM peak period. A research report from the Center for Urban Transportation[2] reported observed internal trip capture rates at mixed use developments of 9% to 14% in the AM peak period and 13% to 16% in the PM peak period. NCHRP Report 684[3] observed trip capture rates of 11% to 31% in the AM peak and 33% to 44% in the PM peak .

The trip adjustment factors to be applied in this study are shown in Table A-2 in Appendix A. Internal trip capture rates of 5% to 15% were applied to commercial uses in the Specific Plan

[1] Tindale Oliver & Associates, Inc., Trip *Characteristics Studies of Multi Use Developments.* Report Prepared for Florida Department of Transportation, 1993.
Walter H. Keller Inc., Districtwide Trip Generation Study, Task 5, Final Report. Prepared for Florida Department of Transportation. 1995

[2] Center for Urban Transportation Research Final Report BDK84-977-10, *Trip Internalization in Mixed Use Developments,* April 2014.

[3] NCHRP Report 684, *Enhancing Internal Trip Capture Estimation for Mixed Use Developments*, Transportation Research Board, 2011.

area, adjustment rates of 5% were applied to institutional uses, and adjustments of 10% were applied to residential uses. These are modest and conservatively low adjustments for internal capture when compared to the information documented above so are considered very reasonable for the Specific Plan area.

For the MLK Medical Center, this study used the internal trip capture rate of 15% utilized in the EIR for that project. For the CDU Master Plan, this study used an internal capture rate of 50% for the on-campus student housing in the peak hours due to the immediate proximity of the housing to campus facilities.

Trips Using Transit

The Project area is well served by transit, focused on the Willowbrook/Rosa Parks Station which serves both the Metro Blue Line and Metro Green Line. The Specific Plan area is served by three regional bus operators, and numerous shuttle bus routes. These operate a total of six regional bus lines and six shuttle lines. These high levels of transit service will result in a significant number of trips being made by transit.

There is increasing evidence that vehicle trip rates for urban mixed use projects and for transit-oriented developments (TOD's) are much lower than the more suburban based ITE trip rates. TCRP Report 128[1] documents that peak hour vehicle trip rates for residential TOD's are 50% lower than standard ITE rates. A Caltrans study[2] documented that peak hour trip rates in urban infill developments, including mixed use projects, were 28% lower than standard ITE rates for mid-rise residential uses, 50% lower for office uses, and 25 to 35% lower for quality restaurant uses, due to internal synergy, walkable proximity to other land uses, and proximity to transit.

The transit use adjustment factors that were applied in this study are shown in Table A-3 in Appendix A. These range from 15% to 25% for residential uses and 10% to 25% for the commercial uses, depending on proximity to the rail station and the type of mixed use development. These are conservatively on the low side when compared to the information documented above so are considered very reasonable for the Specific Plan area.

For the MLK Medical Center, this study used the transit use adjustment rate of 15% utilized in the EIR for that project. For the CDU Master Plan, this study used a transit use adjustment rate of 15% in the peak hours consistent with the rate for the MLK Medical Center and the adjustment rates for the TOD uses.

[1] *TCRP Report 128, Effects of TOD on Housing, Parking and Travel*, Transportation Research Board, 2008
[2] *Trip Generation Rates for Urban Infill Land Uses in California*, Caltrans, 2009

Trip Generation Totals

As shown in Table 3.2, the Project would add 3,139 new AM peak hour trips in the Specific Plan area and 3,832 new PM peak hour trips. (Detailed trip generation calculations are shown in Table A-4 for the AM peak hour and in Table A-5 for the PM peak hour in Appendix A).

As also shown in Table 3.2, approximately 43% of the new trips would be generated by the MLK Medical Center, 3% by CDU, and 54% by the other land uses in the Specific Plan area. Of all new trips, approximately 23% would be from residential uses and 77% from non-residential uses.

Table 3.2 Trip Generation Totals – By Key Land Use Area

Component	*AM Peak Hour*	*AM Peak Hour %*	*PM Peak Hour*	*PM Peak Hour %*
MLK Medical Center	1,289	41%	1,684	44%
CDU	125	4%	126	3%
Specific Plan Remainder	1,725	55%	2,022	53%
Total	3,139		3,832	
Residential	718	23%	887	23%
Non-Residential	2,421	77%	2,945	77%

Table 3.3 shows the breakdown of trips by subarea of the Specific Plan. This shows that the vast majority of additional trips in the remainder of the Specific Plan area will be generated by the Northwest subarea, with relatively few trips being generated in other subareas.

As identified earlier in Chapter 2, the trip generation estimates are used to project traffic volumes and calculate intersection level of service. Vehicle miles travelled (VMT) are estimated and used in the Air Quality and Green House Gas analyses in other sections of the EIR. In general, the VMT for the Specific Plan is lower than would otherwise be the norm because of the TOD nature of the Specific Plan. As discussed above, proximity to the Metro station and transit and Specific Plan features to enhance bike and walk facilities will encourage and lead to higher use of transit, as well as walk/bike. Also, the land use densities and close proximities will increase internal synergies within the Specific Plan area with respect to trip making and, with some trips remaining inside the Specific Plan area, with less trips leaving the Specific Plan area. As also identified above, the traffic analysis estimated

Table 3.3 Trip Generation by Sub-Area

Sub-Area	*Zones*	*AM Peak Hour*		*PM Peak Hour*	
		Trips	*% of Total*	*Trips*	*% of Total*
A. MLK Medical Center	1, 2A, 2B	1,289	41%	1,684	44%
B. CDU	2C	125	4%	126	3%
C. Northwest	3A – 3G	1,307	42%	1,534	40%
D. Kenneth Hahn Plaza	4B	109	4%	188	5%
E. Metro Station	4A	24	1%	31	1%
F. Imperial Hwy Corridor	12 - 13	153	5%	209	6%
G. Residential Neighborhoods	5 - 11	46	2%	60	2%
Total		*3,139*	*100%*	*3,832*	*100%*

internal capture within the Specific Plan area of 5% to 15% for commercial uses, 5% for institutional uses, and 10% for residential uses. The traffic analysis also estimated transit use at 15% to 25% for residential uses, and 10% to 25% for commercial uses. Without the TOD features of the Specific Plan, the estimated VMT would be higher.

3.3 Specific Plan Trip Distribution

The trip distribution for the analysis is shown in Figure 3.2 for residential trips and Figure 3.3 for non-residential trips. These were derived from a select zone type analysis of the trip distribution information in the Los Angeles County Congestion Management Plan and are therefore consistent with County of Los Angeles guidelines and regional travel forecasting methodologies. This identified the regional distribution of trip origins and destinations.

However, the regional proportion by freeway (derived from RSA 21 as a whole) was judged to be too high for the Specific Plan land uses (which are located in the southwest edge of the RSA) and which are focused on revitalization for the local community rather than creating a regional destination (see Specific Plan goals discussed earlier). Consideration was also taken of the type of land uses in the project, the likely origins and destinations of project residents and visitors, and the characteristics of the street system in the area of the project. Based on these considerations, the freeway/local split was therefore adjusted to 40% freeway and 60% local street to reflect the more locally oriented characteristics of the Specific Plan area and land uses and more locally oriented trips. This is consistent with the MLK Medical Center

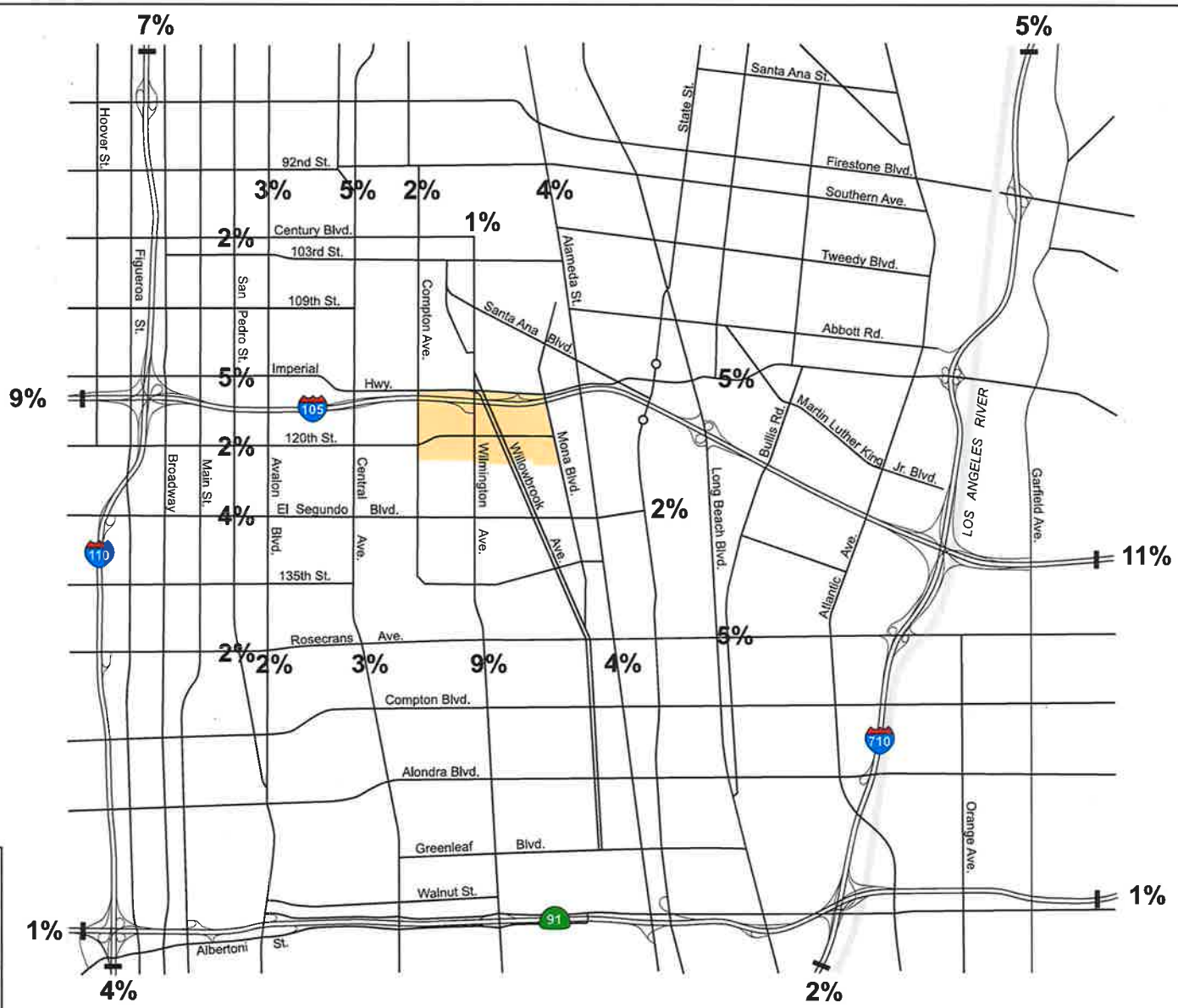


Figure 3.2
Trip Distribution - Residential

Willowbrook TOD Specific Plan EIR Traffic Study

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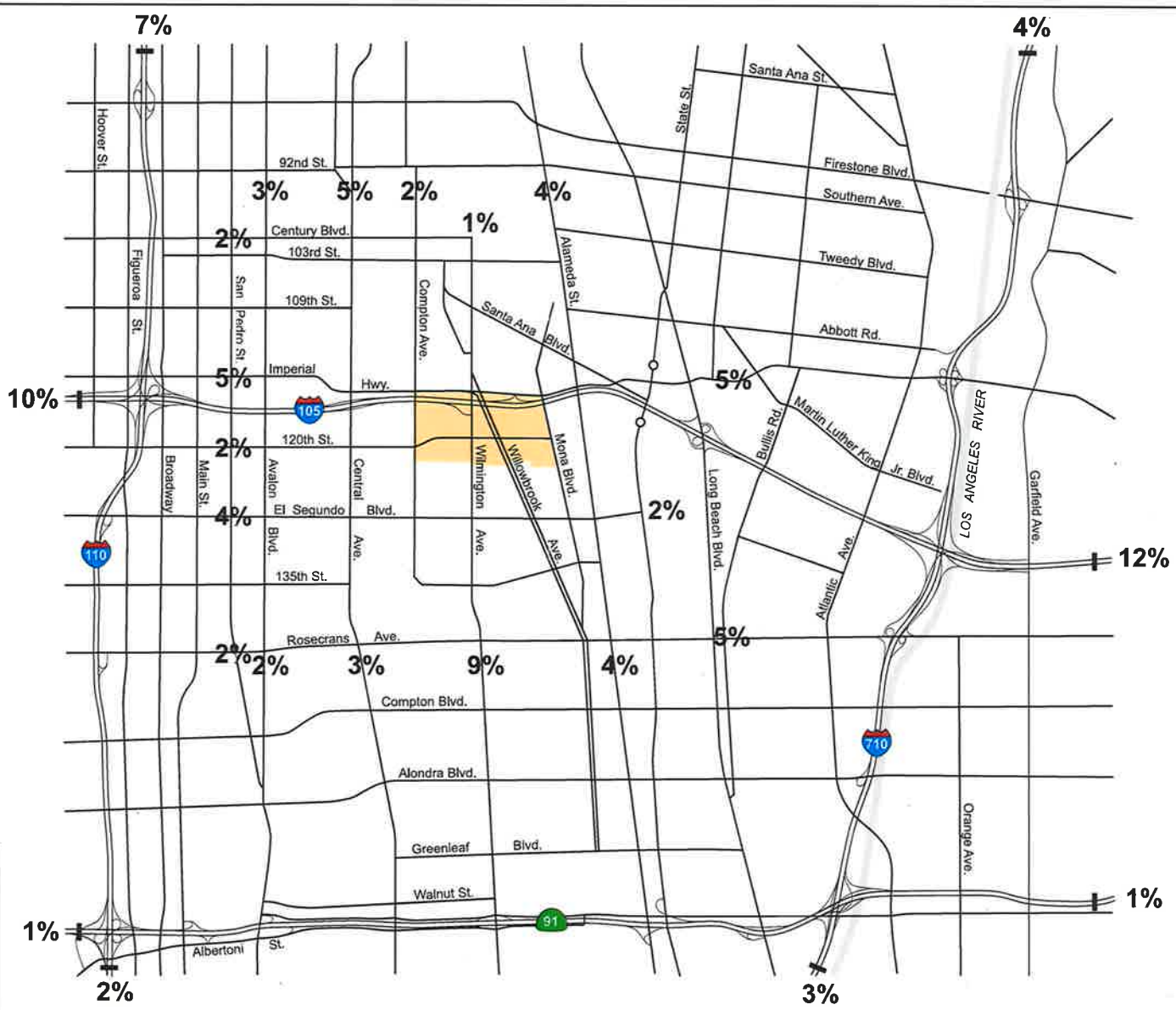


Figure 3.3
Trip Distribution - Non-Residential

Willowbrook TOD Specific Plan EIR Traffic Study

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EIR Traffic Study which forecast approximately 35% to the freeways. The local distribution of trips to local streets was also based on the CMP distribution data as well consideration of the population and employment in adjacent and nearby communities, roadway types serving the Specific Plan area and professional judgment. These distributions were developed in consultation with, and approved by, County staff.

3.4 Transportation Improvements in the Specific Plan

The Mobility Element of the Specific Plan is described in detail in Chapter 4 of the Willowbrook TOD Specific Plan, so only a summary is provided here. The overall mobility goal in the Specific Plan area is to enhance connectivity and the ease of movements for non-auto transportation modes, particularly pedestrians and bicyclists. These enhancements will support healthy transportation options.

Roadway System

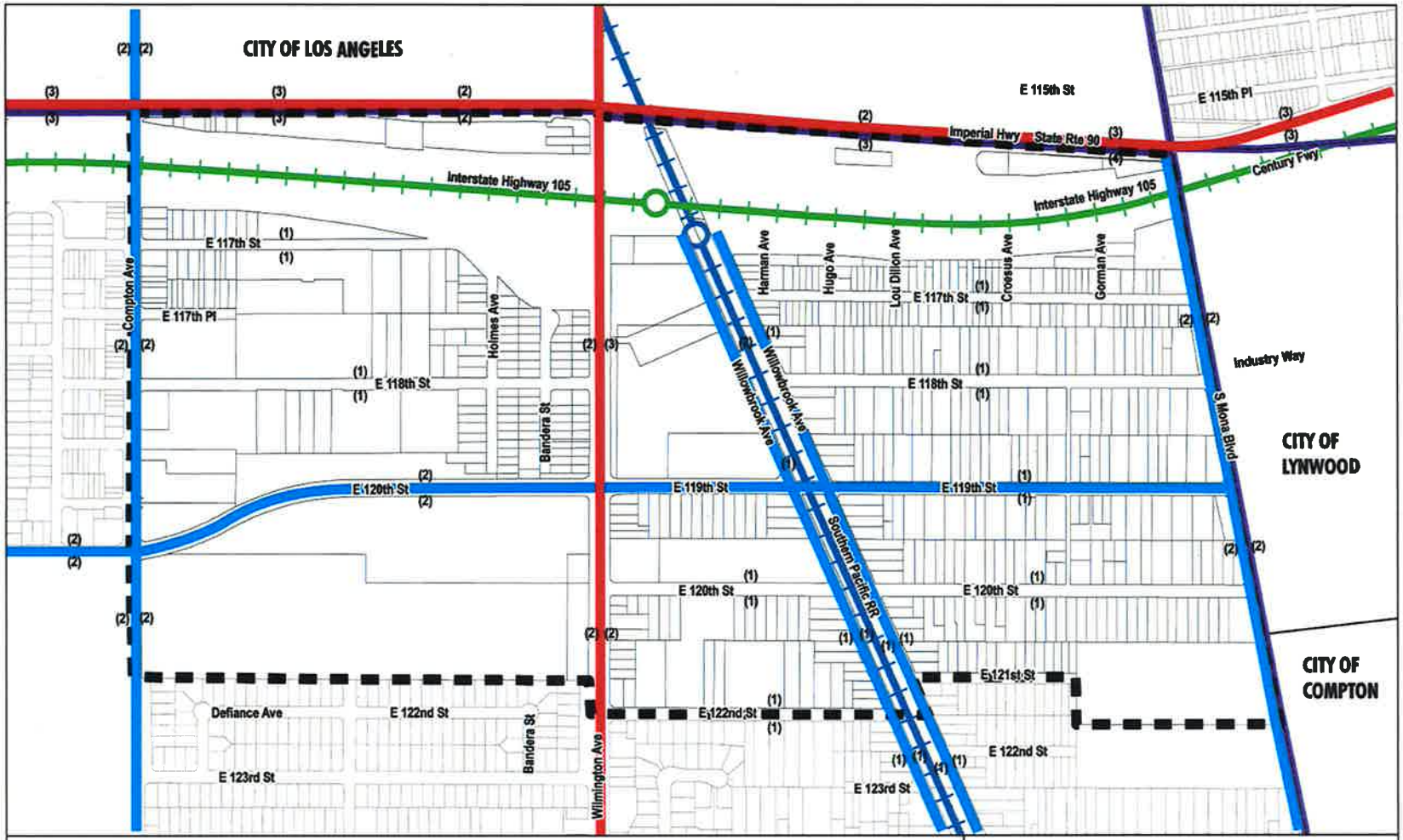
The roadway system, shown in Figure 3.4, provides the backbone circulation system for all modes of transportation. While historically street systems have been oriented to serving the automobile, the roadway system should provide a network of complete streets that provides for the safe and efficient circulation of transit, bicycles, and pedestrian as well as automobiles.

The existing street system will be largely maintained in its current configuration, with some changes/improvements designed to improve access and circulation, and walkability. The Major Roadways (as identified in the County General Plan) will continue to be Wilmington Avenue and Imperial Highway. Secondary Roadways (also identified in the County General Plan) will continue to be Compton Avenue, Willowbrook Avenue and Mona Boulevard in the north-south direction, and 120th Street/119th Street in the east-west direction. The number of traffic lanes and roadway lane configurations will generally remain the same, except where otherwise noted in the Specific Plan (for example where road diets will be implemented).

The following street enhancements, shown in Figure 3-5, are intended to improve circulation for bicycles and pedestrians in the Specific Plan area. These are also described in more detail in Sections 4.4 and 4.5 of the Specific Plan. They have been included in the impact analysis in Chapter 4 and Chapter 6 of this report.

Road Diet and Bicycle Lanes on 120th Street

The section of 120th Street between Compton Avenue & Wilmington Avenue, will be reduced from four lanes to three lanes, with a bicycle lane in each direction. This is part of the Willowbrook Area Access Improvement Project.



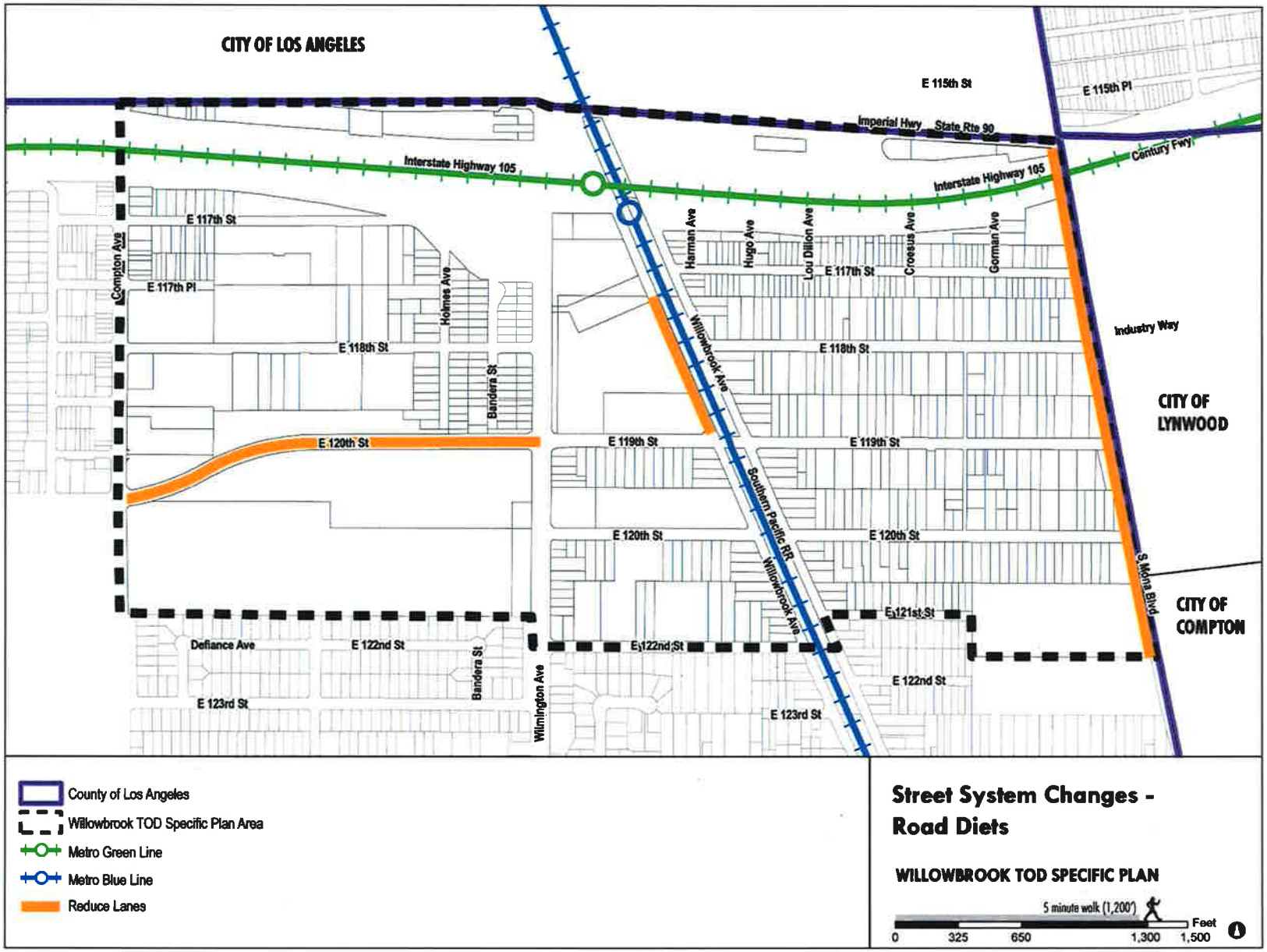
Source: The Arroyo Group

11/3/16

Figure 3.4
Street Network

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Source: The Arroyo Group

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Figure 3.5
Street System Changes – Road Diet

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Road Diet and Bicycle/Pedestrian Trail on Mona Boulevard
Mona Boulevard from the I-105 Freeway to 124th Street will be converted from a four lane street to a three lane street, and a pedestrian/bicycle trail installed on the west side of the street.

Willowbrook Avenue West
The section of Willowbrook Avenue West between the Willowbrook/Rosa Parks Metro Station and 119th Street, will be reduced from two lanes southbound to one lane southbound, and a bike path installed on the west side of the street.

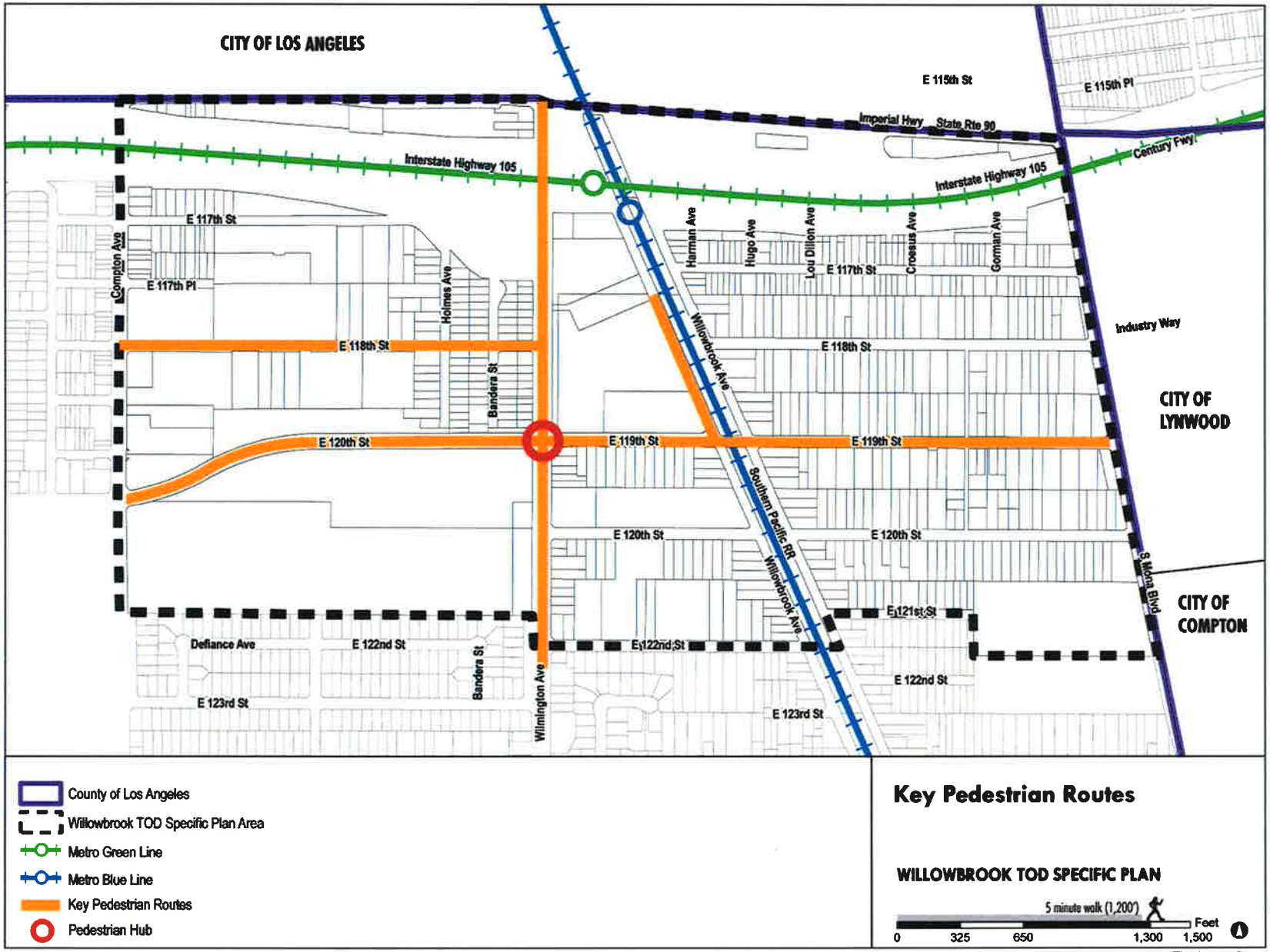
Pedestrian Circulation

The key pedestrian routes in the Specific Plan Area are shown in Figure 3-6. The backbone of the pedestrian system is formed by Wilmington Avenue in the north-east direction and 120th/119th Street in the east-west direction. These corridors connect activity centers of the Willowbrook/Rosa Parks Station, the Kenneth Hahn Shopping Plaza, and the Martin Luther King Jr. Medical Center Campus. They also cross at the intersection of Wilmington Avenue and 120/119th Street – which is the functional pedestrian hub of the Specific Plan Area. Additional key elements of the pedestrian system are 118th Street between Compton Avenue and Wilmington Avenue - which connects the Charles Drew University campus to the rest of the Specific Plan Area, Willowbrook Avenue West between 119th Street & the Willowbrook/Rosa Parks Metro Station – providing access from residential areas to the station, and 119th Street between Willowbrook Avenue & Mona Boulevard – which provides access from the residential areas to the activity centers of the Specific Plan Area. Mona Boulevard also provides north-south pedestrian access on the east side of the Specific Plan Area including access to Mona Park, the Martin Luther King Elementary School and the Dr. Ralph Bunche Middle School.

Pedestrian Oriented Intersection Improvements

In order to enhance the pedestrian environment and to calm traffic, a number of pedestrian oriented intersection improvements will be implemented throughout the Specific Plan Area, where feasible. These will be based on a menu of improvements that includes the following:

- Adding high visibility crosswalks at intersections.
- Adding passive pedestrian detection and pedestrian push buttons for crosswalks at traffic signals at intersections.
- Adding pedestrian countdown pedestrian signals and audio signals to crosswalks at intersections.
- Adding advance stop bars to intersection approaches.
- Adding sidewalk bulbouts and extensions, or reducing curb returns, on intersection corners where feasible.



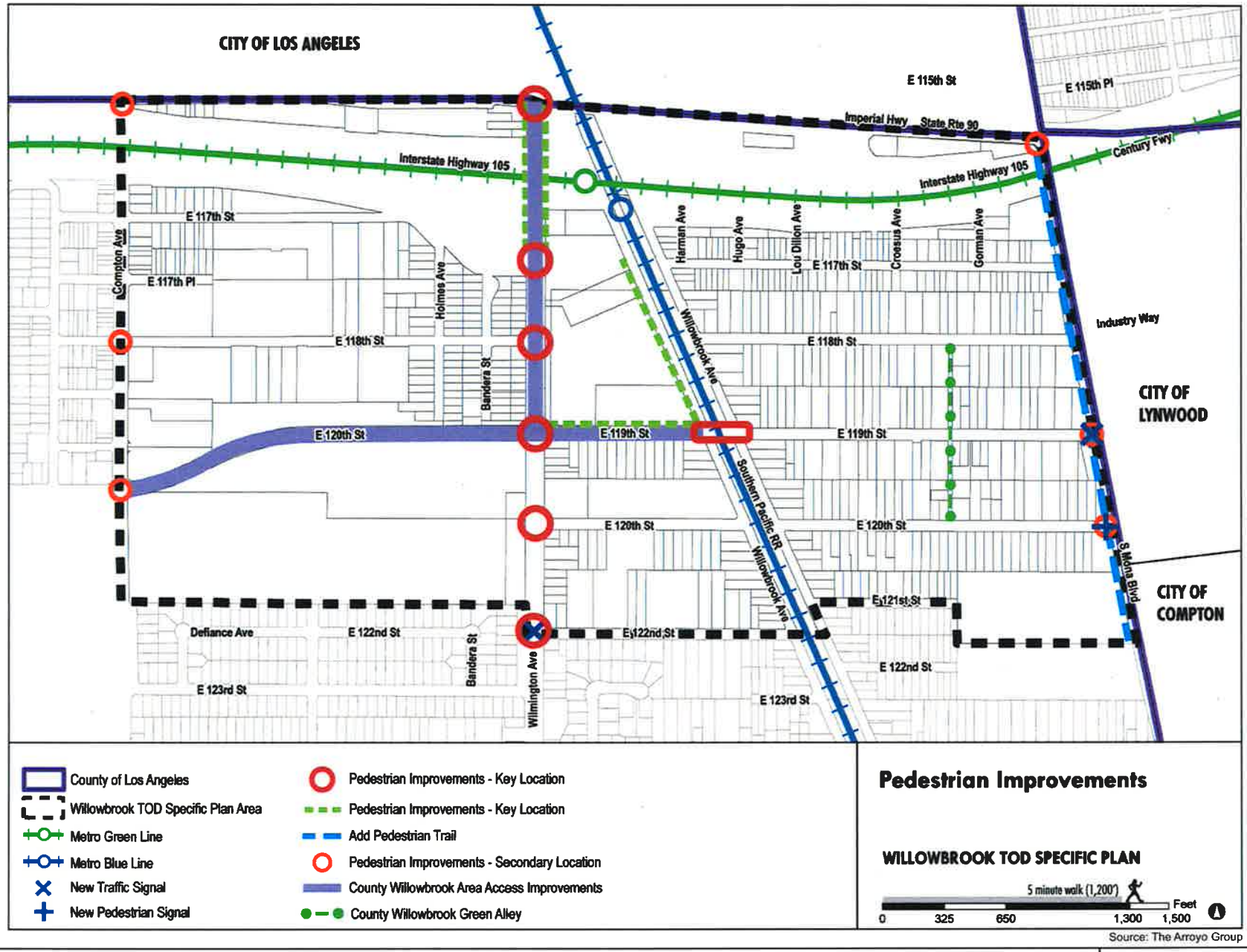
Source: The Arroyo Group

11/4/16

Figure 3.6
Key Pedestrian Routes

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Source: The Arroyo Group

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Figure 3.7
Pedestrian Improvements

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These measures will facilitate pedestrian circulation by reducing the width of roadway for pedestrians to cross, providing additional sidewalk space, and making pedestrian crossings more visible to both pedestrians and motorists. Figure 3-7 shows the anticipated locations of such improvements. The specific improvements to be implemented at each location will be determined following detailed design studies to determine applicability and feasibility and the ultimate configuration. However curb extensions should not restrict the circulation of buses, trucks, emergency vehicles, and bicycles. As their exact nature is currently undefined, they are not included directly in this traffic study.

Improvements at Wilmington Avenue & I-105 Eastbound Ramps will add a crosswalk across Wilmington Avenue to facilitate access to the Metro Station. This is included in the traffic analysis.

The Specific Plan proposes to add new traffic signals at Wilmington Avenue & 122nd Street, and at Mona Avenue & 119th Street, to facilitate pedestrian crossings on long stretches of both streets currently without signalized crosswalks. Also to install a signalized pedestrian crosswalk on Mona Avenue & 120th Street, to facilitate pedestrians crossing to the Dr. Ralph Bunche Middle School. The specific improvements will be determined following detailed design studies to determine applicability, feasibility, and if warranted. As their exact nature is currently undefined, they are not included directly in this traffic study.

Bicycle Circulation

The Specific Plan Bicycle Network, shown in Figure 3.8, includes a combination of Class I, Class II and Class III facilities that connects activity centers and neighborhoods to the rail station, connects to adjacent communities, and provides a dedicated network for bicyclists to use safely and efficiently. The Bicycle Circulation System includes elements from, and is consistent with, the County's Bicycle Plan and the City of Los Angeles Bicycle Plan.

Class I bike paths will be implemented on Willowbrook Avenue (West) between 119th Street & Imperial Highway — to provide access to the rail station, and on Mona Avenue (east side) between Imperial Highway and 124th Street. The associated lane reductions are included in the following impact analyses, and shown in Figure B-1, in Appendix B.

Class II bike lanes will be implemented on 120th Street between Compton Avenue & Wilmington Avenue. The associated lane reductions are included in the following impact analyses, and shown in Figure B-1, in Appendix B. Class II Bike lanes are also proposed on Wilmington Avenue between 124th Street & 120th Street, but will not require any changes in traffic lanes. Class II Bike Lanes are also proposed on Imperial Highway between Compton Avenue & Mona Avenue. However, there are no design concepts or details available, so no changes to lane configurations have been incorporated into this study.

Not all streets can support bicycle lanes. Either there is insufficient width, or on-street parking is also an important asset to the function and economic well-being of the adjacent commercial uses or neighborhoods, so where there is insufficient roadway width to stripe bicycle lanes and to retain on-street parking, a connected network is achieved through the designation of Class Ill Bike Routes. Class III bike routes will be implemented on Compton Avenue, Willowbrook Avenue (West) south of 119th Street, 119th Street between Wilmington Avenue & Mona Avenue, and on 124th Street throughout the Specific Plan Area.

Transit Circulation

Key transit streets (with multiple bus routes) in the Specific Plan Area are shown in Figure 3.9. The Specific Plan anticipates that current bus routes will continue to serve the Specific Plan area focusing on the rail station.

Shuttle Routes

The Specific Plan also anticipates that the existing shuttle routes that are operated by the County, the Martin Luther King Jr. Medical Center and Charles Drew University will be continued in order to facilitate alternative modes of transportation, and provide critical access to the Medical Center for those without a car.

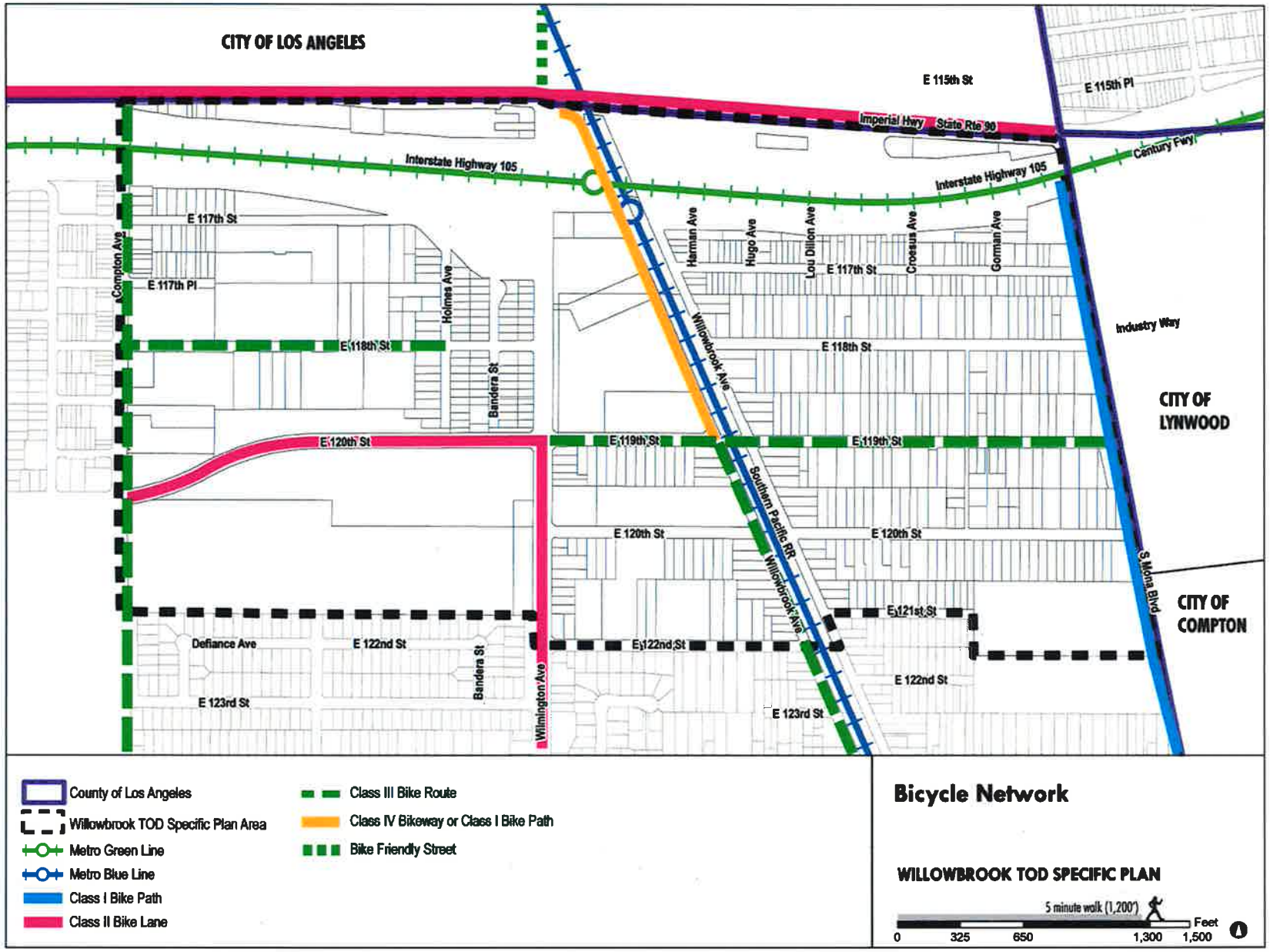
Additional shuttle routes are proposed to be added to serve new development in the North West Quadrant and connect the land uses to the Metro Station. These new shuttle services could be provided by the private sector as part of a comprehensive Transportation Demand Management Program (see below).

Transportation Demand Management

The Specific Plan identifies that a Transportation Demand Management Program will be developed by the County, to take advantage of the high level of transit service, and to reduce both vehicle trips and the number of parking spaces provided. Such programs would include the encouragement of use of transit, bicycling, walking, and ridesharing. These types of programs are generally most suitable and most effective for large employers and institutional uses, and office uses and could be attractive to employers in new office type land uses in the the North West Quadrant as they could reduce the capital costs needs of building parking. The Program should include the North West Quadrant, Charles Drew University, and the Martin Luther King Jr. Medical Center.

Transportation demand management and trip reductions strategies could include but not be limited to:

- Encouraging use of transit, including subsidizing transit passes
- Parking cash out programs



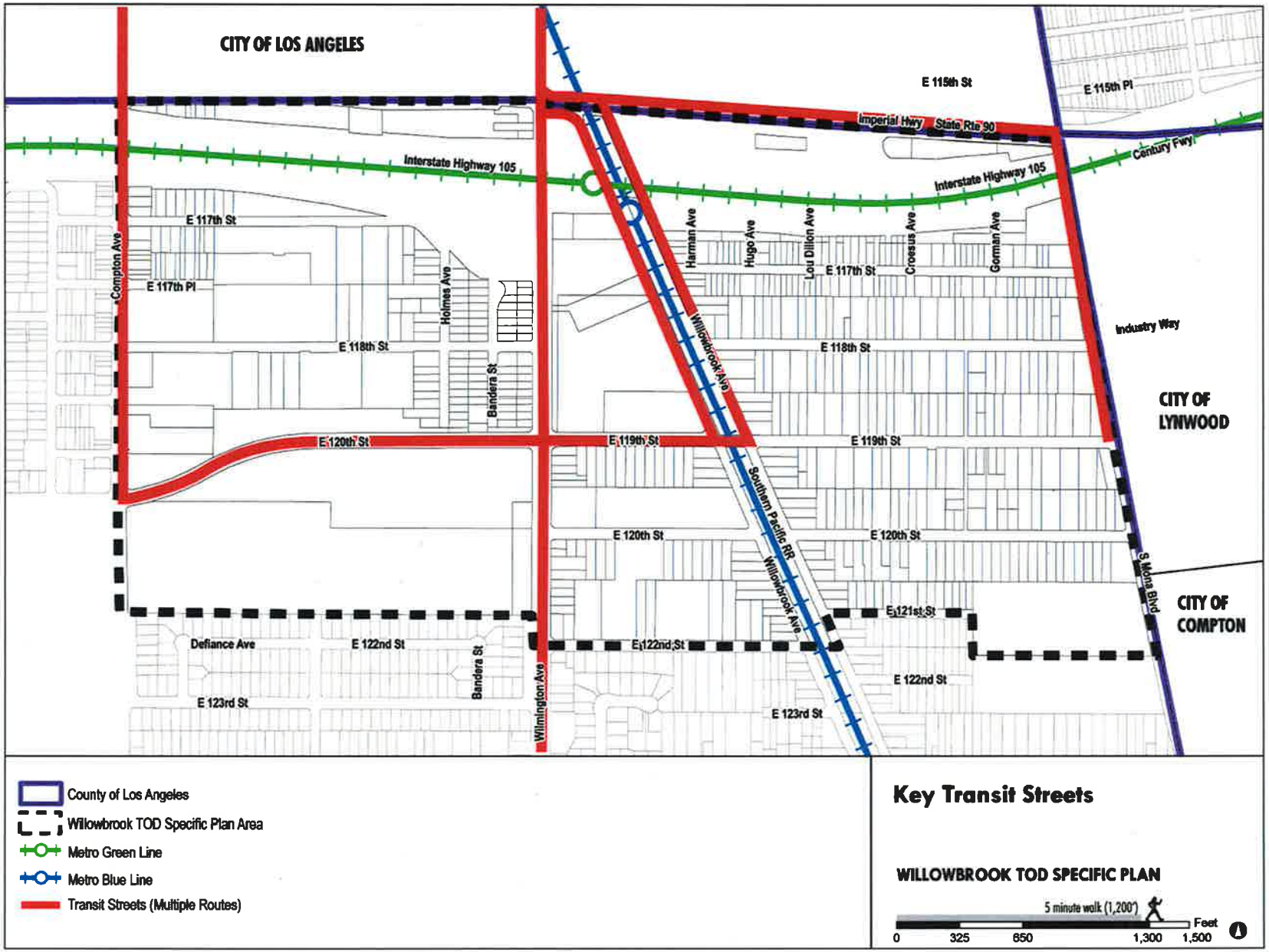
Source: The Arroyo Group

11/4/16

Figure 3.8
Bicycle Network

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Source: The Arroyo Group

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Figure 3.9
Key Transit Routes

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- Encouraging rideshare
- Providing preferential parking for carpools
- Facilitating formation of carpools and vanpools
- Site and building design to facilitate use of transit, bicycling and walking

A Transportation Management Organization (TMO) could also be established to facilitate these programs at an area wide level and support individual employers and/or buildings in participating to the fullest extent possible.

3.5 Future Traffic Forecasts for The Specific Plan Project

The trip generation estimates for each zone (and summarized in Table 3.3) were assigned to to the roadway network using the trip distribution parameters described earlier, to obtain Specific Plan traffic volumes (Project Only) on the roadway network. The Project Only traffic volumes are shown in Figure 3.10 for the AM peak hour and in Figure 3.11 for the PM peak hour.

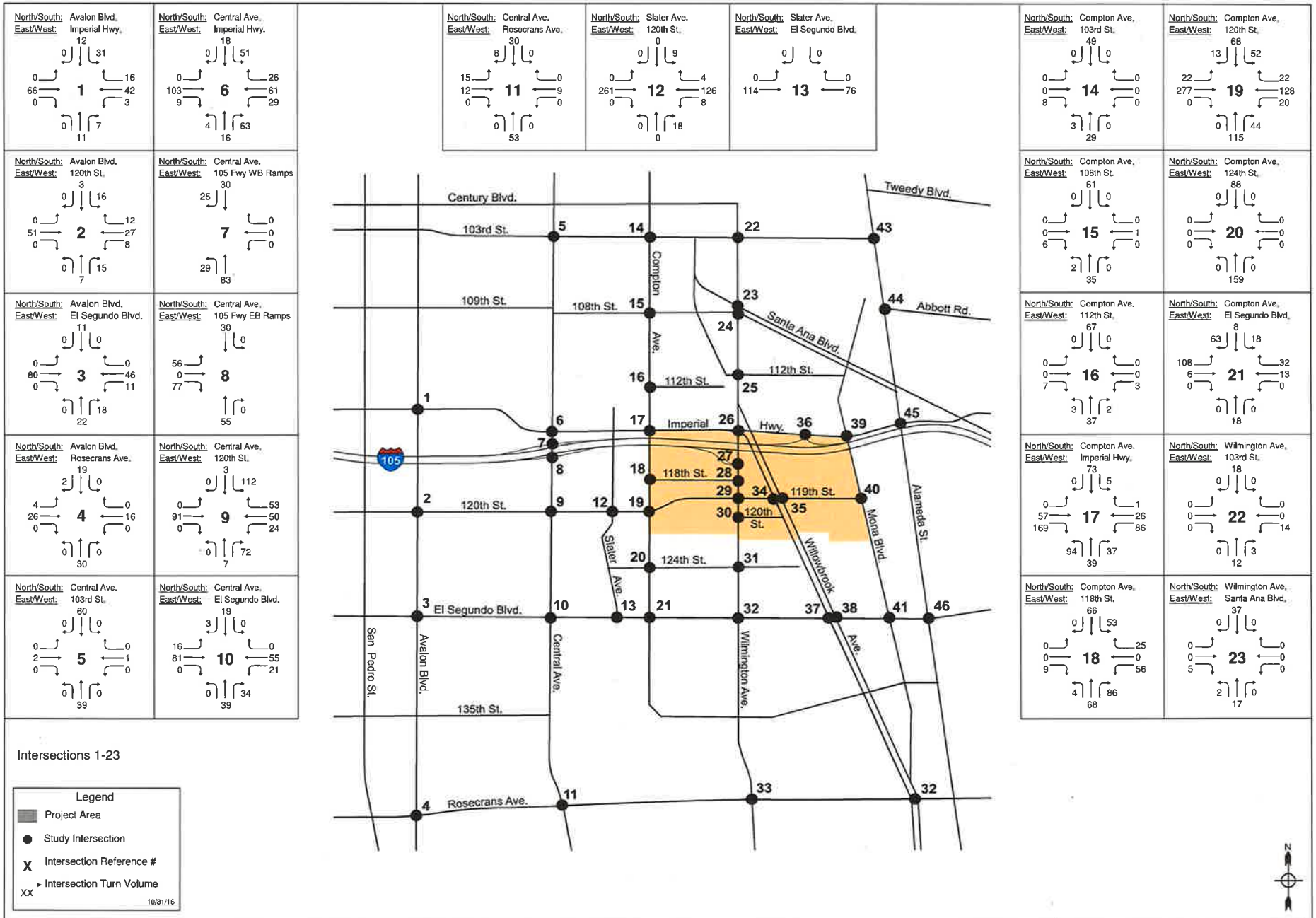


Figure 3.10
Project Only Traffic Volumes - AM Peak Hour

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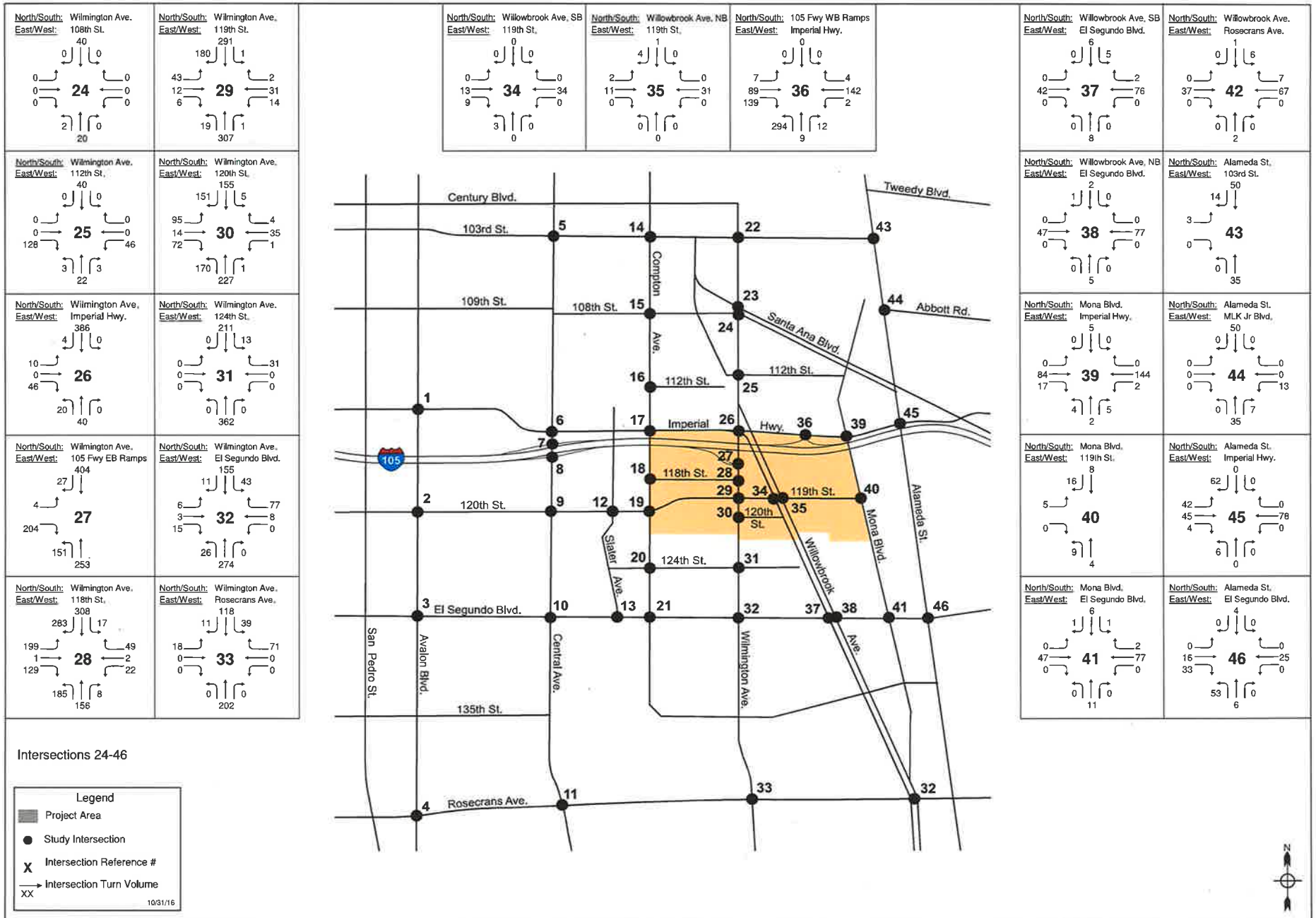


Figure 3.10
Project Only Traffic Volumes - AM Peak Hour

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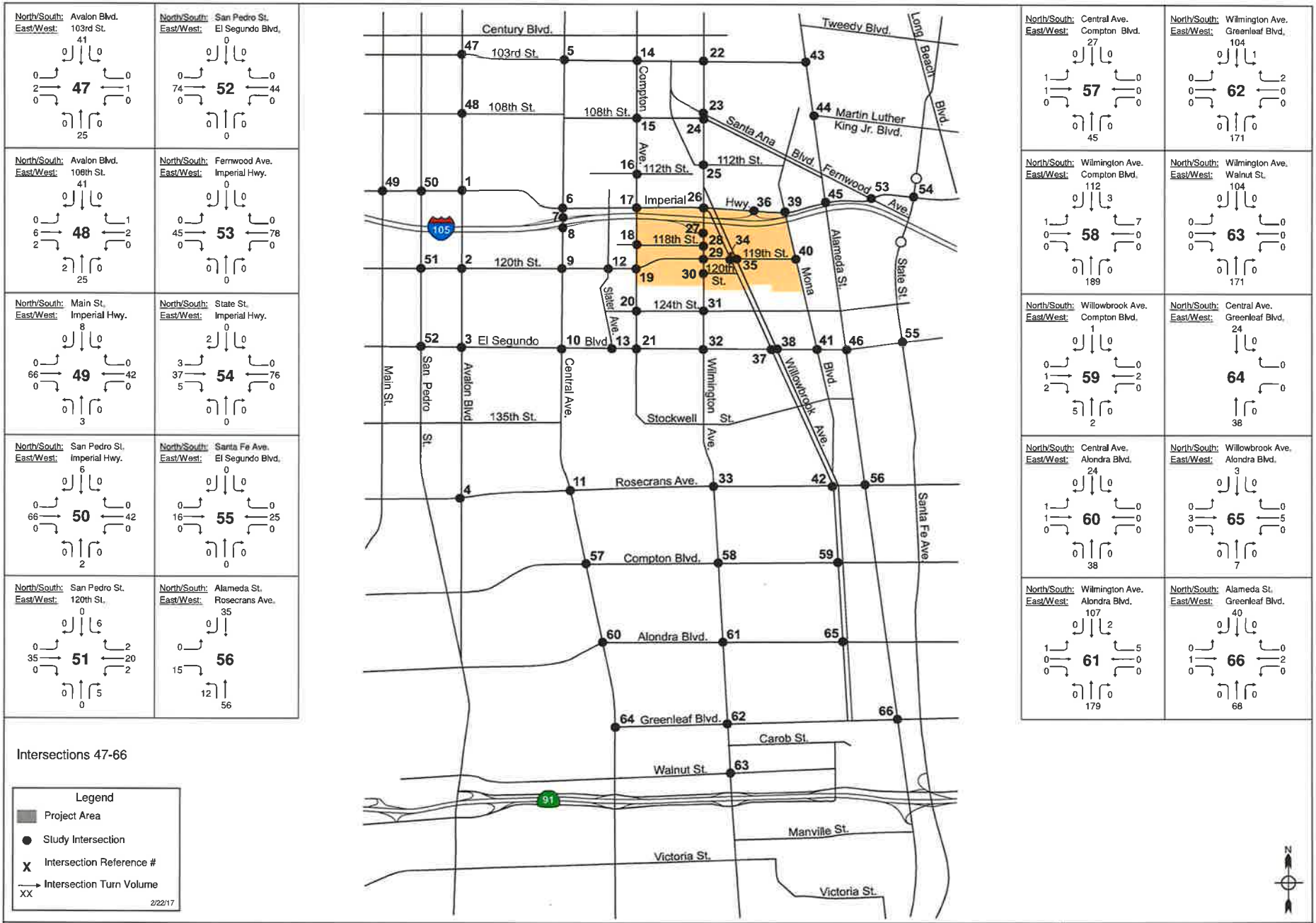


Figure 3.10
Project Only Traffic Volumes - AM Peak Hour

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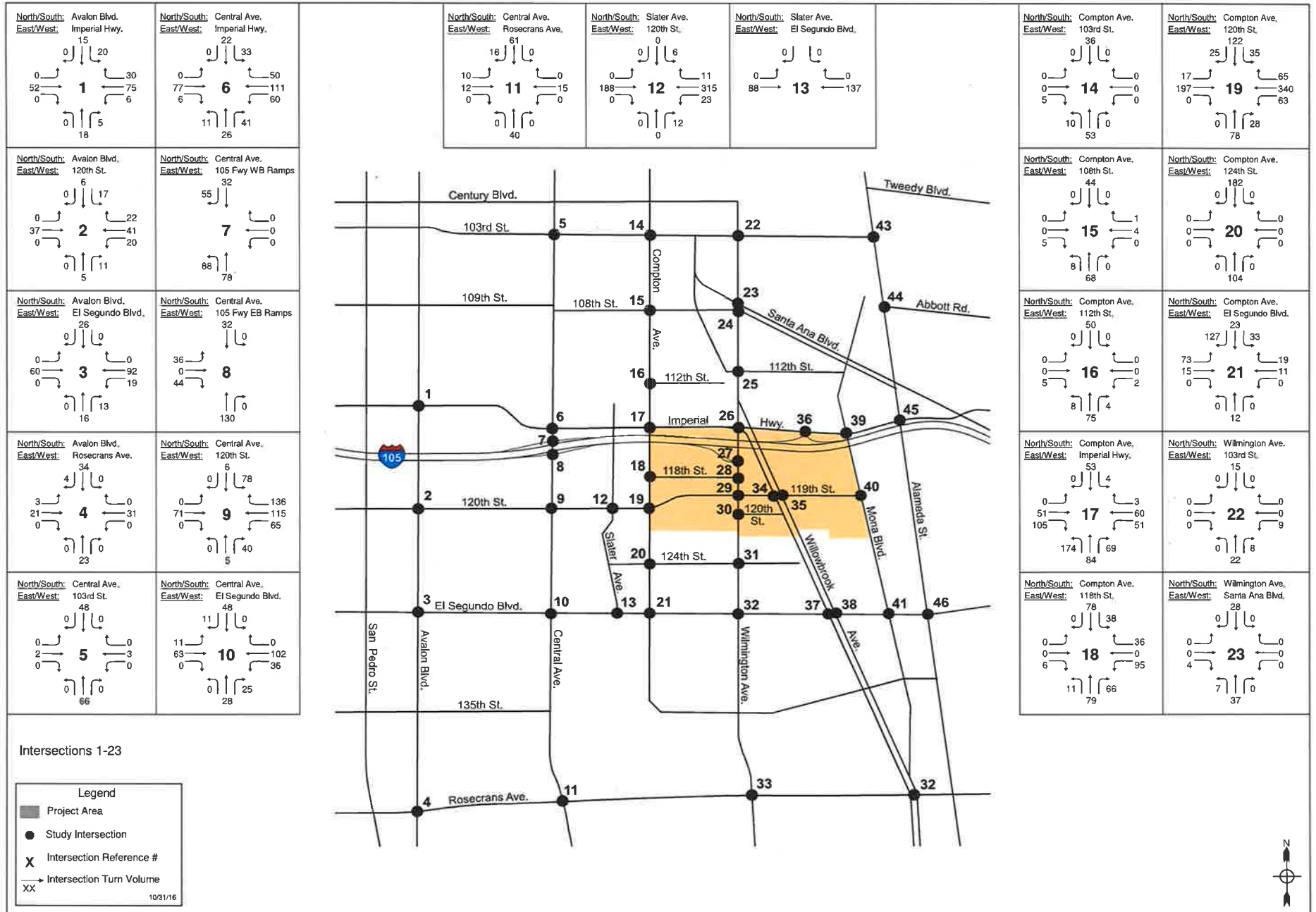


Figure 3.11
Project Only Traffic Volumes - PM Peak Hour

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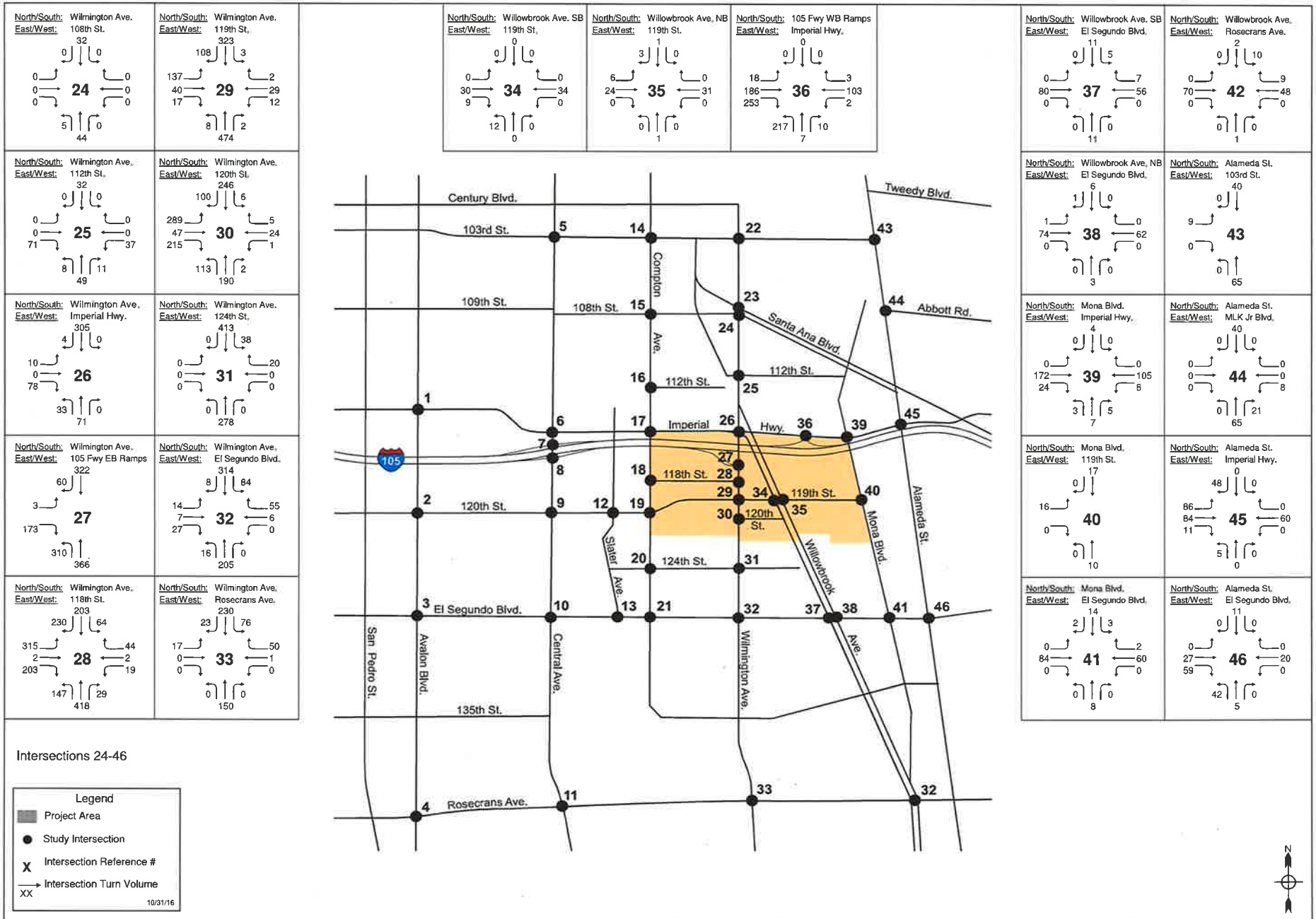


Figure 3.11
Project Only Traffic Volumes - PM Peak Hour

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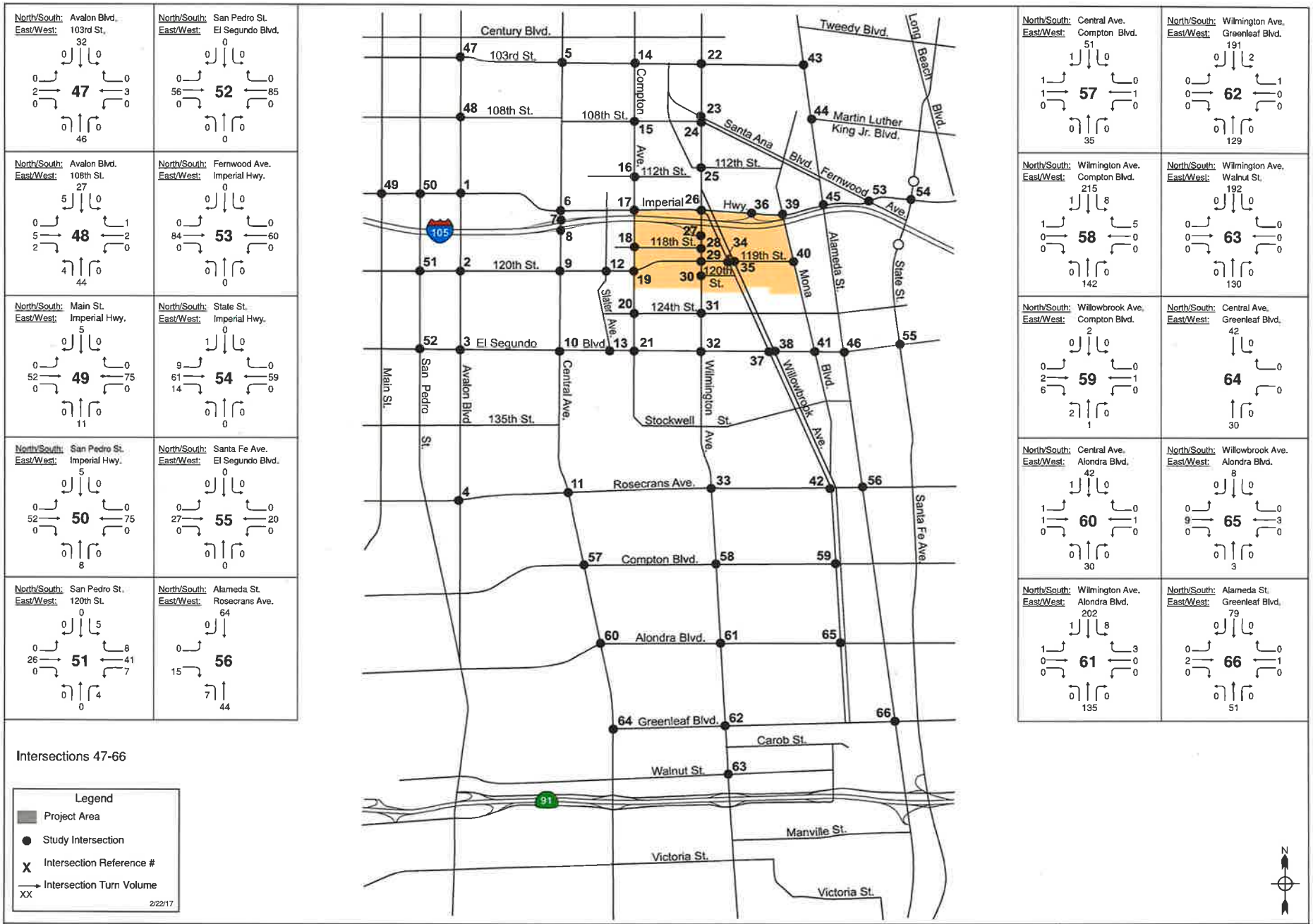


Figure 3.11
Project Only Traffic Volumes - PM Peak Hour

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4. Existing With Project Conditions

This section of the report documents an analysis of potential Project impacts for the Existing With Project Condition. The Project trips estimated and described in Chapter 3, were added to the existing conditions traffic volumes and an impact analysis was conducted. The total Existing With Project peak hour traffic volumes are illustrated in Figures 4.1 and 4.2 for the AM and PM peak hours respectively.

The analysis then used the methodologies (as described in Chapter 2) and thresholds for significant impact appropriate to each of the different jurisdictions, to calculate intersection level of service and potential impacts.

4.1 Significant Impact Thresholds

The analysis used the following thresholds for determining significant traffic impacts.

Significant Impact Thresholds – County of Los Angeles

The County of Los Angeles Department of Public Works has established threshold criteria to determine if project has a significant impact at a study intersection. According to the criteria provided by the County of Los Angeles, a project impact is considered significant if the following conditions are met:

Pre-Project Conditions		Project-Related Increase
LOS	V/C Ratio	in V/C Ratio
C	0.71 – 0.80	equal to or greater than 0.040
D	0.81 – 0.90	equal to or greater than 0.020
E, F	0.91 or more	equal to or greater than 0.010

For example, a project would not have a significant impact at an intersection if it operated at LOS D after the addition of project traffic and the incremental change in the V/C ratio is less than 0.020. However if the intersection operated at LOS F after the addition of project traffic and the incremental change in the V/C ratio is 0.010 or greater, then the project would be considered to have a significant impact.

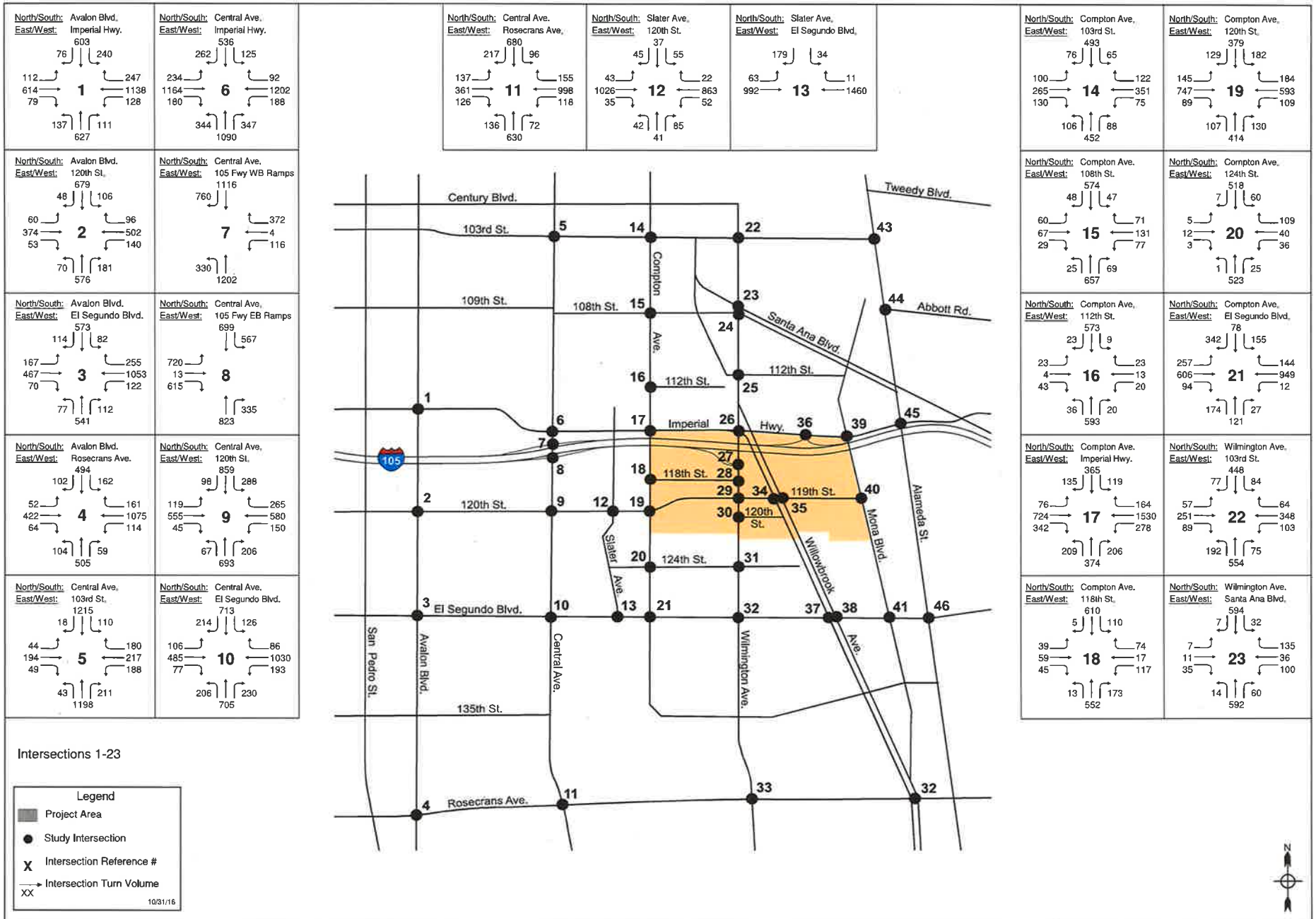


Figure 4.1
Existing With Project Traffic Volumes - AM Peak Hour

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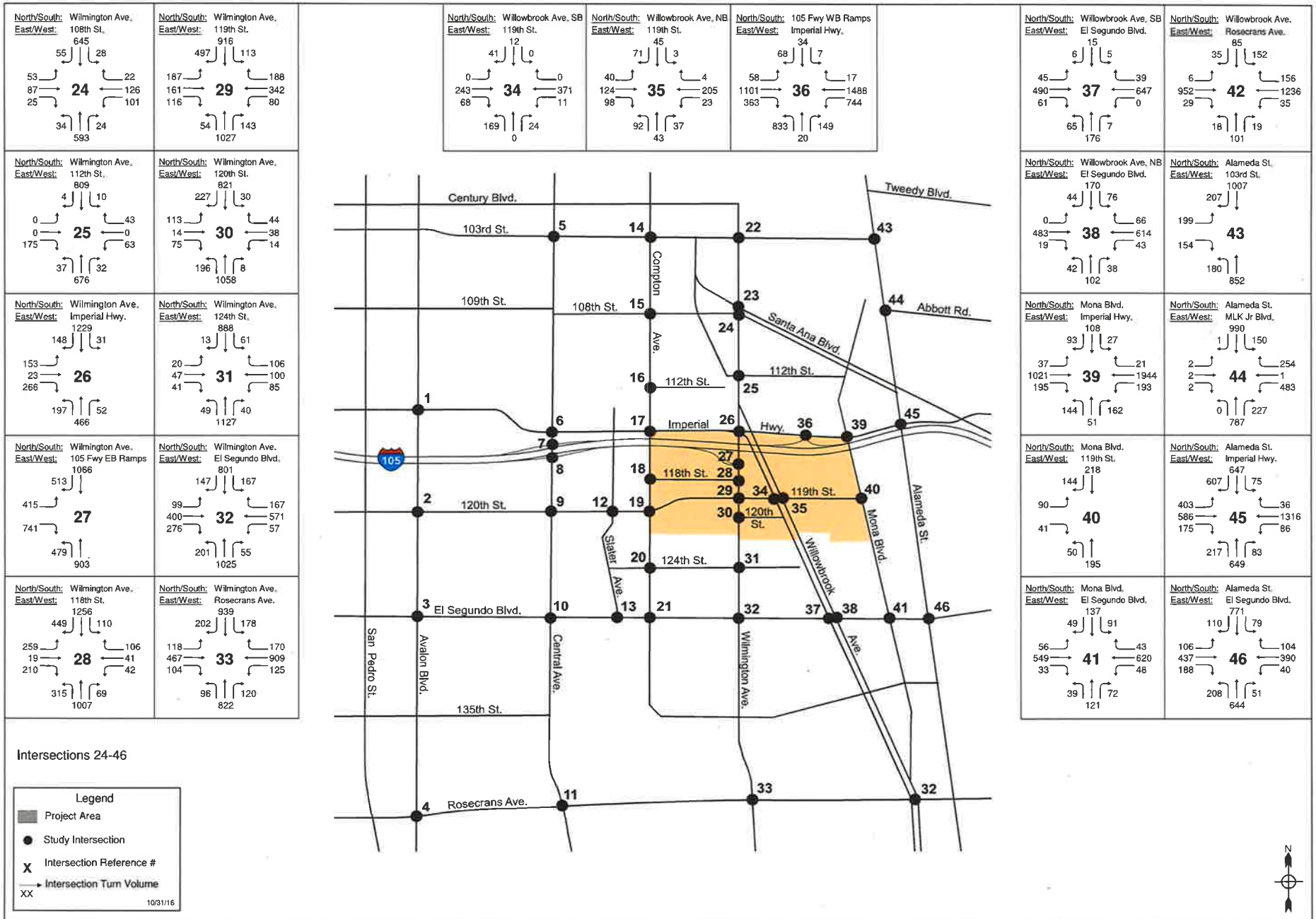


Figure 4.1
Existing With Project Traffic Volumes - AM Peak Hour

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North/South: Avalon Blvd.
East/West: 103rd St.
830
38 78
33 109
72 47 108
19 84
22 60
995

North/South: San Pedro St.
East/West: El Segundo Blvd.
245
153 95
96 46
592 52 1230
41 49
77 34
232

North/South: Avalon Blvd.
East/West: 108th St.
837
27 86
21 64
171 48 92
38 109
37 92
1001

North/South: Fernwood Ave.
East/West: Imperial Hwy.
45
17 159
23 124
710 53 1367
45 2
60 3
40

North/South: Main St.
East/West: Imperial Hwy.
349
101 88
91 180
697 49 1108
61 115
57 47
352

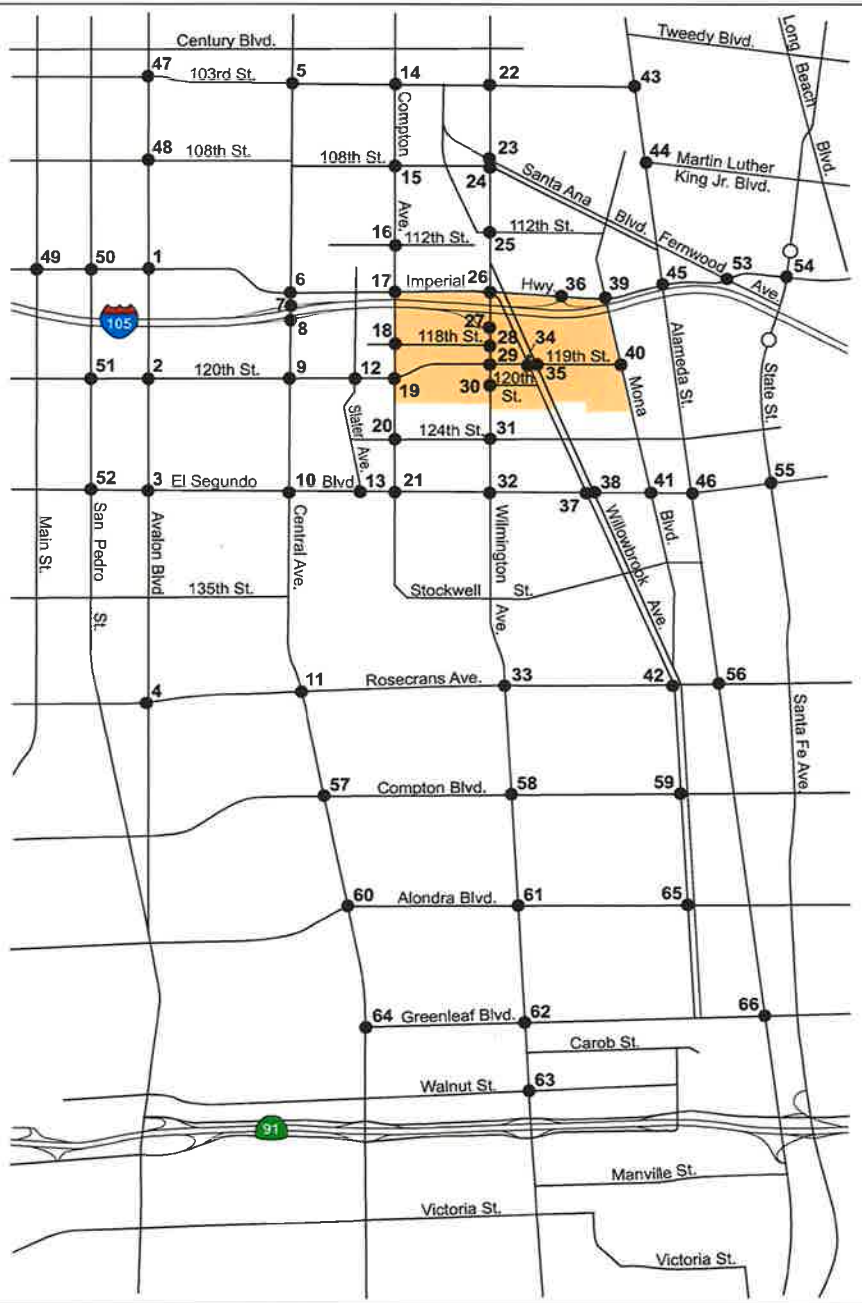
North/South: State St.
East/West: Imperial Hwy.
367
273 106
101 37
773 54 1217
8 114
15 134
240

North/South: San Pedro St.
East/West: Imperial Hwy.
314
107 82
155 140
420 50 1187
73 39
92 11
342

North/South: Santa Fe Ave.
East/West: El Segundo Blvd.
451
64 16
62 33
131 55 139
163 46
143 27
356

North/South: San Pedro St.
East/West: 120th St.
342
56 79
41 100
290 51 484
50 47
50 91
303

North/South: Alameda St.
East/West: Rosecrans Ave.
918
115
104
208 56
130
662



North/South: Central Ave.
East/West: Compton Blvd.
682
148 138
105 57 120
346 758
138 164
182 83
618

North/South: Wilmington Ave.
East/West: Greenleaf Blvd.
1135
21 105
38 62 76
192 361
86 276
35 114
642

North/South: Wilmington Ave.
East/West: Compton Blvd.
830
128 182
71 58 146
515 682
127 133
86 169
649

North/South: Wilmington Ave.
East/West: Walnut St.
1332
87 33
26 63 46
60 95
58 24
81 41
701

North/South: Willowbrook Ave.
East/West: Compton Blvd.
180
67 0
24 59 29
628 766
65 0
29 6
119

North/South: Central Ave.
East/West: Greenleaf Blvd.
1000
137
64 191
206
76
505

North/South: Central Ave.
East/West: Alondra Blvd.
819
130 173
76 60 204
328 735
120 85
142 69
562

North/South: Willowbrook Ave.
East/West: Alondra Blvd.
105
44 33
26 65 36
669 918
24 0
11 29
75

North/South: Wilmington Ave.
East/West: Alondra Blvd.
940
87 172
101 61 147
498 850
105 137
104 142
623

North/South: Alameda St.
East/West: Greenleaf Blvd.
699
59 48
21 66 34
191 315
107 264
73 105
483

Intersections 47-66

Legend
- Project Area
- Study Intersection
- X Intersection Reference #
- XX Intersection Turn Volume

2/22/17

N

Figure 4.1
Existing With Project Traffic Volumes - AM Peak Hour

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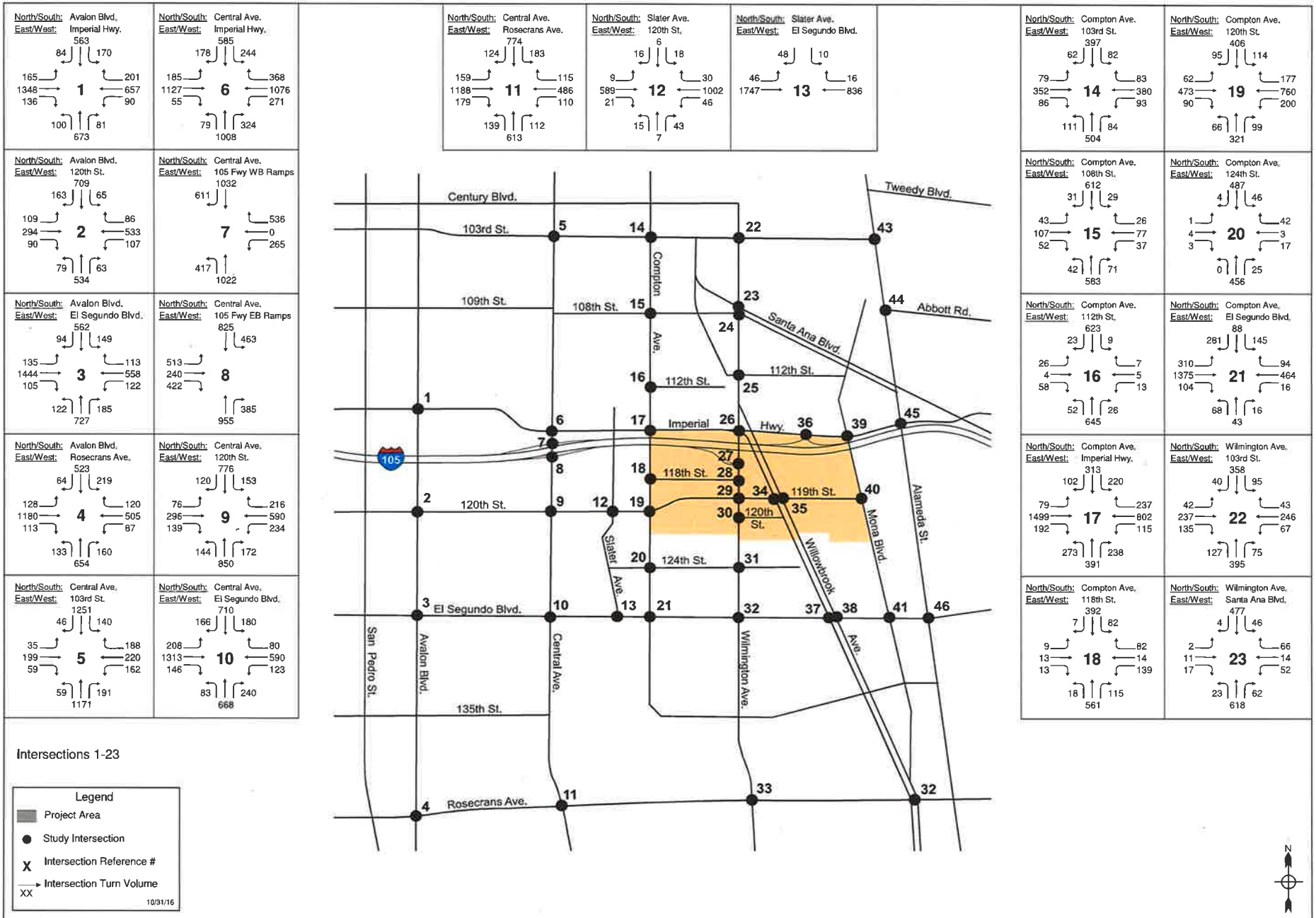


Figure 4.2
Existing With Project Traffic Volumes - PM Peak Hour

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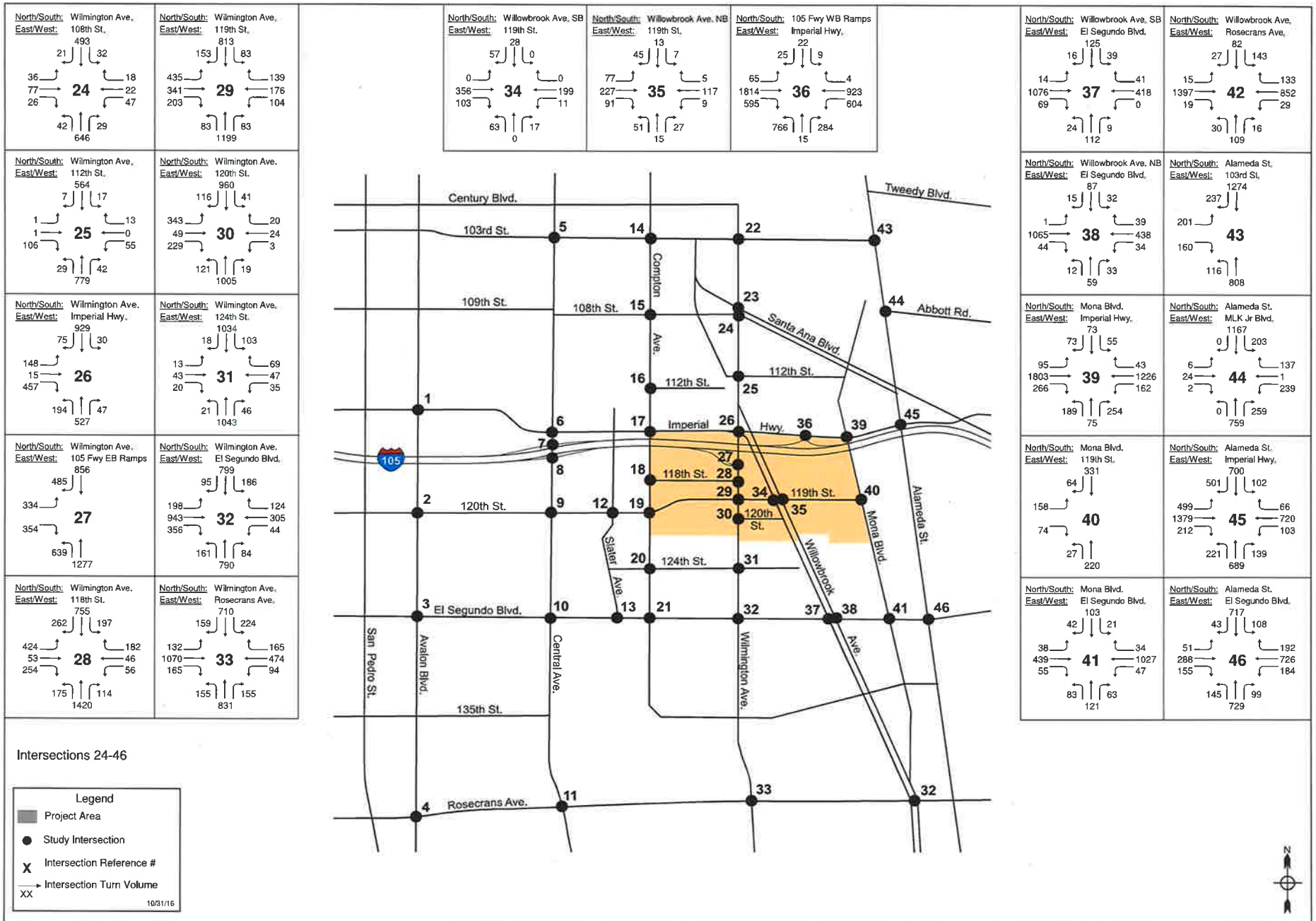


Figure 4.2
Existing With Project Traffic Volumes - PM Peak Hour

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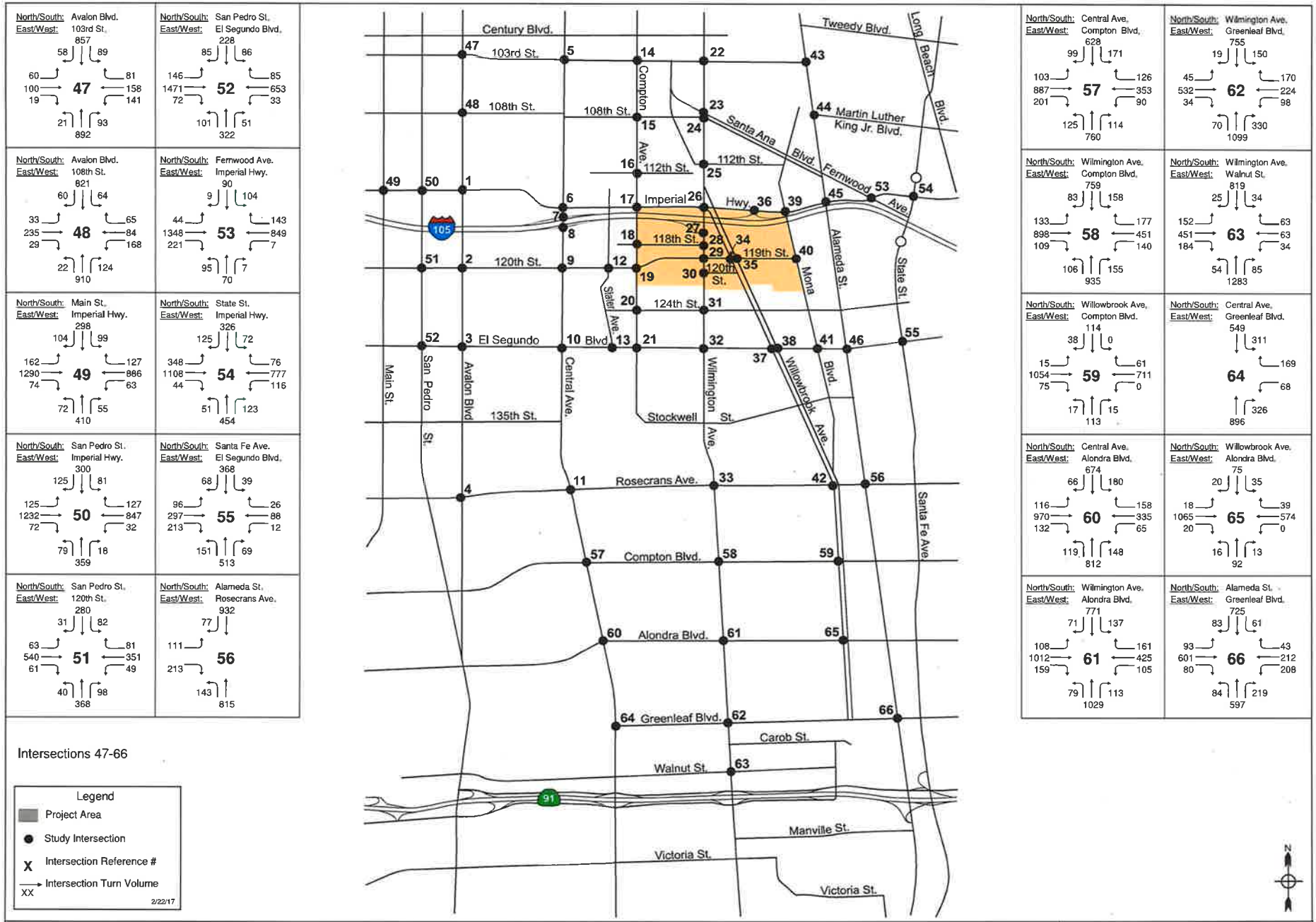


Figure 4.2
Existing With Project Traffic Volumes - PM Peak Hour

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The County of Los Angeles does not have threshold criteria for determining significant impacts at unsignalized intersections. For the purposes of this study, a significant impact was assumed to occur if the Project caused the level of service for the minor (controlled) approach to worsen to LOS F, or if already LOS F to increase the delay by more than 10%, and if installation of a traffic signal would be warranted.

Significant Impact Thresholds - City of Compton and City of Lynwood

The Cities of Compton and Lynwood do not have published thresholds criteria to determine significant impact. The County of Los Angeles threshold criteria were therefore used in the analysis of intersections in Cities of Compton and Lynwood.

Significant Impact Thresholds - City of Los Angeles

LADOT has established threshold criteria to determine if project impacts are significant at an intersection. The City of Los Angeles considers an impact to be significant if the following criteria are met;

With Project Traffic		Project-Related Increase
LOS	V/C Ratio	in V/C Ratio
C	0.701 – 0.800	equal to or greater than 0.040
D	0.801 – 0.900	equal to or greater than 0.020
E, F	> 0.900	equal to or greater than 0.010

Using these criteria, for example, a project would not have a significant impact at an intersection if it is operating at LOS C after the addition of project traffic and the incremental change in the volume/capacity (V/C) ratio is less than 0.040. However, in another example, if the intersection is operating at LOS E or LOS F and the incremental change in V/C ratio is 0.010 or greater, then the project would be considered to have a significant impact at that location.

The City of Los Angeles does not have threshold criteria for determining significant impacts at unsignalized intersections. For the purposes of this study, a significant impact was assumed to occur if the Project caused the level of service for the minor (controlled) approach to be either LOS E or LOS F and if installation of a traffic signal would be warranted.

4.2 Project Impact Analysis - Existing With Project

The intersection level of service analysis compared the V/C ratios at each intersection for the Existing Condition and the Existing With Project Condition, to determine the incremental difference in V/C ratios caused by the Project.

The results of the analysis is summarized in Table 4.1 for the AM peak hour and in Table 4.2 for the PM peak hour. These tables compare the level of service for Existing Conditions and Existing With Project Conditions, show the increase in V/C ratios at each intersection due to the Project, and identifies if the increase constitutes a significant impact. The intersection levels of service are also illustrated graphically in Figure 4.3 for the AM Peak Hour and Figure 4.4 for the PM Peak Hour.

County of Los Angeles Intersections - AM Peak Hour

The analysis summarized in Table 4.1 indicates that for the AM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 20 of the 28 intersections analyzed in the County of Los Angeles. Table 4.1 also shows that there would be significant impacts at 12 intersections, as listed below.

11. Central Ave & Rosecrans Ave	LOS D
26. Wilmington Ave & Imperial Hwy	LOS D
32. Wilmington Ave & El Segundo Blvd	LOS D
45. Alameda St & Imperial Hwy	LOS D
46. Alameda St & El Segundo Blvd	LOS D
10. Central Ave & El Segundo Blvd	LOS E
19. Compton Ave & 120th St	LOS E
29. Wilmington Ave & 120th St (West)	LOS E
36. Imperial Hwy & I-105 w/b Ramps	LOS E
17. Compton Ave & Imperial Hwy	LOS F
27. Wilmington Ave & I-105 e/b Ramps	LOS F
28. Wilmington Ave & 118th St	LOS F

Five of the impacted intersections would operate at LOS D or better, four would operate at LOS E, and three would operate at LOS F.

County of Los Angeles Intersections - PM Peak Hour

The analysis summarized in Table 4.2 indicates that for the PM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 19 of the 28 intersections analyzed in the County of Los Angeles. Table 4.2 also shows that there would be significant impacts at 13 intersections, as listed below.

30. Wilmington Ave & 120th St (East)	LOS C
3. Avalon Blvd & Rosecrans Ave	LOS D
19. Compton Ave & 120th St	LOS D
26. Wilmington Ave & Imperial Hwy	LOS D
39. Mona Blvd & Imperial Hwy	LOS D
43. Alameda St & 103rd St	LOS D
10. Central Ave & El Segundo Blvd	LOS E
17. Compton Ave & Imperial Hwy	LOS E
27. Wilmington Ave & I-105 e/b Ramps	LOS E
29. Wilmington Ave & 120th St (West)	LOS E
36. Imperial Hwy & I-105 w/b Ramps	LOS E
32. Wilmington Ave & El Segundo Blvd	LOS E
28. Wilmington Ave & 118th St	LOS F

Six of the impacted intersections would operate at LOS D or better, six would operate at LOS E, and one would operate at LOS F.

City of Compton Intersections – AM Peak Hour

The analysis summarized in Table 4.1 indicates that for the AM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 14 of the 16 intersections analyzed in the City of Compton. Table 4.1 also shows that there would be significant impacts at 4 intersections, as listed below.

61. Wilmington Ave & Alondra Blvd	LOS D
62. Wilmington Ave & Greenleaf Blvd	LOS D
21. Compton Ave & El Segundo Blvd	LOS E
33. Wilmington Ave & Rosecrans Ave	LOS E

City of Compton Intersections – PM Peak Hour

The analysis summarized in Table 4.2 indicates that for the PM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 13 of the 16 intersections analyzed in the City of Compton. Table 4.2 also shows that there would be significant impacts at 6 intersections, as listed below.

21. Compton Ave & El Segundo Blvd	LOS C
58. Wilmington Ave & W Compton Blvd	LOS D
63. Wilmington Ave & Walnut St	LOS D
33. Wilmington Ave & Rosecrans Ave	LOS E
61. Wilmington Ave & Alondra Blvd	LOS E
62. Wilmington Ave & Greenleaf Blvd	LOS E

City of Lynwood Intersections – AM Peak Hour

The analysis summarized in Table 4.1 indicates that for the AM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at all 3 intersections analyzed in the City of Lynwood, and that the Project would not cause significant impacts at these intersections.

City of Lynwood Intersections – PM Peak Hour

The analysis summarized in Table 4.2 indicates that for the PM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at all 3 intersections analyzed in the City of Lynwood. Table 4.2 also shows that there would be a significant impact at 1 intersection, as listed below.

54. Imperial Hwy & State St	LOS D

City of Los Angeles Intersections – AM Peak Hour

The analysis summarized in Table 4.1 indicates that for the AM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 17 of the 19 intersections analyzed in the City of Los Angeles. Table 4.1 also shows that there would be significant impacts at 5 intersections, as listed below.

1. Avalon Blvd & Imperial Hwy	LOS C
6. Central Ave & Imperial Hwy	LOS C
7. Central Ave & I-105 w/b Ramps	LOS D
9. Central Ave & 120th St	LOS D
25. Wilmington Ave & 112th St	LOS F

Four of the five impacted intersections would operate at LOS D or better. The intersection of Wilmington Ave & 112th St would operate at LOS F on the minor approach, and a traffic signal would be warranted.

City of Los Angeles Intersections – PM Peak Hour

The analysis summarized in Table 4.2 indicates that for the PM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 17 of the 19 intersections analyzed in the City of Los Angeles. Table 4.2 also shows that there would significant impacts at 6 intersections, as listed below.

1. Avalon Blvd & Imperial Hwy	LOS C
2. Avalon Blvd & 120th St	LOS C

6. Central Ave & Imperial Hwy	LOS D
7. Central Ave & I-105 w/b Ramps	LOS D
9. Central Ave & 120th St	LOS D
25. Wilmington Ave & 112th St	LOS F

Five of the six impacted intersections would operate at LOS D or better. The intersection of Wilmington Ave & 112th St would operate at LOS F on the minor approach, and a traffic signal would be warranted.

City of Los Angeles Intersections – Shared With County of Los Angeles - AM Peak Hour

Four of the 28 intersections located in the County of Los Angeles and analyzed above with the County's impact thresholds have common jurisdiction with the City of Los Angeles. These intersections were also analyzed using the City of Los Angeles methodology and significant impact criteria.

The analysis summarized in Table 4.1 indicates that for the AM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 3 of the 4 shared intersections analyzed for the City of Los Angeles. Table 4.1 also shows that there would significant impacts at 2 intersections, as listed below.

36. Imperial Hwy & I-105 w/b Ramps	LOS D
17. Compton Ave & Imperial Hwy	LOS F

These results are the same as the analysis under the County methodology, except that whereas under the County methodology there would be a significant impact at Intersection #26 at Wilmington Avenue & Imperial Highway, there would not be a significant impact under the City of Los Angeles methodology.

City of Los Angeles Intersections – Shared With County of Los Angeles - PM Peak Hour

The analysis summarized in Table 4.2 indicates that for the PM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at all 4 of the shared intersections analyzed for the City of Los Angeles. Table 4.2 also shows that there would significant impacts at 3 intersections, as listed below.

39. Mona Blvd & Imperial Hwy	LOS C
17. Compton Ave & Imperial Hwy	LOS D
36. Imperial Hwy & I-105 w/b Ramps	LOS D

These results are the same as the analysis under the County methodology, except that whereas under the County methodology there would be a significant impact at Intersection #26 at

Wilmington Avenue & Imperial Highway, there would not be a significant impact under the City of Los Angeles methodology.

Summary - All Intersections – AM Peak Hour

In summary, Table 4.1 shows that for the AM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 55 of the 66 total intersections analyzed. Table 4.1 also shows that there would significant impacts at 21 intersections.

Summary - All Intersections – PM Peak Hour

In summary, Table 4.2 shows that for the PM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at a 53 of the 66 total intersections analyzed. Table 4.1 also shows that there would significant impacts at 26 intersections.

Table 4.1 Existing With Project Conditions - Intersection Level of Service - AM Peak Hour 3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS		
Los Angeles County								
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.726	C	0.739	C	0.013	No
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.652	B	0.667	B	0.015	No
10.	Central Ave & El Segundo Blvd [1]	Signalized	0.899	D	0.933	E	0.034	Yes
11.	Central Ave & Rosecrans Ave [1]	Signalized	0.822	D	0.844	D	0.022	Yes
12.	Slater Ave & 120th St	Signalized	0.501	A	0.604	B	0.103	No
17.	Compton Ave & Imperial Hwy [2]	Signalized	1.007	F	1.120	F	0.113	Yes
18.	Compton Ave & 118th St	Signalized	0.438	A	0.561	A	0.123	No
19.	Compton Ave & 120th St	Signalized	0.574	A	0.919	E	0.345	Yes
20.	Compton Ave & 124th St	Signalized	0.378	A	0.428	A	0.050	No
26.	Wilmington Ave & Imperial Hwy [2]	Signalized	0.657	B	0.820	D	0.163	Yes
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.848	D	1.196	F	0.348	Yes
28.	Wilmington Ave & 118th St	Signalized	0.641	B	1.161	F	0.520	Yes
29.	Wilmington Ave & 120th St (West)	Signalized	0.840	D	0.907	E	0.067	Yes
30.	Wilmington Ave & 120th St (East)	Signalized	0.424	A	0.681	B	0.257	No
31.	Wilmington Ave & 124th St	Signalized	0.557	A	0.697	B	0.140	No
32.	Wilmington Ave & El Segundo Blvd [1]	Signalized	0.716	C	0.834	D	0.118	Yes
34.	Willowbrook Ave W & 119th Street	Signalized	0.447	A	0.478	A	0.031	No
35.	Willowbrook Ave E & 119th Street	Signalized	0.375	A	0.388	A	0.013	No
36.	Imperial Hwy & I-105 w/b Ramps [2]	Signalized	0.775	C	0.906	E	0.131	Yes
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.416	A	0.448	A	0.032	No
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.447	A	0.473	A	0.026	No
39.	Mona Blvd & Imperial Hwy [3]	Signalized	0.730	C	0.766	C	0.036	No
40.	Mona Blvd & 119th St [4]	Unsignalized [5]	(13.5)	B	(15.4)	C	(1.9)	No
41.	Mona Blvd & El Segundo Blvd	Signalized	0.512	A	0.544	A	0.032	No
43.	Alameda St & 103rd St [4]	Signalized	0.790	C	0.812	D	0.022	No
45.	Alameda St & Imperial Hwy [4]	Signalized	0.772	C	0.829	D	0.057	Yes
46.	Alameda St & El Segundo Blvd [1]	Signalized	0.765	C	0.815	D	0.050	Yes
52.	El Segundo Blvd & San Pedro St	Signalized	0.589	A	0.598	A	0.009	No
City of Compton								
13.	Slater Ave & El Segundo Blvd	Signalized	0.687	B	0.710	C	0.023	No
21.	Compton Ave & El Segundo Blvd	Signalized	0.804	C	0.925	E	0.121	Yes
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.854	D	0.927	E	0.073	Yes
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.693	B	0.721	C	0.028	No
55.	El Segundo Blvd & Santa Fe Ave [4]	Signalized	0.592	A	0.602	B	0.010	No
56.	Alameda St & Rosecrans Ave	Signalized	0.606	B	0.634	B	0.028	No
57.	Cental Ave & W Compton Blvd	Signalized	0.758	C	0.767	C	0.009	No
58.	Wilmington Ave & W Compton Blvd	Signalized	0.702	B	0.737	C	0.035	No
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.532	A	0.536	A	0.004	No
60.	Central Ave & Alondra Blvd	Signalized	0.754	C	0.762	C	0.008	No
61.	Wilmington Blvd & Alondra Blvd	Signalized	0.825	D	0.861	D	0.036	Yes
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.797	C	0.829	D	0.032	Yes
63.	Wilmington Ave & Walnut St	Signalized	0.595	A	0.627	B	0.032	No
64.	Central Ave & Greenleaf Blvd	Signalized	0.534	A	0.541	A	0.007	No
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.532	A	0.535	A	0.003	No
66.	Alameda St & Greenleaf Blvd	Signalized	0.628	B	0.641	B	0.013	No

Table 4.1 Existing With Project Conditions - Intersection Level of Service - AM Peak Hour 3/2/2017

Intersection		*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS		
City of Lynwood								
44.	Alameda St & Abbott Rd	Signalized	0.660	B	0.673	B	0.013	No
53.	Imperial Hwy & Fernwood Ave	Signalized	0.732	C	0.756	C	0.024	No
54.	Imperial Hwy & State St	Signalized	0.738	C	0.764	C	0.026	No
City of Los Angeles								
1.	Avalon Blvd & Imperial Hwy	Signalized	0.747	C	0.790	C	0.043	Yes
2.	Avalon Blvd & 120th St	Signalized	0.592	A	0.628	B	0.036	No
5.	Central Ave & 103rd St	Signalized	0.637	B	0.658	B	0.021	No
6.	Central Ave & Imperial Hwy	Signalized	0.737	C	0.784	C	0.047	Yes
7.	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.852	D	0.029	Yes
8.	Central Ave & I-105 e/b Ramps	Signalized	0.668	B	0.699	B	0.031	No
9.	Central Ave & 120th St	Signalized	0.753	C	0.881	D	0.128	Yes
14.	Compton Ave & 103rd St	Signalized	0.604	B	0.688	B	0.084	No
15.	Compton Ave & 108th St	Signalized	0.663	B	0.669	B	0.006	No
16.	Compton Ave & 112th St	Unsignalized [5]	(31.0)	D	(42.5)	E	(11.5)	No
22.	Wilmington Ave & 103rd St	Signalized	0.660	B	0.669	B	0.009	No
23.	Wilmington Ave & Santa Ana Blvd N	Signalized	0.473	A	0.488	A	0.015	No
24.	Wilmington Ave & 108th St	Signalized	0.593	A	0.621	B	0.028	No
25.	Wilmington Ave & 112th St	Unsignalized [5]	(44.5)	E	Overflow	F	Overflow	Yes
47.	Avalon Blvd & 103rd St	Signalized	0.441	A	0.451	A	0.010	No
48.	Avalon Blvd & 108th St	Signalized	0.564	A	0.578	A	0.014	No
49.	Imperial Hwy & Main St	Signalized	0.590	A	0.601	B	0.011	No
50.	Imperial Hwy & San Pedro St	Signalized	0.661	B	0.673	B	0.012	No
51.	San Pedro St & 120th St	Signalized	0.528	A	0.541	A	0.013	No
City of Los Angeles & Los Angeles County [6]								
17.	Compton Ave & Imperial Hwy	Signalized	0.898	D	1.018	F	0.120	Yes
26.	Wilmington Ave & Imperial Hwy	Signalized	0.501	A	0.670	B	0.169	No
36.	Imperial Hwy & I-105 w/b Ramps	Signalized	0.690	B	0.830	D	0.140	Yes
39.	Mona Blvd & Imperial Hwy	Signalized	0.601	B	0.639	B	0.038	No

Note:

[1] Shares jurisdiction with City of Compton.

[2] Shares jurisdiction with City of Los Angeles.

[3] Shares jurisdiction with City of Los Angeles & City of Lynwood.

[4] Shares jurisdiction with City of Lynwood.

[5] Unsignalized intersection show delay/LOS for controlled approach.

[6] Analyzed per City of Los Angeles methodology.

Table 4.2 Existing With Project Conditions - Intersection Level of Service - PM Peak Hour 3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS		
Los Angeles County								
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.844	D	0.877	D	0.033	Yes
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.804	C	0.815	D	0.011	No
10.	Central Ave & El Segundo Blvd [1]	Signalized	0.925	E	0.983	E	0.058	Yes
11.	Central Ave & Rosecrans Ave [1]	Signalized	0.761	C	0.782	C	0.021	No
12.	Slater Ave & 120th St	Signalized	0.367	A	0.480	A	0.113	No
17.	Compton Ave & Imperial Hwy [2]	Signalized	0.781	C	0.954	E	0.173	Yes
18.	Compton Ave & 118th St	Signalized	0.367	A	0.522	A	0.155	No
19.	Compton Ave & 120th St	Signalized	0.448	A	0.817	D	0.369	Yes
20.	Compton Ave & 124th St	Signalized	0.287	A	0.319	A	0.032	No
26.	Wilmington Ave & Imperial Hwy [2]	Signalized	0.654	B	0.820	D	0.166	Yes
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.680	B	0.988	E	0.308	Yes
28.	Wilmington Ave & 118th St	Signalized	0.527	A	1.019	F	0.492	Yes
29.	Wilmington Ave & 120th St (West)	Signalized	0.766	C	0.934	E	0.168	Yes
30.	Wilmington Ave & 120th St (East)	Signalized	0.426	A	0.756	C	0.330	Yes
31.	Wilmington Ave & 124th St	Signalized	0.485	A	0.608	B	0.123	No
32.	Wilmington Ave & El Segundo Blvd [1]	Signalized	0.793	C	0.923	E	0.130	Yes
34.	Willowbrook Ave W & 119th Street	Signalized	0.436	A	0.486	A	0.050	No
35.	Willowbrook Ave E & 119th Street	Signalized	0.359	A	0.377	A	0.018	No
36.	Imperial Hwy & I-105 w/b Ramps [2]	Signalized	0.792	C	0.918	E	0.126	Yes
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.508	A	0.540	A	0.032	No
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.507	A	0.535	A	0.028	No
39.	Mona Blvd & Imperial Hwy [3]	Signalized	0.825	D	0.875	D	0.050	Yes
40.	Mona Blvd & 119th St [4]	Unsignalized [5]	(17.0)	C	(21.6)	C	(4.6)	No
41.	Mona Blvd & El Segundo Blvd	Signalized	0.609	B	0.635	B	0.026	No
43.	Alameda St & 103rd St [4]	Signalized	0.852	D	0.872	D	0.020	Yes
45.	Alameda St & Imperial Hwy [4]	Signalized	0.799	C	0.818	D	0.019	No
46.	Alameda St & El Segundo Blvd [1]	Signalized	0.898	D	0.912	E	0.014	No
52.	El Segundo Blvd & San Pedro St	Signalized	0.601	B	0.612	B	0.011	No
City of Compton								
13.	Slater Ave & El Segundo Blvd	Signalized	0.649	B	0.676	B	0.027	No
21.	Compton Ave & El Segundo Blvd	Signalized	0.706	C	0.790	C	0.084	Yes
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.847	D	0.941	E	0.094	Yes
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.719	C	0.748	C	0.029	No
55.	El Segundo Blvd & Santa Fe Ave [4]	Signalized	0.700	B	0.717	C	0.017	No
56.	Alameda St & Rosecrans Ave	Signalized	0.604	B	0.638	B	0.034	No
57.	Cental Ave & W Compton Blvd	Signalized	0.802	C	0.813	D	0.011	No
58.	Wilmington Ave & W Compton Blvd	Signalized	0.844	D	0.893	D	0.049	Yes
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.453	A	0.456	A	0.003	No
60.	Central Ave & Alondra Blvd	Signalized	0.888	D	0.898	D	0.010	No
61.	Wilmington Blvd & Alondra Blvd	Signalized	0.877	D	0.924	E	0.047	Yes
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.911	E	0.952	E	0.041	Yes
63.	Wilmington Ave & Walnut St	Signalized	0.785	C	0.825	D	0.040	Yes
64.	Central Ave & Greenleaf Blvd	Signalized	0.671	B	0.680	B	0.009	No
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.526	A	0.530	A	0.004	No
66.	Alameda St & Greenleaf Blvd	Signalized	0.723	C	0.748	C	0.025	No

Table 4.2 Existing With Project Conditions - Intersection Level of Service - PM Peak Hour 3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS		
City of Lynwood								
44.	Alameda St & Abbott Rd	Signalized	0.624	B	0.651	B	0.027	No
53.	Imperial Hwy & Fernwood Ave	Signalized	0.755	C	0.781	C	0.026	No
54.	Imperial Hwy & State St	Signalized	0.785	C	0.809	D	0.024	Yes
City of Los Angeles								
1.	Avalon Blvd & Imperial Hwy	Signalized	0.713	C	0.753	C	0.040	Yes
2.	Avalon Blvd & 120th St	Signalized	0.672	B	0.715	C	0.043	Yes
5.	Central Ave & 103rd St	Signalized	0.664	B	0.682	B	0.018	No
6.	Central Ave & Imperial Hwy	Signalized	0.757	C	0.818	D	0.061	Yes
7.	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.896	D	0.073	Yes
8.	Central Ave & I-105 e/b Ramps	Signalized	0.635	B	0.654	B	0.019	No
9.	Central Ave & 120th St	Signalized	0.690	B	0.817	D	0.127	Yes
14.	Compton Ave & 103rd St	Signalized	0.587	A	0.604	B	0.017	No
15.	Compton Ave & 108th St	Signalized	0.527	A	0.573	A	0.046	No
16.	Compton Ave & 112th St	Unsignalized [5]	(38.5)	E	(56.0)	F	(17.5)	No
22.	Wilmington Ave & 103rd St	Signalized	0.463	A	0.477	A	0.014	No
23.	Wilmington Ave & Santa Ana Blvd N	Signalized	0.441	A	0.469	A	0.028	No
24.	Wilmington Ave & 108th St	Signalized	0.496	A	0.525	A	0.029	No
25.	Wilmington Ave & 112th St	Unsignalized [5]	(42.1)	E	Overflow	F	Overflow	Yes
47.	Avalon Blvd & 103rd St	Signalized	0.475	A	0.491	A	0.016	No
48.	Avalon Blvd & 108th St	Signalized	0.608	B	0.627	B	0.019	No
49.	Imperial Hwy & Main St	Signalized	0.632	B	0.651	B	0.019	No
50.	Imperial Hwy & San Pedro St	Signalized	0.697	B	0.721	C	0.024	No
51.	San Pedro St & 120th St	Signalized	0.597	A	0.623	B	0.026	No
City of Los Angeles & Los Angeles County [6]								
17.	Compton Ave & Imperial Hwy	Signalized	0.663	B	0.841	D	0.178	Yes
26.	Wilmington Ave & Imperial Hwy	Signalized	0.497	A	0.671	B	0.174	No
36.	Imperial Hwy & I-105 w/b Ramps	Signalized	0.710	C	0.847	D	0.137	Yes
39.	Mona Blvd & Imperial Hwy	Signalized	0.704	C	0.758	C	0.054	Yes

Note:

[1] Shares jurisdiction with City of Compton.

[2] Shares jurisdiction with City of Los Angeles.

[3] Shares jurisdiction with City of Los Angeles & City of Lynwood.

[4] Shares jurisdiction with City of Lynwood.

[5] Unsignalized intersection show delay/LOS for controlled approach.

[6] Analyzed per City of Los Angeles methodology.

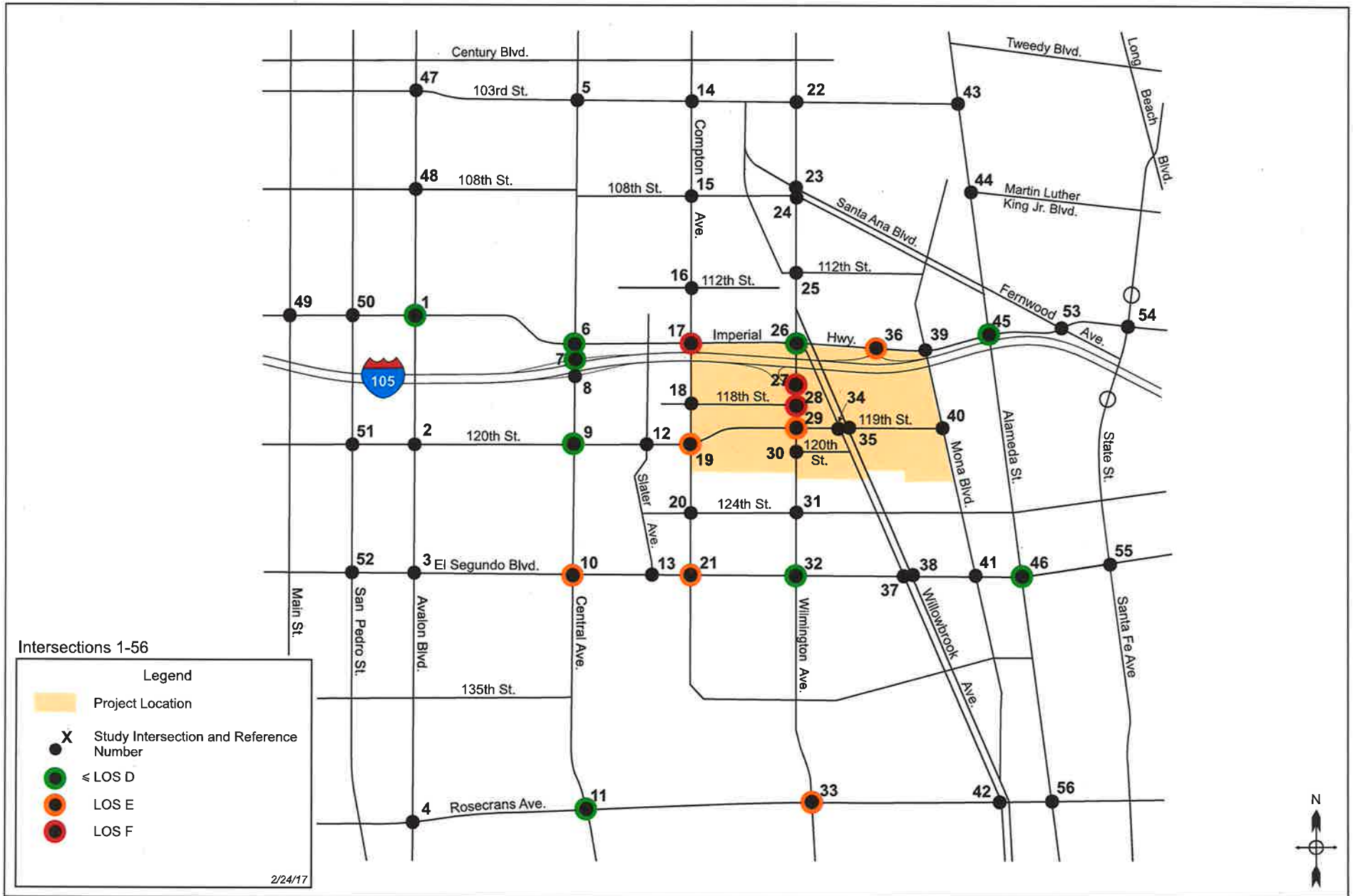


Figure 4.3
Existing + Project - AM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

The **Mobility** Group
Transportation Strategies & Solutions



Figure 4.3
Existing + Project - AM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

The **Mobility** Group
Transportation Strategies & Solutions

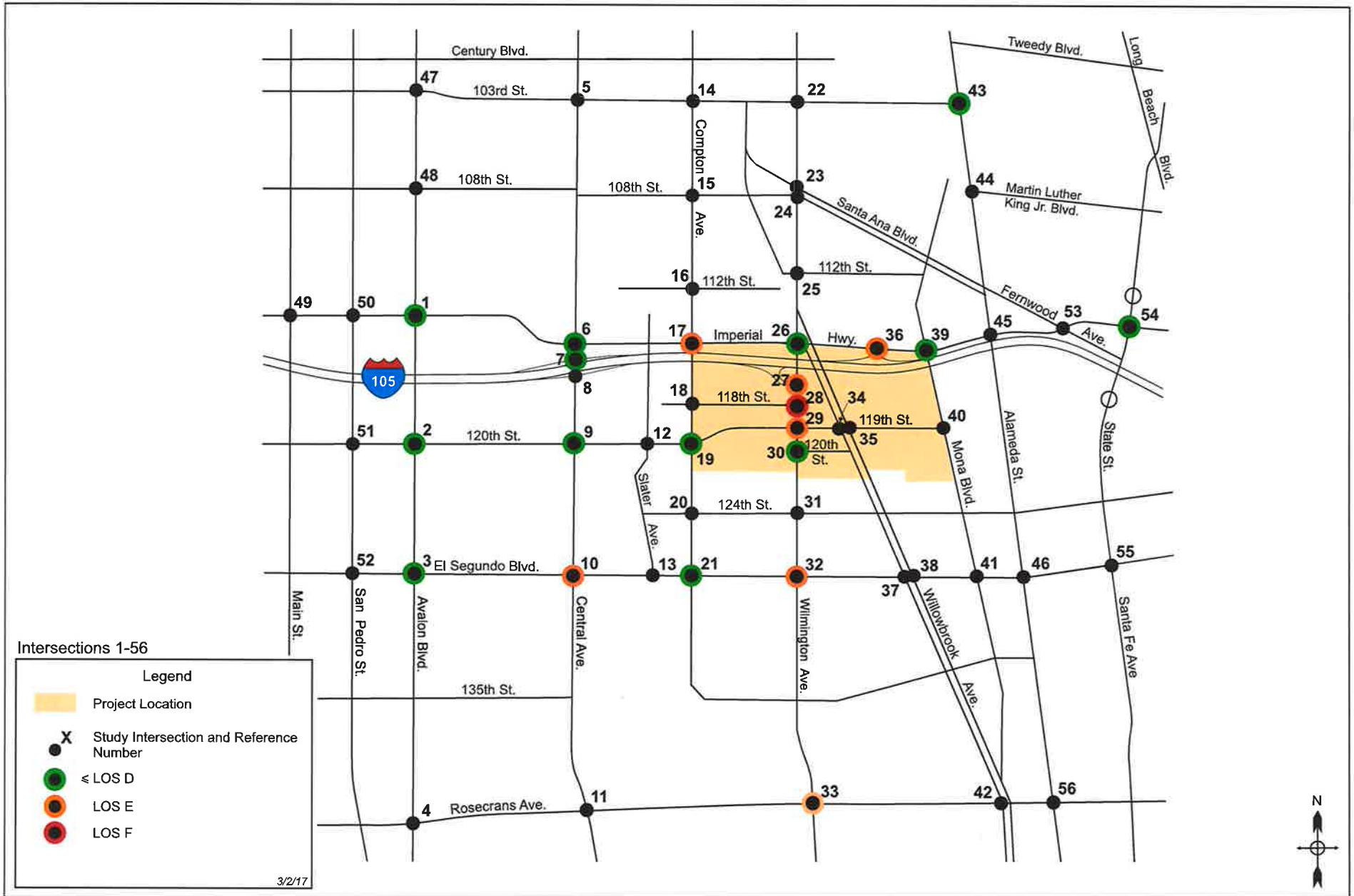


Figure 4.4
Existing + Project PM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

The **Mobility** Group
Transportation Strategies & Solutions

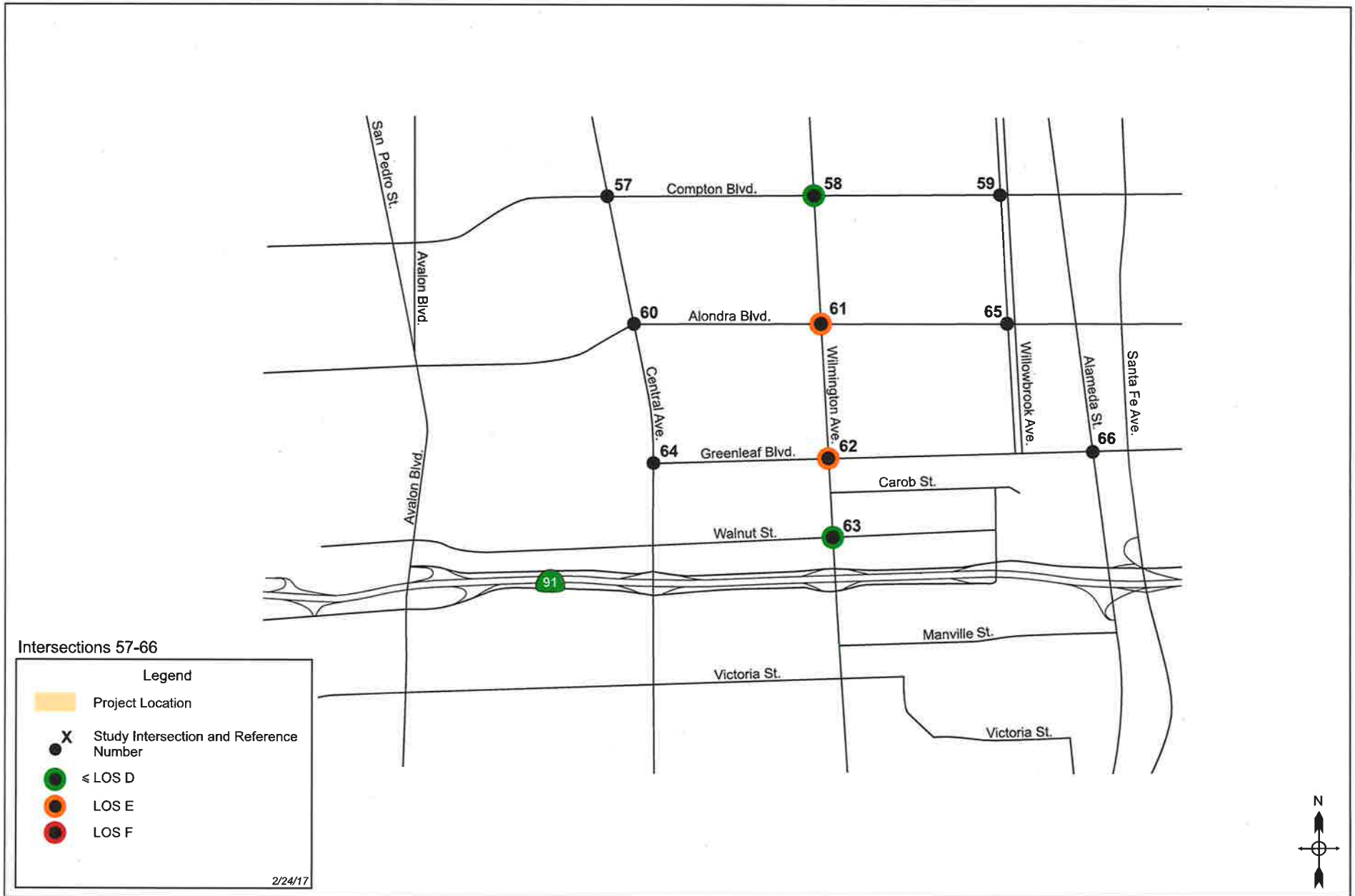


Figure 4.4
Existing + Project - PM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

The **Mobility** Group
Transportation Strategies & Solutions

5. Future Conditions Background

The Traffic Study analyzes future conditions in Year 2035, the year representing build-out of the Specific Plan. This chapter describes data inputs and the development of traffic forecasts for that year.

5.1 Cumulative (Related) Projects

List of Cumulative Projects

The County of Los Angeles methodology requires that the trips from cumulative projects in the area of the Projects be considered in future conditions analyses. The following section of this chapter describes the process of estimating traffic from these related projects.

A list of proposed development projects that could affect traffic conditions in the Project Area by adding traffic volumes to study area intersections was prepared based on information provided by County of Los Angeles staff. The City of Los Angeles, City of Compton, and City of Lynwood were contacted for information regarding related projects and data was received from Los Angeles and Compton which were included in the Study. A total of 12 potential development projects were identified within an approximately 1.5-mile radius from the Project Site that are currently under construction, have received formal approval, or are under formal planning consideration and potentially could be in place by the year 2035 when the Project will be completed, and that could add traffic growth to the roadways in the study area. The locations of the cumulative projects are shown in Figure 5.1 and are listed in Table 5.1.

This approach is conservative in that not all of the related projects may be ultimately built, and for purposes of preparing a conservative analysis, no potential street improvements or transportation mitigation measures that might be associated with any of the related projects were included in the future conditions traffic analysis.

Cumulative Projects Trip Generation and Distribution

Trip generation estimates for the related projects were prepared, as shown in Table 5.1. These were generally taken from the environmental and/or traffic studies prepared for the individual projects. Where the information was not available from previous reports, the trip generation was estimated using trip rates from the Institute of Transportation Engineers (ITE) Trip generation, 9th Edition. These estimates are considered conservative in that they do not account for trip interaction between projects, and they do not in every case account for the possible use of non-auto modes such as transit, walk and bicycling.

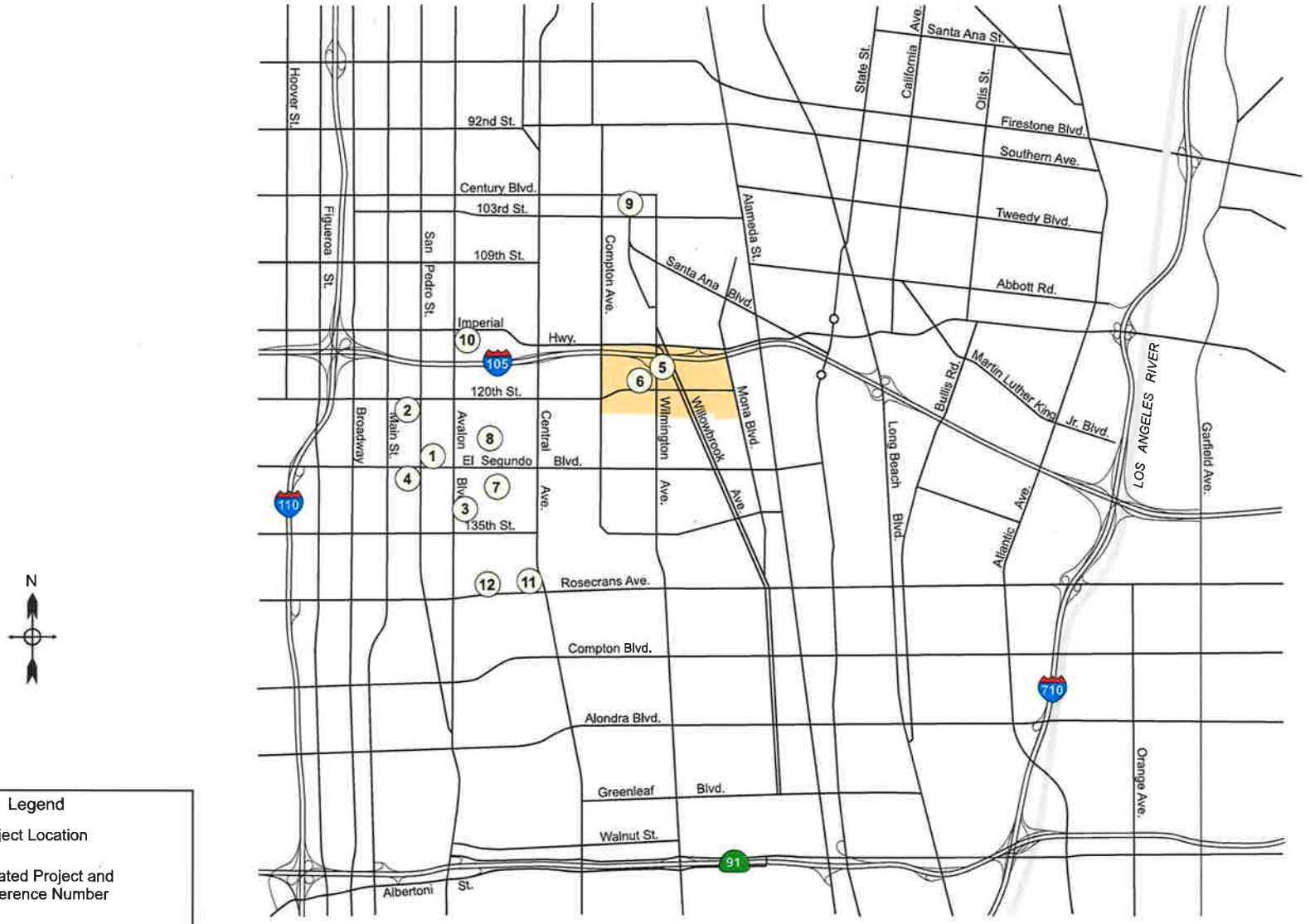


Figure 5.1
Location of Related Projects

Willowbrook TOD Specific Plan EIR Traffic Study

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Table 5.1 Related Project List and Trip Generation Estimates

5/20/2016

Project #	Project Name	Location / Address	Juisdiction	Project Description	Daily Trips	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
1	Retail Extension R2013-02161	12726 S San Pedro St, Los Angeles	County of Los Angeles	2,100 s.f. Retail	130	2	2	5	6	6	13
2	Condominiums TR070601	South Side of 121st St, Half Way between Main St and San Pedro St	County of Los Angeles	10 DU Condominiums	58	1	4	4	3	2	5
3	Apartment Complex R2010-01629	13218 Avalon Blvd, Los Angeles	County of Los Angeles	54 DU Apartments	359	6	22	28	22	12	33
4	Single Family Homes R2015-01957	215 & 277 E El Segundo Blvd, Los Angeles	County of Los Angeles	9 DU Single Family Homes	86	2	5	7	6	3	9
5	Senior Housing & Library R2014-01830	11737 Wilmington Ave, Los Angeles	County of Los Angeles	109 DU Apartments	337	7	13	20	12	12	24
				8,000 s.f. Library	450	6	2	8	28	30	58
6	Medical Office R2006-00502	11815 Bandera St, Los Angeles	County of Los Angeles	48,000 s.f. Medical Office	1,734	91	24	115	48	123	171
7	Housing	13024 Salinas Avenue, Willowbrook	County of Los Angeles	95 DU Single Family Homes	904	18	53	71	60	35	95
8	Earvin "Magic" Johnson Recreation Area Redevelopment	905 E El Segundo Blvd, Los Angeles	County of Los Angeles	126 acres Park Redevelopment	3,489	148	60	208	394	305	699
9	Movie Theater and education center 13310	10341 Graham Avenue	City of Los Angeles	1,000 seat 4 Screen Theater	1,530	0	0	0	25	35	60
				12,417 s.f. School	290	26	5	31	17	10	27
10	COU Laundromat to 7 Eleven 42869	600 E Imperial Highway	City of Los Angeles	2,600 s.f. Retail	849	42	43	85	30	29	59
11	Brickyard Industrial	NWC Central / Rosecrans	City of Compton	1,154,000 s.f. Warehouse	2,350	38	11	49	38	111	149
12	Birtcher Goodmand Industrial	NEC McKinley / Rosecrans	City of Compton	102,000 s.f. Industrial	756	54	13	67	18	53	71
Total					**13,323**	**440**	**258**	**697**	**707**	**767**	**1,474**

Sources:
Los Angeles County data from Los Angeles County's Cumulative Project Report, 9/21/2015.
City of Los Angeles data from Case Logging and Tracking Sysytem - Related Projects, 10/15/2015.
City of Compton data received directly from City of Compton, 10/27/2015.

Similarly, trip distribution estimates were also taken from the environmental/traffic studies conducted for the individual projects where available or were estimated based on an understanding of the type of the project, its location, the geographic distribution of population and employment from which project trips may be drawn, and the surrounding roadway and circulation system. It should be noted that because of the large geographic distribution of these projects, that not all of the related project trips would travel through all of the study area or traverse all of the study intersections.

5.2 Future Traffic Conditions – County of Los Angeles Intersections

The County of Los Angeles procedures require analysis for the following conditions:

- Existing Conditions
- Existing Plus Project Conditions
- Existing Plus Project Plus Cumulative Conditions

The Existing Conditions and Existing Plus Project Conditions have been analyzed in Chapter 2 and Chapter 4 respectively. In order to provide traffic forecasts for the Existing Plus Project Plus Cumulative Conditions, the trip estimates shown in Table 5.1 for cumulative projects were added to the roadway network and combined with existing traffic volumes and project traffic volumes to provide forecasts of Existing Plus Project Plus Cumulative traffic conditions in the study area in 2035, for both the AM and PM peak periods. This process was also conducted for intersections in the Cities of Compton and Lynwood.

5.3 Future Traffic Conditions – City of Los Angeles Intersections

The City of Los Angeles procedures require analysis for the following conditions:

- Existing Conditions
- Existing Plus Cumulative Conditions (Future Without Project)
- Existing Plus Cumulative Plus Project Conditions (Future With Project)

The Existing Conditions have been analyzed in Chapter 2. In order to develop the traffic forecasts for the Existing Plus Cumulative (Future Without Project) Conditions, two steps were required. Per the City's methodology, an ambient traffic growth was first calculated that represents a general growth in traffic volumes due to minor new developments in the Project Area, and regional growth and development outside the study area. A background growth projection was estimated from the Los Angeles Congestion Management Program (CMP) forecasts for the local area. The background growth for RSA 21 – in which the Willowbrook TOP area is located – for 2016 to 2035 growth is 1.097, representing an annual growth of 0.49% per year. The existing traffic counts were therefore adjusted upward by a total of 0.49

% a year for nineteen years (from 2016 to 2035) to represent the ambient growth to the Project completion year.

The trip estimates shown in Table 5.1 for cumulative projects were then also added to the roadway network and combined with the existing plus ambient traffic volumes to provide data for the Existing Plus Cumulative (Future Without Project) Conditions. The final step was then to add the Project trips (from Chapter 3) to the roadway network to obtain the traffic forecasts for the Existing Plus Cumulative Plus Project Conditions (Future With Project) traffic conditions in the study area in 2035, for both the AM and PM peak periods.

5.4 Cumulative Transportation Projects

In addition to the transportation improvements in the Specific Plan, a number of transportation improvements are planned by others for the future in the area of the Specific Plan

Willowbrook Area Access Improvements

This County of Los Angeles project will implement street enhancements on Wilmington Avenue between Imperial Highway & 120th Street (West), and on 120th Street between Willowbrook Avenue & Compton Avenue. Streetscape improvements will including paved crosswalks on Wilmington Avenue. A road diet on 120th Street will add bike lanes in each direction and reduce the number of traffic lanes from four to three between Wilmington & Compton on 120th Street. Left turn lanes will be retained at intersections. This project has been included in the Specific Plan and the roadway lane and configuration changes are incorporated into the future conditions analysis.

Willowbrook/Rosa Parks Station

A Metro Project is designed to improve the functionality, safety, security and circulation at the station. Metro is designing the improvements, and has conducted a separate environmental review[1]. All improvements are on-site at the station, and there are no changes to street traffic movements or vehicular circulation patterns on adjacent streets. The station improvements are therefore not included in this study,

County of Los Angeles Bicycle Master Plan

This plan includes the following elements in the Specific Plan area.

[1] Willowbrook/Rosa Parks Station Improvement Project - Initial Study/Documented Categorical Exclusion, Metro,
May 2015.

Implement Class I Bike Facility in the Specific Plan area on:

- Willowbrook Avenue West between Metro Station and 119th Street. This would reduce the roadway from two southbound traffic lanes to one southbound traffic lane. Incorporated in study.

Implement Class II Bike Lanes in the Specific Plan area on:

- Wilmington Avenue, south of 119th Street
- Imperial Highway, between Compton Avenue & Wilmington Avenue
- 120th Street, between Compton Avenue & Wilmington Avenue.

These projects are included in the Specific Plan, and their incorporation into the traffic study is described in Chapter 3.

City of Los Angeles Bicycle Master Plan

This plan includes the following elements in the Specific Plan area.

Implement Class II Bike Lanes in the Specific Plan area on:

- Imperial Highway, between Wilmington Avenue & Mona Avenue

This project is included in the Specific Plan, and its incorporation into the traffic study is described in Chapter 3.

Implement Class III Bike Routes in the Specific Plan area on:

- Wilmington Avenue north of Imperial Highway.

This implementation would not affect the number of traffic lanes, so no roadway configuration changes are incorporated in the traffic analysis.

6. Existing With Project With Cumulative Conditions

This section of the report documents an analysis of potential Project impacts for the Existing With Project With Cumulative Condition. The trip estimates generated by related projects shown in Table 5.1 were added to the roadway network and combined with the volumes used for the Existing Plus Project Conditions analyzed in Chapter 4, to forecast Future with Project With Cumulative Conditions traffic volumes, for both the AM and PM peak periods. The total Existing With Project With Cumulative peak hour traffic volumes are illustrated in Figures 6.1 and 6.2 for the AM and PM peak hours respectively.

The analysis then used the methodologies (as described in Chapter 2) and thresholds for significant impact appropriate to each of the different jurisdictions, to calculate intersection level of service and potential impacts. The analysis used the same thresholds described in Chapter 4 for determining significant traffic impacts.

6.1 Project Impact Analysis - Existing With Project With Cumulative

The intersection level of service analysis compared the V/C ratios at each intersection for the Existing Condition and the Existing With Project With Cumulative Condition, to determine the incremental difference in V/C ratios caused by the Project.

The results of the analysis is summarized in Table 6.1 for the AM peak hour and in Table 6.2 for the PM peak hour. These tables compare the level of service for Existing Conditions and Existing With Project With Cumulative Conditions, show the increase in V/C ratios at each intersection due to the Project, and identifies if the increase constitutes a significant impact. The intersection levels of service are also illustrated graphically in Figure 6.3 for the AM Peak Hour and Figure 6.4 for the PM Peak Hour.

County of Los Angeles Intersections - AM Peak Hour

The analysis summarized in Table 6.1 indicates that for the AM peak hour, with the addition of Project and Cumulative traffic the level of service would remain LOS D or better at 21 of the 28 intersections analyzed in the County of Los Angeles. Table 6.1 also shows that there would significant impacts at 13 intersections, as listed below.

39. Mona Blvd & Imperial Hwy	LOS C
11. Central Ave & Rosecrans Ave	LOS D
26. Wilmington Ave & Imperial Hwy	LOS D
32. Wilmington Ave & El Segundo Blvd	LOS D

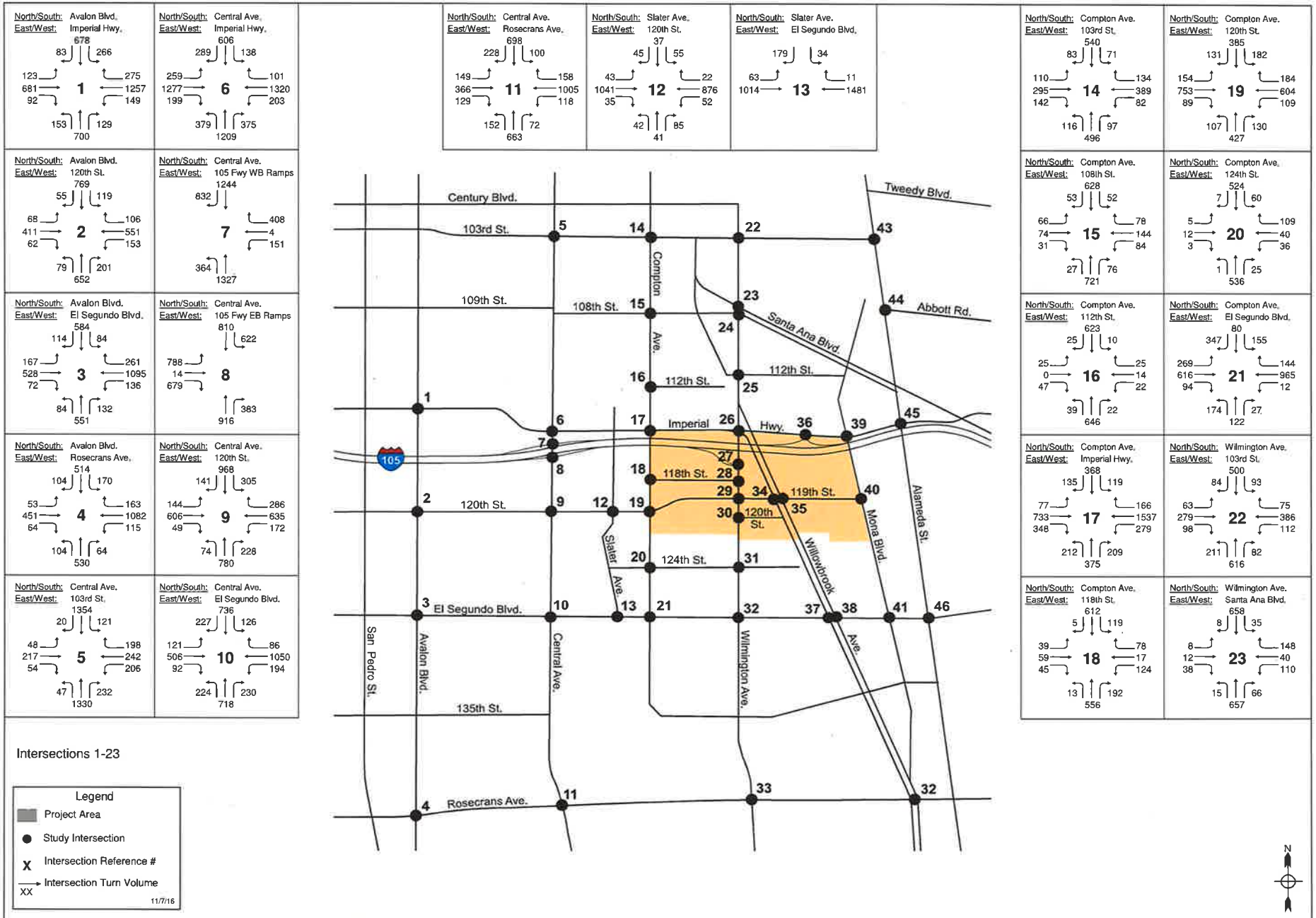


Figure 6.1
Existing With Project With Cumulative Traffic Volumes - AM Peak Hour

Willowbrook TOD Specific Plan EIR Traffic Study

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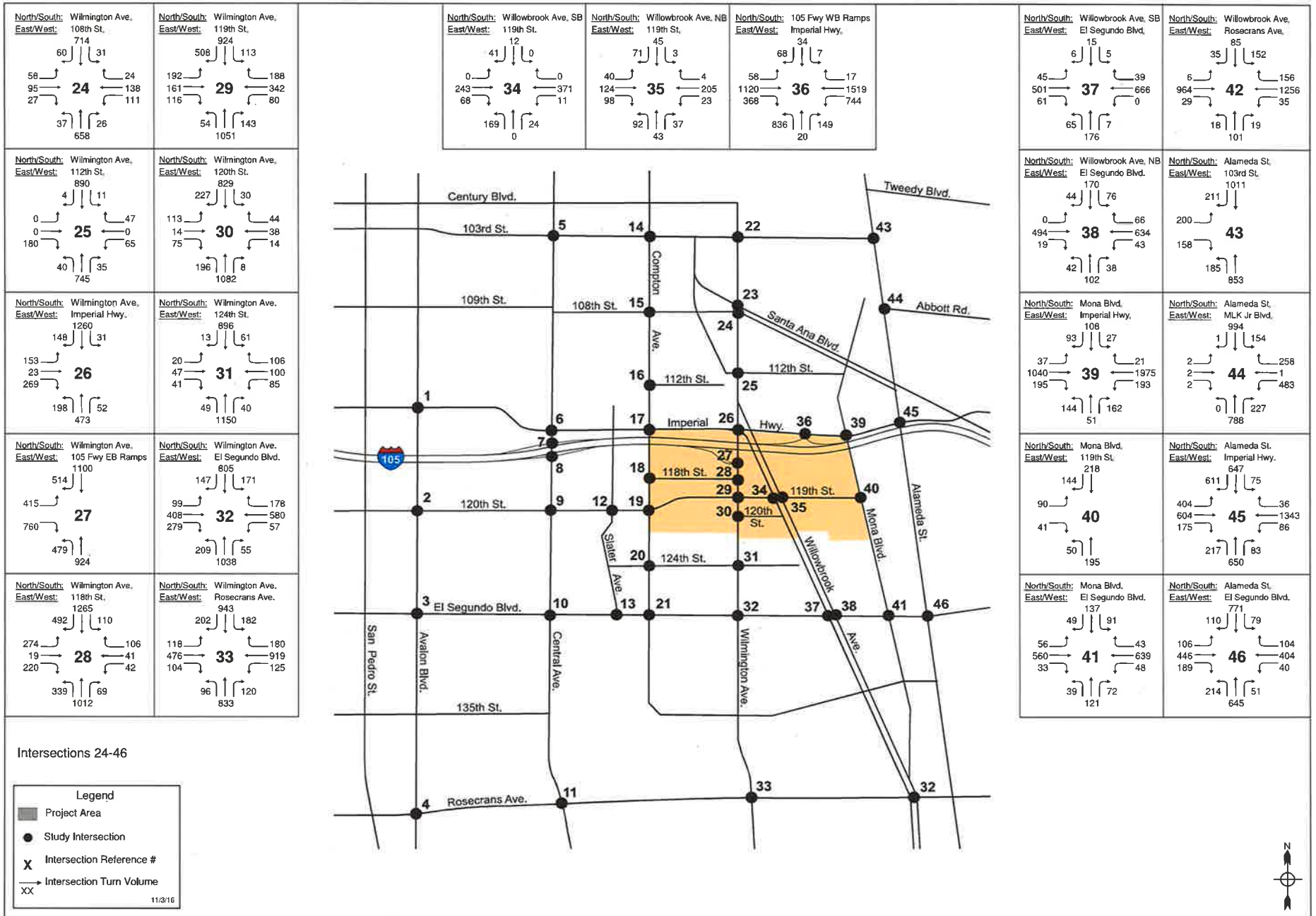


Figure 6.1
Existing With Project With Cumulative Traffic Volumes - AM Peak Hour

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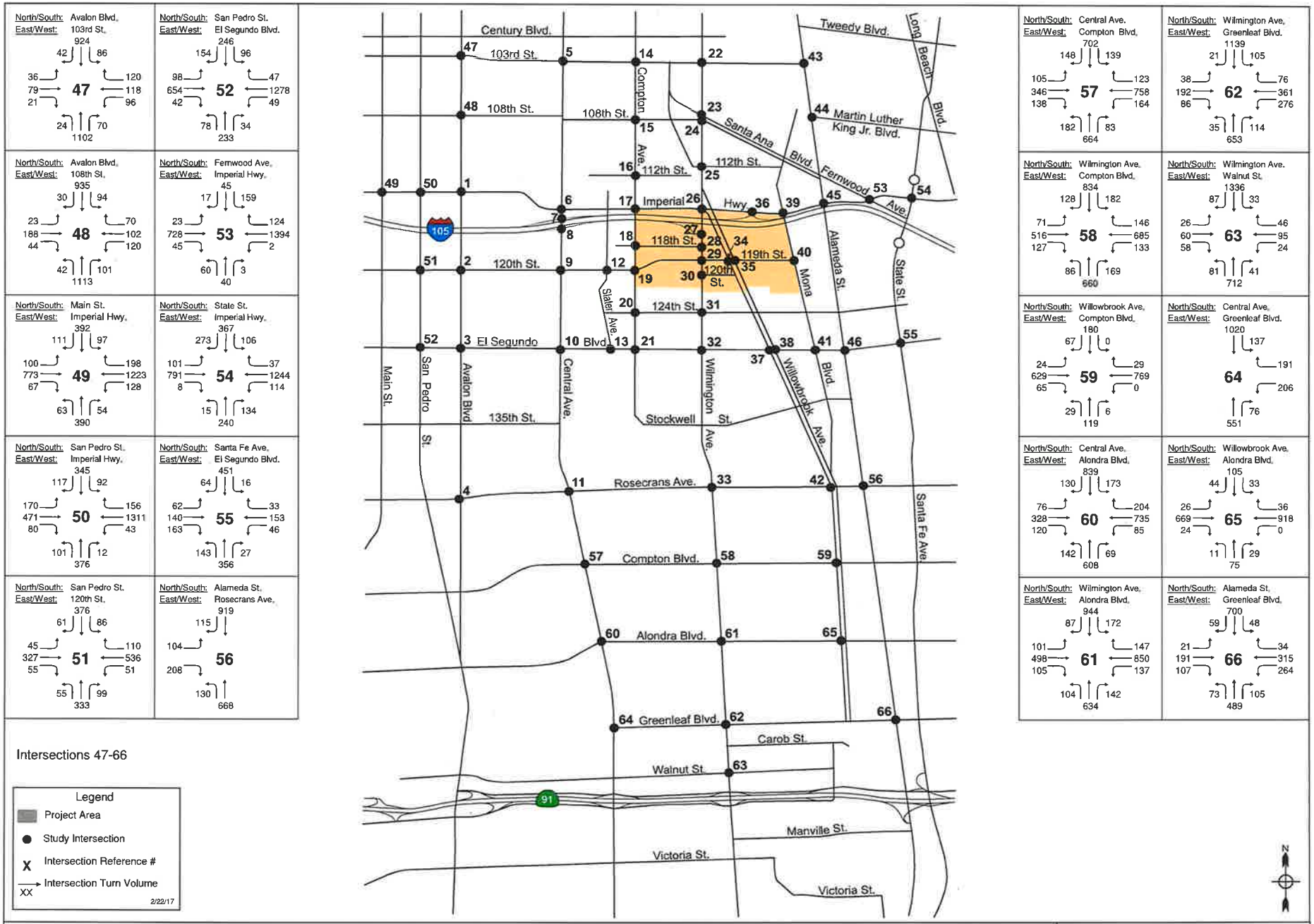


Figure 6.1
Existing With Project With Cumulative Traffic Volumes - AM Peak Hour

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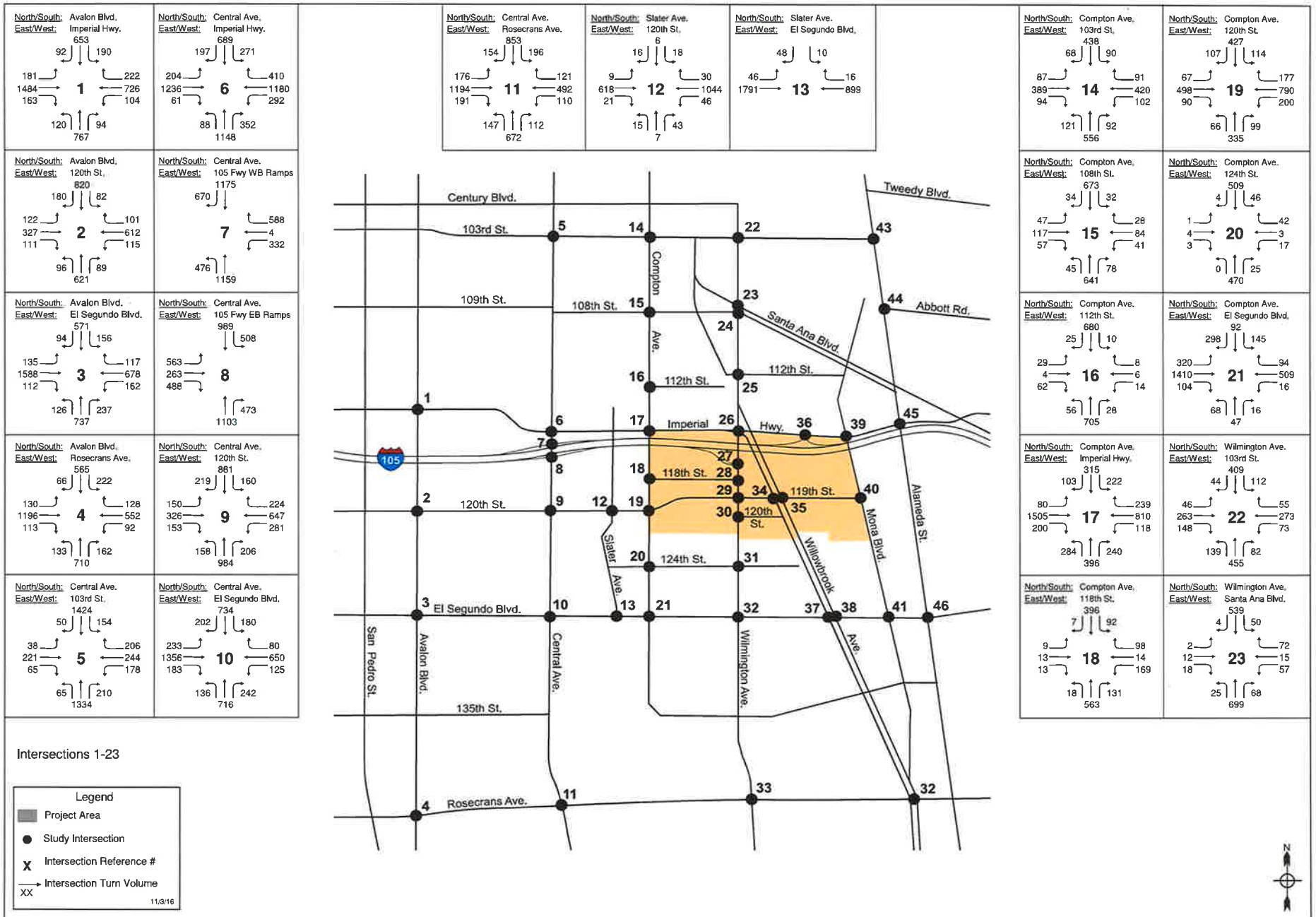


Figure 6.2
Existing With Project With Cumulative Traffic Volumes - PM Peak Hour

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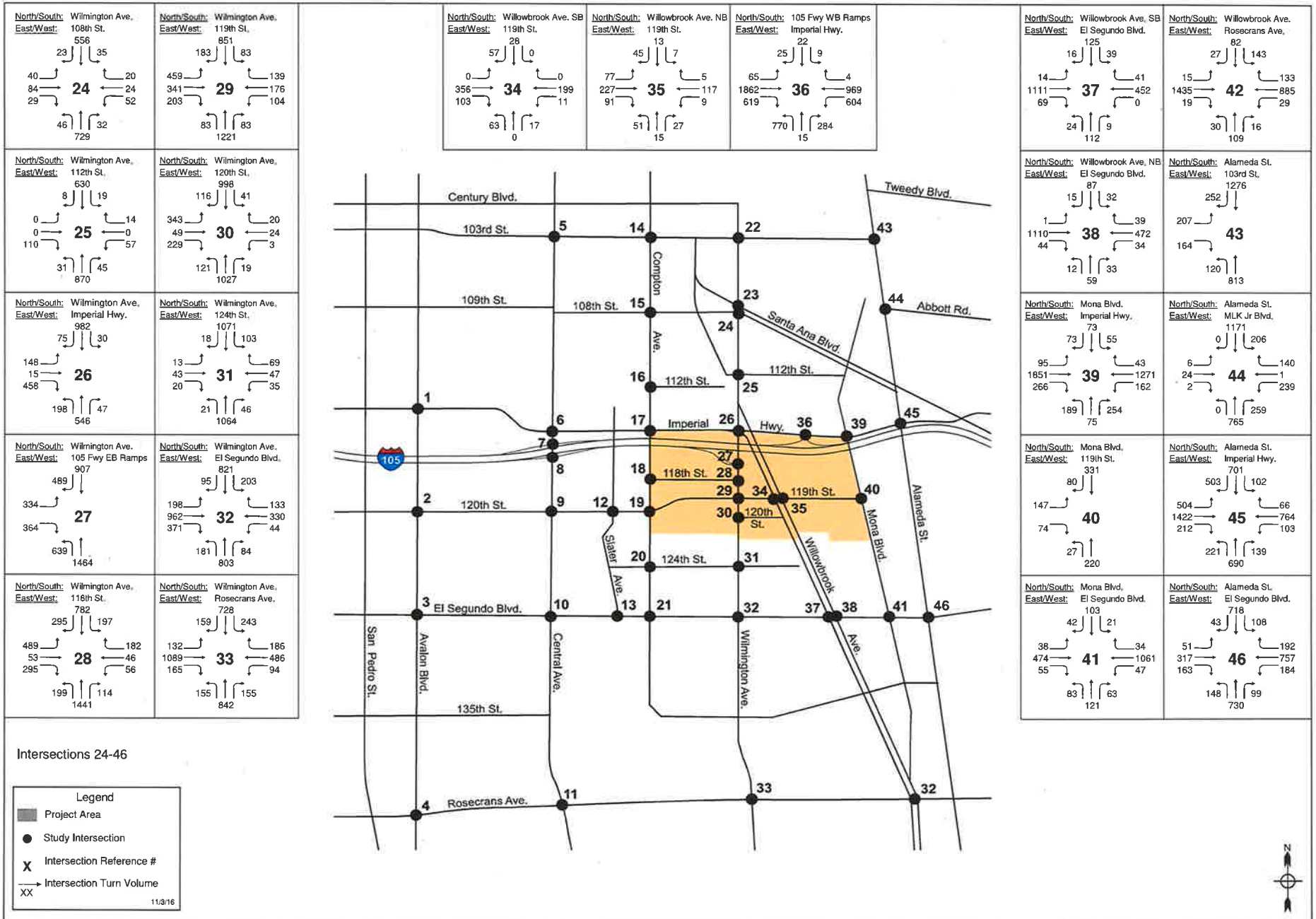


Figure 6.2
Existing With Project With Cumulative Traffic Volumes - PM Peak Hour

Willowbrook TOD Specific Plan EIR Traffic Study

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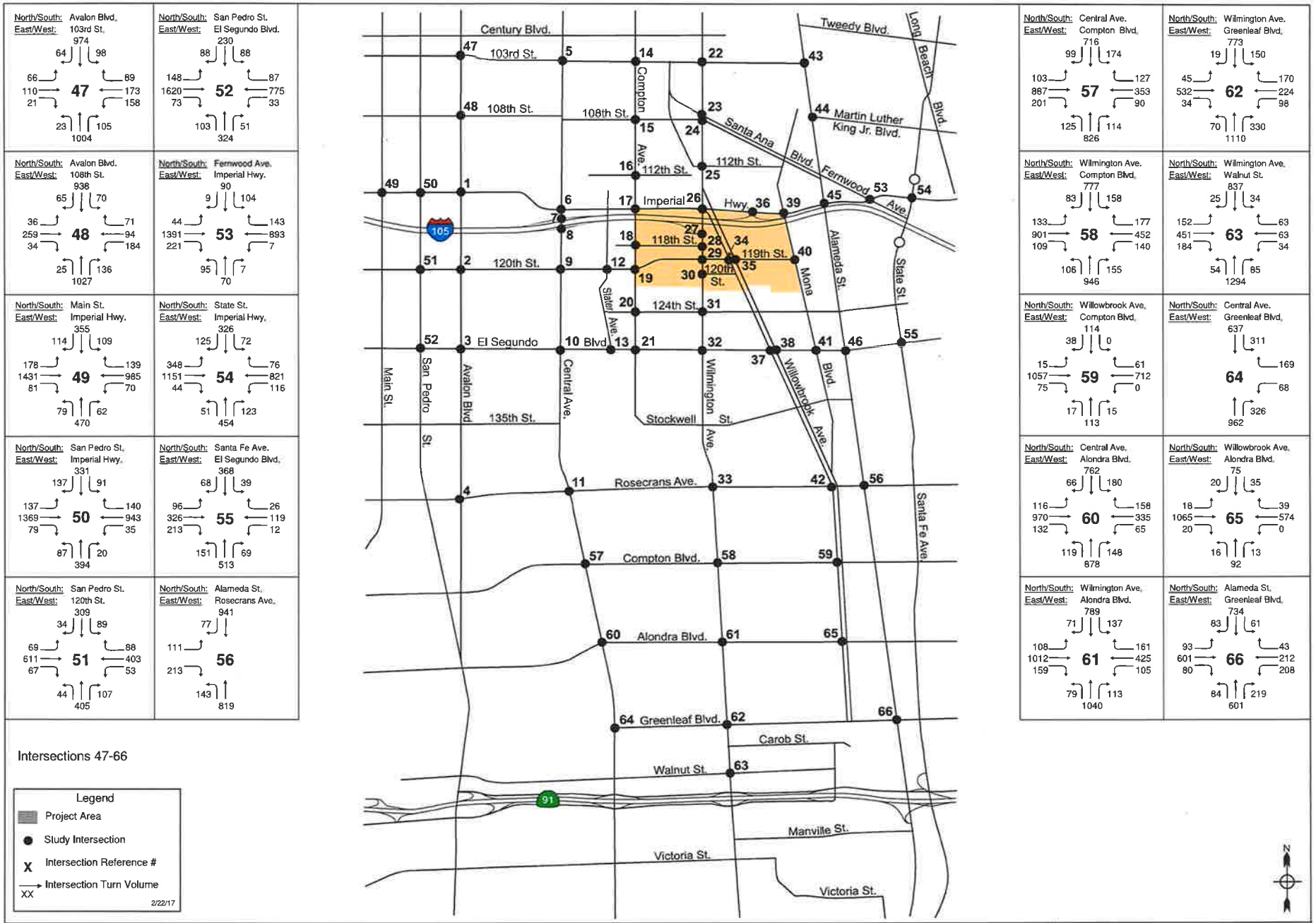


Figure 6.2
Existing With Project With Cumulative Traffic Volumes - PM Peak Hour

Willowbrook TOD Specific Plan EIR Traffic Study

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45. Alameda St & Imperial Hwy	LOS D
46. Alameda St & El Segundo Blvd	LOS D
10. Central Ave & El Segundo Blvd	LOS E
19. Compton Ave & 120th St	LOS E
29. Wilmington Ave & 120th St (West)	LOS E
36. Imperial Hwy & I-105 w/b Ramps	LOS E
17. Compton Ave & Imperial Hwy	LOS F
27. Wilmington Ave & I-105 e/b Ramps	LOS F
28. Wilmington Ave & 118th St	LOS F

Six of the impacted intersections would operate at LOS D or better, four would operate at LOS E, and three would operate at LOS F.

County of Los Angeles Intersections - PM Peak Hour

The analysis summarized in Table 6.2 indicates that for the PM peak hour, with the addition of Project and Cumulative traffic the level of service would remain LOS D or better at 19 of the 28 intersections analyzed in the County of Los Angeles. Table 6.2 also shows that there would significant impacts at 15 intersections, as listed below.

30. Wilmington Ave & 120th St (East)	LOS C
11. Central Ave & Rosecrans Ave	LOS D
19. Compton Ave & 120th St	LOS D
26. Wilmington Ave & Imperial Hwy	LOS D
39. Mona Blvd & Imperial Hwy	LOS D
43. Alameda St & 103rd St	LOS D
3. Avalon Blvd & Rosecrans Ave	LOS E
17. Compton Ave & Imperial Hwy	LOS E
29. Wilmington Ave & 120th St (West)	LOS E
32. Wilmington Ave & El Segundo Blvd	LOS E
36. Imperial Hwy & I-105 w/b Ramps	LOS E
46. Alameda St & El Segundo Blvd	LOS E
10. Central Ave & El Segundo Blvd	LOS F
27. Wilmington Ave & I-105 e/b Ramps	LOS F
28. Wilmington Ave & 118th St	LOS F

Six of the impacted intersections would operate at LOS D or better, six would operate at LOS E, and three would operate at LOS F.

City of Compton Intersections – AM Peak Hour

The analysis summarized in Table 6.1 indicates that for the AM peak hour, with the addition of Project and Cumulative traffic the level of service would remain LOS D or better at 14 of

the 16 intersections analyzed in the City of Compton. Table 6.1 also shows that there would significant impacts at 4 intersections, as listed below.

61. Wilmington Ave & Alondra Blvd	LOS D
62. Wilmington Ave & Greenleaf Blvd	LOS D
21. Compton Ave & El Segundo Blvd	LOS E
33. Wilmington Ave & Rosecrans Ave	LOS E

City of Compton Intersections – PM Peak Hour

The analysis summarized in Table 6.2 indicates that for the PM peak hour, with the addition of Project and Cumulative traffic the level of service would remain LOS D or better at 12 of the 16 intersections analyzed in the City of Compton. Table 6.2 also shows that there would significant impacts at 9 intersections, as listed below.

42. Willowbrook Ave & Rosecrans Ave	LOS C
21. Compton Ave & El Segundo Blvd	LOS D
57. Central Ave & W Compton Blvd	LOS D
58. Wilmington Ave & W Compton Blvd	LOS D
63. Wilmington Ave & Walnut St	LOS D
33. Wilmington Ave & Rosecrans Ave	LOS E
60. Central Ave & Alondra Blvd	LOS E
61. Wilmington Ave & Alondra Blvd	LOS E
62. Wilmington Ave & Greenleaf Blvd	LOS E

City of Lynwood Intersections – AM Peak Hour

The analysis summarized in Table 6.1 indicates that for the AM peak hour, with the addition of Project and Cumulative traffic the level of service would remain LOS D or better at all 3 intersections analyzed in the City of Lynwood, and that the Project would not cause a significant impact at these intersections.

City of Lynwood Intersections – PM Peak Hour

The analysis summarized in Table 6.2 indicates that for the PM peak hour, with the addition of Project and Cumulative traffic the level of service would remain LOS D or better at all 3 intersections analyzed in the City of Lynwood. Table 6.2 also shows that there would a significant impact at 1 intersection, as listed below.

54. Imperial Hwy & State St	LOS D

City of Los Angeles Intersections – AM Peak Hour

The analysis summarized in Table 6.1 compares the Future Without Project and Future With Project Conditions and indicates that for the AM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 15 of the 19 intersections analyzed in the City of Los Angeles. Table 6.1 also shows that there would significant impacts at 5 intersections, as listed below.

1. Avalon Blvd & Imperial Hwy	LOS D
6. Central Ave & Imperial Hwy	LOS D
7. Central Ave & I-105 w/b Ramps	LOS E
9. Central Ave & 120th St	LOS E
25. Wilmington Ave & 112th St	LOS F

Two of the impacted intersections would operate at LOS D or better, and two would operate at LOS E. The intersection of Wilmington Ave & 112th St would operate at LOS F on the minor approach, and a traffic signal would be warranted.

City of Los Angeles Intersections – PM Peak Hour

The analysis summarized in Table 6.2 compares the Future Without Project and Future With Project Conditions and indicates that for the PM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 15 of the 19 intersections analyzed in the City of Los Angeles. Table 6.2 also shows that there would significant impacts at 6 intersections, as listed below.

2. Avalon Blvd & 120th St	LOS C
1. Avalon Blvd & Imperial Hwy	LOS D
6. Central Ave & Imperial Hwy	LOS D
7. Central Ave & I-105 w/b Ramps	LOS E
9. Central Ave & 120th St	LOS E
25. Wilmington Ave & 112th St	LOS F

Three of the impacted intersections would operate at LOS D or better, and two would operate at LOS E. The intersection of Wilmington Ave & 112th St would operate at LOS F on the minor approach, and a traffic signal would be warranted.

City of Los Angeles Intersections – Shared With County of Los Angeles - AM Peak Hour

Four of the 66 intersections located in the County of Los Angeles and analyzed above with the County's impact thresholds have common jurisdiction with the City of Los Angeles. These intersections were also analyzed using the City of Los Angeles methodology and significant impact criteria.

The analysis summarized in Table 6.1 indicates that for the AM peak hour, with the addition of Project and Cumulative traffic the level of service would remain LOS D or better at 3 of the 4 shared intersections analyzed for the City of Los Angeles. Table 6.1 also shows that there would significant impacts at 3 intersections, as listed below.

26. Wilmington Ave & Imperial Hwy	LOS C
36. Imperial Hwy & I-105 w/b Ramps	LOS D
17. Compton Ave & Imperial Hwy	LOS F

These results are the same as the analysis under the County methodology, except that at Intersection #39 there would be a significant impact under the County methodology but not under the City methodology.

City of Los Angeles Intersections – Shared With County of Los Angeles - PM Peak Hour

The analysis summarized in Table 6.2 indicates that for the PM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 3 of the 4 of the shared intersections analyzed for the City of Los Angeles. Table 6.2 also shows that there would significant impacts at all 4 intersections, as listed below.

26. Wilmington Ave & Imperial Hwy	LOS C
17. Compton Ave & Imperial Hwy	LOS D
39. Mona Blvd & Imperial Hwy	LOS D
36. Imperial Hwy & I-105 w/b Ramps	LOS E

These results are the same as the analysis under the County methodology.

Summary - All Intersections – AM Peak Hour

In summary, Table 6.1 shows that for the AM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 53 of the 66 total intersections analyzed. Table 6.1 also shows that there would significant impacts at 22 intersections

Summary - All Intersections – PM Peak Hour

In summary, Table 6.2 shows that for the PM peak hour, with the addition of Project traffic the level of service would remain LOS D or better at 49 of the 66 total intersections analyzed. Table 6.2 also shows that there would significant impacts at 31 intersections

Table 6.1 Existing With Project With Cumulative Conditions - Intersection Level of Service - AM Peak Hour 3/2/2017

Intersection		*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
Los Angeles County												
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.726	C	0.739	C	0.013	No	0.757	C	0.031	No
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.652	B	0.667	B	0.015	No	0.684	B	0.032	No
10.	Central Ave & El Segundo Blvd [1]	Signalized	0.899	D	0.933	E	0.034	Yes	0.971	E	0.072	Yes
11.	Central Ave & Rosecrans Ave [1]	Signalized	0.822	D	0.844	D	0.022	Yes	0.870	D	0.048	Yes
12.	Slater Ave & 120th St	Signalized	0.501	A	0.604	B	0.103	No	0.609	B	0.108	No
17.	Compton Ave & Imperial Hwy [2]	Signalized	1.007	F	1.120	F	0.113	Yes	1.127	F	0.120	Yes
18.	Compton Ave & 118th St	Signalized	0.438	A	0.561	A	0.123	No	0.579	A	0.141	No
19.	Compton Ave & 120th St	Signalized	0.574	A	0.919	E	0.345	Yes	0.926	E	0.352	Yes
20.	Compton Ave & 124th St	Signalized	0.378	A	0.428	A	0.050	No	0.432	A	0.054	No
26.	Wilmington Ave & Imperial Hwy [2]	Signalized	0.657	B	0.820	D	0.163	Yes	0.832	D	0.175	Yes
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.848	D	1.196	F	0.348	Yes	1.128	F	0.280	Yes
28.	Wilmington Ave & 118th St	Signalized	0.641	B	1.161	F	0.520	Yes	1.208	F	0.567	Yes
29.	Wilmington Ave & 120th St (West)	Signalized	0.840	D	0.907	E	0.067	Yes	0.916	E	0.076	Yes
30.	Wilmington Ave & 120th St (East)	Signalized	0.424	A	0.681	B	0.257	No	0.684	B	0.260	No
31.	Wilmington Ave & 124th St	Signalized	0.557	A	0.697	B	0.140	No	0.705	C	0.148	No
32.	Wilmington Ave & El Segundo Blvd [1]	Signalized	0.716	C	0.834	D	0.118	Yes	0.847	D	0.131	Yes
34.	Willowbrook Ave W & 119th Street	Signalized	0.447	A	0.478	A	0.031	No	0.478	A	0.031	No
35.	Willowbrook Ave E & 119th Street	Signalized	0.375	A	0.388	A	0.013	No	0.388	A	0.013	No
36.	Imperial Hwy & I-105 w/b Ramps [2]	Signalized	0.775	C	0.906	E	0.131	Yes	0.910	E	0.135	Yes
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.416	A	0.448	A	0.032	No	0.454	A	0.038	No
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.447	A	0.473	A	0.026	No	0.479	A	0.032	No
39.	Mona Blvd & Imperial Hwy [3]	Signalized	0.730	C	0.766	C	0.036	No	0.772	C	0.042	Yes
40.	Mona Blvd & 119th St [4]	Unsignalized [5]	(13.5)	B	(15.4)	C	(1.9)	No	(15.4)	C	(1.9)	No
41.	Mona Blvd & El Segundo Blvd	Signalized	0.512	A	0.544	A	0.032	No	0.550	A	0.038	No
43.	Alameda St & 103rd St [4]	Signalized	0.790	C	0.812	D	0.022	No	0.821	D	0.031	No
45.	Alameda St & Imperial Hwy [4]	Signalized	0.772	C	0.829	D	0.057	Yes	0.837	D	0.065	Yes
46.	Alameda St & El Segundo Blvd [1]	Signalized	0.765	C	0.815	D	0.050	Yes	0.827	D	0.062	Yes
52.	El Segundo Blvd & San Pedro St	Signalized	0.589	A	0.598	A	0.009	No	0.611	B	0.022	No

Table 6.1 Existing With Project With Cumulative Conditions - Intersection Level of Service - AM Peak Hour

3/2/2017

Intersection		*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
City of Compton												
13.	Slater Ave & El Segundo Blvd	Signalized	0.687	B	0.710	C	0.023	No	0.717	C	0.030	No
21.	Compton Ave & El Segundo Blvd	Signalized	0.804	C	0.925	E	0.121	Yes	0.940	E	0.136	Yes
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.854	D	0.927	E	0.073	Yes	0.935	E	0.081	Yes
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.693	B	0.721	C	0.028	No	0.727	C	0.034	No
55.	El Segundo Blvd & Santa Fe Ave [4]	Signalized	0.592	A	0.602	B	0.010	No	0.607	B	0.015	No
56.	Alameda St & Rosecrans Ave	Signalized	0.606	B	0.634	B	0.028	No	0.634	B	0.028	No
57.	Cental Ave & W Compton Blvd	Signalized	0.758	C	0.767	C	0.009	No	0.774	C	0.016	No
58.	Wilmington Ave & W Compton Blvd	Signalized	0.702	B	0.737	C	0.035	No	0.738	C	0.036	No
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.532	A	0.536	A	0.004	No	0.537	A	0.005	No
60.	Central Ave & Alondra Blvd	Signalized	0.754	C	0.762	C	0.008	No	0.769	C	0.015	No
61.	Wilmington Blvd & Alondra Blvd	Signalized	0.825	D	0.861	D	0.036	Yes	0.862	D	0.037	Yes
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.797	C	0.829	D	0.032	Yes	0.831	D	0.034	Yes
63.	Wilmington Ave & Walnut St	Signalized	0.595	A	0.627	B	0.032	No	0.628	B	0.033	No
64.	Central Ave & Greenleaf Blvd	Signalized	0.534	A	0.541	A	0.007	No	0.548	A	0.014	No
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.532	A	0.535	A	0.003	No	0.535	A	0.003	No
66.	Alameda St & Greenleaf Blvd	Signalized	0.628	B	0.641	B	0.013	No	0.641	B	0.013	No
City of Lynwood												
44.	Alameda St & Abbott Rd	Signalized	0.660	B	0.673	B	0.013	No	0.679	B	0.019	No
53.	Imperial Hwy & Fernwood Ave	Signalized	0.732	C	0.756	C	0.024	No	0.764	C	0.032	No
54.	Imperial Hwy & State St	Signalized	0.738	C	0.764	C	0.026	No	0.773	C	0.035	No

Note:

[1] Shares jurisdiction with City of Compton.

[2] Shares jurisdiction with City of Los Angeles.

[3] Shares jurisdiction with City of Los Angeles & City of Lynwood.

[4] Shares jurisdiction with City of Lynwood.

[5] Unsignalized intersection show delay/LOS for controlled approach.

Table 6.1 Future With Project Conditions - Intersection Level of Service - AM Peak Hour 1/25/2017

Intersection		*Intersection Type*	*Existing Conditions*		*Existing + Ambient + Cumulative Conditions*		*Existing + Project +Ambient + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS	V/C or (Delay)	LOS		
City of Los Angeles										
1.	Avalon Blvd & Imperial Hwy	Signalized	0.747	C	0.813	D	0.856	D	0.043	Yes
2.	Avalon Blvd & 120th St	Signalized	0.592	A	0.641	B	0.677	B	0.036	No
5.	Central Ave & 103rd St	Signalized	0.637	B	0.687	B	0.708	C	0.021	No
6.	Central Ave & Imperial Hwy	Signalized	0.737	C	0.796	C	0.843	D	0.047	Yes
7.	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.881	D	0.911	E	0.030	Yes
8.	Central Ave & I-105 e/b Ramps	Signalized	0.668	B	0.724	C	0.755	C	0.031	No
9.	Central Ave & 120th St	Signalized	0.753	C	0.825	D	0.959	E	0.134	Yes
14.	Compton Ave & 103rd St	Signalized	0.604	B	0.643	B	0.662	B	0.019	No
15.	Compton Ave & 108th St	Signalized	0.663	B	0.707	C	0.732	C	0.025	No
16.	Compton Ave & 112th St	Unsignalized [1]	(31.0)	D	(41.4)	E	(61.6)	F	(20.2)	No
22.	Wilmington Ave & 103rd St	Signalized	0.660	B	0.714	C	0.723	C	0.009	No
23.	Wilmington Ave & Santa Ana Blvd N	Signalized	0.473	A	0.503	A	0.517	A	0.014	No
24.	Wilmington Ave & 108th St	Signalized	0.593	A	0.633	B	0.661	B	0.028	No
25.	Wilmington Ave & 112th St	Unsignalized [1]	(44.5)	E	(78.0)	F	Overflow	F	Overflow	Yes
47.	Avalon Blvd & 103rd St	Signalized	0.441	A	0.469	A	0.479	A	0.010	No
48.	Avalon Blvd & 108th St	Signalized	0.564	A	0.604	B	0.617	B	0.013	No
49.	Imperial Hwy & Main St	Signalized	0.590	A	0.632	B	0.643	B	0.011	No
50.	Imperial Hwy & San Pedro St	Signalized	0.661	B	0.708	C	0.720	C	0.012	No
51.	San Pedro St & 120th St	Signalized	0.528	A	0.561	A	0.575	A	0.014	No
City of Los Angeles & Los Angeles County [2]										
17.	Compton Ave & Imperial Hwy	Signalized	0.898	D	0.969	E	1.089	F	0.120	Yes
26.	Wilmington Ave & Imperial Hwy	Signalized	0.501	A	0.539	A	0.708	C	0.169	Yes
36.	Imperial Hwy & I-105 w/b Ramps	Signalized	0.690	B	0.739	C	0.879	D	0.140	Yes
39.	Mona Blvd & Imperial Hwy	Signalized	0.601	B	0.644	B	0.682	B	0.038	No

Note:

[1] Unsignalized intersection show delay/LOS for controlled approach.

[2] Analyzed per City of Los Angeles methodology.

Table 6.2 Existing With Project With Cumulative Conditions - Intersection Level of Service - PM Peak Hour 3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
Los Angeles County												
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.844	D	0.877	D	0.033	Yes	0.957	E	0.113	Yes
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.804	C	0.815	D	0.011	No	0.842	D	0.038	No
10.	Central Ave & El Segundo Blvd [1]	Signalized	0.925	E	0.983	E	0.058	Yes	1.014	F	0.089	Yes
11.	Central Ave & Rosecrans Ave [1]	Signalized	0.761	C	0.782	C	0.021	No	0.816	D	0.055	Yes
12.	Slater Ave & 120th St	Signalized	0.367	A	0.480	A	0.113	No	0.494	A	0.127	No
17.	Compton Ave & Imperial Hwy [2]	Signalized	0.781	C	0.954	E	0.173	Yes	0.967	E	0.186	Yes
18.	Compton Ave & 118th St	Signalized	0.367	A	0.522	A	0.155	No	0.562	A	0.195	No
19.	Compton Ave & 120th St	Signalized	0.448	A	0.817	D	0.369	Yes	0.843	D	0.395	Yes
20.	Compton Ave & 124th St	Signalized	0.287	A	0.319	A	0.032	No	0.324	A	0.037	No
26.	Wilmington Ave & Imperial Hwy [2]	Signalized	0.654	B	0.820	D	0.166	Yes	0.840	D	0.186	Yes
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.680	B	0.988	E	0.308	Yes	1.010	F	0.330	Yes
28.	Wilmington Ave & 118th St	Signalized	0.527	A	1.019	F	0.492	Yes	1.119	F	0.592	Yes
29.	Wilmington Ave & 120th St (West)	Signalized	0.766	C	0.934	E	0.168	Yes	0.956	E	0.190	Yes
30.	Wilmington Ave & 120th St (East)	Signalized	0.426	A	0.756	C	0.330	Yes	0.767	C	0.341	Yes
31.	Wilmington Ave & 124th St	Signalized	0.485	A	0.608	B	0.123	No	0.614	B	0.129	No
32.	Wilmington Ave & El Segundo Blvd [1]	Signalized	0.793	C	0.923	E	0.130	Yes	0.948	E	0.155	Yes
34.	Willowbrook Ave W & 119th Street	Signalized	0.436	A	0.486	A	0.050	No	0.486	A	0.050	No
35.	Willowbrook Ave E & 119th Street	Signalized	0.359	A	0.377	A	0.018	No	0.377	A	0.018	No
36.	Imperial Hwy & I-105 w/b Ramps [2]	Signalized	0.792	C	0.918	E	0.126	Yes	0.928	E	0.136	Yes
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.508	A	0.540	A	0.032	No	0.551	A	0.043	No
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.507	A	0.535	A	0.028	No	0.546	A	0.039	No
39.	Mona Blvd & Imperial Hwy [3]	Signalized	0.825	D	0.875	D	0.050	Yes	0.885	D	0.060	Yes
40.	Mona Blvd & 119th St [4]	Unsignalized [5]	(17.0)	C	(21.6)	C	(4.6)	No	(21.6)	C	(4.6)	No
41.	Mona Blvd & El Segundo Blvd	Signalized	0.609	B	0.635	B	0.026	No	0.646	B	0.037	No
43.	Alameda St & 103rd St [4]	Signalized	0.852	D	0.872	D	0.020	Yes	0.884	D	0.032	Yes
45.	Alameda St & Imperial Hwy [4]	Signalized	0.799	C	0.818	D	0.019	No	0.828	D	0.029	No
46.	Alameda St & El Segundo Blvd [1]	Signalized	0.898	D	0.912	E	0.014	No	0.931	E	0.033	Yes
52.	El Segundo Blvd & San Pedro St	Signalized	0.601	B	0.612	B	0.011	No	0.646	B	0.045	No

Table 6.2 Existing With Project With Cumulative Conditions - Intersection Level of Service - PM Peak Hour 3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
City of Compton												
13.	Slater Ave & El Segundo Blvd	Signalized	0.649	B	0.676	B	0.027	No	0.690	B	0.041	No
21.	Compton Ave & El Segundo Blvd	Signalized	0.706	C	0.790	C	0.084	Yes	0.812	D	0.106	Yes
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.847	D	0.941	E	0.094	Yes	0.962	E	0.115	Yes
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.719	C	0.748	C	0.029	No	0.760	C	0.041	Yes
55.	El Segundo Blvd & Santa Fe Ave [4]	Signalized	0.700	B	0.717	C	0.017	No	0.735	C	0.035	No
56.	Alameda St & Rosecrans Ave	Signalized	0.604	B	0.638	B	0.034	No	0.641	B	0.037	No
57.	Cental Ave & W Compton Blvd	Signalized	0.802	C	0.813	D	0.011	No	0.836	D	0.034	Yes
58.	Wilmington Ave & W Compton Blvd	Signalized	0.844	D	0.893	D	0.049	Yes	0.897	D	0.053	Yes
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.453	A	0.456	A	0.003	No	0.457	A	0.004	No
60.	Central Ave & Alondra Blvd	Signalized	0.888	D	0.898	D	0.010	No	0.918	E	0.030	Yes
61.	Wilmington Blvd & Alondra Blvd	Signalized	0.877	D	0.924	E	0.047	Yes	0.928	E	0.051	Yes
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.911	E	0.952	E	0.041	Yes	0.956	E	0.045	Yes
63.	Wilmington Ave & Walnut St	Signalized	0.785	C	0.825	D	0.040	Yes	0.829	D	0.044	Yes
64.	Central Ave & Greenleaf Blvd	Signalized	0.671	B	0.680	B	0.009	No	0.701	B	0.030	No
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.526	A	0.530	A	0.004	No	0.530	A	0.004	No
66.	Alameda St & Greenleaf Blvd	Signalized	0.723	C	0.748	C	0.025	No	0.751	C	0.028	No
City of Lynwood												
44.	Alameda St & Abbott Rd	Signalized	0.624	B	0.651	B	0.027	No	0.657	B	0.033	No
53.	Imperial Hwy & Fernwood Ave	Signalized	0.755	C	0.781	C	0.026	No	0.794	C	0.039	No
54.	Imperial Hwy & State St	Signalized	0.785	C	0.809	D	0.024	Yes	0.823	D	0.038	Yes

Note:

[1] Shares jurisdiction with City of Compton.

[2] Shares jurisdiction with City of Los Angeles.

[3] Shares jurisdiction with City of Los Angeles & City of Lynwood.

[4] Shares jurisdiction with City of Lynwood.

[5] Unsignalized intersection show delay/LOS for controlled approach.

Table 6.2 Future With Project Conditions - Intersection Level of Service - PM Peak Hour 1/25/2017

Intersection		*Intersection Type*	*Existing Conditions*		*Existing + Ambient + Cumulative Conditions*		*Existing + Project +Ambient + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS	V/C or (Delay)	LOS		
City of Los Angeles										
1.	Avalon Blvd & Imperial Hwy	Signalized	0.713	C	0.787	C	0.827	D	0.040	Yes
2.	Avalon Blvd & 120th St	Signalized	0.672	B	0.744	C	0.787	C	0.043	Yes
5.	Central Ave & 103rd St	Signalized	0.664	B	0.725	C	0.743	C	0.018	No
6.	Central Ave & Imperial Hwy	Signalized	0.757	C	0.831	D	0.893	D	0.062	Yes
7.	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.894	D	0.967	E	0.073	Yes
8.	Central Ave & I-105 e/b Ramps	Signalized	0.635	B	0.716	C	0.735	C	0.019	No
9.	Central Ave & 120th St	Signalized	0.690	B	0.825	D	0.935	E	0.110	Yes
14.	Compton Ave & 103rd St	Signalized	0.587	A	0.625	B	0.643	B	0.018	No
15.	Compton Ave & 108th St	Signalized	0.527	A	0.559	A	0.605	B	0.046	No
16.	Compton Ave & 112th St	Unsignalized [1]	(38.5)	E	(51.5)	F	(84.1)	F	(32.6)	No
22.	Wilmington Ave & 103rd St	Signalized	0.463	A	0.513	A	0.527	A	0.014	No
23.	Wilmington Ave & Santa Ana Blvd N	Signalized	0.441	A	0.477	A	0.504	A	0.027	No
24.	Wilmington Ave & 108th St	Signalized	0.496	A	0.538	A	0.567	A	0.029	No
25.	Wilmington Ave & 112th St	Unsignalized [1]	(42.1)	E	(67.2)	F	Overflow	F	Overflow	Yes
47.	Avalon Blvd & 103rd St	Signalized	0.475	A	0.511	A	0.528	A	0.017	No
48.	Avalon Blvd & 108th St	Signalized	0.608	B	0.657	B	0.677	B	0.020	No
49.	Imperial Hwy & Main St	Signalized	0.632	B	0.691	B	0.710	C	0.019	No
50.	Imperial Hwy & San Pedro St	Signalized	0.697	B	0.752	C	0.776	C	0.024	No
51.	San Pedro St & 120th St	Signalized	0.597	A	0.647	B	0.672	B	0.025	No
City of Los Angeles & Los Angeles County [2]										
17.	Compton Ave & Imperial Hwy	Signalized	0.663	B	0.714	C	0.893	D	0.179	Yes
26.	Wilmington Ave & Imperial Hwy	Signalized	0.497	A	0.543	A	0.718	C	0.175	Yes
36.	Imperial Hwy & I-105 w/b Ramps	Signalized	0.710	C	0.767	C	0.904	E	0.137	Yes
39.	Mona Blvd & Imperial Hwy	Signalized	0.704	C	0.760	C	0.814	D	0.054	Yes

Note:

[1] Unsignalized intersection show delay/LOS for controlled approach.

[2] Analyzed per City of Los Angeles methodology.

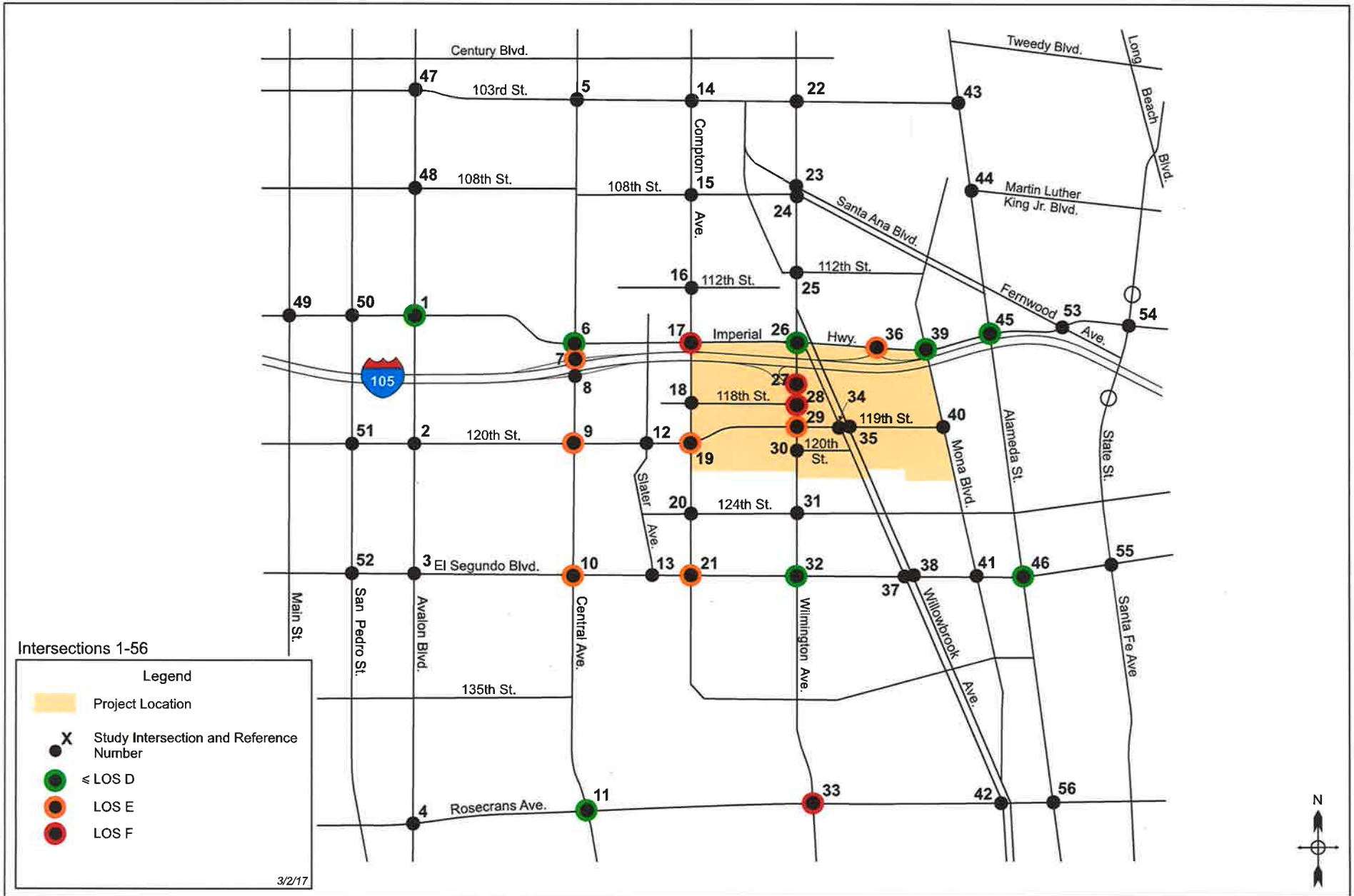


Figure 6.3
Existing + Project + Cumulative - AM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

The **Mobility** Group
Transportation Strategies & Solutions



Figure 6.3
Existing + Project + Cumulative - AM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

The **Mobility** Group
Transportation Strategies & Solutions

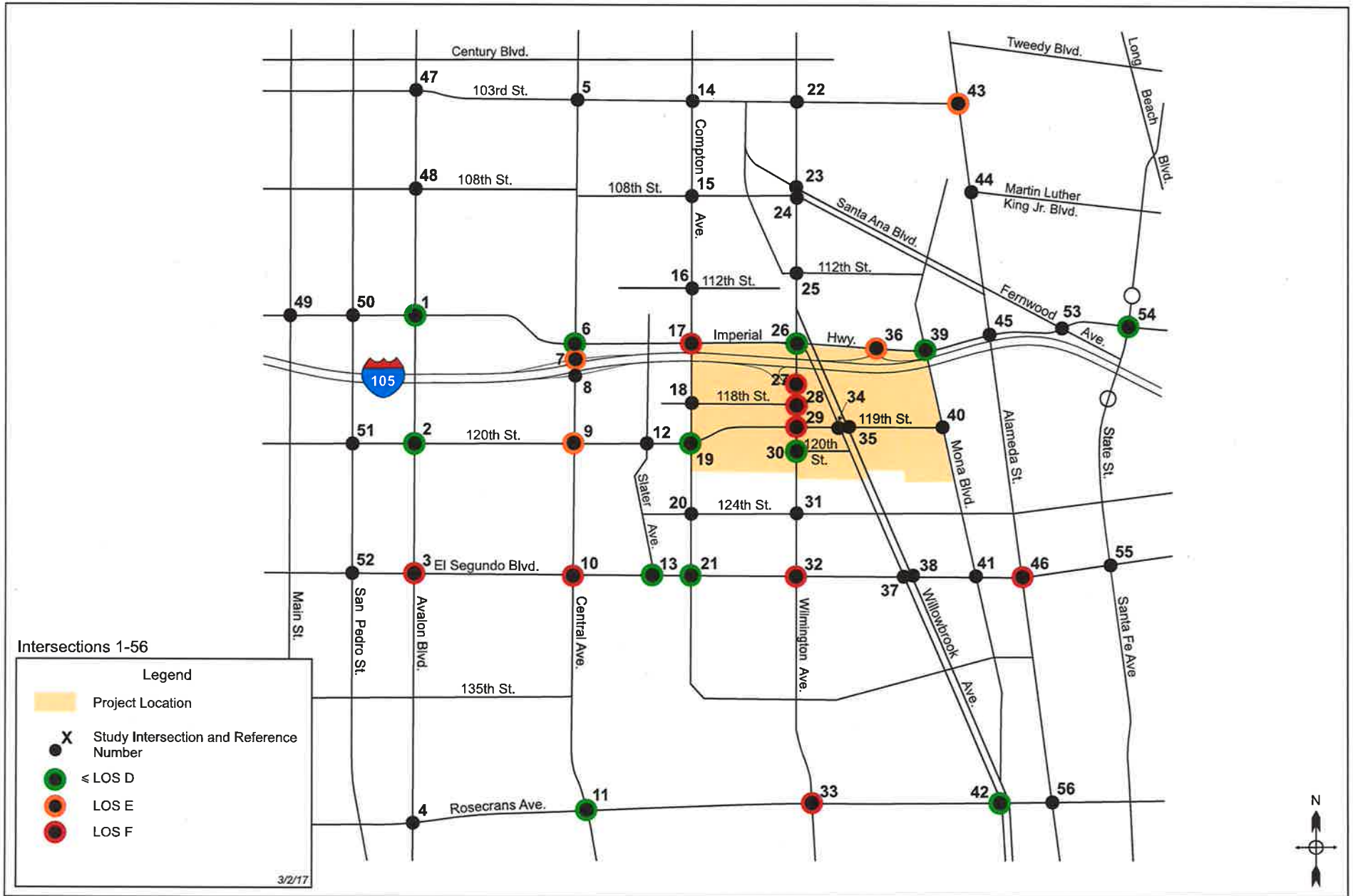


Figure 6.4
Existing + Project + Cumulative - PM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

The **Mobility** Group
Transportation Strategies & Solutions



Figure 6.4
Existing + Project + Cumulative - PM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

The **Mobility** Group
Transportation Strategies & Solutions

6.2 Project Impacts – CMP Analysis

The Los Angeles County Congestion Management Program (CMP) requires that new development projects analyze potential project impacts on CMP monitoring locations, if an EIR is prepared for the Project. When a CMP analysis is needed, the CMP methodology requires that the Traffic Study analyze traffic conditions at all CMP arterial monitoring intersections where the Project will add 50 or more trips during either the AM or PM weekday peak hours of adjacent street traffic. The CMP also requires that traffic studies analyze mainline freeway monitoring stations where the Project will add 150 or more trips in either direction during either AM or PM weekday peak hours. If, based on these criteria, the Traffic Study identifies no facilities for study, then no further traffic analysis is required.

CMP Arterial Monitoring Locations

A review of the CMP indicated the following arterial monitoring stations that are closest to the Project Site:

- Manchester Ave & Vermont Ave
- Manchester Ave & Avalon Blvd
- Alameda St & Firestone Blvd
- Alameda St & Imperial Hwy
- Alameda St & W Compton Blvd
- Alameda St SR-91 EB Ramps

The additional trips added by the Project at these intersections are shown Table 6.3 below.

The closest monitoring locations to the Project site are at the Alameda St & Imperial Hwy, Alameda St & Firestone Blvd, Alameda St & W Compton Blvd, and Manchester Ave & Avalon Blvd intersections which are located approximately four miles or less from the Project Site. The other monitoring locations at Alameda St & the SR-91 EB Ramps, and at Manchester Ave & Vermont Ave, are located further away from and between four and six miles from the Project Site.

Based on the trip generation and trip distribution characteristics of the Project as described in Chapter 3, the number of Project trips that would be added to these locations was calculated and is shown in Table 6.3. For locations further from the Project site, Project trips will disperse onto an increasing number of roadways so the incremental addition of trips will reduce with distance from the Project.

As can be seen in Table 6.3, the Project will add 50 or more trips to four CMP monitoring locations, which would exceed the threshold to require analysis. Further analysis of these four locations was therefore conducted.

Table 6.3 CMP Arterial Analysis – Number of Trips Added by Project

Monitoring Location	*No. of Trips Added by Project*	
	AM	*PM*
Alameda St & Firestone Blvd	77	92
Alameda St & Imperial Hwy	237	294
Alameda St & W Compton Blvd	58	67
Alameda St SR-91 EB Ramps	37	43
Manchester Ave & Avalon Blvd	40	47
Manchester Ave & Vermont Ave	0	0

Significant Impact Thresholds

The impact analysis used the Los Angeles County CMP threshold of significance, which states that a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C ≥0.02), causing LOS F (V/C > 1.00); if the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C ≥0.02).

Impact Analysis

The analysis was based on existing traffic counts, forecasts of Future Without Project traffic volumes using the methodology described in Chapter 5, and the addition of Proposed Project trips as described in Chapter 3, to analyze the Future With Project conditions. The analysis of the four CMP intersections identified above is summarized in Table 6.4. As shown in Table 6.4, while the Project would increase the V/C rates at the intersections, the level of service would not change except at one location, and the incremental increase in V/C ratio would be less than the significant impact threshold of 0.02. Based on this analysis, the Project would not cause any significant traffic impacts at any of the four CMP monitoring intersections.

CMP Freeway Monitoring Stations

A review of the CMP also indicated the following freeway monitoring stations that are nearest to the Project Site.

Table 6.4 Future With Project Conditions - CMP Intersection Analysis - AM Peak Hour

No.	CMP Intersection	Existing Conditions (2016)		Future Without Project Conditions		Future With Project Conditions		Change in V/C	Significant Impact
		V/C	LOS	V/C	LOS	V/C	LOS		
1	Alameda St & Firestone Blvd	0.899	D	0.972	E	0.981	E	0.009	No
2	Alameda St & Imperial Hwy	0.772	C	0.858	D	0.899	D	0.041	No
3	Alameda St & W Compton Blvd	0.659	B	0.716	C	0.725	C	0.009	No
4	Alameda St & SR-91 EB Ramps	0.582	A	0.583	A	0.595	A	0.012	No

Table 6.4 Future With Project Conditions - CMP Intersection Analysis - PM Peak Hour

No.	CMP Intersection	Existing Conditions (2016)		Future Without Project Conditions		Future With Project Conditions		Change in V/C	Significant Impact
		V/C	LOS	V/C	LOS	V/C	LOS		
1	Alameda St & Firestone Blvd	0.924	E	1.003	F	1.018	F	0.015	No
2	Alameda St & Imperial Hwy	0.799	C	0.876	D	0.891	D	0.015	No
3	Alameda St & W Compton Blvd	0.637	B	0.694	B	0.705	C	0.011	No
4	Alameda St & SR-91 EB Ramps	0.829	D	0.899	D	0.899	D	0.000	No

- I-105 East of Crenshaw Blvd, West of Vermont Ave
- I-105 West of I-710, East of Harris Ave
- I-105 East of Bellflower Blvd, West of I-605
- I-110 at Manchester Blvd
- I-710 North of I-105, North of Firestone Blvd
- I-710 North of I-405, South of Del Amo Blvd
- SR-91 East of Alameda St / Santa Fe Ave

None of these locations are located close to the Project Site. The closest (I-105 West of I-710, East of Harris Ave) is located 4.0 miles from the Project Site and the second closest (I-105 East of Crenshaw Blvd) is located about 5.0 miles from the Project Site. The remaining stations are located considerable distances from the Project Site (up to 9.8 miles).

The number of Project vehicle trips expected to pass through these stations was estimated based on the Project trip generation and distribution discussed in Chapter 3. The additional trips added by the Project at these locations are shown in Table 6.5 below.

The incremental volumes are above the CMP threshold of 150 trips at four locations listed in Table 6.5. Further analysis was therefore conducted at those locations.

Significant Impact Thresholds

The impact analysis used the Los Angeles County CMP threshold of significance, which states that a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C $\geq$0.02), causing LOS F (V/C > 1.00); if the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C $\geq$0.02).

Impact Analysis

Existing traffic volumes on these freeway segments in the A.M. and P.M. peak hours were obtained from the *2010 Congestion Management Program for Los Angeles County* (LACMTA). Freeway levels of service are determined by calculating demand/capacity ratios per the definitions shown in Table 6.6

Existing Conditions levels of service were calculated for each freeway segment using a capacity of 2,000 vehicles per hour per freeway mainline lane (as per the 2010 Congestion Management Program). The 2035 Future Without Project base freeway traffic volumes were projected by factoring existing volumes by the regional growth factors discussed in Chapter 5. Trips from the Project were assigned to the freeway system using the Project trip generation and the Project trip distribution discussed in Chapter 3. The number of Project vehicle trips

Table 6.5 CMP Freeway Analysis – Number of Trips Added by Project

Monitoring Location	*Direction*	*No. of Trips Added by Project*	
		AM	*PM*
I-105 e/o Crenshaw Blvd, w/o Vermont Ave	EB	131	158
	WB	133	160
I-105 w/o Jct Rte 710, e/o Harris Ave	EB	179	370
	WB	310	237
I-105 e/o Bellflower Blvd, w/o Rte 605	EB	137	304
	WB	262	185
I-110 at Manchester Blvd	NB	73	150
	SB	131	96
I-710 n/o Rte 105, n/o Firestone Blvd	NB	35	52
	SB	45	41
I-710 n/o Jct Rte 405, s/o Del Amo Blvd	NB	32	22
	SB	17	34
SR-91 e/o Alameda St / Santa Fe Ave	EB	17	32
	WB	31	20

expected to pass through the CMP monitoring locations closest to the Project was estimated based on the methodology described above. The CMP freeway impact analysis at the four locations is shown in Table 6.7 for the AM peak hour and in Table 6.8 for the PM peak hour.

In the AM peak hour, the addition of vehicle trips generated by the Project would cause significant impacts according to CMP criteria at two freeway monitoring locations, at:

- I-105 westbound (West of I-710, East of Harris Ave)
- I-105 westbound (East of Bellflower Blvd. West of I-605)

The Project would cause an increase in V/C of 0.031 and 0.032 at these locations, slightly above the threshold of 0.020 for a significant impact.

Table 6.6 Level of Service Definitions for Freeway Mainline Segments

Level of Service	*Demand/Capacity Ratio*
A	0.00 – 0.35
B	>0.35 – 0.54
C	>0.54 – 0.77
D	>0.77 – 0.93
E	>0.93 – 1.00
F (0)	>1.00 – 1.25
F (1)	>1.25 – 1.35
F (2)	>1.35 – 1.45
F (3)	>1.45

Source: Draft 2010 *Congestion Management Plan for Los Angeles County, LACMTA, 2010.*

In the PM peak hour, the addition of vehicle trips generated by the Project would cause significant impacts according to CMP criteria at four freeway monitoring locations, at:

- I-105 eastbound (West of I-710, East of Harris Ave)
- I-105 westbound (West of I-710, East of Harris Ave)
- I-105 eastbound (East of Bellflower Blvd. West of I-605)
- I-105 westbound (East of Bellflower Blvd. West of I-605)

The Project would cause an increase in V/C of between 0.023 and 0.038 at these locations, slightly above the threshold of 0.020 for a significant impact. The freeway would be operating at LOS F at these locations without the Project.

CMP Transit Impact Analysis

As an EIR is being prepared for the Project, an analysis of potential Project impacts on the transit system was also performed, per the CMP requirements and guidelines.

Significant Impact Thresholds

For the purposes of this traffic study, the following criterion was established to determine if there would be any significant transit impacts due to the Project:

- The capacity of the transit system serving the Project area would be substantially exceeded.

Table 6.7 CMP Freeway Level of Service - Future With Project - Weekday AM Peak Hour

11/7/2016

No.	Location	Dir	Capacity	Existing Conditions (Year 2016)			Future Without Project Conditions (Year 2035)			Future With Project Conditions (Year 2035)				Increase in D/C	Significant Impact?
				Hourly Volume[1]	D/C	LOS	Hourly Volume	D/C	LOS	Project Trips	Hourly Volume	D/C	LOS		
1	I-105 (East of Crenshaw Blvd., West of Vermont Ave.)	EB	10,000	8,711	0.871	D	9,586	0.959	E	131	9,717	0.972	E	0.013	No
		WB	10,000	12,901	1.290	F(1)	14,169	1.417	F(2)	133	14,302	1.430	F(2)	0.012	No
2	I-105 (West of I-710, East of Harris Ave.)	EB	10,000	9,042	0.904	D	9,934	0.993	E	179	10,113	1.011	F(0)	0.017	No
		WB	10,000	13,011	1.301	F(1)	14,300	1.430	F(2)	310	14,610	1.461	F(3)	0.031	Yes
3	I-105 (East of Bellflower Blvd. West of I-605)	EB	8,000	6,726	0.841	D	7,391	0.924	D	137	7,528	0.941	E	0.016	No
		WB	8,000	10,255	1.282	F(1)	11,271	1.409	F(2)	262	11,533	1.442	F(2)	0.032	Yes
4	I-110 (at Manchester Blvd.)	NB	12,000	12,625	1.052	F(0)	13,865	1.155	F(0)	73	13,938	1.161	F(0)	0.006	No
		SB	12,000	11,899	0.992	E	13,080	1.090	F(0)	131	13,211	1.101	F(0)	0.010	No

Notes:

1. Existing Traffic volumes calculated using volumes from "Existing Conditions from 2010 Congestion Management Program for LA County", factored to 2016 using growth factors for Regional Statistical Area 21 (Vernon).

Table 6.8 CMP Freeway Level of Service - Future With Project - Weekday PM Peak Hour

11/7/2016

No.	Location	Dir	Capacity	Existing Conditions (Year 2016)			Future Without Project Conditions (Year 2035)			Future With Project Conditions (Year 2035)				Increase in D/C	Significant Impact?
				Hourly Volume[1]	D/C	LOS	Hourly Volume	D/C	LOS	Project Trips	Hourly Volume	D/C	LOS		
1	I-105 (East of Crenshaw Blvd., West of Vermont Ave.)	EB	10,000	13,122	1.312	F(1)	14,444	1.444	F(2)	158	14,602	1.460	F(3)	0.016	No
		WB	10,000	8,601	0.860	D	9,488	0.949	E	160	9,648	0.965	E	0.016	No
2	I-105 (West of I-710, East of Harris Ave.)	EB	10,000	13,673	1.367	F(2)	15,054	1.505	F(3)	370	15,424	1.542	F(3)	0.037	Yes
		WB	10,000	9,152	0.915	D	10,085	1.008	F(0)	237	10,322	1.032	F(0)	0.024	Yes
3	I-105 (East of Bellflower Blvd. West of I-605)	EB	8,000	12,791	1.599	F(3)	14,074	1.759	F(3)	304	14,378	1.797	F(3)	0.038	Yes
		WB	8,000	9,814	1.227	F(0)	10,807	1.351	F(2)	185	10,992	1.374	F(2)	0.023	Yes
4	I-110 (at Manchester Blvd.)	NB	12,000	12,791	1.066	F(0)	14,081	1.173	F(0)	150	14,231	1.186	F(0)	0.012	No
		SB	12,000	12,978	1.082	F(0)	14,281	1.190	F(0)	96	14,377	1.198	F(0)	0.008	No

Notes:

1. Existing Traffic volumes calculated using volumes from "Existing Conditions from 2010 Congestion Management Program for LA County", factored to 2016 using growth factors for Regional Statistical Area 21 (Vernon).

Transit Analysis

The number of transit trips that would be generated by the Project was estimated based on the trip generation methodology described in Chapter 3. The estimate of base vehicle trips for each Project land use in Table A-4 and Table A-5 (excluding internal trips) was converted to person trips by applying a conversion factor of 1.4, as per CMP guidelines. The person trip numbers were then multiplied by the estimated percent taking transit for each land use, as previously discussed in Chapter 3 and identified in Tables A-4 and Table A-5. These numbers are project specific and more appropriate than the default countywide guidelines in the CMP as they reflect the estimated transit use that would occur for the Project because of its location near numerous transit lines.

The estimated number of transit trips for the CMP analysis is shown in Table 6.9. In the AM peak hour the Project would generate an estimated 873 net additional transit trips (521 inbound trips and 352 outbound trips), and in the PM peak hour approximately 1,094 additional transit trips (462 inbound and 632 outbound), as shown in Table 6.9. The highest number of additional transit trips would therefore occur in the PM peak hour.

Based on the information presented in Chapter 2 on the existing transit services in the Specific Plan area, the peak hour capacity of the transit system serving the Project Site is approximately 7,920 persons per direction. The highest directional volume of peak hour trips added by the Project would be 632 trips, which would represent approximately 8% of the total transit capacity during the peak hour. Based on a discussion with Metro, Project's projected increase in transit ridership of approximately 8% would not exceed the existing capacity of the transit system and the project would result in less than significant impact on transit services[1].

[1] Green, Scott. Metro. 2017. Email received by County of Los Angeles Regional Planning on April 11, 2017.

Table 6.9 Transit Trips Generated by The Project 3/2/2017

Component	*Transit Trips*					
	AM Peak Hour			*PM Peak Hour*		
	Total	*In*	*Out*	*Total*	*In*	*Out*
MLK Medical Center	326	218	108	433	161	272
CDU	31	23	8	31	11	20
Specific Plan Remainder	516	280	236	630	290	340
Total	873	521	352	1,094	462	632
Residential	231	50	181	286	186	100
Non-Residential	642	471	171	808	276	532

7. Freeway Analysis

This section of the report presents an analysis of the freeway system in the area of the Proposed Project. The analysis of the state highway facilities was conducted according to analysis locations and methodologies agreed with Caltrans, and follows the Caltrans Traffic Study Guidelines and measures of effectiveness.

It addresses freeway mainline locations (segments) and freeway off-ramps in locations that would most likely be affected by Project traffic. The traffic forecasts used in the analysis are consistent with those developed in Chapter 4 and Chapter 6 and use the trip generation and trip distribution information described earlier in Chapter 3. Similarly, the analysis focuses on the Existing With Project and Future With Project Conditions (for the year 2025).

7.1 Freeway Mainline Segments

The analysis addresses ten freeway mainline segments on the I-110, I-105, I-710, and SR-91 freeways that are closest to, and that provide regional access to, the Project site. Figure 7.1 illustrates the location of study locations.

Methodology

Existing traffic volumes on these freeway segments for the AM peak hour and PM peak hour time periods were provided by Caltrans. These 2015 volumes were factored by 1% to represent 2016 volumes. Future Without Project Condition Future year 2035 freeway traffic volumes were developed from the traffic projections described in Chapter 5 including ambient/regional growth and the cumulative projects identified for the area. Future With Project Condition traffic volumes were obtained by adding trips generated by the Project to forecasts for the freeway system for the Future Without Condition, based on the trip generation and trip distribution information described in Chapter 3.

Level of service for freeway segments is based on the total volume of traffic, or demand, traveling along a freeway segment compared to the capacity of that specific location. A lane capacity of 2,000 vehicles per hour per lane (vphpl) for a freeway mainline lane was used Auxiliary lanes were not included in the analysis. The overall capacity of a specific freeway segment was calculated by multiplying the lane capacity by the total number of lanes in that



Figure 7.1
Freeway Mainline Segment Analysis Locations

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segment. Freeway level of service (LOS) was then determined by comparing the total number of vehicles traveling along a specific freeway segment to the capacity of that segment as calculated above. These demand/capacity (D/C) ratios are then rated for levels of service using the definitions shown in Table 7-1.

Freeway Segment Analysis

Caltrans does not have published criteria for determination of significant impacts on freeway mainline segments. Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities, and to maintain the existing LOS in cases where a facility is operating at less than the target LOS. For the purposes of this study, the threshold that was used was that a significant impact would occur if the Project causes a worsening of the level of service to LOS D on a segment, or if the level of service was already LOS D that if the Project causes a change (worsening) in the level of service.

Existing With Project Conditions

The freeway segment analysis is summarized in Tables 7.2 and 7.3, which show the levels of service and demand/capacity (D/C) ratios for Existing Conditions, and Existing With Project conditions for the AM peak hour and the PM peak hour respectively. These tables also show the number of trips that would be added by the Project to each freeway segment. The following discussion refers to a location as one direction (i.e. twenty locations for ten freeway segments).

AM Peak Hour

In the AM peak hour, the Project would add between 12 and 342 trips to the freeway segments analyzed depending on location and direction. The highest volume increases (ranging from 141 to 342 trips) would occur at seven locations on I-105 between Avalon Boulevard and Long Beach Boulevard. At nine of the remaining fourteen locations the volume increase would be less than 50 trips.

The increase in trips due to the Project on freeway segments would range from 0.2 percent to 6.4 percent. The increase would be approximately 4% to 6% at four locations, less than 2% at thirteen locations, and less than 1% at nine locations.

The increase in D/C ratios would range from 0.001 to 0.052. At five locations the increase would be more than 0.025. At nine of the remaining 15 locations the increase would be less than 0.010.

The level of service would not change at any mainline freeway segment due to the Project, except at one location – the I-110 southbound between 135th St & Rosecrans Ave where it

Table 7.1 Level of Service Definitions for Freeway Segments

Level of Service	Demand/Capacity Ratio	Flow Conditions
A	0.00 – 0.35	Highest quality of service. Free traffic flow, low volumes and densities. Little or no restriction on maneuverability or speed.
B	0.36 – 0.54	Stable traffic flow, speed becoming slightly restricted. Low restriction on maneuverability.
C	0.55 – 0.77	Stable traffic flow, but less freedom to select speed, change lanes, or pass. Density increasing.
D	0.78 – 0.93	Approaching unstable flow. Speeds tolerable but subject to sudden and considerable variation. Less maneuverability and driver comfort.
E	0.94 – 1.00	Unstable traffic flow with rapidly fluctuating speeds and flow rates. Short headways, low maneuverability and low driver comfort.
F (0)	1.01 – 1.25	Forced traffic flow. Speed and flow may be greatly reduced with high densities.
F (1)	1.26 – 1.35	Forced traffic flow. Severe congested conditions prevail for more than one hour. Speed and flow may drop to zero with high densities.
F (2)	1.36 – 1.45	Forced traffic flow. Severe congested conditions prevail for more than one hour. Speed and flow may drop to zero with high densities.
F (3)	> 1.45	Forced traffic flow. Severe congested conditions prevail for more than one hour. Speed and flow may drop to zero with high densities.

Source: *2010 Congestion Management Program for Los Angeles County*, Los Angeles County Metropolitan Transportation Authority, July 2010.

Table 7.2 Freeway Segment Level of Service - Existing Plus Project - Weekday AM Peak Hour

10/3/2016

No.	Location	Dir	Inbound/ Outbound	No of Lanes	Capacity	Existing Conditions (Year 2016)			Existing Plus Project Conditions (Year 2016)				Increase in D/C	% Increase Volume due to Project
						Hourly Volume[1]	D/C	LOS	Project Trips	Hourly Volume	D/C	LOS		
1	I-110 between Century Blvd and 109th St	NB	Outbound	4G+2E	8,000	6,697	0.837	D	73	6,770	0.846	D	0.008	1.1%
		SB	Inbound	5G+2E	10,000	8,811	0.881	D	131	8,942	0.894	D	0.012	1.5%
2	I-110 between 135th St and Rosecrans Ave	NB	Inbound	4G+1E	8,000	7,987	0.998	E	62	8,049	1.006	F(0)	0.007	0.8%
		SB	Outbound	4G+1E	8,000	8,566	1.071	F(0)	40	8,606	1.076	F(0)	0.005	0.5%
3	I-105 between Vermont Ave and Hoover St	EB	Inbound	3G+1HOV	6,000	3,819	0.637	C	170	3,989	0.665	C	0.028	4.5%
		WB	Outbound	3G+1HOV	6,000	6,225	1.038	F(0)	94	6,319	1.053	F(0)	0.015	1.5%
4	I-105 between Avalon Blvd and Central Ave	EB	Inbound	3G+1HOV+1A	7,000	7,029	1.004	F(0)	342	7,371	1.053	F(0)	0.048	4.9%
		WB	Outbound	4G+1HOV	8,000	6,846	0.856	D	196	7,042	0.880	D	0.024	2.9%
5	I-105 between Compton Ave and Wilmington Ave	EB	Inbound	3G+1HOV	6,000	5,190	0.865	D	209	5,399	0.900	D	0.035	4.0%
		WB	Outbound	3G+1HOV	6,000	4,946	0.824	D	141	5,087	0.848	D	0.023	2.9%
6	I-105 between State St and Long Beach Blvd	EB	Outbound	3G+1HOV	6,000	4,852	0.809	D	179	5,031	0.839	D	0.030	3.7%
		WB	Inbound	3G+1HOV	6,000	4,899	0.817	D	314	5,213	0.869	D	0.052	6.4%
7	SR-91 between Central Ave and Wilmington Ave	EB	Inbound	4G+1HOV	8,000	5,747	0.718	C	22	5,769	0.721	C	0.002	0.4%
		WB	Outbound	4G+1HOV	8,000	7,651	0.956	E	12	7,663	0.958	E	0.001	0.2%
8	SR-91 between Santa Fe Ave and Long Beach Blvd	EB	Outbound	5G+1HOV	10,000	6,446	0.645	C	23	6,469	0.647	C	0.002	0.4%
		WB	Inbound	5G+1HOV	10,000	8,321	0.832	D	47	8,368	0.837	D	0.004	0.6%
9	I-710 between Firestone Blvd and Abbott Rd	NB	Outbound	4G	8,000	6,032	0.754	C	35	6,067	0.758	C	0.004	0.6%
		SB	Inbound	4G	8,000	4,131	0.516	B	45	4,176	0.522	B	0.005	1.1%
10	I-710 between Del Amo Blvd and Long Beach Blvd	NB	Inbound	5G	10,000	5,817	0.582	C	48	5,865	0.587	C	0.005	0.8%
		SB	Outbound	4G	8,000	7,605	0.951	E	23	7,628	0.954	E	0.003	0.3%

Notes:

1. Traffic volumes for Existing Conditions from Caltrans, 2015. Growth factor of 1% per annum applied for 2016 volumes.

Table 7.3 Freeway Segment Level of Service - Existing Plus Project - Weekday PM Peak Hour

10/3/2016

No.	Location	Dir	Inbound/ Outbound	No of Lanes	Capacity	Existing Conditions (Year 2016)			Existing Plus Project Conditions (Year 2016)				Increase in D/C	% Increase Volume due to Project
						Hourly Volume[1]	D/C	LOS	Project Trips	Hourly Volume	D/C	LOS		
1	I-110 between Century Blvd and 109th St	NB	Outbound	4G+2E	8,000	7,693	0.962	E	150	7,843	0.980	E	0.018	1.9%
		SB	Inbound	5G+2E	10,000	8,144	0.814	D	96	8,240	0.824	D	0.009	1.2%
2	I-110 between 135th St and Rosecrans Ave	NB	Inbound	4G+1E	8,000	7,652	0.957	E	52	7,704	0.963	E	0.006	0.7%
		SB	Outbound	4G+1E	8,000	7,934	0.992	E	77	8,011	1.001	F(0)	0.009	1.0%
3	I-105 between Vermont Ave and Hoover St	EB	Inbound	3G+1HOV	6,000	3,777	0.630	C	123	3,900	0.650	C	0.020	3.3%
		WB	Outbound	3G+1HOV	6,000	5,619	0.937	E	195	5,814	0.969	E	0.032	3.5%
4	I-105 between Avalon Blvd and Central Ave	EB	Inbound	3G+1HOV+1A	7,000	6,664	0.952	E	257	6,921	0.989	E	0.037	3.9%
		WB	Outbound	4G+1HOV	8,000	6,490	0.811	D	397	6,887	0.861	D	0.049	6.1%
5	I-105 between Compton Ave and Wilmington Ave	EB	Inbound	3G+1HOV	6,000	5,200	0.867	D	177	5,377	0.896	D	0.029	3.4%
		WB	Outbound	3G+1HOV	6,000	4,824	0.804	D	254	5,078	0.846	D	0.041	5.3%
6	I-105 between State St and Long Beach Blvd	EB	Outbound	3G+1HOV	6,000	4,625	0.771	D	370	4,995	0.833	D	0.062	8.0%
		WB	Inbound	3G+1HOV	6,000	5,044	0.841	D	234	5,278	0.880	D	0.039	4.6%
7	SR-91 between Central Ave and Wilmington Ave	EB	Inbound	4G+1HOV	8,000	6,548	0.819	D	15	6,563	0.820	D	0.001	0.2%
		WB	Outbound	4G+1HOV	8,000	6,214	0.777	D	25	6,239	0.780	D	0.003	0.4%
8	SR-91 between Santa Fe Ave and Long Beach Blvd	EB	Outbound	5G+1HOV	10,000	7,363	0.736	C	51	7,414	0.741	C	0.004	0.7%
		WB	Inbound	5G+1HOV	10,000	6,525	0.653	C	30	6,555	0.656	C	0.003	0.5%
9	I-710 between Firestone Blvd and Abbott Rd	NB	Outbound	4G	8,000	6,031	0.754	C	52	6,083	0.760	C	0.006	0.9%
		SB	Inbound	4G	8,000	4,237	0.530	B	41	4,278	0.535	B	0.005	1.0%
10	I-710 between Del Amo Blvd and Long Beach Blvd	NB	Inbound	5G	10,000	6,826	0.683	C	32	6,858	0.686	C	0.003	0.5%
		SB	Outbound	4G	8,000	6,416	0.802	D	53	6,469	0.809	D	0.007	0.8%

Notes:

1. Traffic volumes for Existing Conditions from Caltrans, 2015. Growth factor of 1% per annum applied for 2016 volumes.

would change from LOS E to LOS F. The Project would therefore cause one significant freeway mainline segment impact in the AM peak hour under Existing Plus Project Conditions.

PM Peak Hour

In the PM peak hour, the Project would add between 15 and 397 trips to the freeway segments analyzed depending on location and direction. The highest volume increases (ranging from 177 to 397 trips) would occur at seven locations on I-105 between Avalon Boulevard and Long Beach Boulevard. At eleven of the remaining fourteen locations the volume increase would be less than 100 trips.

The increase in trips due to the Project on freeway segments would range from 0.2 percent to 8.0 percent. The increase would be approximately 4% to 8% at four locations, less than 2% at twelve locations, and less than 1% at eight locations.

The increase in D/C ratios would range from 0.001 to 0.062. At five locations the increase would be more than 0.035. At eleven of the remaining 15 locations the increase would be less than 0.010.

The level of service would not change at any mainline freeway segment due to the Project, except at I-110 southbound between 135th St & Rosecrans Ave where it would change from LOS E to LOS F. The Project would therefore cause one significant freeway mainline segment impact in the PM peak hour under Existing Plus Project Conditions

Future With Project Conditions (Includes Cumulative Trips)

The freeway segment analysis is summarized in Tables 7.4 and 7.5, which show the levels of service and demand/capacity (D/C) ratios for Existing Conditions, Future Without Project Conditions, and Future With Project conditions for the AM peak hour and the PM peak hour respectively. The Future With Project conditions include cumulative trips. These tables also show the number of trips that would be added by the Project to each freeway segment.

AM Peak Hour

In the AM peak hour, the Project would add between 12 and 342 trips to the freeway segments analyzed depending on location and direction. The highest volume increases (ranging from 141 to 342 trips) would occur at seven locations on I-105 between Avalon Boulevard and Long Beach Boulevard. At nine of the remaining fourteen locations the volume increase would be less than 50 trips.

Table 7.4 Freeway Segment Level of Service - Future With Project - Weekday AM Peak Hour

10/3/2016

No.	Location	Dir	Inbound/ Outbound	No of Lanes	Capacity	Existing Conditions (Year 2016)			Future Without Project Conditions (Year 2035)			Future With Project Conditions (Year 2035)				Increase in D/C	% Increase Volume due to Project
						Hourly Volume[1]	D/C	LOS	Hourly Volume	D/C	LOS	Project Trips	Hourly Volume	D/C	LOS		
1	I-110 between Century Blvd and 109th St	NB	Outbound	4G+2E	8,000	6,697	0.837	D	7,321	0.915	D	73	7,394	0.924	D	0.009	1.1%
		SB	Inbound	5G+2E	10,000	8,811	0.881	D	9,638	0.964	E	131	9,769	0.977	E	0.013	1.5%
2	I-110 between 135th St and Rosecrans Ave	NB	Inbound	4G+1E	8,000	7,987	0.998	E	8,733	1.092	F(0)	62	8,795	1.099	F(0)	0.006	0.8%
		SB	Outbound	4G+1E	8,000	8,566	1.071	F(0)	9,367	1.171	F(0)	40	9,407	1.176	F(0)	0.004	0.5%
3	I-105 between Vermont Ave and Hoover St	EB	Inbound	3G+1HOV	6,000	3,819	0.637	C	4,197	0.699	C	170	4,367	0.728	C	0.029	4.5%
		WB	Outbound	3G+1HOV	6,000	6,225	1.038	F(0)	6,809	1.135	F(0)	94	6,903	1.150	F(0)	0.014	1.5%
4	I-105 between Avalon Blvd and Central Ave	EB	Inbound	3G+1HOV+1A	7,000	7,029	1.004	F(0)	7,702	1.100	F(0)	342	8,044	1.149	F(0)	0.048	4.9%
		WB	Outbound	4G+1HOV	8,000	6,846	0.856	D	7,479	0.935	E	196	7,675	0.959	E	0.023	2.9%
5	I-105 between Compton Ave and Wilmington Ave	EB	Inbound	3G+1HOV	6,000	5,190	0.865	D	5,696	0.949	E	209	5,905	0.984	E	0.035	4.0%
		WB	Outbound	3G+1HOV	6,000	4,946	0.824	D	5,425	0.904	D	141	5,566	0.928	D	0.024	2.9%
6	I-105 between State St and Long Beach Blvd	EB	Outbound	3G+1HOV	6,000	4,852	0.809	D	5,309	0.885	D	179	5,488	0.915	D	0.030	3.7%
		WB	Inbound	3G+1HOV	6,000	4,899	0.817	D	5,372	0.895	D	314	5,686	0.948	E	0.052	6.4%
7	SR-91 between Central Ave and Wilmington Ave	EB	Inbound	4G+1HOV	8,000	5,747	0.718	C	6,274	0.784	D	22	6,296	0.787	D	0.003	0.4%
		WB	Outbound	4G+1HOV	8,000	7,651	0.956	E	8,363	1.045	F(0)	12	8,375	1.047	F(0)	0.002	0.2%
8	SR-91 between Santa Fe Ave and Long Beach Blvd	EB	Outbound	5G+1HOV	10,000	6,446	0.645	C	7,037	0.704	C	23	7,060	0.706	C	0.002	0.4%
		WB	Inbound	5G+1HOV	10,000	8,321	0.832	D	9,094	0.909	D	47	9,141	0.914	D	0.005	0.6%
9	I-710 between Firestone Blvd and Abbott Rd	NB	Outbound	4G	8,000	6,032	0.754	C	6,583	0.823	D	35	6,618	0.827	D	0.004	0.6%
		SB	Inbound	4G	8,000	4,131	0.516	B	4,515	0.564	C	45	4,560	0.570	C	0.006	1.1%
10	I-710 between Del Amo Blvd and Long Beach Blvd	NB	Inbound	5G	10,000	5,817	0.582	C	6,353	0.635	C	48	6,401	0.640	C	0.005	0.8%
		SB	Outbound	4G	8,000	7,605	0.951	E	8,300	1.038	F(0)	23	8,323	1.040	F(0)	0.002	0.3%

Notes:

1. Traffic volumes for Existing Conditions from Caltrans, 2015. Growth factor of 1% per annum applied for 2016 volumes.

Table 7.5 Freeway Segment Level of Service - Future With Project - Weekday PM Peak Hour

10/3/2016

No.	Location	Dir	Inbound/ Outbound	No of Lanes	Capacity	Existing Conditions (Year 2016)			Future Without Project Conditions (Year 2035)			Future With Project Conditions (Year 2035)				Increase in D/C	% Increase Volume due to Project
						Hourly Volume[1]	D/C	LOS	Hourly Volume	D/C	LOS	Project Trips	Hourly Volume	D/C	LOS		
1	I-110 between Century Blvd and 109th St	NB	Outbound	4G+2E	8,000	7,693	0.962	E	8,438	1.055	F(0)	150	8,588	1.073	F(0)	0.018	1.9%
		SB	Inbound	5G+2E	10,000	8,144	0.814	D	8,924	0.892	D	96	9,020	0.902	D	0.010	1.2%
2	I-110 between 135th St and Rosecrans Ave	NB	Inbound	4G+1E	8,000	7,652	0.957	E	8,396	1.049	F(0)	52	8,448	1.056	F(0)	0.007	0.7%
		SB	Outbound	4G+1E	8,000	7,934	0.992	E	8,689	1.086	F(0)	77	8,766	1.096	F(0)	0.010	1.0%
3	I-105 between Vermont Ave and Hoover St	EB	Inbound	3G+1HOV	6,000	3,777	0.630	C	4,170	0.695	C	123	4,293	0.716	C	0.021	3.3%
		WB	Outbound	3G+1HOV	6,000	5,619	0.937	E	6,183	1.031	F(0)	195	6,378	1.063	F(0)	0.032	3.5%
4	I-105 between Avalon Blvd and Central Ave	EB	Inbound	3G+1HOV+1A	7,000	6,664	0.952	E	7,314	1.045	F(0)	257	7,571	1.082	F(0)	0.037	3.9%
		WB	Outbound	4G+1HOV	8,000	6,490	0.811	D	7,137	0.892	D	397	7,534	0.942	E	0.049	6.1%
5	I-105 between Compton Ave and Wilmington Ave	EB	Inbound	3G+1HOV	6,000	5,200	0.867	D	5,734	0.956	E	177	5,911	0.985	E	0.029	3.4%
		WB	Outbound	3G+1HOV	6,000	4,824	0.804	D	5,329	0.888	D	254	5,583	0.931	E	0.043	5.3%
6	I-105 between State St and Long Beach Blvd	EB	Outbound	3G+1HOV	6,000	4,625	0.771	D	5,101	0.850	D	370	5,471	0.912	D	0.062	8.0%
		WB	Inbound	3G+1HOV	6,000	5,044	0.841	D	5,548	0.925	D	234	5,782	0.964	E	0.038	4.6%
7	SR-91 between Central Ave and Wilmington Ave	EB	Inbound	4G+1HOV	8,000	6,548	0.819	D	7,178	0.897	D	15	7,193	0.899	D	0.002	0.2%
		WB	Outbound	4G+1HOV	8,000	6,214	0.777	D	6,791	0.849	D	25	6,816	0.852	D	0.003	0.4%
8	SR-91 between Santa Fe Ave and Long Beach Blvd	EB	Outbound	5G+1HOV	10,000	7,363	0.736	C	8,068	0.807	D	51	8,119	0.812	D	0.005	0.7%
		WB	Inbound	5G+1HOV	10,000	6,525	0.653	C	7,130	0.713	C	30	7,160	0.716	C	0.003	0.5%
9	I-710 between Firestone Blvd and Abbott Rd	NB	Outbound	4G	8,000	6,031	0.754	C	6,599	0.825	D	52	6,651	0.831	D	0.006	0.9%
		SB	Inbound	4G	8,000	4,237	0.530	B	4,629	0.579	C	41	4,670	0.584	C	0.005	1.0%
10	I-710 between Del Amo Blvd and Long Beach Blvd	NB	Inbound	5G	10,000	6,826	0.683	C	7,452	0.745	C	32	7,484	0.748	C	0.003	0.5%
		SB	Outbound	4G	8,000	6,416	0.802	D	7,014	0.877	D	53	7,067	0.883	D	0.006	0.8%

Notes:

1. Traffic volumes for Existing Conditions from Caltrans, 2015. Growth factor of 1% per annum applied for 2016 volumes.

The increase in trips due to the Project on freeway segments would range from 0.2 percent to 6.4 percent. The increase would be approximately 4% to 6% at four locations, less than 2% at thirteen locations, and less than 1% at nine locations.

The increase in D/C ratios would range from 0.002 to 0.052. At four locations the increase would be more than 0.025. At eleven of the remaining sixteen locations the increase would be less than 0.010.

The level of service would not change at any mainline freeway segment due to the Project, except at one location - I-105 westbound between State St & Long Beach Blvd where it would change from LOS D to LOS E. The Project would therefore cause one significant freeway mainline segment impact in the AM peak hour under Future With Project Conditions.

PM Peak Hour

In the PM peak hour, the Project would add between 15 and 397 trips to the freeway segments analyzed depending on location and direction. The highest volume increases (ranging from 177 to 397 trips) would occur at seven locations on I-105 between Avalon Boulevard and Long Beach Boulevard. At eleven of the remaining fourteen locations the volume increase would be less than 100 trips.

The increase in trips due to the Project on freeway segments would range from 0.2 percent to 8.0 percent. The increase would be approximately 4% to 8% at four locations, less than 2% at twelve locations, and less than 1% at eight locations.

The increase in D/C ratios would range from 0.002 to 0.062. At five locations the increase would be more than 0.035. At nine of the remaining 15 locations the increase would be less than 0.010.

The level of service would not change at any mainline freeway segment due to the Project, except at three locations:

- I-105 westbound between Avalon Ave & Central Ave
- I-105 westbound between Compton Ave & Wilmington Ave
- I-105 westbound between State St & Long Beach Blvd

At all three locations the level of service would change from LOS D to LOS E with the Project. The Project would therefore cause three significant freeway mainline impacts in the PM peak hour under Future With Project Conditions.

7.2 Freeway Off-Ramps

The analysis reviewed a total of ten freeway off-ramps located along the I-110, I-105, and SR-91 freeways that could potentially be used by Project traffic. As illustrated in Figure 7.2, the following ramps were reviewed:

- I-110 NB off-ramp at El Segundo Blvd
- I-110 SB off-ramp at El Segundo Blvd
- I-105 EB off-ramp at Central Ave
- I-105 WB off-ramp at Central Ave
- I-105 EB off-ramp at Wilmington Ave
- I-105 WB off-ramp at Imperial Hwy
- I-105 EB off-ramp at Long Beach Blvd
- I-105 WB off-ramp at Long Beach Blvd
- SR-91 EB Off-ramp at Wilmington Ave
- SR-91 WB Off-ramp at Wilmington Ave

Methodology

Existing traffic volumes on these freeway off-ramps were obtained from traffic counts conducted as part of the overall traffic count program described in Chapter 2. Forecasts of the off-ramp volumes for Future Without Project Conditions were obtained from the analysis described in Chapter 5 including ambient/regional growth and trips from related projects. Forecasts for the Existing With Project Conditions and Future With Project Conditions were obtained using the analysis of Project trip generation and distribution described in Chapter 3. The ramp analysis used operational parameters requested by Caltrans. The analysis of ramp traffic conditions is based on a queue analysis at the end of the ramp intersection, using the Highway Capacity Manual (HCM) 2010 Operations methodology, and determining the 95th percentile queue length (the vehicle queue length that would be exceeded only 5% of the time, which is a common measure used to evaluate queues). The analysis used signal timing information provided by Caltrans and the other cities in the study area. The analysis also determined the storage length capacity of an off-ramp and used 85% of the total (to include a Caltrans requested "safety" factor). It applied a passenger car equivalent (PCE) of 3.0 for heavy vehicles, used truck factors of 3% to 5% of the traffic volumes (as supplied by Caltrans), and car lengths of 30 feet. It should be noted that these are all conservative assumptions, and when combined together provide a very conservative worst case analysis.

Freeway Off-Ramp Analysis

Caltrans does not have published criteria for determination of significant impacts on freeway off-ramps. Caltrans' primary concern is if peak hour traffic queues on an off-ramp exceed the storage length on the ramp and result in queues backing onto the mainline freeway.

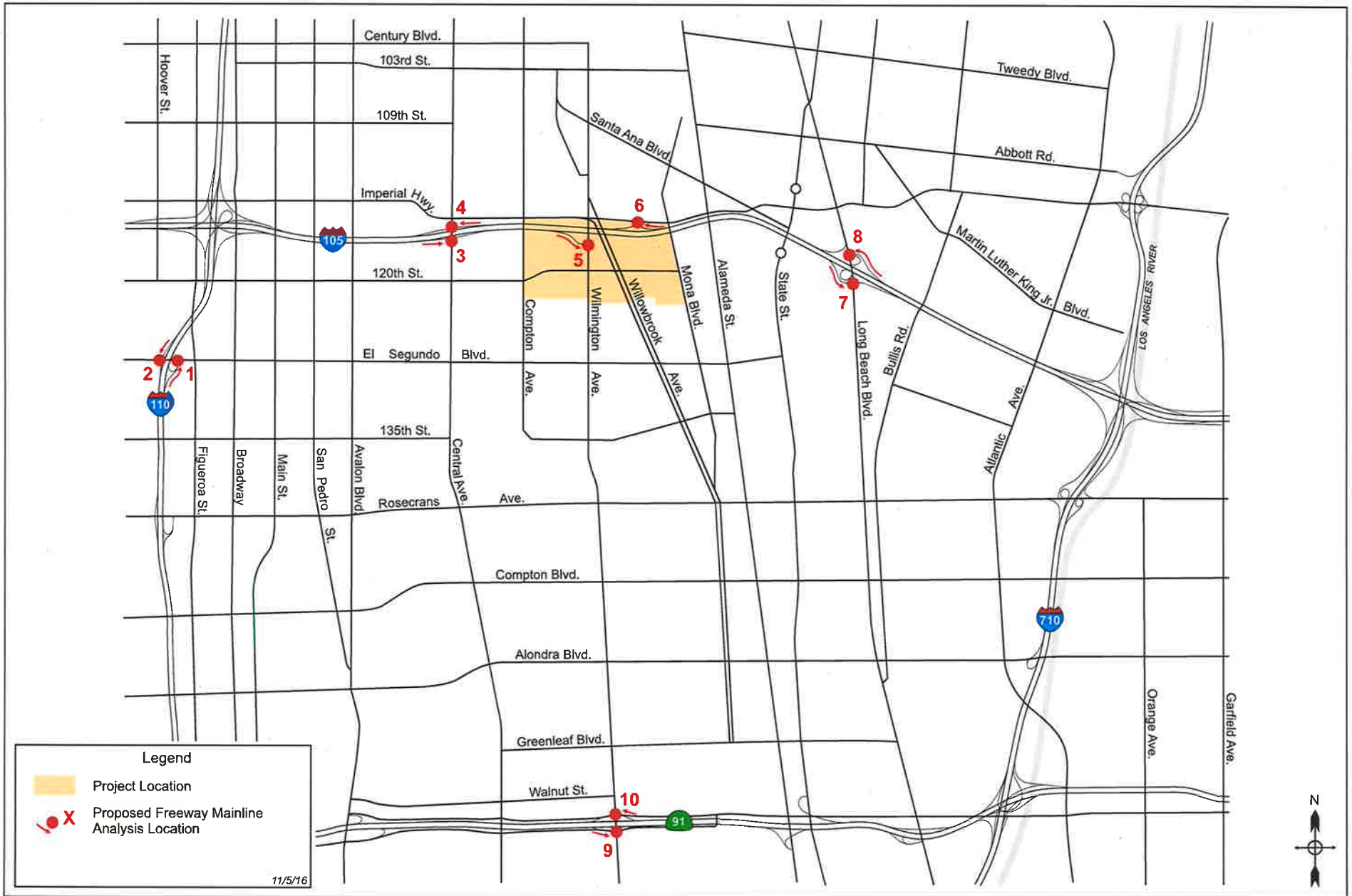


Figure 7.2
Freeway Off-Ramp Analysis Locations

Willowbrook TOD Specific Plan EIR Traffic Study

The **Mobility** Group
Transportation Strategies & Solutions

For the purposes of this study, the threshold that was used was that a significant impact would occur if the Project caused the overall queue on an off-ramp to exceed the overall storage capacity of the ramp.

Existing With Project Conditions

The freeway off-ramp analysis for the Existing With Project Conditions is summarized in Table 7.6 for the AM peak hour and in Table 7.7 for the PM peak hour. These tables show the ramp storage lengths, and the ramp volumes, and queue lengths for the Existing Condition and the Existing Plus Project Condition.

AM Peak Hour

As can be seen from Table 7.6, queues do not currently exceed the storage lengths on any of the off-ramps during the AM peak hour, except at two locations:

- I-110 SB Off-ramp at El Segundo Blvd
- I-105 EB Off-ramp at Central Ave.

The Project would add between 133 and 315 trips to three ramps in the AM peak hour, and between 0 and 47 trips at the other off-ramps analyzed.

For the Existing With Project conditions, the queues would not exceed the total ramp storage lengths at any of the ramps, except at the same two locations where storage lengths are currently exceeded under existing conditions:

- I-110 SB Off-ramp at El Segundo Blvd
- I-105 EB Off-ramp at Central Ave.

At these two off-ramps, the Project would not cause storage capacities to be exceeded, but would increase the queue lengths.

At a third location, at the I-105 WB Off-ramp at Imperial Hwy, the queue for one movement would exceed the storage length for that movement with the Project, but the overall ramp storage length would not be exceeded.

As the Project would not be the cause of the overall queue lengths exceeding the overall storage capacity of any ramps, the Project would not cause any significant impacts in the AM peak period for the Existing Plus Project Conditions.

PM Peak Hour

As can be seen from Table 7.7, overall queues do not currently exceed the total storage lengths on any of the ramps during the Weekday PM Peak hour.

The Project would add between 80 to 234 trips to three off-ramps in the PM peak hour, and between 0 and 30 trips at the other off-ramps analyzed.

For the Existing With Project conditions, the queues would not exceed the total ramp storage lengths at any of the ramps. For the I-105 EB off-ramp at Central Avenue, the queue for two of the ramp movements would exceed the storage length for those movement, but the overall queue length would not exceed the overall ramp storage capacity. For the I-105 WB off-ramp at Central Avenue, the queue for one movement would exceed the storage length for that movement, but the Project would not add any trips to that movement and the overall queue length would not exceed the overall ramp storage capacity. For the I-105 WB off-ramp at Imperial Hwy, the queue for one movement would exceed the storage length for that movement, but the overall queue length for the ramp as a would not exceed the overall ramp storage capacity. For the SR-91 WB off-ramp at Wilmington Avenue, the queue for the one movement would exceed the storage length for that movement (as it would for the existing condition without the Project), but the overall queue length for the ramp would not exceed the overall ramp storage capacity.

As the Project would not be the cause of the overall queue lengths exceeding the overall storage capacity of any ramps, the Project would not cause any significant impacts in the PM peak period for the Existing Plus Project Conditions.

Future With Project Conditions

The freeway off-ramp analysis for the Future With Project Conditions is summarized in Table 7.8 for the AM peak hour and in Table 7.9 for the PM peak hour. These tables show the ramp volumes and queue lengths for the Existing Condition, the Future Without Project Condition, and the Future With Project Condition.

AM Peak Hour

As can be seen from Table 7.8, queues do not currently exceed the overall storage lengths on any of the ramps under existing conditions during the AM peak hour, except at two locations:

- I-110 SB Off-ramp at El Segundo Blvd
- I-105 EB Off-ramp at Central Ave.

For the Future Without Project Conditions, overall queues would not exceed the overall storage lengths on any of the ramps under existing conditions during the AM peak hour, except at the same two locations as under Existing Conditions.

The Project would add between 133 and 315 trips to three ramps in the AM peak hour, and between 0 and 47 trips at the other off-ramps analyzed.

For the Future With Project conditions, the queues would not exceed the total ramp storage lengths at any of the ramps, except at the same two locations where storage lengths are exceeded under both Existing Conditions and Future Without Project Conditions:

- I-110 SB Off-ramp at El Segundo Blvd
- I-105 EB Off-ramp at Central Ave.

At these two off-ramps, the Project would not cause storage capacities to be exceeded (as they would already by exceeded under Future Without Project Conditions) , but would increase the queue lengths.

At a third location, at the I-105 WB off-ramp at Imperial Hwy, the queue for two movements would exceed the storage length for those movements with the Project, but the overall ramp storage length would not be exceeded.

As the Project would not be the cause of the overall queue lengths exceeding the overall storage capacity of any ramps, the Project would not cause any significant impacts in the AM peak period for the Future Plus Project Conditions.

PM Peak Hour

As can be seen from Table 7.9, queues do not currently exceed the total storage lengths on any of the ramps under Existing Conditions during the PM peak hour.

For the Future Without Project Condition, the queue length would exceed the overall storage length at one off-ramp:

- I-105 EB Off-ramp at Central Ave

The Project would add between 80 to 234 trips to three off-ramps in the PM peak hour, and between 0 and 30 trips at the other off-ramps analyzed.

For the Future With Project conditions, the queues would not exceed the total ramp storage lengths at any of the ramps, except at three locations:

- I-110 SB Off-ramp at El Segundo Blvd

- I-105 EB Off-ramp at Central Ave
- I-105 WB Off-ramp at Imperial Hwy

For the I-105 SB off-ramp at El Segundo Blvd, the queue in the Future Without Project Conditions would be very close to the storage capacity. The Project would increase the overall queue length by only 2%, and would cause the queue length for the Future With Project Condition to be very slightly over the overall storage capacity. This would constitute a significant impact.

For the I-105 EB off-ramp at Central Avenue, the queue length for the Future With Project Condition would exceed the overall storage capacity as it would for the Future Without Project Condition. The Project would therefore not cause the overall storage capacity to be exceeded but would increase the queue length.

For the I-105 WB off-ramp at Imperial Highway, the Project would cause the overall queue length for the Future With Project Condition to exceed the overall storage capacity. The capacity would be exceeded by about 4%. This would constitute a significant impact.

At the I-105 WB Off-ramp at Central Ave, for the Future With Project Condition the queue for one movement would exceed the storage length for that movement, and it would also exceed the storage length in the Future Without Condition, but the Project would not add any trips to that movement and the overall queue length for the ramp would not exceed the overall ramp storage capacity.

At the I-105 WB Off-ramp at Long Beach Blvd., for the Future With Project Condition the queue for two westbound movements would exceed the storage length for those movements (as it also would for the Future Without Condition), but the overall queue length for the ramp would not exceed the overall ramp storage capacity.

Also, at the SR-91 WB Off-ramp at Wilmington Ave., for the Future With Project Condition the queue for one movement would exceed the storage length for that movement (as it also would for the Future Without Condition), but the overall queue length for the ramp would not exceed the overall ramp storage capacity.

The Project would therefore be the cause of the overall queue lengths exceeding the overall storage capacity of two ramps, and the Project would cause two significant impacts in the PM peak period for the Future Plus Project Conditions.

Table 7.6 Existing With Project - Freeway Off-Ramp Analysis - Weekday AM Peak Hour

3/1/2017

Off - Ramp # and Location	Ramp Movement at Intersection				Existing Conditions[1] (Year 2016)				Existing With Project Conditions (Year 2016)				
	Move	# of Lanes	Ramp Storage Length (feet)	85% Ramp Storage Length (feet)	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length
1 I-110 NB Off-ramp at El Segundo Blvd	NB LT/RT	2	1936	1,646	879	C	392	No	15	894	C	400	No
2 I-110 SB Off-ramp at El Segundo Blvd	SB LT	1	657	558	511	D	546	No	6	517	D	557	No
	SB LT/RT	1	418	355	0	D	492	Yes	0	0	D	492	Yes
	SB RT	1	418	355	839	C	457	Yes	0	839	C	457	Yes
	RAMP TOTAL	3	1,493	1,269	1,350	D	1,495	Yes	6	1,356	D	1,506	Yes
3 I-105 EB Off-ramp at Central Ave	EB LT	1	682	580	664	F	842	Yes	56	720	F	958	Yes
	EB LT/TH/RT	1	682	580	13	F	867	Yes	0	13	F	958	Yes
	EB RT	1	945	803	538	C	330	No	77	615	D	458	No
	RAMP TOTAL	3	2,309	1,963	1,215	F	2,039	Yes	133	1,348	F	2,374	Yes
4 I-105 WB Off-ramp at Central Ave	WB LT	1	1152	979	116	D	104	No	0	116	D	104	No
	WB TH/LT	1	996	847	4	D	101	No	0	4	D	101	No
	WB RT	1	996	847	372	F	536	No	0	372	F	564	No
	RAMP TOTAL	3	3,144	2,672	492	E	741	No	0	492	F	769	No
5 I-105 EB Off-ramp at Wilmington	EB LT	1	1285	1,092	411	F	600	No	4	415	D	499	No
	EB RT	1	1285	1,092	537	D	361	No	204	741	D	907	No
	RAMP TOTAL	2	2,570	2,185	948	F	961	No	208	1,156	D	1,406	No
6 I-105 WB Off-ramp at Imperial Hwy	NB LT	1	705	599	539	F	491	No	294	833	F	757	Yes
	NB TH/LT	4	635	540	11	F	491	No	9	20	F	761	Yes
	NB RT	1	635	540	137	A	4	No	12	149	A	14	No
	RAMP TOTAL	6	1,975	1,679	687	F	986	No	315	1,002	F	1,532	No
7 I-105 EB Off-ramp at Long Beach Blvd	EB LT	1	1198	1,018	614	F	438	No	0	614	F	438	No
	EB TH/LT	1	729	620	3	F	445	No	0	3	F	445	No
	EB RT	1	729	620	346	B	172	No	0	346	B	172	No
	RAMP TOTAL	3	2,656	2,258	963	E	1,055	No	0	963	E	1,055	No
8 I-105 WB Off-ramp at Long Beach Blvd	WB LT	1	1350	1,148	165	D	175	No	0	165	D	175	No
	WB TH/RT	1	824	700	27	F	500	No	0	27	F	502	No
	WB RT	1	824	700	792	F	482	No	5	797	F	488	No
	RAMP TOTAL	3	2,998	2,548	984	F	1,157	No	5	989	F	1,165	No

Table 7.6 Existing With Project - Freeway Off-Ramp Analysis - Weekday AM Peak Hour

3/1/2017

Off - Ramp # and Location	Ramp Movement at Intersection				Existing Conditions[1] (Year 2016)				Existing With Project Conditions (Year 2016)				
	Move	# of Lanes	Ramp Storage Length (feet)	85% Ramp Storage Length (feet)	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length
9 SR-91 EB Off-ramp at Wilmington Ave	EB LT	1	1427	1,213	771	F	805	No	22	793	F	817	No
	EB LT/TH/RT	2	1427	1,213	670	F	669	No	0	670	F	686	No
	RAMP TOTAL	3	2,854	2,426	1,441	F	1,474	No	22	1,463	F	1,503	No
10 SR-91 WB Off-ramp at Wilmington Ave	WB LT	1	914	777	175	D	218	No	0	175	D	218	No
	WB LT/TH/RT	2	914	777	666	F	497	No	47	713	F	558	No
	RAMP TOTAL	3	1,828	1,554	841	F	715	No	47	888	F	776	No

Notes:

1. Traffic counts conducted in 2015 and factored to 2016 using a rate of 1% per annum.
2. Ramp storage lengths are 85% of the actual storage lengths per Caltrans "Safety" factor.

Table 7.7 Existing With Project - Freeway Off-Ramp Analysis - Weekday PM Peak Hour

3/1/2017

Off - Ramp # and Location	Ramp Movement at Intersection				Existing Conditions[1] (Year 2016)				Existing With Project Conditions (Year 2016)				
	Move	# of Lanes	Ramp Storage Length (feet)	85% Ramp Storage Length (feet)	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length
1 I-110 NB Off-ramp at El Segundo Blvd	NB LT/RT	2	1936	1,646	583	C	202	No	11	594	C	204	No
2 I-110 SB Off-ramp at El Segundo Blvd	SB LT	1	657	558	437	E	437	No	4	441	E	435	No
	SB LT/RT	1	418	355	0	D	320	No	0	0	D	319	No
	SB RT	1	418	355	424	C	206	No	0	424	C	231	No
	RAMP TOTAL	3	1,493	1,269	861	D	963	No	4	865	D	985	No
3 I-105 EB Off-ramp at Central Ave	EB LT	1	682	580	477	F	653	Yes	36	513	F	712	Yes
	EB LT/TH/RT	1	682	580	240	F	703	Yes	0	240	F	780	Yes
	EB RT	1	945	803	378	C	303	No	44	422	C	377	No
	RAMP TOTAL	3	2,309	1,963	1,095	E	1,659	No	80	1,175	F	1,869	No
4 I-105 WB Off-ramp at Central Ave	WB LT	1	1152	979	265	D	192	No	0	265	D	192	No
	WB TH/LT	1	996	847	0	D	192	No	0	0	D	192	No
	WB RT	1	996	847	536	F	824	No	0	536	F	856	Yes
	RAMP TOTAL	3	3,144	2,672	801	F	1,208	No	0	801	F	1,240	No
5 I-105 EB Off-ramp at Wilmington	EB LT	1	1285	1,092	331	F	446	No	3	334	C	346	No
	EB RT	1	1285	1,092	181	A	64	No	173	354	B	240	No
	RAMP TOTAL	2	2,570	2,185	512	F	510	No	176	688	C	586	No
6 I-105 WB Off-ramp at Imperial Hwy	NB LT	1	705	599	549	F	500	No	217	766	F	697	Yes
	NB TH/LT	4	635	540	8	F	495	No	7	15	F	695	Yes
	NB RT	1	635	540	274	C	192	No	10	284	C	208	No
	RAMP TOTAL	6	1,975	1,679	831	F	1,187	No	234	1,065	F	1,600	No
7 I-105 EB Off-ramp at Long Beach Blvd	EB LT	1	1198	1,018	328	E	255	No	0	328	F	255	No
	EB TH/LT	1	729	620	1	E	258	No	0	1	F	258	No
	EB RT	1	729	620	215	B	75	No	0	215	B	75	No
	RAMP TOTAL	3	2,656	2,258	544	D	588	No	0	544	D	588	No
8 I-105 WB Off-ramp at Long Beach Blvd	WB LT	1	1350	1,148	285	F	441	No	0	285	F	441	No
	WB TH/RT	1	824	700	9	F	695	No	0	9	F	695	No
	WB RT	1	824	700	987	F	677	No	3	990	F	682	No
	RAMP TOTAL	3	2,998	2,548	1,281	F	1,813	No	3	1,284	F	1,818	No

Table 7.7 Existing With Project - Freeway Off-Ramp Analysis - Weekday PM Peak Hour

3/1/2017

Off - Ramp # and Location	Ramp Movement at Intersection				Existing Conditions[1] (Year 2016)				Existing With Project Conditions (Year 2016)				
	Move	# of Lanes	Ramp Storage Length (feet)	85% Ramp Storage Length (feet)	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length
9 SR-91 EB Off-ramp at Wilmington Ave	EB LT	1	1427	1,213	433	F	663	No	15	448	F	672	No
	EB LT/TH/RT	2	1427	1,213	694	D	412	No	0	694	D	452	No
	RAMP TOTAL	3	2,854	2,426	1,127	E	1,075	No	15	1,142	E	1,124	No
10 SR-91 WB Off-ramp at Wilmington Ave	WB LT	1	914	777	197	D	274	No	0	197	D	274	No
	WB LT/TH/RT	2	914	777	1,011	F	892	Yes	30	1,041	F	920	Yes
	RAMP TOTAL	3	1,828	1,554	1,208	F	1,166	No	30	1,238	F	1,194	No

Notes:

1. Traffic counts conducted in 2015 and factored to 2016 using a rate of 1% per annum.
2. Ramp storage lengths are 85% of the actual storage lengths per Caltrans "Safety" factor.

Table 7.8 Future Cumulative With Project - Freeway Off-Ramp Analysis - Weekday AM Peak Hour

3/1/2017

Off - Ramp # and Location	Ramp Movement at Intersection				Existing Conditions[1] (Year 2016)				Future Cumulative Without Project Conditions (Year 2035)				Future Cumulative With Project Conditions (Year 2035)				
	Move	# of Lanes	Ramp Storage Length (feet)	85% Ramp Storage Length (feet)	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length
1 I-110 NB Off-ramp at El Segundo Blvd	NB LT/RT	2	1936	1,646	879	C	392	No	970	D	492	No	15	985	D	503	No
2 I-110 SB Off-ramp at El Segundo Blvd	SB LT	1	657	558	511	D	546	No	574	E	648	Yes	6	580	E	656	Yes
	SB LT/RT	1	418	355	0	D	492	Yes	0	D	571	Yes	0	0	D	572	Yes
	SB RT	1	418	355	839	C	457	Yes	916	D	532	Yes	0	916	D	532	Yes
	RAMP TOTAL	3	1,493	1,269	1,350	D	1,495	Yes	1,490	D	1,751	Yes	6	1,496	D	1,760	Yes
3 I-105 EB Off-ramp at Central Ave	EB LT	1	682	580	664	F	842	Yes	727	F	951	Yes	56	783	F	1,052	Yes
	EB LT/TH/RT	1	682	580	13	F	867	Yes	14	F	960	Yes	0	14	F	1,063	Yes
	EB RT	1	945	803	538	C	330	No	599	E	513	No	77	676	F	647	No
	RAMP TOTAL	3	2,309	1,963	1,215	F	2,039	Yes	1,340	F	2,424	Yes	133	1,473	F	2,762	Yes
4 I-105 WB Off-ramp at Central Ave	WB LT	1	1152	979	116	D	10	No	151	D	126	No	0	151	D	126	No
	WB TH/LT	1	996	847	4	D	101	No	4	D	126	No	0	4	D	127	No
	WB RT	1	996	847	372	F	536	No	406	F	651	No	0	406	F	654	No
	RAMP TOTAL	3	3,144	2,672	492	E	647	No	561	F	903	No	0	561	F	907	No
5 I-105 EB Off-ramp at Wilmington	EB LT	1	1285	1,092	411	F	600	No	449	D	564	No	4	453	D	572	No
	EB RT	1	1285	1,092	537	D	361	No	604	C	554	No	204	808	E	1,035	No
	RAMP TOTAL	2	2,570	2,185	948	F	961	No	1,053	D	1,118	No	208	1,261	E	1,607	No
6 I-105 WB Off-ramp at Imperial Hwy	NB LT	1	705	599	539	F	491	No	591	F	538	No	294	885	F	803	Yes
	NB TH/LT	4	635	540	11	F	491	No	12	F	538	No	9	21	F	808	Yes
	NB RT	1	635	540	137	A	4	No	150	A	15	No	12	162	A	24	No
	RAMP TOTAL	6	1,975	1,679	687	F	986	No	753	F	1,091	No	315	1,068	F	1,635	No
7 I-105 EB Off-ramp at Long Beach Blvd	EB LT	1	1198	1,018	614	F	438	No	670	F	448	No	0	670	F	488	No
	EB TH/LT	1	729	620	3	F	445	No	3	F	490	No	0	3	F	490	No
	EB RT	1	729	620	346	B	172	No	378	C	239	No	0	378	C	239	No
	RAMP TOTAL	3	2,656	2,258	963	E	1,055	No	1,051	F	1,177	No	0	1,051	F	1,217	No
8 I-105 WB Off-ramp at Long Beach Blvd	WB LT	1	1350	1,148	165	D	175	No	180	D	190	No	0	180	D	190	No
	WB TH/RT	1	824	700	27	F	500	No	30	F	581	No	0	30	F	586	No
	WB RT	1	824	700	792	F	482	No	864	F	563	No	5	869	F	566	No
	RAMP TOTAL	3	2,998	2,548	984	F	1,157	No	1,074	F	1,334	No	5	1,079	F	1,342	No

Table 7.8 Future Cumulative With Project - Freeway Off-Ramp Analysis - Weekday AM Peak Hour

3/1/2017

Off - Ramp # and Location	Ramp Movement at Intersection				Existing Conditions[1] (Year 2016)				Future Cumulative Without Project Conditions (Year 2035)				Future Cumulative With Project Conditions (Year 2035)				
	Move	# of Lanes	Ramp Storage Length (feet)	85% Ramp Storage Length (feet)	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length
9 SR-91 EB Off-ramp at Wilmington Ave	EB LT	1	1427	1,213	771	F	805	No	841	F	895	No	22	863	F	907	No
	EB LT/TH/RT	2	1427	1,213	670	F	669	No	732	F	753	No	0	732	F	770	No
	RAMP TOTAL	3	2,854	2,426	1,441	F	1,474	No	1,573	F	1,648	No	22	1,595	F	1,677	No
10 SR-91 WB Off-ramp at Wilmington Ave	WB LT	1	914	777	175	D	218	No	191	D	254	No	0	191	D	254	No
	WB LT/TH/RT	2	914	777	666	F	497	No	726	F	573	No	47	773	F	630	No
	RAMP TOTAL	3	1,828	1,554	841	F	715	No	917	F	827	No	47	964	F	884	No

Notes:

1. Traffic counts conducted in 2015 and factored to 2016 using a rate of 1% per annum.
2. Ramp storage lengths are 85% of the actual storage lengths per Caltrans "Safety" factor.

Table 7.9 Future Cumulative With Project - Freeway Off-Ramp Analysis - Weekday PM Peak Hour

3/1/2017

Off - Ramp # and Location	Ramp Movement at Intersection				Existing Conditions[1] (Year 2016)				Future Cumulative Without Project Conditions (Year 2035)				Future Cumulative With Project Conditions (Year 2035)				
	Move	# of Lanes	Ramp Storage Length (feet)	85% Ramp Storage Length (feet)	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length
1 I-110 NB Off-ramp at El Segundo Blvd	NB LT/RT	2	1936	1,646	583	C	202	No	667	C	246	No	11	678	C	263	No
2 I-110 SB Off-ramp at El Segundo Blvd	SB LT	1	657	558	437	E	437	No	520	F	508	No	4	524	F	512	No
	SB LT/RT	1	418	355	0	D	320	No	0	D	405	Yes	0	0	D	408	Yes
	SB RT	1	418	355	424	C	206	No	463	D	343	No	0	463	D	362	No
	RAMP TOTAL	3	1,493	1,269	861	D	963	No	983	E	1,256	No	4	987	F	1,282	Yes
3 I-105 EB Off-ramp at Central Ave	EB LT	1	682	580	477	F	653	Yes	524	F	757	Yes	36	560	F	826	Yes
	EB LT/TH/RT	1	682	580	240	F	703	Yes	262	F	820	Yes	0	262	F	893	Yes
	EB RT	1	945	803	378	C	303	No	441	D	505	No	44	485	E	571	No
	RAMP TOTAL	3	2,309	1,963	1,095	E	1,659	No	1,227	F	2,082	Yes	80	1,307	F	2,290	Yes
4 I-105 WB Off-ramp at Central Ave	WB LT	1	1152	979	265	D	192	No	330	D	234	No	0	330	D	234	No
	WB TH/LT	1	996	847	0	D	192	No	0	D	235	No	0	0	D	235	No
	WB RT	1	996	847	536	F	824	No	585	F	989	Yes	0	585	F	1,013	Yes
	RAMP TOTAL	3	3,144	2,672	801	F	1,208	No	915	F	1,458	No	0	915	F	1,482	No
5 I-105 EB Off-ramp at Wilmington	EB LT	1	1285	1,092	331	F	446	No	361	D	378	No	3	364	D	383	No
	EB RT	1	1285	1,092	181	A	64	No	207	A	101	No	173	380	B	270	No
	RAMP TOTAL	2	2,570	2,185	512	F	510	No	568	C	479	No	176	744	C	653	No
6 I-105 WB Off-ramp at Imperial Hwy	NB LT	1	705	599	549	F	500	No	603	F	549	No	217	820	F	744	Yes
	NB TH/LT	4	635	540	8	F	495	No	9	F	543	Yes	7	16	F	744	Yes
	NB RT	1	635	540	274	C	192	No	299	D	235	No	10	309	D	253	No
	RAMP TOTAL	6	1,975	1,679	831	F	1,187	No	911	F	1,327	No	234	1,145	F	1,741	Yes
7 I-105 EB Off-ramp at Long Beach Blvd	EB LT	1	1198	1,018	328	E	255	No	358	F	283	No	0	358	F	283	No
	EB TH/LT	1	729	620	1	E	258	No	1	F	285	No	0	1	F	285	No
	EB RT	1	729	620	215	B	75	No	235	B	107	No	0	235	B	107	No
	RAMP TOTAL	3	2,656	2,258	544	D	588	No	594	E	675	No	0	594	E	675	No
8 I-105 WB Off-ramp at Long Beach Blvd	WB LT	1	1350	1,148	285	F	441	No	311	F	483	No	0	311	F	483	No
	WB TH/RT	1	824	700	9	F	695	No	10	F	797	Yes	0	10	F	798	Yes
	WB RT	1	824	700	987	F	677	No	1,077	F	780	Yes	3	1,080	F	783	Yes
	RAMP TOTAL	3	2,998	2,548	1,281	F	1,813	No	1,398	F	2,060	No	3	1,401	F	2,064	No

Table 7.9 Future Cumulative With Project - Freeway Off-Ramp Analysis - Weekday PM Peak Hour

3/1/2017

Off - Ramp # and Location	Ramp Movement at Intersection				Existing Conditions[1] (Year 2016)				Future Cumulative Without Project Conditions (Year 2035)				Future Cumulative With Project Conditions (Year 2035)				
	Move	# of Lanes	Ramp Storage Length (feet)	85% Ramp Storage Length (feet)	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length	Project Added Volume	Ramp Volume	Ramp LOS	95% Queue Length (feet)	Exceed 85% Storage Length
9 SR-91 EB Off-ramp at Wilmington Ave	EB LT	1	1427	1,213	433	F	663	No	473	F	742	No	15	488	F	750	No
	EB LT/TH/RT	2	1427	1,213	694	D	412	No	746	E	509	No	0	746	E	545	No
	RAMP TOTAL	3	2,854	2,426	1,127	E	1,075	No	1,219	E	1,251	No	15	1,234	E	1,295	No
10 SR-91 WB Off-ramp at Wilmington Ave	WB LT	1	914	777	197	D	274	No	215	E	313	No	0	215	E	313	No
	WB LT/TH/RT	2	914	777	1,011	F	892	Yes	1,103	F	986	Yes	30	1,133	F	1,014	Yes
	RAMP TOTAL	3	1,828	1,554	1,208	F	1,166	No	1,318	F	1,299	No	30	1,348	F	1,327	No

Notes:

1. Traffic counts conducted in 2015 and factored to 2016 using a rate of 1% per annum.
2. Ramp storage lengths are 85% of the actual storage lengths per Caltrans "Safety" factor.

8. Project Mitigation

This Chapter of the report explores and identifies mitigation strategies to reduce significant transportation impacts identified in the earlier impact analyses for the Project, and describes a proposed transportation mitigation program.

8.1 Summary of Impacts

Impacts were identified in the following categories.

Intersection Impacts

The analysis in Chapters 4 and 6 (see Tables 4.1, 4.2 and 6.1, 6.2,) identified significant impacts in the Existing With Project and Existing With Project With Cumulative Conditions.

For the Existing With Project Conditions, in the AM peak hour, the Project would result in significant impacts at twenty one intersections, of which eleven intersections would operate at LOS D or better. In the PM peak hour, the Project would result in significant impacts at twenty six intersections, of which fifteen intersections would operate at LOS D or better.

For the Existing With Project With Cumulative Conditions, in the AM peak hour, the Project would result in significant impacts at twenty two intersections, of which ten intersections would operate at LOS D or better. In the PM peak hour, the Project would result in significant impacts at thirty one intersections, of which fifteen intersections would operate at LOS D or better.

CMP Impacts

The analysis in Chapter 6 (see Tables 6.7 and 6.8) identified significant impacts at two freeway mainline monitoring locations in the AM peak hour, and at four freeway monitoring locations in the PM peak hour.

Freeway Impacts

For the Existing With Project Condition, the analysis in Chapter 7 (see Table 7.2 and 7.3) identified that the Project would result in one significant mainline freeway impact in the AM peak hour, and one significant freeway mainline impact in the PM peak hour.

For the Existing With Project With Cumulative Condition, the analysis in Chapter 7 (see Table 7.4 and 7.5) identified that the Project would result in one significant mainline freeway impact in the AM peak hour, and three significant freeway mainline impact in the PM peak hour.

Also, for the Existing With Project With Cumulative Condition, the analysis in Chapter 7 (see Table 7.9) identified that the Project would result in two significant freeway off-ramp impacts in the PM peak hour.

8.2 Discussion of Mitigation Strategy

The Specific Plan (the Project) is for a transit-oriented district focused on the Willowbrook/Rosa Parks rail station. As discussed in Chapter 3, the Specific Plan is in a heavily urbanized area with significant levels of transit service. The purpose of the Specific Plan with respect to transportation is to "*... improve access to all modes of transportation, including transit, walking and bicycling.... to encourage transit oriented development, and promote active transportation.... to facilitate development, especially residential and employment- generating uses proximate to the Willowbrook/Rosa Parks Station... identify land use options that include mixed uses, increased housing opportunities, and neighborhood-serving retail uses...and improve pedestrian linkages between the Willowbrook/Rosa Parks Station, Kenneth Hahn Plaza, Martin Luther King Jr. Medical Center, Charles R. Drew University of Medicine and Science, future mixed use areas, and existing residential neighborhoods*".

To these ends the Specific Plan focuses on enhancing alternatives to the car and improving access to transit and improving circulation for bicycles and pedestrians in the Specific Plan area. The Specific Plan includes a range of improvements to the bicycle and pedestrian networks in the Specific Plan area (see Chapter 3), including the installation of road diets to reduce traffic lanes in certain locations. Generally then, potential mitigation measures that widen roadways at the expense of the pedestrian and bicycle environment are therefore inconsistent with the goals and objectives of the Specific Plan and are considered to be infeasible. The restriping of traffic lanes within the existing curb-to-curb roadway cross section was however considered to be a feasible mitigation measure to the extend any such measure would not conflict with Specific Plan features or impact the bicycle and pedestrian facilities.

The feasibility of physical intersection improvements was investigated for all intersection locations where the Project would cause significant traffic impacts. This evaluation, which was conducted in conjunction with County staff, looked at the feasibility of re-striping traffic lanes and/or adding traffic lanes to modify intersection lane configurations, roadway widenings, and potential changes to signal timing and phasing. Roadway widenings were generally not feasible (due to the lack of available right-of-way because of existing buildings or lack of control over adjacent right-of-way, or because of inconsistency with Specific Plan

goals and objectives); lane re-stripings were considered to be feasible if they would not result in inadequate lane widths (minimum lane widths of 10' and 12' for curb lanes was maintained); and signal timing/phasing changes were considered to be feasible as long as they would improve and not worsen intersection operations or potentially cause other problems and/or impacts elsewhere. A Transportation Demand Management Program is considered to be a realistic option to reduce vehicle trips, but is not considered to be a quantifiable mitigation measure by the County of Los Angeles.

The Martin Luther King Jr. Medical Campus Tier 2 Expansion is included in the Specific Plan and the traffic study, as discussed in Chapter 3. The Martin Luther King Jr. Medical Campus EIR identified a number of traffic mitigations. All of these mitigations were evaluated in this current analysis, and included where they continue to be feasible. In the Specific Plan area, a number of those mitigations that involved roadway widening are considered to be now infeasible because of the Specific Plan goals, objectives and provisions, and so are not included in the following list of mitigation measures for this study.

8.3 Transportation Mitigation Measures - Intersection Improvements

No feasible mitigation measures were identified at the following intersections:

1. Avalon Blvd & Imperial Hwy
2. Avalon Blvd & 120th St
6. Central Ave & Imperial Hwy
19. Compton Ave & 120th St
26. Wilmington Ave & Imperial Hwy
29. Wilmington Ave & 120th St (West)
39. Mona Blvd & Imperial Hwy
42. Willowbrook Ave & Rosecrans Ave
58. Wilmington Ave & W Compton Blvd
62. Wilmington Ave & Greenleaf Blvd

At these locations, mitigation measures were not feasible due to insufficient roadway width to accommodate restriping for additional traffic lanes and/or the unavailability of additional right of way for roadway widening, as described above.

Feasible mitigation improvements were identified at a number of locations. The Project therefore proposes to implement the following physical mitigation measures.

The results of the mitigation analyses are shown in Tables 8.1 and 8.2 for the Existing With Project Conditions for the AM and PM peak hours respectively. Figure 8.1 shows the levels of service after mitigation graphically.

Tables 8.3 and 8.4 show the results of the mitigation analyses for the Existing With Project With Cumulative Conditions for the AM and PM peak hours respectively. Figure 8.2 shows the levels of service after mitigation graphically.

To address mitigations in jurisdictions outside the County of Los Angeles, individual projects that are developed within the Specific Plan area will perform a traffic impact analysis in accordance with the jurisdictions guidelines, disclose any impacts, and mitigate those impacts.

For mitigations at locations in the County of Los Angeles individual projects will construct the recommended traffic improvements, or equally beneficial improvements approved by the Director of Public Works.

County of Los Angeles Intersections

#3. Avalon Blvd & El Segundo Blvd

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is no significant impact in the AM peak hour, but a significant impact in the PM peak hour at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is no significant impact in the AM peak hour, but a significant impact in the PM peak hour at this location. The proposed mitigation measure is as follows.

Restripe the northbound approach to add a right turn lane. This would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. This can be accomplished by narrowing the median to 3'. This would need to occur all the way to an alley located approximately 100' south of the intersection. The bus stop at this approach would continue to be located at the same location; however, buses would be allowed to go straight through the intersection. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. In addition restripe the southbound approach to provide a separate right turn lane by narrowing the median to 2'. This would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane.

For the Existing With Project Condition, these mitigation measures would fully mitigate the PM peak hour impact at this location.

For the Existing With Project With Cumulative Condition, these mitigation measures would partially mitigate the PM peak hour impact at this location. In the PM peak hour the level of service would improve to LOS D.

#10. Central Ave & El Segundo Blvd

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Restripe the southbound approach to provide a separate right-turn lane. Restripe the northbound approach by reducing median to 2'. This would modify both approaches from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. Allow buses to go through the intersection from the right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. In addition restripe the westbound approach to provide a separate right turn lane by narrowing the median to 2'. This would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane.

For the Existing With Project Conditions these mitigation measures would fully mitigate the impacts in both the AM and PM peak hours.

For the Existing With Project With Cumulative Conditions these mitigation measures would fully mitigate the AM peak hour impact, and would partially mitigate the PM peak hour impact. In the PM peak hour the level of service would improve to LOS E.

#11. Central Ave & Rosecrans Ave

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in the AM Peak hour, but no significant impact in the PM peak hour at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Restripe the westbound approach to provide a separate right-turn lane by narrowing the median to 2'. This would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. Allow buses to go through the intersection from the right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

For the Existing With Project Condition this mitigation measure would fully mitigate the AM peak hour impact.

For the Existing With Project With Cumulative Condition this mitigation measure would fully mitigate the AM peak hour impact, and would partially mitigate the PM peak hour impact. In the PM peak hour the level of service would remain at LOS D.

#17. Compton Ave & Imperial Hwy

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Restripe the westbound approach to provide a separate right-turn lane. This would modify the approach from one left turn lane, one through lane, and one through-right turn lane to one left turn lane, two through lanes and a separate right turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR. No other feasible improvements were identified at this location.

For the Existing With Project Condition, this mitigation measure would partially mitigate the impacts in both the AM and PM peak hours. In the AM peak hour the level of service would remain at LOS F. In the PM peak hour it would remain at LOS E.

For the Existing With Project With Cumulative Condition, this mitigation measure would partially mitigate the impacts in both the AM and PM peak hours. In the AM peak hour the level of service would remain at LOS F. In the PM peak hour it would remain at LOS E.

27. Wilmington Ave & I-105 e/b Ramps

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Condition there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Provide an additional eastbound lane by widening (reducing the raised median on the ramp) the off-ramp. This would modify the approach from a left-turn lane and a right-turn lane to a left-turn lane, shared left-right turn lane and a separate right-turn lane. In addition, provide an additional northbound left-turn lane by reducing the median width. This would modify the approach from a left-turn lane and three through lanes to dual left-turn lanes and three through lanes. These were mitigation measures in the Martin Luther King Jr. Medical Campus EIR.

For the Existing With Project Condition, these mitigation measures would fully mitigate the impacts in both the AM and PM peak hours.

For the Existing With Project With Cumulative Condition, these mitigation measures would fully mitigate the AM peak hour impact, and would partially mitigate the PM peak hour impact. In the PM peak hour the level of service would improve to LOS C.

#28. Wilmington Ave & 118th St

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Restripe the eastbound approach of 118th Street to provide a separate right-turn lane. This would modify the eastbound approach from a shared left-through-right lane to a shared left-through lane and a right turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

For the Existing With Project Condition, this mitigation measure would partially mitigate the impacts in both the AM and PM peak hours. In the AM peak hour the level of service would remain at LOS F. In the PM peak hour it would improve to LOS E.

For the Existing With Project With Cumulative Condition, this mitigation measure would partially mitigate the impacts in both the AM and PM peak hours. In the AM peak hour the level of service would remain at LOS F. In the PM peak hour it would improve to LOS E.

#30. Wilmington Ave & 120th St (East)

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is no significant impact in the AM Peak hour, but a significant impact in the PM peak hour at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is no significant impact in the AM Peak hour, but a significant impact in the PM peak hour at this location. The proposed mitigation measure is as follows.

Widen 120th Street west of Wilmington Avenue (the driveway to the Martin Luther King Jr. Medical Campus) for 250', on the south side by 2' and restripe the eastbound approach to provide dual left-turn lanes. This would modify the approach from a left-through lane and a

right-turn lane to dual left-turn lanes, a through lane, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

For the Existing With Project Condition, this mitigation measure would fully mitigate the PM peak hour impact.

For the Existing With Project With Cumulative Condition, this mitigation measure would fully mitigate the PM peak hour impact.

#32. Wilmington Ave & El Segundo Blvd

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Restripe the eastbound and westbound approaches to add separate right-turn lanes. Allow buses to go through the intersection from the right-turn lanes. These would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

For the Existing With Project Conditions, these mitigation measures would partially mitigate the impact in the AM peak hour (and the level of service would improve to LOS C), and would fully mitigate the impact in the PM peak hour.

For the Existing With Project With Cumulative Conditions, these mitigation measures would partially mitigate the impacts in both the AM and PM peak hours. In the AM peak hour the level of service would improve to LOS C. In the PM peak hour the level of service would improve to LOS D.

#36. Imperial Hwy & I-105 w/b Ramps

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Provide a third northbound left-turn lane by widening the off-ramp by 10' for approximately 150' to 200'. This would modify the approach from a left-turn lane, a left-through lane, and a right-turn lane to dual left-turn lanes, a left-through lane, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

For the Existing With Project Condition, this measure would partially mitigate the impacts in both the AM and PM peak hours, and the level of service would improve to LOS D in both peak hours.

For the Existing With Project With Cumulative Condition, this measure would partially mitigate the impacts in both the AM and PM peak hours, and the level of service would improve to LOS D in both peak hours.

#43. Alameda St & 103rd St

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in the PM peak hour at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in the PM peak hour at this location. The proposed mitigation measure is as follows.

Restripe the eastbound approach for a separate left-turn lane. This would modify the approach from a shared left/right lane to a left-turn lane and a shared left/right lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

In the Existing With Project Condition, this mitigation measure would fully mitigate the impact in the PM peak hour.

In the Existing With Project With Cumulative Condition, this mitigation measure would fully mitigate the impact in the PM peak hour.

#45. Alameda St & Imperial Hwy

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in the AM peak hour, but no significant impact in the PM peak hour at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in the AM peak hour at this location. The proposed mitigation measure is as follows.

Restripe the southbound approach for dual right-turn lanes. This would modify the approach from a left-turn lane, two through lanes, and a right-turn lane to dual left-turn lanes, two

through lanes, and a separate right-right lane. This is a modification of the mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

In the Existing With Project Condition, this mitigation measure would fully mitigate the impact in the AM peak hour.

In the Existing With Project With Cumulative Condition, this mitigation measure would fully mitigate the AM peak hour impact. In the AM peak hour the level of service would improve to LOS C.

#46. Alameda St & El Segundo Blvd

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there are significant impact in the AM peak hour at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there are significant impacts in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Restripe the northbound and southbound approaches to provide separate right-turn lanes. This would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

In the Existing With Project Condition, this mitigation measure would fully mitigate the impact in the AM peak hour.

In the Existing With Project With Cumulative Condition, this mitigation measure would fully mitigate the AM peak hour impact, and would partially mitigate the PM peak hour impact. In the PM peak hour it would remain at LOS E.

City of Compton Intersections

#21. Compton Ave & El Segundo Blvd

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Restripe the eastbound and westbound approaches to provide separate right-turn lanes by narrowing the medians to 2'. These would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane.

In the Existing With Project Condition, these mitigation measures would partially mitigate the impact in the AM peak hour (and the level of service would improve to LOS D), and would partially mitigate the impact in the PM peak hour. In the PM peak hour the level of service would remain at LOS C.

In the Existing With Project With Cumulative Condition, these mitigation measures would partially mitigate the impact in both the AM and PM peak hours. In the AM peak hour the level of service would improve to LOS D. In the PM peak hour the level of service would improve to LOS C.

#33. Wilmington Ave & Rosecrans Ave

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Restripe the northbound approach to provide a separate right-turn lane by narrowing the median to 2'. This would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane.

In the Existing With Project Condition, this mitigation measure would partially mitigate the impacts in the AM peak hour and the level of service would remain at LOS E, and would partially mitigate the impact in the PM peak hour and the level of service would improve to LOS D.

In the Existing With Project With Cumulative Condition, this mitigation measure would partially mitigate the impacts in the AM peak hour and the level of service would remain at LOS E, and would partially mitigate the impact in the PM peak hour and the level of service would remain at LOS E.

#57. Central Ave & W Compton Blvd

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is no significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is no significant impact in the AM Peak hour, but a significant impact in the PM peak hour at this location. The proposed mitigation measure is as follows.

Restripe the northbound approach to provide a separate right-turn lane by narrowing the median to 2'. This would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. This mitigation measure requires removal of five on-street parking on the northbound approach.

In the Existing With Project With Cumulative Condition, this mitigation measure would fully mitigate the impacts in the PM peak hour and the level of service would improve to LOS C.

#60. Central Ave & Alondra Blvd

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is no significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is no significant impact in the AM Peak hour, but a significant impact in the PM peak hour at this location. The proposed mitigation measure is as follows.

Restripe the northbound and southbound approaches to provide a separate right-turn lane by narrowing the median to 2'. This would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane.

In the Existing With Project With Cumulative Condition, this mitigation measure would fully mitigate the impacts in the PM peak hour and the level of service would improve to LOS D.

#61. Wilmington Ave & Alondra Blvd

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Restripe the westbound approach to provide a separate right-turn lane by narrowing the median to 3'. This would modify the approach from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane.
In the Existing With Project Condition, this mitigation measure would fully mitigate the impact in the AM peak hour and the level of service would remain at LOS D, and would

partially mitigate the impact in the PM peak hour and the level of service would remain at LOS E.

In the Existing With Project With Cumulative Condition, this mitigation measure would fully mitigate the impacts in the AM peak hour and the level of service would remain at LOS D, and would partially mitigate the impact in the PM peak hour and the level of service would remain at LOS E.

#63. Wilmington Ave & Walnut St

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is no significant impact in the AM Peak hour, but a significant impact in the PM peak hour at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is no significant impact in the AM Peak hour, but a significant impact in the PM peak hour at this location. The proposed mitigation measure is as follows.

Restripe and modify the eastbound approach from a left-turn lane, a through lane, and a right-turn lane to a left-turn lane, a through lane, and a through-right lane. It requires converting Walnut Street east of the intersection from one lane eastbound to two-lanes eastbound for a minimum of 400 feet providing an 11' lane and a 12' curb lane prior to merging back to one lane, and prohibiting on street parking for the same distance.

In the Existing With Project Condition, this mitigation measure would fully mitigate the impact in the PM peak hour. In the PM peak hour the level of service would improve to LOS C.

In the Existing With Project With Cumulative Condition, this mitigation measure would fully mitigate the impact in the PM peak hour. In the PM peak hour the level of service would improve to LOS C.

City of Lynwood Intersections

#54. Imperial Hwy & State St

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is no significant impact in the AM Peak hour, but a significant impact in the PM peak hour at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is no significant impact in the AM Peak hour, but a significant impact in the PM peak hour at this location. The proposed mitigation measure is as follows.

Restripe the northbound and southbound approaches to provide separate right-turn lanes. This would modify both approaches from a left-turn lane, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a right-turn lane. These mitigation measures require removal of two on-street parking spaces on each approach.

In the Existing With Project Condition, these mitigation measures would fully mitigate the impact in the PM peak hour. In the PM peak hour the level of service would improve to LOS C.

In the Existing With Project With Cumulative Condition, these mitigation measures would fully mitigate the impact in the PM peak hour. In the PM peak hour the level of service would improve to LOS C.

City of Los Angeles Intersections

#7. Central Ave & I-105 w/b Ramps

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Restripe the westbound approach from a left-turn lane, a through-left lane, and right-turn lane, to a left-turn lane, a through-right lane, and a right-turn lane.

In the Existing With Project Condition, this mitigation measure would fully mitigate the impacts in both the AM and PM peak hours. In both AM and PM peak hours the level of service would improve to LOS C.

In the Existing With Project With Cumulative Condition, this mitigation measure would fully mitigate the impacts in both the AM and PM peak hours. In both AM and PM peak hours the level of service would improve to LOS C.

#9. Central Ave & 120th St

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

Restripe the northbound approach to provide a separate right-turn lane. This would modify the approach from a left-turn, a through lane, and a through-right lane to a left-turn lane, two through lanes, and a separate right-turn lane. This was a mitigation measure in the Martin Luther King Jr. Medical Campus EIR.

In the Existing With Project Condition, this mitigation measure would partially mitigate the impacts in both the AM and PM peak hours. In the AM peak hour the level of service would remain at LOS D and in the PM peak hour the level of service would improve to LOS C.

In the Existing With Project With Cumulative Condition, this mitigation measure would partially mitigate the impacts in both the AM and PM peak hours. In the AM peak hour the level of service would improve to LOS D. In the PM peak hour the level of service would remain at LOS E.

#25. Wilmington Ave & 112th St

As shown in Tables 4.1 and 4.2, in the Existing With Project Conditions there is a significant impact on the stop-controlled approach of this unsignalized intersection in both the AM and PM peak hours at this location.

As shown in Tables 6.1 and 6.2, in the Existing With Project With Cumulative Conditions there is a significant impact on the stop-controlled approach of this unsignalized intersection in both the AM and PM peak hours at this location. The proposed mitigation measure is as follows.

The signal warrant analysis indicated that a traffic signal would be warranted at this location so the mitigation measure is to install a new traffic signal.

In the Existing With Project Conditions, this mitigation measure would fully mitigate the impacts in both the AM and PM peak hours.

In the Existing With Project With Cumulative Conditions, this mitigation measure would fully mitigate the impacts in both the AM and PM peak hours.

Remaining Significant Impacts – Existing With Project

AM Peak Hour

With the proposed mitigation program, there would be 13 remaining significant impacts in the AM peak hour, at the following intersections:

County of Los Angeles:

32.	Wilmington Ave & El Segundo Blvd	LOS C
26.	Wilmington Ave & Imperial Hwy	LOS D
36.	Imperial Hwy & I-105 w/b Ramps	LOS D
19.	Compton Ave & 120th St	LOS E
29.	Wilmington Ave & 120th St (West)	LOS E
17.	Compton Ave & Imperial Hwy	LOS F
28.	Wilmington Ave & 118th St	LOS F

City of Compton:

21.	Compton Ave & El Segundo Blvd	LOS D
62.	Wilmington Ave & Greenleaf Blvd	LOS D
33.	Wilmington Ave & Rosecrans Ave	LOS E

City of Los Angeles:

1.	Avalon Blvd & Imperial Hwy	LOS C
6.	Central Ave & Imperial Hwy	LOS C
9.	Central Ave & 120th St	LOS D

At these remaining significant impact locations, the level of service would be LOS D or better at 9 locations, LOS E at 3 locations and LOS F at 2 locations.

PM Peak Hour

With the proposed mitigation program, there would be 16 remaining significant impacts in the PM peak hour, at the following locations:

County of Los Angeles:

19.	Compton Ave & 120th St	LOS D
26.	Wilmington Ave & Imperial Hwy	LOS D
36.	Imperial Hwy & I-105 w/b Ramps	LOS D
39.	Mona Blvd & Imperial Hwy	LOS D
17.	Compton Ave & Imperial Hwy	LOS E
28.	Wilmington Ave & 118th St	LOS E
29.	Wilmington Ave & 120th St (West)	LOS E

City of Compton:

21.	Compton Ave & El Segundo Blvd	LOS C

33.	Wilmington Ave & Rosecrans Ave	LOS D
58.	Wilmington Ave & W Compton Blvd	LOS D
61.	Wilmington Ave & Alondra Blvd	LOS E
62.	Wilmington Ave & Greenleaf Blvd	LOS E

City of Los Angeles:

1.	Avalon Blvd & Imperial Hwy	LOS C
2.	Avalon Blvd & 120th St	LOS C
9.	Central Ave & 120th St	LOS C
6.	Central Ave & Imperial Hwy	LOS D

At these remaining significant impact locations, the level of service would be LOS D or better at 11 locations and LOS E at 5 locations.

Remaining Significant Impacts – Existing With Project With Cumulative

AM Peak Hour

With the proposed mitigation program, there would be 14 remaining significant impacts in the AM peak hour, at the following intersections:
County of Los Angeles:

32.	Wilmington Ave & El Segundo Blvd	LOS C
39.	Mona Blvd & Imperial Hwy	LOS C
26.	Wilmington Ave & Imperial Hwy	LOS D
36.	Imperial Hwy & I-105 w/b Ramps	LOS D
19.	Compton Ave & 120th St	LOS E
29.	Wilmington Ave & 120th St (West)	LOS E
17.	Compton Ave & Imperial Hwy	LOS F
28.	Wilmington Ave & 118th St	LOS F

City of Compton:

21.	Compton Ave & El Segundo Blvd	LOS D
62.	Wilmington Ave & Greenleaf Blvd	LOS D
33.	Wilmington Ave & Rosecrans Ave	LOS E

City of Los Angeles:

1.	Avalon Blvd & Imperial Hwy	LOS D
6.	Central Ave & Imperial Hwy	LOS D

9.	Central Ave & 120th St	LOS D

At these remaining significant impact locations, the level of service would be LOS D or better at 9 locations, LOS E at 3 locations and LOS F at 2 locations.

PM Peak Hour

With the proposed mitigation program, there would be 23 remaining significant impacts in the PM peak hour, at the following intersections:

County of Los Angeles:

27.	Wilmington Ave & I-0105 e/b Ramps	LOS C
3.	Avalon Blvd & El Segundo Blvd	LOS D
11.	Central Ave & Rosecrans Ave	LOS D
19.	Compton Ave & 120th St	LOS D
26.	Wilmington Ave & Imperial Hwy	LOS D
32.	Wilmington Ave & El Segundo Blvd	LOS D
36.	Imperial Hwy & I-105 w/b Ramps	LOS D
39.	Mona Blvd & Imperial Hwy	LOS D
10.	Central Ave & El Segundo Blvd	LOS E
17.	Compton Ave & Imperial Hwy	LOS E
28.	Wilmington Ave & 118th St	LOS E
29.	Wilmington Ave & 120th St (West)	LOS E
46.	Alameda St & El Segundo Blvd	LOS E

City of Compton:

21.	Compton Ave & El Segundo Blvd	LOS C
42.	Willowbrook Ave & Rosecrans Ave	LOS C
58.	Wilmington Ave & W Compton Blvd	LOS D
33.	Wilmington Ave & Rosecrans Ave	LOS E
61.	Wilmington Ave & Alondra Blvd	LOS E
62.	Wilmington Ave & Greenleaf Blvd	LOS E

City of Los Angeles:

2.	Avalon Blvd & 120th St	LOS C
1.	Avalon Blvd & Imperial Hwy	LOS D
6.	Central Ave & Imperial Hwy	LOS D
9.	Central Ave & 120th St	LOS E

At these remaining significant impact locations, the level of service would be LOS D at 14 locations, and LOS E at 9 locations.

8.3 Transportation Mitigation Measures - CMP

As discussed in Chapter 6 (see Tables 6.7 and 6.8) in the AM peak hour, the addition of vehicle trips generated by the Project would cause significant impacts according to CMP criteria at two freeway monitoring locations in the AM peak hour, and at four freeway monitoring locations in the PM peak hour. The freeways would be operating at LOS F at these locations without the Project. The Project would cause an increase in V/C of between 0.023 and 0.038 at these locations, slightly above the threshold of 0.020 for a significant impact.

No feasible mitigation measures have been identified for these impacts. Freeway mainline improvements are the responsibility of regional agencies such as SCAG, Metro, and Caltrans, and are generally beyond the ability of individual projects to implement. These impacts would therefore remain significant.

8.4 Transportation Mitigation Measures - Freeways

Freeway System - Mainline

As discussed in Chapter 7 (see Tables 7.1 and 7.3), under Existing With Project Conditions the Project would cause one significant freeway mainline segment impact in the AM peak hour, and one significant freeway mainline segment impact in the PM peak hour. The Project would cause the V/C ratio to be 1.006 in the AM peak hour and 1.001 in the PM Peak hour, both just slightly above capacity.

Under the Future With Project Conditions, the Project would cause one significant freeway mainline segment impact in the AM peak hour, and three significant freeway mainline segment impacts in the PM peak hour. The level of service would be LOS E (below capacity) in all cases.

No feasible mitigation measures have been identified for these impacts. Freeway mainline improvements are the responsibility of regional agencies such as SCAG, Metro, and Caltrans, and are generally beyond the ability of individual projects to implement. These impacts would therefore remain significant.

The Caltrans Traffic Impact Study Guidelines provide a methodology for identifying a project's proportionate share of the future traffic growth on freeway facilities. For the Future With Project Condition, in the AM peak hour, the Specific Plan share of total future traffic

growth is approximately 40% (see Table 7.4) and for the PM peak hour it is 32% to 38% (see Table 7.4).

Freeway System – Off-Ramps

The analysis in Chapter 7 (see Table 7.6) identified that the Project would cause two significant impacts at off-ramps in the PM peak hour for Future With Project Conditions. At the I-110 SB off-ramp at El Segundo Blvd., no feasible mitigation measure has been identified, and this would remain a significant impact . However the overall queue length with the Project would be only 1% over the overall storage capacity of the off-ramp. Given the very conservative assumptions that were input to the analysis (see Chapter 7), including the 85% "safety factor" identified by Caltrans, it is unlikely that the queue would actually back onto the freeway mainline.

At the I-105 WB off-ramp at Imperial Highway, the proposed mitigation for the intersection of the off-ramp and Imperial Highway would add storage capacity to the off-ramp. This would increase the overall storage length and the overall queue would no longer exceed the improved overall storage capacity of the ramp. This improvement would fully mitigate the impact at this location.

Table 8.1 Existing With Project With Mitigation Conditions - Intersection Level of Service - AM Peak Hour 3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project + Mitigation Conditions*		*Change in V/C*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
Los Angeles County												
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.726	C	0.739	C	0.013	No				
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.652	B	0.667	B	0.015	No				
10.	Central Ave & El Segundo Blvd [1]	Signalized	0.899	D	0.933	E	0.034	Yes	0.839	D	-0.060	No
11.	Central Ave & Rosecrans Ave [1]	Signalized	0.822	D	0.844	D	0.022	Yes	0.795	C	-0.027	No
12.	Slater Ave & 120th St	Signalized	0.501	A	0.604	B	0.103	No				
17.	Compton Ave & Imperial Hwy [2]	Signalized	1.007	F	1.120	F	0.113	Yes	1.069	F	0.062	Yes
18.	Compton Ave & 118th St	Signalized	0.438	A	0.561	A	0.123	No				
19.	Compton Ave & 120th St	Signalized	0.574	A	0.919	E	0.345	Yes				
20.	Compton Ave & 124th St	Signalized	0.378	A	0.428	A	0.050	No				
26.	Wilmington Ave & Imperial Hwy [2]	Signalized	0.657	B	0.820	D	0.163	Yes				
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.848	D	1.196	F	0.348	Yes	0.824	D	-0.024	No
28.	Wilmington Ave & 118th St	Signalized	0.641	B	1.161	F	0.520	Yes	1.057	F	0.416	Yes
29.	Wilmington Ave & 120th St (West)	Signalized	0.840	D	0.907	E	0.067	Yes				
30.	Wilmington Ave & 120th St (East)	Signalized	0.424	A	0.681	B	0.257	No				
31.	Wilmington Ave & 124th St	Signalized	0.557	A	0.697	B	0.140	No				
32.	Wilmington Ave & El Segundo Blvd [1]	Signalized	0.716	C	0.834	D	0.118	Yes	0.782	C	0.066	Yes
34.	Willowbrook Ave W & 119th Street	Signalized	0.447	A	0.478	A	0.031	No				
35.	Willowbrook Ave E & 119th Street	Signalized	0.375	A	0.388	A	0.013	No				
36.	Imperial Hwy & I-105 w/b Ramps [2]	Signalized	0.775	C	0.906	E	0.131	Yes	0.807	D	0.032	Yes
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.416	A	0.448	A	0.032	No				
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.447	A	0.473	A	0.026	No				
39.	Mona Blvd & Imperial Hwy [3]	Signalized	0.730	C	0.766	C	0.036	No				
40.	Mona Blvd & 119th St [4]	Unsignalized [5]	(13.5)	B	(15.4)	C	(1.9)	No				
41.	Mona Blvd & El Segundo Blvd	Signalized	0.512	A	0.544	A	0.032	No				
43.	Alameda St & 103rd St [4]	Signalized	0.790	C	0.812	D	0.022	No				
45.	Alameda St & Imperial Hwy [4]	Signalized	0.772	C	0.829	D	0.057	Yes	0.792	C	0.020	No
46.	Alameda St & El Segundo Blvd [1]	Signalized	0.765	C	0.815	D	0.050	Yes	0.780	C	0.015	No
52.	El Segundo Blvd & San Pedro St	Signalized	0.589	A	0.598	A	0.009	No				

Table 8.1 Existing With Project With Mitigation Conditions - Intersection Level of Service - AM Peak Hour 3/2/2017

Intersection		*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project + Mitigation Conditions*		*Change in V/C*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
City of Compton												
13.	Slater Ave & El Segundo Blvd	Signalized	0.687	B	0.710	C	0.023	No				
21.	Compton Ave & El Segundo Blvd	Signalized	0.804	C	0.925	E	0.121	Yes	0.880	D	0.076	Yes
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.854	D	0.927	E	0.073	Yes	0.927	E	0.073	Yes
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.693	B	0.721	C	0.028	No				
55.	El Segundo Blvd & Santa Fe Ave [4]	Signalized	0.592	A	0.602	B	0.010	No				
56.	Alameda St & Rosecrans Ave	Signalized	0.606	B	0.634	B	0.028	No				
57.	Cental Ave & W Compton Blvd	Signalized	0.758	C	0.767	C	0.009	No				
58.	Wilmington Ave & W Compton Blvd	Signalized	0.702	B	0.737	C	0.035	No				
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.532	A	0.536	A	0.004	No				
60.	Central Ave & Alondra Blvd	Signalized	0.754	C	0.762	C	0.008	No				
61.	Wilmingtpn Blvd & Alondra Blvd	Signalized	0.825	D	0.861	D	0.036	Yes	0.815	D	-0.010	No
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.797	C	0.829	D	0.032	Yes				
63.	Wilmington Ave & Walnut St	Signalized	0.595	A	0.627	B	0.032	No				
64.	Central Ave & Greenleaf Blvd	Signalized	0.534	A	0.541	A	0.007	No				
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.532	A	0.535	A	0.003	No				
66.	Alameda St & Greenleaf Blvd	Signalized	0.628	B	0.641	B	0.013	No				
City of Lynwood												
44.	Alameda St & Abbott Rd	Signalized	0.660	B	0.673	B	0.013	No				
53.	Imperial Hwy & Fernwood Ave	Signalized	0.732	C	0.756	C	0.024	No				
54.	Imperial Hwy & State St	Signalized	0.738	C	0.764	C	0.026	No				

Note:

[1] Shares jurisdiction with City of Compton.

[2] Shares jurisdiction with City of Los Angeles.

[3] Shares jurisdiction with City of Los Angeles & City of Lynwood.

[4] Shares jurisdiction with City of Lynwood.

[5] Unsignalized intersection show delay/LOS for controlled approach.

Table 8.1 Existing With Project With Mitigation Conditions - Intersection Level of Service - AM Peak Hour 1/26/2017

Intersection		*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project + Mitigation Conditions*		*Change in V/C*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
City of Los Angeles												
1.	Avalon Blvd & Imperial Hwy	Signalized	0.747	C	0.790	C	0.043	Yes				
2.	Avalon Blvd & 120th St	Signalized	0.592	A	0.628	B	0.036	No				
5.	Central Ave & 103rd St	Signalized	0.637	B	0.658	B	0.021	No				
6.	Central Ave & Imperial Hwy	Signalized	0.737	C	0.784	C	0.047	Yes				
7.	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.852	D	0.029	Yes	0.723	C	-0.100	No
8.	Central Ave & I-105 e/b Ramps	Signalized	0.668	B	0.699	B	0.031	No				
9.	Central Ave & 120th St	Signalized	0.753	C	0.881	D	0.128	Yes	0.819	D	0.066	Yes
14.	Compton Ave & 103rd St	Signalized	0.604	B	0.688	B	0.084	No				
15.	Compton Ave & 108th St	Signalized	0.663	B	0.669	B	0.006	No				
16.	Compton Ave & 112th St	Unsignalized [1]	(31.0)	D	(42.5)	E	(11.5)	No				
22.	Wilmington Ave & 103rd St	Signalized	0.660	B	0.669	B	0.009	No				
23.	Wilmington Ave & Santa Ana Blvd N	Signalized	0.473	A	0.488	A	0.015	No				
24.	Wilmington Ave & 108th St	Signalized	0.593	A	0.621	B	0.028	No				
25.	Wilmington Ave & 112th St	Unsignalized [1]	(44.5)	E	Overflow	F	Overflow	Yes				
47.	Avalon Blvd & 103rd St	Signalized	0.441	A	0.451	A	0.010	No				
48.	Avalon Blvd & 108th St	Signalized	0.564	A	0.578	A	0.014	No				
49.	Imperial Hwy & Main St	Signalized	0.590	A	0.601	B	0.011	No				
50.	Imperial Hwy & San Pedro St	Signalized	0.661	B	0.673	B	0.012	No				
51.	San Pedro St & 120th St	Signalized	0.528	A	0.541	A	0.013	No				
City of Los Angeles & Los Angeles County [2]												
17.	Compton Ave & Imperial Hwy	Signalized	0.898	D	1.018	F	0.120	Yes	0.963	F	0.065	Yes
26.	Wilmington Ave & Imperial Hwy	Signalized	0.501	A	0.670	B	0.169	No				
36.	Imperial Hwy & I-105 w/b Ramps	Signalized	0.690	B	0.830	D	0.140	Yes	0.726	D	0.036	Yes
39.	Mona Blvd & Imperial Hwy	Signalized	0.601	B	0.639	B	0.038	No				

Note:

[1] Unsignalized intersection show delay/LOS for controlled approach.

[2] Analyzed per City of Los Angeles methodology.

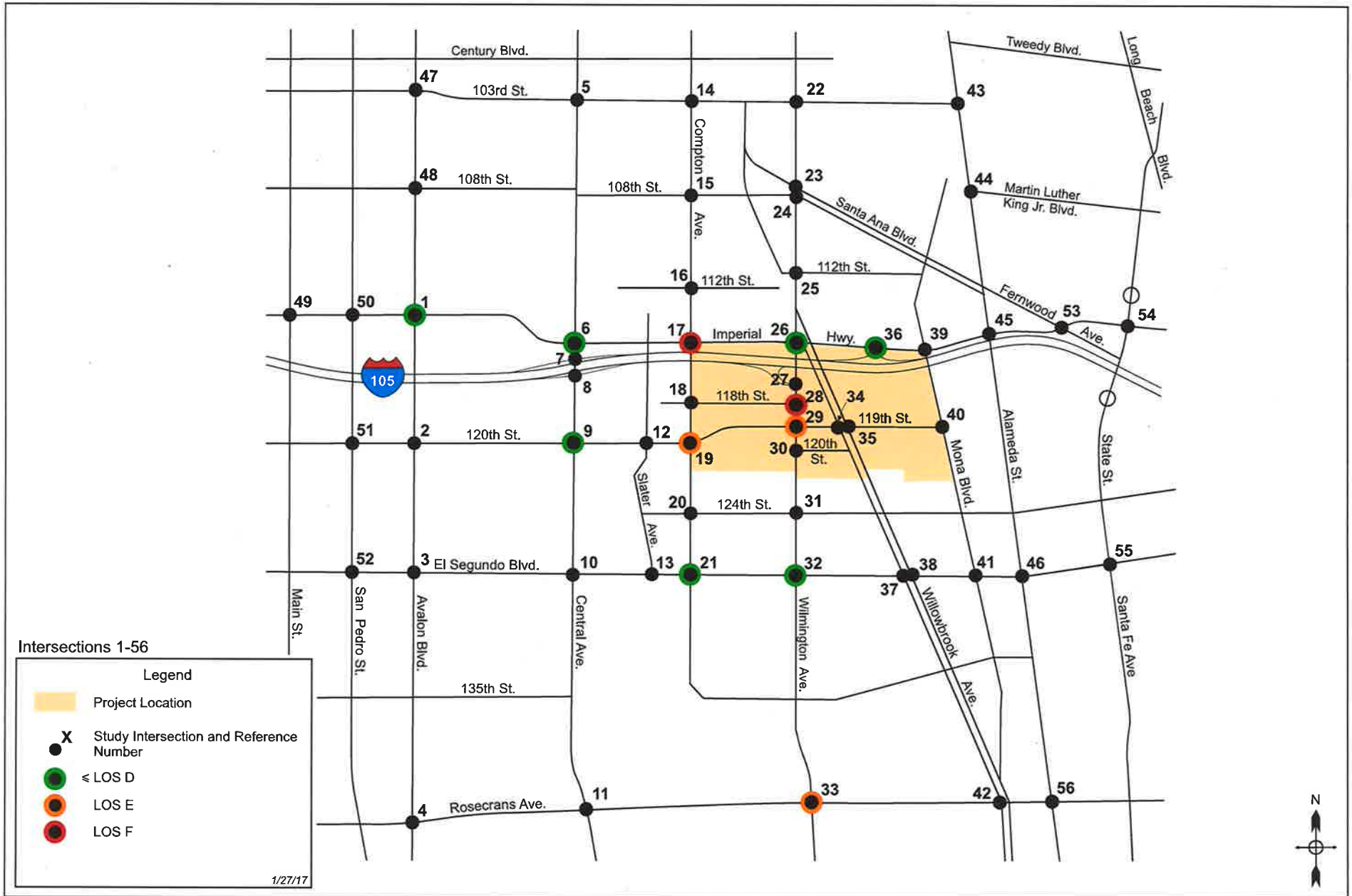


Figure 8.1
Existing + Project + Mitigation - AM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

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Figure 8.1
Existing + Project + Mitigation - AM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

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Table 8.2 Existing With Project With Mitigation Conditions - Intersection Level of Service - PM Peak Hour 3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project + Mitigation Conditions*		*Change in V/C*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
Los Angeles County												
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.844	D	0.877	D	0.033	Yes	0.820	D	-0.024	No
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.804	C	0.815	D	0.011	No				
10.	Central Ave & El Segundo Blvd [1]	Signalized	0.925	E	0.983	E	0.058	Yes	0.908	E	-0.017	No
11.	Central Ave & Rosecrans Ave [1]	Signalized	0.761	C	0.782	C	0.021	No				
12.	Slater Ave & 120th St	Signalized	0.367	A	0.480	A	0.113	No				
17.	Compton Ave & Imperial Hwy [2]	Signalized	0.781	C	0.954	E	0.173	Yes	0.954	E	0.173	Yes
18.	Compton Ave & 118th St	Signalized	0.367	A	0.522	A	0.155	No				
19.	Compton Ave & 120th St	Signalized	0.448	A	0.817	D	0.369	Yes				
20.	Compton Ave & 124th St	Signalized	0.287	A	0.319	A	0.032	No				
26.	Wilmington Ave & Imperial Hwy [2]	Signalized	0.654	B	0.820	D	0.166	Yes				
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.680	B	0.988	E	0.308	Yes	0.711	C	0.031	No
28.	Wilmington Ave & 118th St	Signalized	0.527	A	1.019	F	0.492	Yes	0.907	E	0.380	Yes
29.	Wilmington Ave & 120th St (West)	Signalized	0.766	C	0.934	E	0.168	Yes				
30.	Wilmington Ave & 120th St (East)	Signalized	0.426	A	0.756	C	0.330	Yes	0.685	B	0.259	No
31.	Wilmington Ave & 124th St	Signalized	0.485	A	0.608	B	0.123	No				
32.	Wilmington Ave & El Segundo Blvd [1]	Signalized	0.793	C	0.923	E	0.130	Yes	0.812	D	0.019	No
34.	Willowbrook Ave W & 119th Street	Signalized	0.436	A	0.486	A	0.050	No				
35.	Willowbrook Ave E & 119th Street	Signalized	0.359	A	0.377	A	0.018	No				
36.	Imperial Hwy & I-105 w/b Ramps [2]	Signalized	0.792	C	0.918	E	0.126	Yes	0.827	D	0.035	Yes
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.508	A	0.540	A	0.032	No				
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.507	A	0.535	A	0.028	No				
39.	Mona Blvd & Imperial Hwy [3]	Signalized	0.825	D	0.875	D	0.050	Yes				
40.	Mona Blvd & 119th St [4]	Unsignalized [5]	(17.0)	C	(21.6)	C	(4.6)	No				
41.	Mona Blvd & El Segundo Blvd	Signalized	0.609	B	0.635	B	0.026	No				
43.	Alameda St & 103rd St [4]	Signalized	0.852	D	0.872	D	0.020	Yes	0.760	C	-0.092	No
45.	Alameda St & Imperial Hwy [4]	Signalized	0.799	C	0.818	D	0.019	No				
46.	Alameda St & El Segundo Blvd [1]	Signalized	0.898	D	0.912	E	0.014	No				
52.	El Segundo Blvd & San Pedro St	Signalized	0.601	B	0.612	B	0.011	No				

Table 8.2 Existing With Project With Mitigation Conditions - Intersection Level of Service - PM Peak Hour 3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project + Mitigation Conditions*		*Change in V/C*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
City of Compton												
13.	Slater Ave & El Segundo Blvd	Signalized	0.649	B	0.676	B	0.027	No				
21.	Compton Ave & El Segundo Blvd	Signalized	0.706	C	0.790	C	0.084	Yes	0.758	C	0.052	Yes
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.847	D	0.941	E	0.094	Yes	0.893	D	0.046	Yes
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.719	C	0.748	C	0.029	No				
55.	El Segundo Blvd & Santa Fe Ave [4]	Signalized	0.700	B	0.717	C	0.017	No				
56.	Alameda St & Rosecrans Ave	Signalized	0.604	B	0.638	B	0.034	No				
57.	Cental Ave & W Compton Blvd	Signalized	0.802	C	0.813	D	0.011	No				
58.	Wilmington Ave & W Compton Blvd	Signalized	0.844	D	0.893	D	0.049	Yes				
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.453	A	0.456	A	0.003	No				
60.	Central Ave & Alondra Blvd	Signalized	0.888	D	0.898	D	0.010	No				
61.	Wilmingtpn Blvd & Alondra Blvd	Signalized	0.877	D	0.924	E	0.047	Yes	0.924	E	0.047	Yes
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.911	E	0.952	E	0.041	Yes				
63.	Wilmington Ave & Walnut St	Signalized	0.785	C	0.825	D	0.040	Yes	0.742	C	-0.043	No
64.	Central Ave & Greenleaf Blvd	Signalized	0.671	B	0.680	B	0.009	No				
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.526	A	0.530	A	0.004	No				
66.	Alameda St & Greenleaf Blvd	Signalized	0.723	C	0.748	C	0.025	No				
City of Lynwood												
44.	Alameda St & Abbott Rd	Signalized	0.624	B	0.651	B	0.027	No				
53.	Imperial Hwy & Fernwood Ave	Signalized	0.755	C	0.781	C	0.026	No				
54.	Imperial Hwy & State St	Signalized	0.785	C	0.809	D	0.024	Yes	0.771	C	-0.014	No

Note:

[1] Shares jurisdiction with City of Compton.

[2] Shares jurisdiction with City of Los Angeles.

[3] Shares jurisdiction with City of Los Angeles & City of Lynwood.

[4] Shares jurisdiction with City of Lynwood.

[5] Unsignalized intersection show delay/LOS for controlled approach.

Table 8.2 Existing With Project With Mitigation Conditions - Intersection Level of Service - PM Peak Hour 1/26/2017

Intersection		Intersection Type	Existing Conditions		Existing + Project Conditions		Change in V/C (Delay)	Significant Impact	Existing + Project + Mitigation Conditions		Change in V/C	Significant Impact
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
City of Los Angeles												
1.	Avalon Blvd & Imperial Hwy	Signalized	0.713	C	0.753	C	0.040	Yes				
2.	Avalon Blvd & 120th St	Signalized	0.672	B	0.715	C	0.043	Yes				
5.	Central Ave & 103rd St	Signalized	0.664	B	0.682	B	0.018	No				
6.	Central Ave & Imperial Hwy	Signalized	0.757	C	0.818	D	0.061	Yes				
7.	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.896	D	0.073	Yes	0.709	C	-0.114	No
8.	Central Ave & I-105 e/b Ramps	Signalized	0.635	B	0.654	B	0.019	No				
9.	Central Ave & 120th St	Signalized	0.690	B	0.817	D	0.127	Yes	0.769	C	0.079	Yes
14.	Compton Ave & 103rd St	Signalized	0.587	A	0.604	B	0.017	No				
15.	Compton Ave & 108th St	Signalized	0.527	A	0.573	A	0.046	No				
16.	Compton Ave & 112th St	Unsignalized [1]	(38.5)	E	(56.0)	F	(17.5)	No				
22.	Wilmington Ave & 103rd St	Signalized	0.463	A	0.477	A	0.014	No				
23.	Wilmington Ave & Santa Ana Blvd N	Signalized	0.441	A	0.469	A	0.028	No				
24.	Wilmington Ave & 108th St	Signalized	0.496	A	0.525	A	0.029	No				
25.	Wilmington Ave & 112th St	Unsignalized [1]	(42.1)	E	Overflow	F	Overflow	Yes				
47.	Avalon Blvd & 103rd St	Signalized	0.475	A	0.491	A	0.016	No				
48.	Avalon Blvd & 108th St	Signalized	0.608	B	0.627	B	0.019	No				
49.	Imperial Hwy & Main St	Signalized	0.632	B	0.651	B	0.019	No				
50.	Imperial Hwy & San Pedro St	Signalized	0.697	B	0.721	C	0.024	No				
51.	San Pedro St & 120th St	Signalized	0.597	A	0.623	B	0.026	No				
City of Los Angeles & Los Angeles County [2]												
17.	Compton Ave & Imperial Hwy	Signalized	0.663	B	0.841	D	0.178	Yes	0.841	D	0.178	Yes
26.	Wilmington Ave & Imperial Hwy	Signalized	0.497	A	0.671	B	0.174	No				
36.	Imperial Hwy & I-105 w/b Ramps	Signalized	0.710	C	0.847	D	0.137	Yes	0.752	D	0.042	Yes
39.	Mona Blvd & Imperial Hwy	Signalized	0.704	C	0.758	C	0.054	Yes				

Note:

[1] Unsignalized intersection show delay/LOS for controlled approach.

[2] Analyzed per City of Los Angeles methodology.

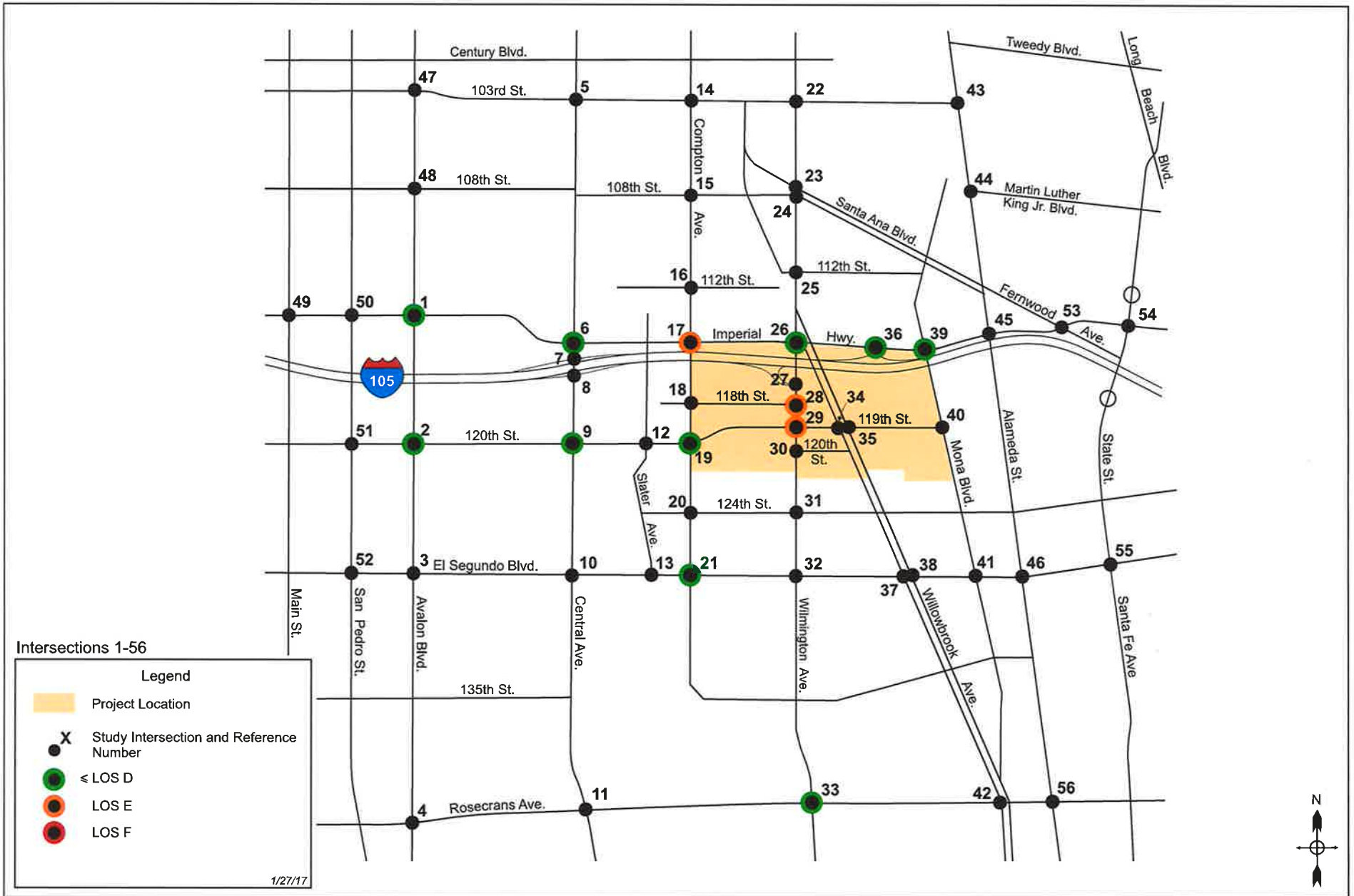


Figure 8.2
Existing + Project + Mitigation - PM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

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Figure 8.2
Existing + Project + Mitigation - PM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

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Table 8.3 Existing With Project With Cumulative With Mitigation Conditions - Intersection Level of Service - AM Peak Hour 3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project +Cumulative + Mitigation Conditions*		*Change in V/C*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
Los Angeles County												
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.726	C	0.757	C	0.031	No				
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.652	B	0.684	B	0.032	No				
10.	Central Ave & El Segundo Blvd [1]	Signalized	0.899	D	0.971	E	0.072	Yes	0.874	D	-0.025	No
11.	Central Ave & Rosecrans Ave [1]	Signalized	0.822	D	0.870	D	0.048	Yes	0.821	D	-0.001	No
12.	Slater Ave & 120th St	Signalized	0.501	A	0.609	B	0.108	No				
17.	Compton Ave & Imperial Hwy [2]	Signalized	1.007	F	1.127	F	0.120	Yes	1.075	F	0.068	Yes
18.	Compton Ave & 118th St	Signalized	0.438	A	0.579	A	0.141	No				
19.	Compton Ave & 120th St	Signalized	0.574	A	0.926	E	0.352	Yes				
20.	Compton Ave & 124th St	Signalized	0.378	A	0.432	A	0.054	No				
26.	Wilmington Ave & Imperial Hwy [2]	Signalized	0.657	B	0.832	D	0.175	Yes				
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.848	D	1.128	F	0.280	Yes	0.855	D	0.007	No
28.	Wilmington Ave & 118th St	Signalized	0.641	B	1.208	F	0.567	Yes	1.098	F	0.457	Yes
29.	Wilmington Ave & 120th St (West)	Signalized	0.840	D	0.916	E	0.076	Yes				
30.	Wilmington Ave & 120th St (East)	Signalized	0.424	A	0.684	B	0.260	No				
31.	Wilmington Ave & 124th St	Signalized	0.557	A	0.705	C	0.148	No				
32.	Wilmington Ave & El Segundo Blvd [1]	Signalized	0.716	C	0.847	D	0.131	Yes	0.792	C	0.076	Yes
34.	Willowbrook Ave W & 119th Street	Signalized	0.447	A	0.478	A	0.031	No				
35.	Willowbrook Ave E & 119th Street	Signalized	0.375	A	0.388	A	0.013	No				
36.	Imperial Hwy & I-105 w/b Ramps [2]	Signalized	0.775	C	0.910	E	0.135	Yes	0.811	D	0.036	Yes
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.416	A	0.454	A	0.038	No				
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.447	A	0.479	A	0.032	No				
39.	Mona Blvd & Imperial Hwy [3]	Signalized	0.730	C	0.772	C	0.042	Yes				
40.	Mona Blvd & 119th St [4]	Unsignalized [5]	(13.5)	B	(15.4)	B	(1.9)	No				
41.	Mona Blvd & El Segundo Blvd	Signalized	0.512	A	0.550	A	0.038	No				
43.	Alameda St & 103rd St [4]	Signalized	0.790	C	0.821	D	0.031	No				
45.	Alameda St & Imperial Hwy [4]	Signalized	0.772	C	0.837	D	0.065	Yes	0.798	C	0.026	No
46.	Alameda St & El Segundo Blvd [1]	Signalized	0.765	C	0.827	D	0.062	Yes	0.793	C	0.028	No
52.	El Segundo Blvd & San Pedro St	Signalized	0.589	A	0.611	B	0.022	No				

Table 8.3 Existing With Project With Cumulative With Mitigation Conditions - Intersection Level of Service - AM Peak Hour

3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project +Cumulative + Mitigation Conditions*		*Change in V/C*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
City of Compton												
13.	Slater Ave & El Segundo Blvd	Signalized	0.687	B	0.717	C	0.030	No				
21.	Compton Ave & El Segundo Blvd	Signalized	0.804	C	0.940	E	0.136	Yes	0.895	D	0.091	Yes
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.854	D	0.935	E	0.081	Yes	0.935	E	0.081	Yes
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.693	B	0.727	C	0.034	No				
55.	El Segundo Blvd & Santa Fe Ave [4]	Signalized	0.592	A	0.607	B	0.015	No				
56.	Alameda St & Rosecrans Ave	Signalized	0.606	B	0.634	B	0.028	No				
57.	Cental Ave & W Compton Blvd	Signalized	0.758	C	0.774	C	0.016	No				
58.	Wilmington Ave & W Compton Blvd	Signalized	0.702	B	0.738	C	0.036	No				
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.532	A	0.537	A	0.005	No				
60.	Central Ave & Alondra Blvd	Signalized	0.754	C	0.769	C	0.015	No				
61.	Wilmingtpn Blvd & Alondra Blvd	Signalized	0.825	D	0.862	D	0.037	Yes	0.816	D	-0.009	No
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.797	C	0.831	D	0.034	Yes				
63.	Wilmington Ave & Walnut St	Signalized	0.595	A	0.628	B	0.033	No				
64.	Central Ave & Greenleaf Blvd	Signalized	0.534	A	0.548	A	0.014	No				
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.532	A	0.535	A	0.003	No				
66.	Alameda St & Greenleaf Blvd	Signalized	0.628	B	0.641	B	0.013	No				
City of Lynwood												
44.	Alameda St & Abbott Rd	Signalized	0.660	B	0.679	B	0.019	No				
53.	Imperial Hwy & Fernwood Ave	Signalized	0.732	C	0.764	C	0.032	No				
54.	Imperial Hwy & State St	Signalized	0.738	C	0.773	C	0.035	No				

Note:

[1] Shares jurisdiction with City of Compton.

[2] Shares jurisdiction with City of Los Angeles.

[3] Shares jurisdiction with City of Los Angeles & City of Lynwood.

[4] Shares jurisdiction with City of Lynwood.

[5] Unsignalized intersection show delay/LOS for controlled approach.

Table 8.3 Future With Project With Mitigation Conditions - Intersection Level of Service - AM Peak Hour

1/26/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project +Ambient + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project +Ambient + Cumulative + Mitigation Conditions*		*Change in V/C*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
City of Los Angeles												
1.	Avalon Blvd & Imperial Hwy	Signalized	0.747	C	0.856	D	0.043	Yes				
2.	Avalon Blvd & 120th St	Signalized	0.592	A	0.677	B	0.036	No				
5.	Central Ave & 103rd St	Signalized	0.637	B	0.708	C	0.021	No				
6.	Central Ave & Imperial Hwy	Signalized	0.737	C	0.843	D	0.047	Yes				
7.	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.911	E	0.030	Yes	0.769	C	-0.112	No
8.	Central Ave & I-105 e/b Ramps	Signalized	0.668	B	0.755	C	0.031	No				
9.	Central Ave & 120th St	Signalized	0.753	C	0.959	E	0.134	Yes	0.883	D	0.058	Yes
14.	Compton Ave & 103rd St	Signalized	0.604	B	0.662	B	0.019	No				
15.	Compton Ave & 108th St	Signalized	0.663	B	0.732	C	0.025	No				
16.	Compton Ave & 112th St	Unsignalized [1]	(31.0)	D	(61.6)	F	(20.2)	No				
22.	Wilmington Ave & 103rd St	Signalized	0.660	B	0.723	C	0.009	No				
23.	Wilmington Ave & Santa Ana Blvd N	Signalized	0.473	A	0.517	A	0.014	No				
24.	Wilmington Ave & 108th St	Signalized	0.593	A	0.661	B	0.028	No				
25.	Wilmington Ave & 112th St	Unsignalized [1]	(44.5)	E	Overflow	F	Overflow	Yes				
47.	Avalon Blvd & 103rd St	Signalized	0.441	A	0.479	A	0.010	No				
48.	Avalon Blvd & 108th St	Signalized	0.564	A	0.617	B	0.013	No				
49.	Imperial Hwy & Main St	Signalized	0.590	A	0.643	B	0.011	No				
50.	Imperial Hwy & San Pedro St	Signalized	0.661	B	0.720	C	0.012	No				
51.	San Pedro St & 120th St	Signalized	0.528	A	0.575	A	0.014	No				
City of Los Angeles & Los Angeles County [2]												
17.	Compton Ave & Imperial Hwy	Signalized	0.898	D	1.089	F	0.120	Yes	1.029	F	0.060	Yes
26.	Wilmington Ave & Imperial Hwy	Signalized	0.501	A	0.708	C	0.169	Yes				
36.	Imperial Hwy & I-105 w/b Ramps	Signalized	0.69	B	0.879	D	0.140	Yes	0.768	C	0.029	No
39.	Mona Blvd & Imperial Hwy	Signalized	0.601	B	0.682	B	0.038	No				

Note:

[1] Unsignalized intersection show delay/LOS for controlled approach.

[2] Analyzed per City of Los Angeles methodology.

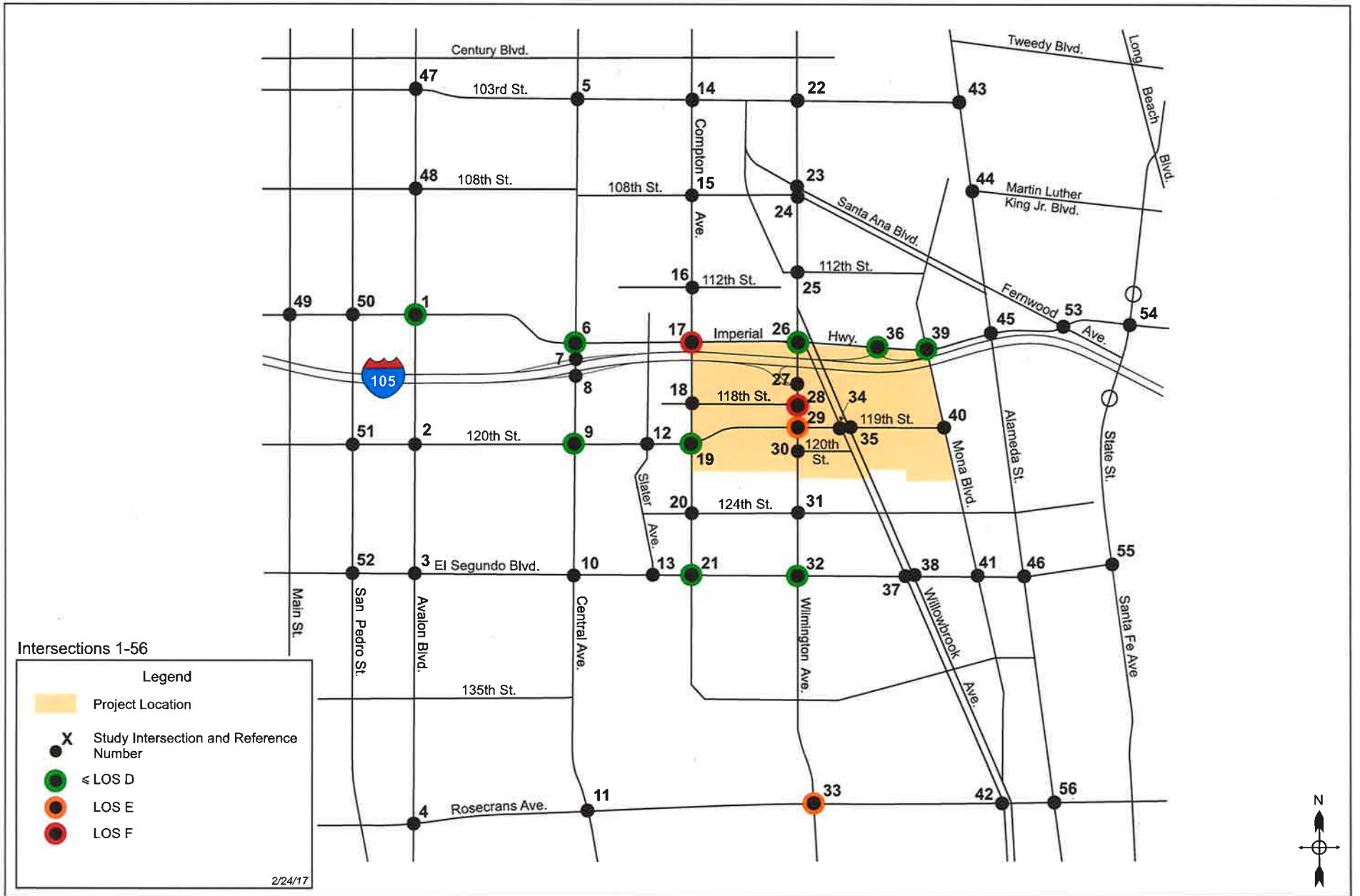


Figure 8.3
Existing + Project + Cumulative + Mitigation - AM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

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Figure 8.3
Existing + Project + Cumulative + Mitigation - AM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

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Table 8.4 Existing With Project With Cumulative With Mitigation Conditions - Intersection Level of Service - PM Peak Hour

3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project + Cumulative + Mitigation Conditions*		*Change in V/C*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
Los Angeles County												
3.	Avalon Blvd & El Segundo Blvd	Signalized	0.844	D	0.957	E	0.113	Yes	0.884	D	0.040	Yes
4.	Avalon Blvd & Rosecrans Ave	Signalized	0.804	C	0.842	D	0.038	No				
10.	Central Ave & El Segundo Blvd [1]	Signalized	0.925	E	1.014	F	0.089	Yes	0.938	E	0.013	Yes
11.	Central Ave & Rosecrans Ave [1]	Signalized	0.761	C	0.816	D	0.055	Yes	0.816	D	0.055	Yes
12.	Slater Ave & 120th St	Signalized	0.367	A	0.494	A	0.127	No				
17.	Compton Ave & Imperial Hwy [2]	Signalized	0.781	C	0.967	E	0.186	Yes	0.967	E	0.186	Yes
18.	Compton Ave & 118th St	Signalized	0.367	A	0.562	A	0.195	No				
19.	Compton Ave & 120th St	Signalized	0.448	A	0.843	D	0.395	Yes				
20.	Compton Ave & 124th St	Signalized	0.287	A	0.324	A	0.037	No				
26.	Wilmington Ave & Imperial Hwy [2]	Signalized	0.654	B	0.840	D	0.186	Yes				
27.	Wilmington Ave & I-105 e/b Ramps	Signalized	0.680	B	1.010	F	0.330	Yes	0.751	C	0.071	Yes
28.	Wilmington Ave & 118th St	Signalized	0.527	A	1.119	F	0.592	Yes	0.981	E	0.454	Yes
29.	Wilmington Ave & 120th St (West)	Signalized	0.766	C	0.956	E	0.190	Yes				
30.	Wilmington Ave & 120th St (East)	Signalized	0.426	A	0.767	C	0.341	Yes	0.697	B	0.271	No
31.	Wilmington Ave & 124th St	Signalized	0.485	A	0.614	B	0.129	No				
32.	Wilmington Ave & El Segundo Blvd [1]	Signalized	0.793	C	0.948	E	0.155	Yes	0.832	D	0.039	Yes
34.	Willowbrook Ave W & 119th Street	Signalized	0.436	A	0.486	A	0.050	No				
35.	Willowbrook Ave E & 119th Street	Signalized	0.359	A	0.377	A	0.018	No				
36.	Imperial Hwy & I-105 w/b Ramps [2]	Signalized	0.792	C	0.928	E	0.136	Yes	0.837	D	0.045	Yes
37.	Willowbrook Ave W & El Segundo Blvd	Signalized	0.508	A	0.551	A	0.043	No				
38.	Willowbrook Ave E & El Segundo Blvd	Signalized	0.507	A	0.546	A	0.039	No				
39.	Mona Blvd & Imperial Hwy [3]	Signalized	0.825	D	0.885	D	0.060	Yes				
40.	Mona Blvd & 119th St [4]	Unsignalized [5]	(17.0)	C	(21.6)	C	(4.6)	No				
41.	Mona Blvd & El Segundo Blvd	Signalized	0.609	B	0.646	B	0.037	No				
43.	Alameda St & 103rd St [4]	Signalized	0.852	D	0.884	D	0.032	Yes	0.769	C	-0.083	No
45.	Alameda St & Imperial Hwy [4]	Signalized	0.799	C	0.828	D	0.029	No				
46.	Alameda St & El Segundo Blvd [1]	Signalized	0.898	D	0.931	E	0.033	Yes	0.922	E	0.024	Yes
52.	El Segundo Blvd & San Pedro St	Signalized	0.601	B	0.646	B	0.045	No				

Table 8.4 Existing With Project With Cumulative With Mitigation Conditions - Intersection Level of Service - PM Peak Hour 3/2/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project + Cumulative + Mitigation Conditions*		*Change in V/C*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
City of Compton												
13.	Slater Ave & El Segundo Blvd	Signalized	0.649	B	0.690	B	0.041	No				
21.	Compton Ave & El Segundo Blvd	Signalized	0.706	C	0.812	D	0.106	Yes	0.779	C	0.073	Yes
33.	Wilmington Ave & Rosecrans Ave	Signalized	0.847	D	0.962	E	0.115	Yes	0.914	E	0.067	Yes
42.	Willowbrook Ave & Rosecrans Ave	Signalized	0.719	C	0.760	C	0.041	Yes				
55.	El Segundo Blvd & Santa Fe Ave [4]	Signalized	0.700	B	0.735	C	0.035	No				
56.	Alameda St & Rosecrans Ave	Signalized	0.604	B	0.641	B	0.037	No				
57.	Cental Ave & W Compton Blvd	Signalized	0.802	C	0.836	D	0.034	Yes	0.800	C	-0.002	No
58.	Wilmington Ave & W Compton Blvd	Signalized	0.844	D	0.897	D	0.053	Yes				
59.	Willowbrook Ave & W Compton Blvd	Signalized	0.453	A	0.457	A	0.004	No				
60.	Central Ave & Alondra Blvd	Signalized	0.888	D	0.918	E	0.030	Yes	0.872	D	-0.016	No
61.	Wilmingtpn Blvd & Alondra Blvd	Signalized	0.877	D	0.928	E	0.051	Yes	0.928	E	0.051	Yes
62.	Wilmington Ave & Greenleaf Blvd	Signalized	0.911	E	0.956	E	0.045	Yes				
63.	Wilmington Ave & Walnut St	Signalized	0.785	C	0.829	D	0.044	Yes	0.745	C	-0.040	No
64.	Central Ave & Greenleaf Blvd	Signalized	0.671	B	0.701	B	0.030	No				
65.	Willowbrook Ave & Alondra Blvd	Signalized	0.526	A	0.530	A	0.004	No				
66.	Alameda St & Greenleaf Blvd	Signalized	0.723	C	0.751	C	0.028	No				
City of Lynwood												
44.	Alameda St & Abbott Rd	Signalized	0.624	B	0.657	B	0.033	No				
53.	Imperial Hwy & Fernwood Ave	Signalized	0.755	C	0.794	C	0.039	No				
54.	Imperial Hwy & State St	Signalized	0.785	C	0.823	D	0.038	Yes	0.785	C	0.000	No

Note:

[1] Shares jurisdiction with City of Compton.

[2] Shares jurisdiction with City of Los Angeles.

[3] Shares jurisdiction with City of Los Angeles & City of Lynwood.

[4] Shares jurisdiction with City of Lynwood.

[5] Unsignalized intersection show delay/LOS for controlled approach.

Table 8.4 Future With Project With Mitigation Conditions - Intersection Level of Service - PM Peak Hour 1/26/2017

	Intersection	*Intersection Type*	*Existing Conditions*		*Existing + Project +Ambient + Cumulative Conditions*		*Change in V/C (Delay)*	*Significant Impact*	*Existing + Project +Ambient + Cumulative + Mitigation Conditions*		*Change in V/C*	*Significant Impact*
			V/C or (Delay)	LOS	V/C or (Delay)	LOS			V/C or (Delay)	LOS		
City of Los Angeles												
1.	Avalon Blvd & Imperial Hwy	Signalized	0.713	C	0.827	D	0.040	Yes				
2.	Avalon Blvd & 120th St	Signalized	0.672	B	0.787	C	0.043	Yes				
5.	Central Ave & 103rd St	Signalized	0.664	B	0.743	C	0.018	No				
6.	Central Ave & Imperial Hwy	Signalized	0.757	C	0.893	D	0.062	Yes				
7.	Central Ave & I-105 w/b Ramps	Signalized	0.823	D	0.967	E	0.073	Yes	0.787	C	-0.107	No
8.	Central Ave & I-105 e/b Ramps	Signalized	0.635	B	0.735	C	0.019	No				
9.	Central Ave & 120th St	Signalized	0.690	B	0.935	E	0.110	Yes	0.903	E	0.078	Yes
14.	Compton Ave & 103rd St	Signalized	0.587	A	0.643	B	0.018	No				
15.	Compton Ave & 108th St	Signalized	0.527	A	0.605	B	0.046	No				
16.	Compton Ave & 112th St	Unsignalized [1]	(38.5)	E	(84.1)	F	(32.6)	No				
22.	Wilmington Ave & 103rd St	Signalized	0.463	A	0.527	A	0.014	No				
23.	Wilmington Ave & Santa Ana Blvd N	Signalized	0.441	A	0.504	A	0.027	No				
24.	Wilmington Ave & 108th St	Signalized	0.496	A	0.567	A	0.029	No				
25.	Wilmington Ave & 112th St	Unsignalized [1]	(42.1)	E	Overflow	F	Overflow	Yes				
47.	Avalon Blvd & 103rd St	Signalized	0.475	A	0.528	A	0.017	No				
48.	Avalon Blvd & 108th St	Signalized	0.608	B	0.677	B	0.020	No				
49.	Imperial Hwy & Main St	Signalized	0.632	B	0.710	C	0.019	No				
50.	Imperial Hwy & San Pedro St	Signalized	0.697	B	0.776	C	0.024	No				
51.	San Pedro St & 120th St	Signalized	0.597	A	0.672	B	0.025	No				
City of Los Angeles & Los Angeles County [2]												
17.	Compton Ave & Imperial Hwy	Signalized	0.663	B	0.893	D	0.179	Yes	0.893	D	0.179	Yes
26.	Wilmington Ave & Imperial Hwy	Signalized	0.497	A	0.718	C	0.175	Yes				
36.	Imperial Hwy & I-105 w/b Ramps	Signalized	0.71	C	0.904	E	0.137	Yes	0.803	D	0.036	Yes
39.	Mona Blvd & Imperial Hwy	Signalized	0.704	C	0.814	D	0.054	Yes				

Note:

[1] Unsignalized intersection show delay/LOS for controlled approach.

[2] Analyzed per City of Los Angeles methodology.

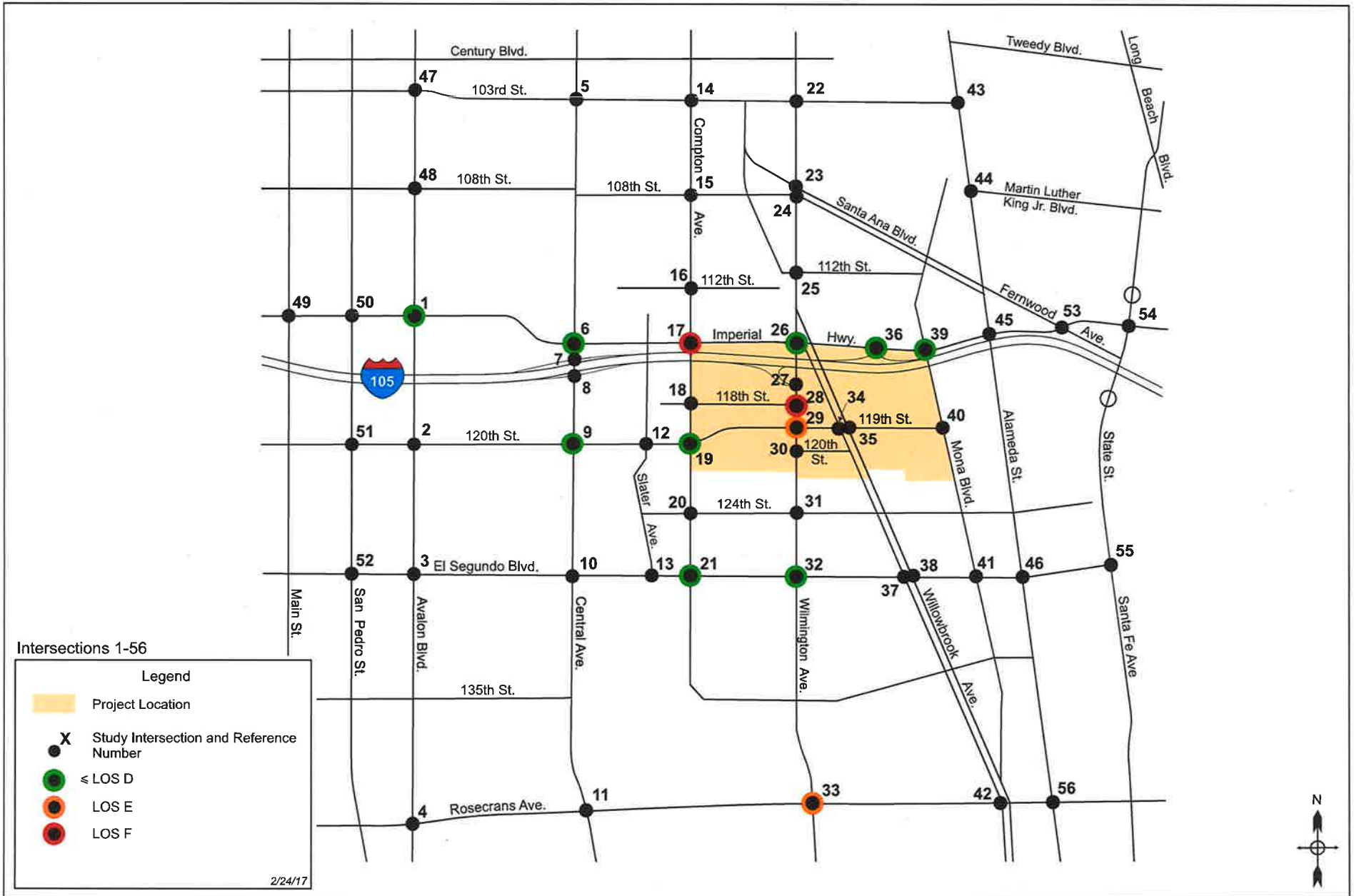


Figure 8.3
Existing + Project + Cumulative + Mitigation - AM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

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Intersections 57-66

Legend

- Project Location
- X Study Intersection and Reference Number
- ≤ LOS D
- LOS E
- LOS F

2/24/17

N

Figure 8.4
Existing + Project + Cumulative + Mitigation - PM Peak Hour - Significant Impact Locations

Willowbrook TOD Specific Plan EIR Traffic Study

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Appendix A

Trip Generation Information

Table A-1. Willowbrook TOD Specific Plan EIR Traffic Study
Trip Generation - Trip Rates by Land Use - AM & PM

Land Use	ITE Code	Trip Rate	
		AM	PM
Single Family Housing (DU's)	ITE 210	0.75	1.00
Multi-Family Housing (DU's)	ITE 220	0.51	0.62
Senior Housing (DU's)	ITE 252	0.20	0.25
Clinic	ITE 630	3.60	5.18
Library	ITE 590	1.04	7.30
General Office (sf)	ITE 710	1.56	1.49
Business Park (sf)	ITE 770	1.40	1.26
Medical Office (sf)	ITE 720	2.39	3.57
R & D Office (sf)	ITE 760	1.22	1.07
Restaurant-High Turnover (sf)	ITE 932	10.81	9.85
Restaurant-Fast Food (sf)	ITE 934	45.42	32.65
Grocery (sf)	ITE 820	0.96	3.71
Retail (sf)	ITE 820	0.96	3.71
Elementary School (sf)	ITE 520	5.20	1.21
Shopping Center (sf)	ITE 820	0.96	3.71
Church (sf)	ITE 560	0.56	0.55
Open Space (sf)	ITE 412	0.02	0.09
Light Industrial (sf)	ITE 110	0.92	0.97
Children Care (sf)	ITE 565	12.18	12.34
University (Students)	ITE 550	0.17	0.17

Table A-2. Willowbrook TOD Specific Plan EIR Traffic Study
Trip Generation - Internal % Adjustments

Zone #	Internal %		
	Residential Uses	Commercial Uses	Institutional Uses
2	10%	15%	5%
3	10%	15%	5%
4	10%	5%	5%
5		5%	5%
6		5%	5%
7		5%	5%
8		5%	5%
9		5%	5%
10		5%	5%
11		5%	5%
12		5%	5%
13		5%	5%
14		5%	5%
1 (MLK Hospital)	15%	15%	15%
2C (CDU)	50%		

Table A-3. Willowbrook TOD Specific Plan EIR Traffic Study
Trip Generation - Transit % Adjustments

Distance from the Willowbrook/Rosa Parks Station	Zone #	Transit %	
		Residential Uses	Commercial & Institutional Uses
Station Adjacent	4A/4B	25%	15%
< 1/4 mile	2A, 2B, 3A, 3B, 4A, 4B, 5, 9, 10, 11, 12	25%	15% for Mixed-Use 1, 25% for Mixed-Use 2, 15% for Imperial Commercial
< 1/2 mile	3C, 3D, 3E, 3F, 3G, 6, 7, 8, 13	15%	10% for Mixed-Use 1, 15% for Mixed-Use 2, 10% for Imperial Commercial
MLK Hospital	1	15%	15%
CDU	2C	15%	15%

Table A-4 Willowbrook TOD Specific Plan - Trip Generation - AM Peak

Land Uses					Existing Trip Generations									Future Trip Generations								Net Trip Generations			
Group	Land Use	Existing	Future	Net Change	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Net Vehicle Trips	Total Trips
1	Single-Family Housing (DU's)	0	100	100	Single-Family Housing (DU's)	0									Single-Family Housing (DU's)	100									Single-Family Housing (DU's)	100	58	
1	Retail / Medical Office (sf)				Retail / Medical Office (sf)										Retail / Medical Office (sf)										Retail / Medical Office (sf)			
1	Hospital / General Office (sf)				Hospital / General Office (sf)										Hospital / General Office (sf)										Hospital / General Office (sf)			
1	Residential Subtotal	0	100	100	Residential Subtotal	0									Residential Subtotal	100									Residential Subtotal	100	58	
1	Non-Residentail Subtotal	890,891	2,139,413	1,248,522	Non-Residentail Subtotal	890,891									Non-Residentail Subtotal	2,139,413									Non-Residentail Subtotal	1,248,522	1,231	
2A	Multi-Family Housing (DU's)	0	105	105	Multi-Family Housing (DU's)	0	0.51	ITE 220	0	10%	25%		0	0.00	Multi-Family Housing (DU's)	105	0.51		54	10%	25%		36	0.35	Multi-Family Housing (DU's)	105	36	
2A	Clinic (sf)	33,000	33,381	381	Clinic (sf)	33,000	3.60	ITE 630	119	0%	25%	0%	89	0.00	Clinic (sf)	33,381	3.60		120	0%	25%	0%	90	0.00	Clinic (sf)	381	1	
2A	Residential Subtotal	0	105	105	Residential Subtotal	0			0				0		Residential Subtotal	105			54				36		Residential Subtotal	105	36	
2A	Non-Residentail Subtotal	33,000	33,381	381	Non-Residentail Subtotal	33,000			119				89		Non-Residentail Subtotal	33,381			120				90		Non-Residentail Subtotal	381	1	
2B	Multi-Family Housing (DU's)	0	117	117	Multi-Family Housing (DU's)	0	0.51	ITE 220	0	10%	25%		0	0.00	Multi-Family Housing (DU's)	117	0.51		60	10%	25%		41	0.35	Multi-Family Housing (DU's)	117	41	
2B	Fire Station (sf)	4,110	6,325	2,215	Fire Station (sf)	4,110				0%	0%	0%	0	0.00	Fire Station (sf)	6,325				0%	0%	0%	0		Fire Station (sf)	2,215	0	
2B	Clinic (sf)	1,850	5,205	3,355	Clinic (sf)	1,850	3.60	ITE 630	7	0%	25%	0%	5	0.00	Clinic (sf)	5,205	3.60		19	0%	25%	0%	14	0.00	Clinic (sf)	3,355	9	
2B	Hospital (sf)	0	1,118	1,118	Hospital (sf)	0									Hospital (sf)	1,118									Hospital (sf)	1,118		
2B	Parking (sf)	0	24,316	24,316	Parking (sf)	0									Parking (sf)	24,316									Parking (sf)	24,316		
2B	Residential Subtotal	0	117	117	Residential Subtotal	0			0				0		Residential Subtotal	117			60				41		Residential Subtotal	117	41	
2B	Non-Residentail Subtotal	5,960	36,964	31,004	Non-Residentail Subtotal	5,960			7				5		Non-Residentail Subtotal	36,964			19				14		Non-Residentail Subtotal	31,004	9	
2C	Multi-Family Housing (DU's)	49	119	70	Multi-Family Housing (DU's)	49	0.51	ITE 220	25		15%		21	0.43	Multi-Family Housing (DU's)	119	0.51		61	50%	15%		26	0.22	Multi-Family Housing (DU's)	70	5	
2C	Institute	477,842	772,990	295,148	Institute	477,842			0		0%		0	0.00	Institute	772,990			0		0%		0	0.00	Institute	295,148	0	
2C	University	625	1,450	825	University	625	0.17	ITE 550	106		15%		90	0.14	University	1,450	0.17		247		15%		210	0.14	University	825	120	
2C	Institute			0	Institute				0		0%		0	0.00	Institute				0		0%		0		Institute	0	0	
2C	Residential Subtotal	49	119	70	Residential Subtotal	49			25				21		Residential Subtotal	119			61				26		Residential Subtotal	70	5	
2C	Non-Residentail Subtotal	477,842	772,990	295,148	Non-Residentail Subtotal	477,842			106				90		Non-Residentail Subtotal	772,990			247				210		Non-Residentail Subtotal	295,148	120	
2	Residential Subtotal	49	341	292	Residential Subtotal	49			25				21		Residential Subtotal	341			175				103		Residential Subtotal	292	82	
	Non-Residentail Subtotal	516,802	843,335	326,533	Non-Residentail Subtotal	516,802			232				185		Non-Residentail Subtotal	843,335			386				314		Non-Residentail Subtotal	326,533	130	
3A	Senior Housing (DU's)	0	105	105	Senior Housing (DU's)	0	0.20	ITE 252	0	10%	25%	0%	0	0.00	Senior Housing (DU's)	105	0.20		21	10%	25%	0%	14	0.14	Senior Housing (DU's)	105	14	
3A	Library (sf)	0	8,939	8,939	Library (sf)	0	1.04	ITE 590		0%	25%	0%	0	0.00	Library (sf)	8,939	1.04		9	0%	25%	0%	7		Library (sf)	8,939	7	
3A	Residential Subtotal	0	105	105	Residential Subtotal	0			0				0		Residential Subtotal	105			21				14		Residential Subtotal	105	14	
3A	Non-Residentail Subtotal	0	8,939	8,939	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	8,939			9				7		Non-Residentail Subtotal	8,939	7	
3B	Single Family Housing (DU's)	19	0	-19	Single Family Housing (DU's)	19	0.75	ITE 210	14	10%	25%	0%	10	0.51	Single Family Housing (DU's)	0	0.75		0	10%	25%	0%	0	0.00	Single Family Housing (DU's)	-19	-10	
3B	Multi-Family Housing (DU's)		83	83	Multi-Family Housing (DU's)		0.51	ITE 220	0	10%	25%		0	0.00	Multi-Family Housing (DU's)	83	0.51		42	10%	25%		28	0.34	Multi-Family Housing (DU's)	83	28	
3B	General Office (sf)		31,276	31,276	General Office (sf)		1.56	ITE 710	0		25%		0	0.00	General Office (sf)	31,276	1.56		49	5%	25%		35	1.12	General Office (sf)	31,276	35	
3B	Business Park (sf)		14,216	14,216	Business Park (sf)		1.40	ITE 770	0		25%		0	0.00	Business Park (sf)	14,216	1.40		20	5%	25%		14	1.00	Business Park (sf)	14,216	14	
3B	Medical Office (sf)		2,843	2,843	Medical Office (sf)		2.39	ITE 720	0		25%	10%	0	0.00	Medical Office (sf)	2,843	2.39		7	5%	25%	10%	4	1.58	Medical Office (sf)	2,843	4	
3B	R & D Office (sf)		6,824	6,824	R & D Office (sf)		1.22	ITE 760	0		25%		0	0.00	R & D Office (sf)	6,824	1.22		8	5%	25%		6	0.84	R & D Office (sf)	6,824	6	
3B	Restaurant-High Turnover (sf)		569	569	Restaurant-High Turnover (sf)		10.81	ITE 932	0		25%	20%	0	0.00	Restaurant-High Turnover (sf)	569	10.81		6	5%	25%	20%	3	6.01	Restaurant-High Turnover (sf)	569	3	
3B	Retail (sf)		1,137	1,137	Retail (sf)		0.96	ITE 820	0		25%	50%	0	0.00	Retail (sf)	1,137	0.96		1	5%	25%	50%	0	0.31	Retail (sf)	1,137	0	
3B	Residential Subtotal	19	83	64	Residential Subtotal	19			14				10		Residential Subtotal	83			42				28		Residential Subtotal	64	19	
3B	Non-Residentail Subtotal	0	56,865	56,865	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	56,865			91				63		Non-Residentail Subtotal	56,865	63	
3C	Single Family Housing (DU's)	7	0	-7	Single Family Housing (DU's)	7	0.75	ITE 210	5	10%	15%	0%	4	0.57	Single Family Housing (DU's)	0	0.75		0	10%	15%	0%	0	0.00	Single Family Housing (DU's)	-7	-4	
3C	Multi-Family Housing (DU's)	23	255	232	Multi-Family Housing (DU's)	23	0.51	ITE 220	12	10%	15%		9	0.40	Multi-Family Housing (DU's)	255	0.51		130	10%	15%		99	0.39	Multi-Family Housing (DU's)	232	90	
3C	Pump Station (sf)	8,408		-8,408	Pump Station (sf)	8,408			0		0%		0	0.00	Pump Station (sf)				0		0%		0	0.00	Pump Station (sf)	-8,408	0	
3C	General Office (sf)	8,408	95,186	86,778	General Office (sf)	8,408	1.56	ITE 710	13	5%	15%		10	1.25	General Office (sf)	95,186	1.56		148	5%	15%		120	1.26	General Office (sf)	86,778	109	
3C	Business Park (sf)		43,266	43,266	Business Park (sf)		1.40	ITE 770	0		15%		0	0.00	Business Park (sf)	43,266	1.40		61	5%	15%		49	1.14	Business Park (sf)	43,266	49	
3C	Medical Office (sf)		8,653	8,653	Medical Office (sf)		2.39	ITE 720	0		15%	10%	0	0.00	Medical Office (sf)	8,653	2.39		21	5%	15%	10%	15	1.76	Medical Office (sf)	8,653	15	
3C	R & D Office (sf)		20,768	20,768	R & D Office (sf)		1.22	ITE 760	0		15%		0	0.00	R & D Office (sf)	20,768	1.22		25	5%	15%		20	0.97	R & D Office (sf)	20,768	20	
3C	Restaurant-High Turnover (sf)		1,731	1,731	Restaurant-High Turnover (sf)		10.81	ITE 932	0		15%	20%	0	0.00	Restaurant-High Turnover (sf)	1,731	10.81		19	5%	15%	20%	12	7.09	Restaurant-High Turnover (sf)	1,731	12	
3C	Retail (sf)		3,461	3,461	Retail (sf)		0.96	ITE 820	0		15%	50%	0	0.00	Retail (sf)	3,461	0.96		3	5%	15%	50%	1	0.35	Retail (sf)	3,461	1	
3C	Residential Subtotal	30	255	225	Residential Subtotal	30			17				13		Residential Subtotal	255			130				99		Residential Subtotal	225	86	
3C	Non-Residentail Subtotal	16,816	173,065	156,249	Non-Residentail Subtotal	16,816			13				10		Non-Residentail Subtotal	173,065			277				218		Non-Residentail Subtotal	156,249	207	
3D	Parking (sf)	150,000	351,610	201,610	Parking (sf)	150,000			0		0%		0	0.00	Parking (sf)	351,610			0		0%		0	0.00	Parking (sf)	201,610	0	
3D	Residential Subtotal	0	0	0	Residential Subtotal	0			0				0		Residential Subtotal	0			0				0		Residential Subtotal	0	0	
3D	Non-Residentail Subtotal	150,000	351,610	201,610	Non-Residentail Subtotal	150,000			0				0		Non-Residentail Subtotal	351,610			0				0		Non-Residentail Subtotal	201,610	0	
3E	Elementary School (sf)	86,684	86,684	0	Elementary School (sf)	86,684	5.20	ITE 520	451		15%		383	4.42	Elementary School (sf)	86,684	5.20		451		15%		383	4.42	Elementary School (sf)	0	0	
3E	Multi-Family Housing (DU's)		553	553	Multi-Family Housing (DU's)		0.51	ITE 220	0	10%	15%		0	0.00	Multi-Family Housing (DU's)	553	0.51		282	10%	15%		216	0.39	Multi-Family Housing (DU's)	553	216	
3E	General Office (sf)		158,812	158,812	General Office (sf)		1.56	ITE 710	0		15%		0	0.00	General Office (sf)	158,812	1.56		248	5%	15%		200	1.26	General Office (sf)	158,812	200	
3E	Business Park (sf)		72,187	72,187	Business Park (sf)		1.40	ITE 770	0		15%		0	0.00	Business Park (sf)	72,187	1.40		101	5%	15%		82	1.13	Business Park (sf)	72,187	82	
3E	Medical Office (sf)		14,437	14,437	Medical Office (sf)		2.39	ITE 720	0		15%	10%	0	0.00	Medical Office (sf)	14,437	2.39		35	5%	15%	10%	25	1.76	Medical Office (sf)	14,437	25	
3E	R & D Office (sf)		34,650	34,650	R & D Office (sf)		1.22	ITE 760	0		15%		0	0.00	R & D Office (sf)	34,650	1.22		42	5%	15%		34	0.98	R & D Office (sf)	34,650	34	
3E	Restaurant-High Turnover (sf)		2,888	2,888	Restaurant-High Turnover (sf)		10.81	ITE 932	0		15%	20%	0	0.00	Restaurant-High Turnover (sf)	2,888	10.81		31	5%	15%	20%	20	6.93	Restaurant-High Turnover (sf)	2,888	20	
3E	Retail (sf)		5,775	5,775	Retail (sf)		0.96	ITE 820	0		15%	50%	0	0.00	Retail (sf)	5,775	0.96		6	5%	15%	50%	2	0.42	Retail (sf)	5,775	2	
3E	Residential Subtotal	0	553	553	Residential Subtotal	0			0				0		Residential Subtotal	553			282				216		Residential Subtotal	553	216	
3E	Non-Residentail Subtotal	86,684	375,433	288,749	Non-Residentail Subtotal	86,684			451				383		Non-Residentail Subtotal	375,433			914				747		Non-Residentail Subtotal	288,749	364	

Table A-4 Willowbrook TOD Specific Plan - Trip Generation - AM Peak

Land Uses					Existing Trip Generations										Future Trip Generations										Net Trip Generations			
Group	Land Use	Existing	Future	Net Change	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Net Vehicle Trips	Total Trips
3F	Multi-Family Housing (DU's)	4	145	141	Multi-Family Housing (DU's)	4	0.51	ITE 220	2	10%	15%		2	0.38	Multi-Family Housing (DU's)	145	0.51		74	10%	15%		57	0.39	Multi-Family Housing (DU's)	141	55	
3F	General Office (sf)		54,172	54,172	General Office (sf)		1.56	ITE 710	0		15%		0	0.00	General Office (sf)	54,172	1.56		85	5%	15%		69	1.27	General Office (sf)	54,172	69	
3F	Business Park (sf)		24,624	24,624	Business Park (sf)		1.40	ITE 770	0		15%		0	0.00	Business Park (sf)	24,624	1.40		34	5%	15%		27	1.11	Business Park (sf)	24,624	27	
3F	Medical Office (sf)		4,925	4,925	Medical Office (sf)		2.39	ITE 720	0		15%	10%	0	0.00	Medical Office (sf)	4,925	2.39		12	5%	15%	10%	9	1.77	Medical Office (sf)	4,925	9	
3F	R & D Office (sf)		11,819	11,819	R & D Office (sf)		1.22	ITE 760	0		15%		0	0.00	R & D Office (sf)	11,819	1.22		14	5%	15%		11	0.96	R & D Office (sf)	11,819	11	
3F	Restaurant-High Turnover (sf)		984	984	Restaurant-High Turnover (sf)		10.81	ITE 932	0		15%	20%	0	0.00	Restaurant-High Turnover (sf)	984	10.81		11	5%	15%	20%	7	7.22	Restaurant-High Turnover (sf)	984	7	
3F	Retail (sf)		1,970	1,970	Retail (sf)		0.96	ITE 820	0		15%	50%	0	0.00	Retail (sf)	1,970	0.96		2	5%	15%	50%	1	0.41	Retail (sf)	1,970	1	
3F	Residential Subtotal	4	145	141	Residential Subtotal	4			2				2		Residential Subtotal	145			74				57		Residential Subtotal	141	55	
3F	Non-Residentail Subtotal	0	98,494	98,494	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	98,494			158				124		Non-Residentail Subtotal	98,494	124	
3G	Single Family Housing (DU's)	19	0	-19	Single Family Housing (DU's)	19	0.75	ITE 210	14	10%	15%	0%	11	0.57	Single Family Housing (DU's)	0	0.75		0	10%	15%	0%	0	0.00	Single Family Housing (DU's)	-19	-11	
3G	Multi-Family Housing (DU's)	5	134	129	Multi-Family Housing (DU's)	5	0.51	ITE 220	3	10%	15%		2	0.46	Multi-Family Housing (DU's)	134	0.51		68	10%	15%		52	0.39	Multi-Family Housing (DU's)	129	50	
3G	General Office (sf)		50,255	50,255	General Office (sf)		1.56	ITE 710	0		15%		0	0.00	General Office (sf)	50,255	1.56		78	5%	15%		63	1.25	General Office (sf)	50,255	63	
3G	Business Park (sf)		22,843	22,843	Business Park (sf)		1.40	ITE 770	0		15%		0	0.00	Business Park (sf)	22,843	1.40		32	5%	15%		26	1.13	Business Park (sf)	22,843	26	
3G	Medical Office (sf)		4,569	4,569	Medical Office (sf)		2.39	ITE 720	0		15%	10%	0	0.00	Medical Office (sf)	4,569	2.39		11	5%	15%	10%	8	1.75	Medical Office (sf)	4,569	8	
3G	R & D Office (sf)		10,965	10,965	R & D Office (sf)		1.22	ITE 760	0		15%		0	0.00	R & D Office (sf)	10,965	1.22		13	5%	15%		10	0.96	R & D Office (sf)	10,965	10	
3G	Restaurant-High Turnover (sf)		914	914	Restaurant-High Turnover (sf)		10.81	ITE 932	0		15%	20%	0	0.00	Restaurant-High Turnover (sf)	914	10.81		10	5%	15%	20%	6	7.07	Restaurant-High Turnover (sf)	914	6	
3G	Retail (sf)		1,827	1,827	Retail (sf)		0.96	ITE 820	0		15%	50%			Retail (sf)	1,827	0.96		2	5%	15%	50%	1	0.44	Retail (sf)	1,827	1	
3G	Grocery (sf)	3,359		-3,359	Grocery (sf)	3,359	0.96	ITE 820	3	5%	15%	40%	1	0.43	Grocery (sf)		0.96		0	5%	15%	40%	0	0.00	Grocery (sf)	-3,359	-1	
3G	Residential Subtotal	24	134	110	Residential Subtotal	24			17				13		Residential Subtotal	134			68				52		Residential Subtotal	110	39	
3G	Non-Residentail Subtotal	3,359	91,373	88,014	Non-Residentail Subtotal	3,359			3				1		Non-Residentail Subtotal	91,373			146				115		Non-Residentail Subtotal	88,014	113	
3	Residential Subtotal	77	1,275	1,198	Residential Subtotal	77			51				38		Residentiial Subtotal	1,569			617				466		Residential Subtotal	66,392	-1	
	Non-Residentail Subtotal	256,859	1,155,779	898,920	Non-Residentail Subtotal	256,859			467				395		Non-Residentail Subtotal	1,354,586			1,595				1,273		Non-Residentail Subtotal	1,097,727	404	
4A	Single Family Housing (DU's)		48	48	Single Family Housing (DU's)		0.75	ITE 210	0	10%	25%	0%	0	0.00	Single Family Housing (DU's)	48	0.75		36	10%	25%	0%	24	0.51	Single Family Housing (DU's)	48	24	
4A	Shopping Center (sf)	49,447	40,761	-8,686	Shopping Center (sf)	49,447	0.96	ITE 820	47	5%	15%	50%	19	0.38	Shopping Center (sf)	40,761	0.96		39	5%	15%	40%	19	0.46	Shopping Center (sf)	-8,686	0	
4A	Residential Subtotal	0	48	48	Residential Subtotal	0			0				0		Residential Subtotal	48			36				24		Residential Subtotal	48	24	
4A	Non-Residentail Subtotal	49,447	40,761	-8,686	Non-Residentail Subtotal	49,447			47				19		Non-Residentail Subtotal	40,761			39				19		Non-Residentail Subtotal	-8,686	0	
4B	Shopping Center (sf)	139,839	179,355	39,516	Shopping Center (sf)	139,839	1.37	ITE 820	191	5%	15%	30%	108	0.77	Shopping Center (sf)	179,355	1.24		223	5%	15%	30%	126	0.70	Shopping Center (sf)	39,516	18	
4B	Multi-Family Housing (DU's)		264	264	Multi-Family Housing (DU's)		0.51	ITE 220	0	10%	25%		0	0.00	Multi-Family Housing (DU's)	264	0.51		135	10%	25%		91	0.35	Multi-Family Housing (DU's)	264	91	
4B	Retail (sf)			0	Retail (sf)		0.96	ITE 820	0		15%		0	0.00	Retail (sf)										Retail (sf)		0	
4B	Restaurant-High Turnover (sf)			0	Restaurant-High Turnover (sf)		10.81	ITE 932	0		15%		0	0.00	Restaurant-High Turnover (sf)										Restaurant-High Turnover (sf)		0	
4B	Restaurant-Fast Food (sf)			0	Restaurant-Fast Food (sf)		45.42	ITE 934	0		15%		0	0.00	Restaurant-Fast Food (sf)										Restaurant-Fast Food (sf)		0	
4B	General Office (sf)			0	General Office (sf)		1.56	ITE 710	0		15%		0	0.00	General Office (sf)										General Office (sf)		0	
4B	Residential Subtotal	0	264	264	Residential Subtotal	0			0				0		Residential Subtotal	264			135				91		Residential Subtotal	264	91	
4B	Non-Residentail Subtotal	139,839	179,355	39,516	Non-Residentail Subtotal	139,839			191				108		Non-Residentail Subtotal	179,355			886				126		Non-Residentail Subtotal	39,516	18	
4	Residential Subtotal	0	312	312	Residential Subtotal	0			0				0		Residential Subtotal	390			171				115		Residential Subtotal	312	115	
	Non-Residentail Subtotal	189,286	220,116	30,830	Non-Residentail Subtotal	189,286			238				127		Non-Residentail Subtotal	275,145			925				145		Non-Residentail Subtotal	30,830	18	
5	Single Family Housing (DU's)	5	63	58	Single Family Housing (DU's)	5	0.75	ITE 210	4	0%	25%	0%	3	0.56	Single Family Housing (DU's)	11	0.75		8	0%	25%	0%	6	0.56	Single Family Housing (DU's)	6	3	
5	Multi-Family Housing (DU's)	78	30	-48	Multi-Family Housing (DU's)	78	0.51	ITE 220	40		25%		30	0.38	Multi-Family Housing (DU's)	87	0.51		44		25%		33	0.38	Multi-Family Housing (DU's)	9	3	
5	Church (sf)	1,900	28,328	26,428	Church (sf)	1,900	0.56	ITE 560	1		25%		1	0.39	Church (sf)	28,328	0.56		16		25%		12	0.42	Church (sf)	26,428	11	
5	Residential Subtotal	83	93	10	Residential Subtotal	83			44				33		Residential Subtotal	93			52				39		Residential Subtotal	15	6	
5	Non-Residentail Subtotal	1,900	28,328	26,428	Non-Residentail Subtotal	1,900			1				1		Non-Residentail Subtotal	28,328			16				12		Non-Residentail Subtotal	26,428	11	
6	Single Family Housing (DU's)	5	30	25	Single Family Housing (DU's)	5	0.75	ITE 210	4	0%	15%	0%	3	0.64	Single Family Housing (DU's)	0	0.75		0	0%	15%	0%	0	0.00	Single Family Housing (DU's)	-5	-3	
6	Multi-Family Housing (DU's)	267	248	-19	Multi-Family Housing (DU's)	267	0.51	ITE 220	136		15%		116	0.43	Multi-Family Housing (DU's)	279	0.51		142		15%		121	0.43	Multi-Family Housing (DU's)	12	5	
6	Residential Subtotal	272	278	6	Residential Subtotal	272			140				119		Residential Subtotal	278			142				121		Residential Subtotal	6	2	
6	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0	0	
7	Single Family Housing (DU's)	37	60	23	Single Family Housing (DU's)	37	0.75	ITE 210	28	0%	15%	0%	24	0.64	Single Family Housing (DU's)	0	0.75		0	0%	15%	0%	0	0.00	Single Family Housing (DU's)	-37	-24	
7	Multi-Family Housing (DU's)	33	10	-23	Multi-Family Housing (DU's)	33	0.51	ITE 220	17		15%		14	0.44	Multi-Family Housing (DU's)	70	0.51		36		15%		31	0.44	Multi-Family Housing (DU's)	37	16	
7	Open Space (sf)	16,728	16,728	0	Open Space (sf)	16,728	0.02	ITE 412	0		0%		0	0.00	Open Space (sf)	16,728	0.02		0		0%		0	0.00	Open Space (sf)	0	0	
7	Residential Subtotal	70	70	0	Residential Subtotal	70			45				38		Residential Subtotal	70			36				31		Residential Subtotal	0	-7	
7	Non-Residentail Subtotal	16,728	16,728	0	Non-Residentail Subtotal	16,728			0				0		Non-Residentail Subtotal	16,728			0				0		Non-Residentail Subtotal	0	0	
8	Single Family Housing (DU's)	41	63	22	Single Family Housing (DU's)	41	0.75	ITE 210	31	0%	15%	0%	26	0.64	Single Family Housing (DU's)	64	0.75		48	0%	15%	0%	41	0.64	Single Family Housing (DU's)	23	15	
8	Multi-Family Housing (DU's)	58	39	-19	Multi-Family Housing (DU's)	58	0.51	ITE 220	30		15%		26	0.44	Multi-Family Housing (DU's)	39	0.51		20		15%		17	0.44	Multi-Family Housing (DU's)	-19	-9	
8	Residential Subtotal	99	102	3	Residential Subtotal	99			61				52		Residential Subtotal	102			68				58		Residential Subtotal	3	6	
8	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0	0	
9	Single Family Housing (DU's)	116	63	-53	Single Family Housing (DU's)	116	0.75	ITE 210	87	0%	25%	0%	65	0.56	Single Family Housing (DU's)	121	0.75		91	0%	25%	0%	68	0.56	Single Family Housing (DU's)	5	3	
9	Multi-Family Housing (DU's)	0	57	57	Multi-Family Housing (DU's)	0	0.51	ITE 220	0		25%		0	0.00	Multi-Family Housing (DU's)	0	0.51		0		25%		0	0.00	Multi-Family Housing (DU's)	0	0	
9	Residential Subtotal	116	120	4	Residential Subtotal	116			87				65		Residential Subtotal	120			91				68		Residential Subtotal	4	3	
9	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0	0	

Table A-4 Willowbrook TOD Specific Plan - Trip Generation - AM Peak

Land Uses					Existing Trip Generations									Future Trip Generations								Net Trip Generations			
Group	Land Use	Existing	Future	Net Change	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Net Vehicle Trips	Total Trips
10	Single Family Housing (DU's)	61	91	30	Single Family Housing (DU's)	61	0.75	ITE 210	46	0%	25%	0%	34	0.56	Single Family Housing (DU's)	132	0.75		99	0%	25%	0%	74	0.56	Single Family Housing (DU's)	71	40	
10	Multi-Family Housing (DU's)	68	41	-27	Multi-Family Housing (DU's)	68	0.51	ITE 220	35		25%		26	0.39	Multi-Family Housing (DU's)		0.51		0		25%		0	0.00	Multi-Family Housing (DU's)	-68	-26	
10	Church (sf)	2,112	2,112	0	Church (sf)	2,112	0.56	ITE 560	1		25%		1		Church (sf)	2,112	0.56		1		25%		1		Church (sf)	0	0	
10	Residential Subtotal	129	132	3	Residential Subtotal	129			82				61		Residential Subtotal	132			100				75		Residential Subtotal	3	14	
10	Non-Residentail Subtotal	2,112	2,112	0	Non-Residentail Subtotal	2,112			1				1		Non-Residentail Subtotal	2,112			1				1		Non-Residentail Subtotal	0	0	
11	Single Family Housing (DU's)	37	91	54	Single Family Housing (DU's)	37	0.75	ITE 210	28	0%	25%	0%	21	0.56	Single Family Housing (DU's)	76	0.75		57	0%	25%	0%	43	0.56	Single Family Housing (DU's)	39	22	
11	Multi-Family Housing (DU's)	30	0	-30	Multi-Family Housing (DU's)	30	0.51	ITE 220	15		25%		11	0.38	Multi-Family Housing (DU's)	0	0.51		0		25%		0	0.00	Multi-Family Housing (DU's)	-30	-11	
11	Light Industrial (sf)				Light Industrial (sf)	0	0.92	ITE 110	0		0%		0	0.00	Light Industrial (sf)	0	0.92		0		0%		0	0.00	Light Industrial (sf)		0	
11	Residential Subtotal	67	91	24	Residential Subtotal	67			43				32		Residential Subtotal	91			57				43		Residential Subtotal	9	11	
11	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0	0	
12	General Office (sf)	0	1,658	1,658	General Office (sf)	0	1.56	ITE 710	0	0%	15%		0		General Office (sf)	1,658	1.56		3	5%	15%	0%	2		General Office (sf)	1,658	2	
12	Business Park (sf)	0	19,348	19,348	Business Park (sf)	0	1.40	ITE 770	0	0%	15%		0		Business Park (sf)	19,348	1.40		27	5%	15%	0%	22		Business Park (sf)	19,348	22	
12	Retail (sf)	0	27,641	27,641	Retail (sf)	0	0.96	ITE 820	0	0%	15%		0		Retail (sf)	27,641	0.96		27	5%	15%	50%	11		Retail (sf)	27,641	11	
12	R & D Office (sf)	0	5,528	5,528	R & D Office (sf)	0	1.22	ITE 760	0	0%	15%		0		R & D Office (sf)	5,528	1.22		7	5%	15%	0%	6		R & D Office (sf)	5,528	6	
12	Restaurant-Fast Food (sf)	0	1,106	1,106	Restaurant-Fast Food (sf)	0	45.42	ITE 934	0		15%		0	0.00	Restaurant-Fast Food (sf)	1,106	45.42		50	5%	15%	50%	20	18.25	Restaurant-Fast Food (sf)	1,106	20	
12	Residential Subtotal	0	0	0	Residential Subtotal	0			0				0		Residential Subtotal	0			0				0		Residential Subtotal	0	0	
12	Non-Residentail Subtotal	0	55,281	55,281	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	55,281			114				61		Non-Residentail Subtotal	55,281	61	
13	Single Family Housing (DU's)			0	Single Family Housing (DU's)		0.75	ITE 210	0	0%	15%	0%	0	0.00	Single Family Housing (DU's)		0.75		0	0%	15%	0%	0	0.00	Single Family Housing (DU's)	0	0	
13	Multi-Family Housing (DU's)	6	6	0	Multi-Family Housing (DU's)	6	0.51	ITE 220	3		15%		3	0.43	Multi-Family Housing (DU's)	6	0.51		3		15%		3	0.43	Multi-Family Housing (DU's)	0	0	
13	Children Care (sf)	9,379	9,379	0	Children Care (sf)	9,379	12.18	ITE 565	114		15%	10%	87	9.30	Children Care (sf)	9,379	12.18		114		15%	10%	87	9.30	Children Care (sf)	0	0	
13	Light Industrial (sf)	26,566	26,566	0	Light Industrial (sf)	26,566	0.92	ITE 110	24		0%		24	0.90	Light Industrial (sf)	26,566	0.92		24		0%		24	0.90	Light Industrial (sf)	0	0	
13	General Office (sf)	0	2,386	2,386	General Office (sf)	0	1.56	ITE 710	0	0%	10%		0		General Office (sf)	2,386	1.56		4	5%	10%		3		General Office (sf)	2,386	3	
13	Business Park (sf)	0	27,833	27,833	Business Park (sf)	0	1.40	ITE 770	0	0%	10%		0		Business Park (sf)	27,833	1.40		39	5%	10%		33		Business Park (sf)	27,833	33	
13	Retail (sf)	0	39,761	39,761	Retail (sf)	0	0.96	ITE 820	0	0%	10%		0		Retail (sf)	39,761	0.96		38	5%	10%	50%	16		Retail (sf)	39,761	16	
13	R & D Office (sf)	0	7,952	7,952	R & D Office (sf)	0	1.22	ITE 760	0	0%	10%		0		R & D Office (sf)	7,952	1.22		10	5%	10%		9		R & D Office (sf)	7,952	9	
13	Restaurant-Fast Food (sf)	0	1,590	1,590	Restaurant-Fast Food (sf)	0	45.42	ITE 934	0		10%		0	0.00	Restaurant-Fast Food (sf)	1,590	45.42		72	5%	10%	50%	31	19.36	Restaurant-Fast Food (sf)	1,590	31	
13	Residential Subtotal	6	6	0	Residential Subtotal	6			3				3		Residential Subtotal	6			3				3		Residential Subtotal	0	0	
13	Non-Residentail Subtotal	35,945	115,467	79,522	Non-Residentail Subtotal	35,945			138				111		Non-Residentail Subtotal	115,467			301				204		Non-Residentail Subtotal	79,522	92	
14	Single Family Housing (DU's)			0	Single Family Housing (DU's)		0.75	ITE 210	0	0%	0%	0%	0	0.00	Single Family Housing (DU's)		0.75		0	0%	0%	0%	0	0.00	Single Family Housing (DU's)	0	0	
14	Multi-Family Housing (DU's)			0	Multi-Family Housing (DU's)		0.51	ITE 220	0		0%		0	0.00	Multi-Family Housing (DU's)		0.51		0		0%		0	0.00	Multi-Family Housing (DU's)	0	0	
14	Non-Residential (sf)			0	Non-Residential (sf)	0			0		0%		0	0.00	Non-Residential (sf)	0			0		0%		0	0.00	Non-Residential (sf)	0	0	
14	Residential Subtotal	0	0	0	Residential Subtotal	0			0				0		Residential Subtotal	0			0				0		Residential Subtotal	0	0	
14	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0	0	
Total	Single Family Housing (DU's)	347	609	262	Single Family Housing (DU's)	347	0.75	1,2	260				201	0.58	Single Family Housing (DU's)	609	0.75	1,2	339				256	0.42	Single Family Housing (DU's)	262	114	
	Multi-Family Housing (DU's)	621	2,206	1,585	Multi-Family Housing (DU's)	621	0.51	1,9	318				260	0.42	Multi-Family Housing (DU's)	2,206	0.51	1,9	1,037				773	0.35	Multi-Family Housing (DU's)	1,585	590	
	Senior Housing (DU's)	0	105	105	Senior Housing (DU's)	0	0.20		0				0		Senior Housing (DU's)	105	0.20		21				14		Senior Housing (DU's)	105	14	
	Retail / Medical Office (sf)	0	0	0	Retail / Medical Office (sf)	0			0				0	0.00	Retail / Medical Office (sf)	0			0				0	0.00	Retail / Medical Office (sf)	0	0	
	Hospital / General Office (sf)	0	0	0	Hospital / General Office (sf)	0			0				0	0.00	Hospital / General Office (sf)	0			0				0	0.00	Hospital / General Office (sf)	0	0	
	Clinic	34,850	38,586	3,736	Clinic	34,850	3.60	ITE 630	126				95		Clinic	38,586	3.60		139				104		Clinic	3,736	10	
	Fire Station	4,110	6,325	2,215	Fire Station	4,110			0				0		Fire Station	6,325			0				0		Fire Station	2,215	0	
	Hospital	0	1,118	1,118	Hospital	0			0				0			1,118			0				0		Hospital	1,118	0	
	Library	0	8,939	8,939	Library	0	1.04		0				0		Library	8,939	1.04		9				7		Library	8,939	7	
	Institute	477,842	772,990	295,148	Institute	477,842			0				0		Institute	772,990			0				0		Institute	295,148	0	
	University	625	1,450	825	University	625	0.17	ITE 550	106				90	0.14	Students	1,450	0.17	2	247				210	0.14	Students	825	120	
	General Office (sf)	8,408	393,745	385,337	General Office (sf)	8,408	1.56		13				10		General Office (sf)	393,745	1.56		615				492	1.25	General Office (sf)	385,337	482	
	Business Park (sf)	0	224,317	224,317	Business Park (sf)	0	1.40	1,4	0				0	0.00	Business Park (sf)	224,317	1.40	1,4	314				254	1.13	Business Park (sf)	224,317	254	
	Medical Office (sf)	0	35,427	35,427	Medical Office (sf)	0	2.39	1,11	0				0	0.00	Medical Office (sf)	35,427	2.39	1,11	86				62	1.75	Medical Office (sf)	35,427	62	
	R & D Office (sf)	0	98,506	98,506	R & D Office (sf)	0	1.22		0				0		R & D Office (sf)	98,506	1.22		119				96		R & D Office (sf)	98,506	96	
	Restaurant-High Turnover (sf)	0	7,086	7,086	Restaurant-High Turnover (sf)	0	10.81	1,5	0				0	0.00	Restaurant-High Turnover (sf)	7,086	10.81	1,5	77				49	6.96	Restaurant-High Turnover (sf)	7,086	49	
	Restaurant-Fast Food (sf)	0	2,696	2,696	Restaurant-Fast Food (sf)	0	45.42		0				0		Restaurant-Fast Food (sf)	2,696	45.42		122				51		Restaurant-Fast Food (sf)	2,696	51	
	Grocery (sf)	3,359	0	-3,359	Grocery (sf)	3,359	0.96		3				1		Grocery (sf)	0	0.96		0				0		Grocery (sf)	-3,359	-1	
	Retail (sf)	0	81,572	81,572	Retail (sf)	0	0.96	1,6	0				0	0.00	Retail (sf)	81,572	0.96	1,6	79				33	0.40	Retail (sf)	81,572	33	
	Pump Station (sf)	8,408	0	-8,408	Pump Station (sf)	8,408			0				0		Pump Station (sf)	0			0				0		Pump Station (sf)	-8,408	0	
	Parking (sf)	150,000	375,926	225,926	Parking (sf)	150,000			0				0		Parking (sf)	375,926			0				0		Parking (sf)	225,926	0	
	Elementary School (sf)	86,684	86,684	0	Elementary School (sf)	86,684	5.20		451				383		Elementary School (sf)	86,684	5.20		451				383		Elementary School (sf)	0	0	
	Shopping Center (sf)	189,286	220,116	30,830	Shopping Center (sf)	189,286	0.96		238				127		Shopping Center (sf)	220,116	0.96		262				145		Shopping Center (sf)	30,830	18	
	Church (sf)	4,012	30,440	26,428	Church (sf)	4,012	0.56		2				2		Church (sf)	30,440	0.56		17				13		Church (sf)	26,428	11	
	Open Space (sf)	16,728	16,728	0	Open Space (sf)	16,728			0				0		Open Space (sf)	16,728			0				0		Open Space (sf)	0	0	
	Light Industrial (sf)	26,566	26,566	0	Light Industrial (sf)	26,566	0.92	1,8	24				24	0.90	Light Industrial (sf)	26,566	0.92	1,8	24				24	0.90	Light Industrial (sf)	0	0	
	Children Care (sf)	9,379	9,379	0	Children Care (sf)	9,379	12.18		114				87		Children Care (sf)	9,379	12.18		114				87		Children Care (sf)	0	0	
	Total				Total				1,656				1,280		Total				4,072				3,053		Total		1,908	
	Residential (DU's)	968	2,920	1,952	Residential (DU's)	968			578				460		Residential (DU's)	2,920			1,397				1,044		Residential (DU's)	1,952	718	
	Non-Residential (sf)	1,910,523	4,576,559	2,666,036	Non-Residential (sf)	1,910,523			1,077				820		Non-Residential (sf)	4,576,559			2,675				2,009		Non-Residential (sf)	2,666,036	1,190	

Table A-4 Willowbrook TOD Specific Plan - Trip Generation - AM Peak

Land Uses					Existing Trip Generations									Future Trip Generations									Net Trip Generations			
Group	Land Use	Existing	Future	Net Change	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Net Vehicle Trips	Total Trips
1	Residential Subtotal	0	100	100	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	100	0	0	0	0	0	0	0	0	Residential Subtotal	100	58	
1	Non-Residentail Subtotal	890,891	2,139,413	1,248,522	Non-Residentail Subtotal	890,891	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	2,139,413	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	1,248,522	1231	1,289
2A	Residential Subtotal	0	105	105	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	105	0	0	54	0	0	0	36	0	Residential Subtotal	105	36	
2A	Non-Residentail Subtotal	33,000	33,381	381	Non-Residentail Subtotal	33,000	0	0	119	0	0	0	89	0	Non-Residentail Subtotal	33,381	0	0	120	0	0	0	90	0	Non-Residentail Subtotal	381	1	37
2B	Residential Subtotal	0	117	117	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	117	0	0	60	0	0	0	41	0	Residential Subtotal	117	41	
2B	Non-Residentail Subtotal	5,960	36,964	31,004	Non-Residentail Subtotal	5,960	0	0	7	0	0	0	5	0	Non-Residentail Subtotal	36,964	0	0	19	0	0	0	14	0	Non-Residentail Subtotal	31,004	9	50
2C	Residential Subtotal	49	119	70	Residential Subtotal	49	0	0	25	0	0	0	21	0	Residential Subtotal	119	0	0	61	0	0	0	26	0	Residential Subtotal	70	5	
2C	Non-Residentail Subtotal	477,842	772,990	295,148	Non-Residentail Subtotal	477,842	0	0	106	0	0	0	90	0	Non-Residentail Subtotal	772,990	0	0	247	0	0	0	210	0	Non-Residentail Subtotal	295,148	120	125
3A	Residential Subtotal	0	105	105	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	105	0	0	21	0	0	0	14	0	Residential Subtotal	105	14	
3A	Non-Residentail Subtotal	0	8,939	8,939	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	8,939	0	0	9	0	0	0	7	0	Non-Residentail Subtotal	8,939	7	21
3B	Residential Subtotal	19	83	64	Residential Subtotal	19	0	0	14	0	0	0	10	0	Residential Subtotal	83	0	0	42	0	0	0	28	0	Residential Subtotal	64	19	
3B	Non-Residentail Subtotal	0	56,865	56,865	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	56,865	0	0	91	0	0	0	63	0	Non-Residentail Subtotal	56,865	63	82
3C	Residential Subtotal	30	255	225	Residential Subtotal	30	0	0	17	0	0	0	13	0	Residential Subtotal	255	0	0	130	0	0	0	99	0	Residential Subtotal	225	86	
3C	Non-Residentail Subtotal	16,816	173,065	156,249	Non-Residentail Subtotal	16,816	0	0	13	0	0	0	10	0	Non-Residentail Subtotal	173,065	0	0	277	0	0	0	218	0	Non-Residentail Subtotal	156,249	207	293
3D	Residential Subtotal	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	
3D	Non-Residentail Subtotal	150,000	351,610	201,610	Non-Residentail Subtotal	150,000	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	351,610	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	201,610	0	0
3E	Residential Subtotal	0	553	553	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	553	0	0	282	0	0	0	216	0	Residential Subtotal	553	216	
3E	Non-Residentail Subtotal	86,684	375,433	288,749	Non-Residentail Subtotal	86,684	0	0	451	0	0	0	383	0	Non-Residentail Subtotal	375,433	0	0	914	0	0	0	747	0	Non-Residentail Subtotal	288,749	364	579
3F	Residential Subtotal	4	145	141	Residential Subtotal	4	0	0	2	0	0	0	2	0	Residential Subtotal	145	0	0	74	0	0	0	57	0	Residential Subtotal	141	55	
3F	Non-Residentail Subtotal	0	98,494	98,494	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	98,494	0	0	158	0	0	0	124	0	Non-Residentail Subtotal	98,494	124	179
3G	Residential Subtotal	24	134	110	Residential Subtotal	24	0	0	17	0	0	0	13	0	Residential Subtotal	134	0	0	68	0	0	0	52	0	Residential Subtotal	110	39	
3G	Non-Residentail Subtotal	3,359	91,373	88,014	Non-Residentail Subtotal	3,359	0	0	3	0	0	0	1	0	Non-Residentail Subtotal	91,373	0	0	146	0	0	0	115	0	Non-Residentail Subtotal	88,014	113	152
4A	Residential Subtotal	0	48	48	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	48	0	0	36	0	0	0	24	0	Residential Subtotal	48	24	
4A	Non-Residentail Subtotal	49,447	40,761	-8,686	Non-Residentail Subtotal	49,447	0	0	47	0	0	0	19	0	Non-Residentail Subtotal	40,761	0	0	39	0	0	0	19	0	Non-Residentail Subtotal	-8,686	0	24
4B	Residential Subtotal	0	264	264	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	264	0	0	135	0	0	0	91	0	Residential Subtotal	264	91	
4B	Non-Residentail Subtotal	139,839	179,355	39,516	Non-Residentail Subtotal	139,839	0	0	191	0	0	0	108	0	Non-Residentail Subtotal	179,355	0	0	886	0	0	0	126	0	Non-Residentail Subtotal	39,516	18	109
5	Residential Subtotal	83	93	10	Residential Subtotal	83	0	0	43.75	0	0	0	32.8125	0	Residential Subtotal	93	0	0	52	0	0	0	39	0	Residential Subtotal	15	6	
5	Non-Residentail Subtotal	1,900	28,328	26428	Non-Residentail Subtotal	1,900	0	0	1	0	0	0	0.75	0	Non-Residentail Subtotal	28,328	0	0	16	0	0	0	12	0	Non-Residentail Subtotal	26428	11	18
6	Residential Subtotal	272	278	6	Residential Subtotal	272	0	0	140	0	0	0	119	0	Residential Subtotal	278	0	0	142	0	0	0	121	0	Residential Subtotal	6	2	
6	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	2
7	Residential Subtotal	70	70	0	Residential Subtotal	70	0	0	45	0	0	0	38	0	Residential Subtotal	70	0	0	36	0	0	0	31	0	Residential Subtotal	0	-7	
7	Non-Residentail Subtotal	16,728	16,728	0	Non-Residentail Subtotal	16,728	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	16,728	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	-7
8	Residential Subtotal	99	102	3	Residential Subtotal	99	0	0	61	0	0	0	52	0	Residential Subtotal	102	0	0	68	0	0	0	58	0	Residential Subtotal	3	6	
8	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	6
9	Residential Subtotal	116	120	4	Residential Subtotal	116	0	0	87	0	0	0	65	0	Residential Subtotal	120	0	0	91	0	0	0	68	0	Residential Subtotal	4	3	
9	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	3
10	Residential Subtotal	129	132	3	Residential Subtotal	129	0	0	82	0	0	0	61	0	Residential Subtotal	132	0	0	100	0	0	0	75	0	Residential Subtotal	3	14	
10	Non-Residentail Subtotal	2,112	2,112	0	Non-Residentail Subtotal	2,112	0	0	1	0	0	0	1	0	Non-Residentail Subtotal	2,112	0	0	1	0	0	0	1	0	Non-Residentail Subtotal	0	0	14
11	Residential Subtotal	67	91	24	Residential Subtotal	67	0	0	43	0	0	0	32	0	Residential Subtotal	91	0	0	57	0	0	0	43	0	Residential Subtotal	9	11	
11	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	11
12	Residential Subtotal	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	
12	Non-Residentail Subtotal	0	55,281	55,281	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	55,281	0	0	114	0	0	0	61	0	Non-Residentail Subtotal	55,281	61	61
13	Residential Subtotal	6	6	0	Residential Subtotal	6	0	0	3	0	0	0	3	0	Residential Subtotal	6	0	0	3	0	0	0	3	0	Residential Subtotal	0	0	
13	Non-Residentail Subtotal	35,945	115,467	79,522	Non-Residentail Subtotal	35,945	0	0	138	0	0	0	111	0	Non-Residentail Subtotal	115,467	0	0	301	0	0	0	204	0	Non-Residentail Subtotal	79,522	92	92
14	Residential Subtotal	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	
14	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0
	Total				Total				1,657				1,281		Total				4,850				3,131		Total		3,139	3,139
	Residential (DU's)	968	2,920	1,952	Residential (DU's)	968			579				461		Residential (DU's)	2,920			1,512				1,121		Residential (DU's)	1,952	718	
	Non-Residential (sf)	1,910,523	4,576,559	2,666,036	Non-Residential (sf)	1,910,523			1,077				820		Non-Residential (sf)	4,576,559			3,338				2,009		Non-Residential (sf)	2,666,036	2,421	

Table A-5 Willowbrook TOD Specific Plan - Trip Generation - PM Peak

Land Uses					Existing Trip Generations									Future Trip Generations								Net Trip Generations			
Group	Land Use	Existing	Future	Net Change	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Net Vehicle Trips	Total Trips
1	Single-Family Housing (DU's)	0	100	100	Single-Family Housing (DU's)	0									Single-Family Housing (DU's)	100									Single-Family Housing (DU's)	100	76	
1	Retail / Medical Office (sf)				Retail / Medical Office (sf)										Retail / Medical Office (sf)										Retail / Medical Office (sf)			
1	Hospital / General Office (sf)				Hospital / General Office (sf)										Hospital / General Office (sf)										Hospital / General Office (sf)			
1	Residential Subtotal	0	100	100	Residential Subtotal	0									Residential Subtotal	100									Residential Subtotal	100	76	
1	Non-Residentail Subtotal	890,891	2,139,413	1,248,522	Non-Residentail Subtotal	890,891									Non-Residentail Subtotal	2,139,413									Non-Residentail Subtotal	1,248,522	1,608	
2A	Multi-Family Housing (DU's)	0	105	105	Multi-Family Housing (DU's)	0	0.62		0	10%	25%	0%	0	0.00	Multi-Family Housing (DU's)	105	0.62		65	10%	25%	0%	44	0.42	Multi-Family Housing (DU's)	105	44	
2A	Clinic (sf)	33,000	33,381	381	Clinic (sf)	33,000	5.18		171	0%	25%	0%	128	0.00	Clinic (sf)	33,381	5.18		173	0%	25%	0%	130	0.00	Clinic (sf)	381	2	
2A	Residential Subtotal	0	105	105	Residential Subtotal	0			0				0		Residential Subtotal	105			65				44		Residential Subtotal	105	44	
2A	Non-Residentail Subtotal	33,000	33,381	381	Non-Residentail Subtotal	33,000			171				128		Non-Residentail Subtotal	33,381			173				130		Non-Residentail Subtotal	381	2	
2B	Multi-Family Housing (DU's)	0	117	117	Multi-Family Housing (DU's)	0	0.62		0	10%	25%		0	0.00	Multi-Family Housing (DU's)	117	0.62		73	10%	25%		49	0.42	Multi-Family Housing (DU's)	117	49	
2B	Fire Station (sf)	4,110	6,325	2,215	Fire Station (sf)	4,110				0%	0%	0%	0	0.00	Fire Station (sf)	6,325				0%	0%	0%	0		Fire Station (sf)	2,215	0	
2B	Clinic (sf)	1,850	5,205	3,355	Clinic (sf)	1,850	5.18		10	0%	25%	0%	8	0.00	Clinic (sf)	5,205	5.18		27	0%	25%	0%	20	0.00	Clinic (sf)	3,355	13	
2B	Hospital (sf)	0	1,118	1,118	Hospital (sf)	0									Hospital (sf)	1,118									Hospital (sf)	1,118		
2B	Parking (sf)	0	24,316	24,316	Parking (sf)	0									Parking (sf)	24,316									Parking (sf)	24,316		
2B	Residential Subtotal	0	117	117	Residential Subtotal	0			0				0		Residential Subtotal	117			73				49		Residential Subtotal	117	49	
2B	Non-Residentail Subtotal	5,960	36,964	31,004	Non-Residentail Subtotal	5,960			10				8		Non-Residentail Subtotal	36,964			27				20		Non-Residentail Subtotal	31,004	13	
2C	Multi-Family Housing (DU's)	49	119	70	Multi-Family Housing (DU's)	49	0.62		30		15%		26	0.52	Multi-Family Housing (DU's)	119	0.62		74	50%	15%		31	0.26	Multi-Family Housing (DU's)	70	6	
2C	Institute	477,842	772,990	295,148	Institute	477,842			0		0%		0	0.00	Institute	772,990			0		0%		0	0.00	Institute	295,148	0	
2C	University	625	1,450	825	University	625	0.17		106		15%		90	0.14	University	1,450	0.17		247		15%		210	0.14	University	825	120	
2C	Institute			0	Institute				0		0%		0	0.00	Institute				0		0%		0		Institute	0	0	
2C	Residential Subtotal	49	119	70	Residential Subtotal	49			30				26		Residential Subtotal	119			74				31		Residential Subtotal	70	6	
2C	Non-Residentail Subtotal	477,842	772,990	295,148	Non-Residentail Subtotal	477,842			106				90		Non-Residentail Subtotal	772,990			247				210		Non-Residentail Subtotal	295,148	120	
2	Residential Subtotal	49	341	292	Residential Subtotal	49			30				26		Residential Subtotal	341			212				125		Residential Subtotal	292	99	
	Non-Residentail Subtotal	516,802	843,335	326,533	Non-Residentail Subtotal	516,802			287				226		Non-Residentail Subtotal	843,335			447				360		Non-Residentail Subtotal	326,533	134	
3A	Senior Housing (DU's)	0	105	105	Senior Housing (DU's)	0	0.25		0	10%	25%	0%	0	0.00	Senior Housing (DU's)	105	0.25		26	10%	25%	0%	18	0.17	Senior Housing (DU's)	105	18	
3A	Library (sf)	0	8,939	8,939	Library (sf)	0	7.30		0	0%	25%	0%	0	0.00	Library (sf)	8,939	7.30		65	0%	25%	0%	49		Library (sf)	8,939	49	
3A	Residential Subtotal	0	105	105	Residential Subtotal	0			0				0		Residential Subtotal	105			26				18		Residential Subtotal	105	18	
3A	Non-Residentail Subtotal	0	8,939	8,939	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	8,939			65				49		Non-Residentail Subtotal	8,939	49	
3B	Single Family Housing (DU's)	19	0	-19	Single Family Housing (DU's)	19	1.00		19	10%	25%	0%	13	0.68	Single Family Housing (DU's)	0	1.00		0	10%	25%	0%	0	0.00	Single Family Housing (DU's)	-19	-13	
3B	Multi-Family Housing (DU's)		83	83	Multi-Family Housing (DU's)		0.62		0	10%	25%		0	0.00	Multi-Family Housing (DU's)	83	0.62		51	10%	25%		34	0.41	Multi-Family Housing (DU's)	83	34	
3B	General Office (sf)		31,276	31,276	General Office (sf)		1.49		0		25%		0	0.00	General Office (sf)	31,276	1.49		47	5%	25%		33	1.07	General Office (sf)	31,276	33	
3B	Business Park (sf)		14,216	14,216	Business Park (sf)		1.26		0		25%		0	0.00	Business Park (sf)	14,216	1.26		18	5%	25%		13	0.90	Business Park (sf)	14,216	13	
3B	Medical Office (sf)		2,843	2,843	Medical Office (sf)		3.57		0		25%	10%	0	0.00	Medical Office (sf)	2,843	3.57		10	5%	25%	10%	6	2.26	Medical Office (sf)	2,843	6	
3B	R & D Office (sf)		6,824	6,824	R & D Office (sf)		1.07		0		25%		0	0.00	R & D Office (sf)	6,824	1.07		7	5%	25%		5	0.73	R & D Office (sf)	6,824	5	
3B	Restaurant-High Turnover (sf)		569	569	Restaurant-High Turnover (sf)		9.85		0		25%	20%	0	0.00	Restaurant-High Turnover (sf)	569	9.85		6	5%	25%	20%	3	6.01	Restaurant-High Turnover (sf)	569	3	
3B	Retail (sf)		1,137	1,137	Retail (sf)		3.71		0		25%	50%	0	0.00	Retail (sf)	1,137	3.71		4	5%	25%	50%	1	1.25	Retail (sf)	1,137	1	
3B	Residential Subtotal	19	83	64	Residential Subtotal	19			19				13		Residential Subtotal	83			51				34		Residential Subtotal	64	22	
3B	Non-Residentail Subtotal	0	56,865	56,865	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	56,865			92				63		Non-Residentail Subtotal	56,865	63	
3C	Single Family Housing (DU's)	7	0	-7	Single Family Housing (DU's)	7	1.00		7	10%	15%	0%	5	0.77	Single Family Housing (DU's)	0	1.00		0	10%	15%	0%	0	0.00	Single Family Housing (DU's)	-7	-5	
3C	Multi-Family Housing (DU's)	23	255	232	Multi-Family Housing (DU's)	23	0.62		14	10%	15%		11	0.47	Multi-Family Housing (DU's)	255	0.62		158	10%	15%		121	0.47	Multi-Family Housing (DU's)	232	110	
3C	Pump Station (sf)	8,408		-8,408	Pump Station (sf)	8,408			0		0%		0	0.00	Pump Station (sf)				0		0%		0	0.00	Pump Station (sf)	-8,408	0	
3C	General Office (sf)	8,408	95,186	86,778	General Office (sf)	8,408	1.49		13	5%	15%		10	1.25	General Office (sf)	95,186	1.49		142	5%	15%		115	1.20	General Office (sf)	86,778	104	
3C	Business Park (sf)		43,266	43,266	Business Park (sf)		1.26		0		15%		0	0.00	Business Park (sf)	43,266	1.26		55	5%	15%		44	1.03	Business Park (sf)	43,266	44	
3C	Medical Office (sf)		8,653	8,653	Medical Office (sf)		3.57		0		15%	10%	0	0.00	Medical Office (sf)	8,653	3.57		31	5%	15%	10%	23	2.60	Medical Office (sf)	8,653	23	
3C	R & D Office (sf)		20,768	20,768	R & D Office (sf)		1.07		0		15%		0	0.00	R & D Office (sf)	20,768	1.07		22	5%	15%		18	0.86	R & D Office (sf)	20,768	18	
3C	Restaurant-High Turnover (sf)		1,731	1,731	Restaurant-High Turnover (sf)		9.85		0		15%	20%	0	0.00	Restaurant-High Turnover (sf)	1,731	9.85		17	5%	15%	20%	11	6.34	Restaurant-High Turnover (sf)	1,731	11	
3C	Retail (sf)		3,461	3,461	Retail (sf)		3.71		0		15%	50%	0	0.00	Retail (sf)	3,461	3.71		13	5%	15%	50%	5	1.52	Retail (sf)	3,461	5	
3C	Residential Subtotal	30	255	225	Residential Subtotal	30			21				16		Residential Subtotal	255			158				121		Residential Subtotal	225	105	
3C	Non-Residentail Subtotal	16,816	173,065	156,249	Non-Residentail Sublotal	16,816			13				10		Non-Residentail Subtotal	173,065			280				216		Non-Residentail Subtotal	156,249	205	
3D	Parking (sf)	150,000	351,610	201,610	Parking (sf)	150,000			0		0%		0	0.00	Parking (sf)	351,610			0		0%		0	0.00	Parking (sf)	201,610	0	
3D	Residential Subtotal	0	0	0	Residential Subtotal	0			0				0		Residential Subtotal	0			0				0		Residential Subtotal	0	0	
3D	Non-Residentail Subtotal	150,000	351,610	201,610	Non-Residentail Subtotal	150,000			0				0		Non-Residentail Subtotal	351,610			0				0		Non-Residentail Sublotal	201,610	0	
3E	Elementary School (sf)	86,684	86,684	0	Elementary School (sf)	86,684	1.21		105		15%		89	1.03	Elementary School (sf)	86,684	1.21		105		15%		89	1.03	Elementary School (sf)	0	0	
3E	Multi-Family Housing (DU's)		553	553	Multi-Family Housing (DU's)		0.62		0	10%	15%		0	0.00	Multi-Family Housing (DU's)	553	0.62		343	10%	15%		262	0.47	Multi-Family Housing (DU's)	553	262	
3E	General Office (sf)		158,812	158,812	General Office (sf)		1.49		0		15%		0	0.00	General Office (sf)	158,812	1.49		237	5%	15%		191	1.21	General Office (sf)	158,812	191	
3E	Business Park (sf)		72,187	72,187	Business Park (sf)		1.26		0		15%		0	0.00	Business Park (sf)	72,187	1.26		91	5%	15%		73	1.02	Business Park (sf)	72,187	73	
3E	Medical Office (sf)		14,437	14,437	Medical Office (sf)		3.57		0		15%	10%	0	0.00	Medical Office (sf)	14,437	3.57		52	5%	15%	10%	38	2.62	Medical Office (sf)	14,437	38	
3E	R & D Office (sf)		34,650	34,650	R & D Office (sf)		1.07		0		15%		0	0.00	R & D Office (sf)	34,650	1.07		37	5%	15%		30	0.86	R & D Office (sf)	34,650	30	
3E	Restaurant-High Turnover (sf)		2,888	2,888	Restaurant-High Turnover (sf)		9.85		0		15%	20%	0	0.00	Restaurant-High Turnover (sf)	2,888	9.85		28	5%	15%	20%	18	6.26	Restaurant-High Turnover (sf)	2,888	18	
3E	Retail (sf)		5,775	5,775	Retail (sf)		3.71		0		15%	50%	0	0.00	Retail (sf)	5,775	3.71		21	5%	15%	50%	8	1.47	Retail (sf)	5,775	8	
3E	Residential Subtotal	0	553	553	Residential Subtotal	0			0				0		Residential Subtotal	553			343				262		Residential Subtotal	553	262	
3E	Non-Residentail Subtotal	86,684	375,433	288,749	Non-Residentail Subtotal	86,684			105				89		Non-Residentail Subtotal	375,433			571				448		Non-Residentail Subtotal	288,749	359	

Table A-5 Willowbrook TOD Specific Plan - Trip Generation - PM Peak

Land Uses					Existing Trip Generations									Future Trip Generations								Net Trip Generations			
Group	Land Use	Existing	Future	Net Change	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Net Vehicle Trips	Total Trips
3F	Multi-Family Housing (DU's)	4	145	141	Multi-Family Housing (DU's)	4	0.62		2	10%	15%		2	0.38	Multi-Family Housing (DU's)	145	0.62		90	10%	15%		69	0.47	Multi-Family Housing (DU's)	141	67	
3F	General Office (sf)		54,172	54,172	General Office (sf)		1.49		0		15%		0	0.00	General Office (sf)	54,172	1.49		81	5%	15%		65	1.21	General Office (sf)	54,172	65	
3F	Business Park (sf)		24,624	24,624	Business Park (sf)		1.26		0		15%		0	0.00	Business Park (sf)	24,624	1.26		31	5%	15%		25	1.02	Business Park (sf)	24,624	25	
3F	Medical Office (sf)		4,925	4,925	Medical Office (sf)		3.57		0		15%	10%	0	0.00	Medical Office (sf)	4,925	3.57		18	5%	15%	10%	13	2.66	Medical Office (sf)	4,925	13	
3F	R & D Office (sf)		11,819	11,819	R & D Office (sf)		1.07		0		15%		0	0.00	R & D Office (sf)	11,819	1.07		13	5%	15%		10	0.89	R & D Office (sf)	11,819	10	
3F	Restaurant-High Turnover (sf)		984	984	Restaurant-High Turnover (sf)		9.85		0		15%	20%	0	0.00	Restaurant-High Turnover (sf)	984	9.85		10	5%	15%	20%	6	6.57	Restaurant-High Turnover (sf)	984	6	
3F	Retail (sf)		1,970	1,970	Retail (sf)		3.71		0		15%	50%	0	0.00	Retail (sf)	1,970	3.71		7	5%	15%	50%	3	1.43	Retail (sf)	1,970	3	
3F	Residential Subtotal	4	145	141	Residential Subtotal	4			2				2		Residential Subtotal	145			90				69		Residential Subtotal	141	67	
3F	Non-Residentail Subtotal	0	98,494	98,494	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	98,494			160				123		Non-Residentail Subtotal	98,494	123	
3G	Single Family Housing (DU's)	19	0	-19	Single Family Housing (DU's)	19	1.00		19	10%	15%	0%	15	0.77	Single Family Housing (DU's)	0	1.00		0	10%	15%	0%	0	0.00	Single Family Housing (DU's)	-19	-15	
3G	Multi-Family Housing (DU's)	5	134	129	Multi-Family Housing (DU's)	5	0.62		3	10%	15%		2	0.46	Multi-Family Housing (DU's)	134	0.62		83	10%	15%		63	0.47	Multi-Family Housing (DU's)	129	61	
3G	General Office (sf)		50,255	50,255	General Office (sf)		1.49		0		15%		0	0.00	General Office (sf)	50,255	1.49		75	5%	15%		61	1.21	General Office (sf)	50,255	61	
3G	Business Park (sf)		22,843	22,843	Business Park (sf)		1.26		0		15%		0	0.00	Business Park (sf)	22,843	1.26		29	5%	15%		23	1.03	Business Park (sf)	22,843	23	
3G	Medical Office (sf)		4,569	4,569	Medical Office (sf)		3.57		0		15%	10%	0	0.00	Medical Office (sf)	4,569	3.57		16	5%	15%	10%	12	2.54	Medical Office (sf)	4,569	12	
3G	R & D Office (sf)		10,965	10,965	R & D Office (sf)		1.07		0		15%		0	0.00	R & D Office (sf)	10,965	1.07		12	5%	15%		10	0.88	R & D Office (sf)	10,965	10	
3G	Restaurant-High Turnover (sf)		914	914	Restaurant-High Turnover (sf)		9.85		0		15%	20%	0	0.00	Restaurant-High Turnover (sf)	914	9.85		9	5%	15%	20%	6	6.36	Restaurant-High Turnover (sf)	914	6	
3G	Retail (sf)		1,827	1,827	Retail (sf)		3.71		0		15%	50%			Retail (sf)	1,827	3.71		7	5%	15%	50%	3	1.55	Retail (sf)	1,827	3	
3G	Grocery (sf)	3,359		-3,359	Grocery (sf)	3,359	3.71		12	5%	15%	40%	6	1.73	Grocery (sf)		3.71		0	5%	15%	40%	0	0.00	Grocery (sf)	-3,359	-6	
3G	Residential Subtotal	24	134	110	Residential Subtotal	24			22				17		Residential Subtotal	134			83				63		Residential Subtotal	110	47	
3G	Non-Residentail Subtotal	3,359	91,373	88,014	Non-Residentail Subtotal	3,359			12				6		Non-Residentail Subtotal	91,373			148				114		Non-Residentail Subtotal	88,014	108	
3	Residential Subtotal	77	1,275	1,198	Residential Subtotal	77			64				47		Residential Subtotal	1,569			751				568		Residential Subtotal	1,198	520	
	Non-Residentail Subtotal	256,859	1,155,779	898,920	Non-Residentail Subtotal	256,859			130				106		Non-Residentail Subtotal	1,354,586			1,316				1,012		Non-Residentail Subtotal	697,310	907	
4A	Single Family Housing (DU's)		48	48	Single Family Housing (DU's)		1.00		0	10%	25%	0%	0	0.00	Single Family Housing (DU's)	48	1.00		48	10%	25%	0%	32	0.68	Single Family Housing (DU's)	48	32	
4A	Shopping Center (sf)	49,447	40,761	-8,686	Shopping Center (sf)	49,447	3.71		183	5%	15%	50%	74	1.49	Shopping Center (sf)	40,761	3.71		151	5%	15%	40%	73	1.79	Shopping Center (sf)	-8,686	-1	
4A	Residential Subtotal	0	48	48	Residential Subtotal	0			0				0		Residential Subtotal	48			48				32		Residential Subtotal	48	32	
4A	Non-Residentail Subtotal	49,447	40,761	-8,686	Non-Residentail Subtotal	49,447			183				74		Non-Residentail Subtotal	40,761			151				73		Non-Residentail Subtotal	-8,686	-1	
4B	Shopping Center (sf)	139,839	179,355	39,516	Shopping Center (sf)	139,839	5.36		750	5%	15%	30%	424	3.03	Shopping Center (sf)	179,355	3.71		886	5%	15%	30%	501	2.79	Shopping Center (sf)	39,516	77	
4B	Multi-Family Housing (DU's)		264	264	Multi-Family Housing (DU's)		0.62		0	10%	25%		0	0.00	Multi-Family Housing (DU's)	264	0.62		164	10%	25%		111	0.42	Multi-Family Housing (DU's)	264	111	
4B	Retail (sf)			0	Retail (sf)		3.71		0		15%		0	0.00	Retail (sf)										Retail (sf)		0	
4B	Restaurant-High Turnover (sf)			0	Restaurant-High Turnover (sf)		9.85		0		15%		0	0.00	Restaurant-High Turnover (sf)										Restaurant-High Turnover (sf)		0	
4B	Restaurant-Fast Food (sf)			0	Restaurant-Fast Food (sf)		32.65		0		15%		0	0.00	Restaurant-Fast Food (sf)										Restaurant-Fast Food (sf)		0	
4B	General Office (sf)			0	General Office (sf)		1.49		0		15%		0	0.00	General Office (sf)										General Office (sf)		0	
4B	Residential Subtotal	0	264	264	Residential Subtotal	0			0				0		Residential Subtotal	264			164				111		Residential Subtotal	264	111	
4B	Non-Residentail Subtotal	139,839	179,355	39,516	Non-Residentail Subtotal	139,839			750				424		Non-Residentail Subtotal	179,355			886				501		Non-Residentail Subtotal	39,516	77	
4	Residential Subtotal	0	312	312	Residential Subtotal	0			0				0		Residential Subtotal	390			212				143		Residential Subtotal	312	143	
	Non-Residentail Subtotal	189,286	220,116	30,830	Non-Residentail Subtotal	189,286			933				498		Non-Residentail Subtotal	275,145			1,037				574		Non-Residentail Subtotal	30,830	76	
5	Single Family Housing (DU's)	5	63	58	Single Family Housing (DU's)	5	1.00		5	0%	25%	0%	4	0.75	Single Family Housing (DU's)	11	1.00		11	0%	25%	0%	8	0.75	Single Family Housing (DU's)	6	5	
5	Multi-Family Housing (DU's)	78	30	-48	Multi-Family Housing (DU's)	78	0.62		48		25%		36	0.46	Multi-Family Housing (DU's)	87	0.62		54		25%		41	0.47	Multi-Family Housing (DU's)	9	5	
5	Church (sf)	1,900	28,328	26,428	Church (sf)	1,900	0.55		1		25%		1	0.39	Church (sf)	28,328	0.55		16		25%		12	0.42	Church (sf)	26,428	11	
5	Residential Subtotal	83	93	10	Residential Subtotal	83			53				40		Residential Subtotal	93			65				49		Residential Subtotal	15	9	
5	Non-Residentail Subtotal	1,900	28,328	26,428	Non-Residentail Subtotal	1,900			1				1		Non-Residentail Subtotal	28,328			16				12		Non-Residentail Subtotal	26,428	11	
6	Single Family Housing (DU's)	5	30	25	Single Family Housing (DU's)	5	1.00		5	0%	15%	0%	4	0.85	Single Family Housing (DU's)	0	1.00		0	0%	15%	0%	0	0.00	Single Family Housing (DU's)	-5	-4	
6	Multi-Family Housing (DU's)	267	248	-19	Multi-Family Housing (DU's)	267	0.62		166		15%		141	0.53	Multi-Family Housing (DU's)	279	0.62		173		15%		147	0.53	Multi-Family Housing (DU's)	12	6	
6	Residential Subtotal	272	278	6	Residential Subtotal	272			171				145		Residential Subtotal	278			173				147		Residential Subtotal	6	2	
6	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0	0	
7	Single Family Housing (DU's)	37	60	23	Single Family Housing (DU's)	37	1.00		37	0%	15%	0%	31	0.85	Single Family Housing (DU's)	0	1.00		0	0%	15%	0%	0	0.00	Single Family Housing (DU's)	-37	-31	
7	Multi-Family Housing (DU's)	33	10	-23	Multi-Family Housing (DU's)	33	0.62		20		15%		17	0.52	Multi-Family Housing (DU's)	70	0.62		43		15%		37	0.52	Multi-Family Housing (DU's)	37	20	
7	Open Space (sf)	16,728	16,728	0	Open Space (sf)	16,728	0.09		0		0%		0	0.00	Open Space (sf)	16,728	0.09		0		0%		0	0.00	Open Space (sf)	0	0	
7	Residential Subtotal	70	70	0	Residential Subtotal	70			57				48		Residential Subtotal	70			43				37		Residential Subtotal	0	-12	
7	Non-Residentail Subtotal	16,728	16,728	0	Non-Residentail Subtotal	16,728			0				0		Non-Residentail Subtotal	16,728			0				0		Non-Residentail Subtotal	0	0	
8	Single Family Housing (DU's)	41	63	22	Single Family Housing (DU's)	41	1.00		41	0%	15%	0%	35	0.85	Single Family Housing (DU's)	64	1.00		64	0%	15%	0%	54	0.85	Single Family Housing (DU's)	23	20	
8	Multi-Family Housing (DU's)	58	39	-19	Multi-Family Housing (DU's)	58	0.62		36		15%		31	0.53	Multi-Family Housing (DU's)	39	0.62		24		15%		20	0.52	Multi-Family Housing (DU's)	-19	-10	
8	Residential Subtotal	99	102	3	Residential Subtotal	99			77				65		Residential Subtotal	102			88				75		Residential Subtotal	3	9	
8	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0	0	
9	Single Family Housing (DU's)	116	63	-53	Single Family Housing (DU's)	116	1.00		116	0%	25%	0%	87	0.75	Single Family Housing (DU's)	121	1.00		121	0%	25%	0%	91	0.75	Single Family Housing (DU's)	5	4	
9	Multi-Family Housing (DU's)	0	57	57	Multi-Family Housing (DU's)	0	0.62		0		25%		0	0.00	Multi-Family Housing (DU's)	0	0.62		0		25%		0	0.00	Multi-Family Housing (DU's)	0	0	
9	Residential Subtotal	116	120	4	Residential Subtotal	116			116				87		Residential Subtotal	120			121				91		Residential Subtotal	4	4	
9	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0	0	

Table A-5 Willowbrook TOD Specific Plan - Trip Generation - PM Peak

Land Uses					Existing Trip Generations									Future Trip Generations								Net Trip Generations			
Group	Land Use	Existing	Future	Net Change	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Net Vehicle Trips	Total Trips
10	Single Family Housing (DU's)	61	91	30	Single Family Housing (DU's)	61	1.00		61	0%	25%	0%	46	0.75	Single Family Housing (DU's)	132	1.00		132	0%	25%	0%	99	0.75	Single Family Housing (DU's)	71	53	
10	Multi-Family Housing (DU's)	68	41	-27	Multi-Family Housing (DU's)	68	0.62		42		25%		32	0.46	Multi-Family Housing (DU's)		0.62		0		25%		0	0.00	Multi-Family Housing (DU's)	-68	-32	
10	Church (sf)	2,112	2,112	0	Church (sf)	2,112	0.55		1		25%		1		Church (sf)	2,112	0.55		1		25%		1		Church (sf)	0	0	
10	Residential Subtotal	129	132	3	Residential Subtotal	129			104				78		Residential Subtotal	132			133				100		Residential Subtotal	3	22	
10	Non-Residentail Subtotal	2,112	2,112	0	Non-Residentail Subtotal	2,112			1				1		Non-Residentail Subtotal	2,112			1				1		Non-Residentail Subtotal	0	0	
11	Single Family Housing (DU's)	37	91	54	Single Family Housing (DU's)	37	1.00		37	0%	25%	0%	28	0.75	Single Family Housing (DU's)	76	1.00		76	0%	25%	0%	57	0.75	Single Family Housing (DU's)	39	29	
11	Multi-Family Housing (DU's)	30		-30	Multi-Family Housing (DU's)	30	0.62		19		25%		14	0.48	Multi-Family Housing (DU's)	0	0.62		0		25%		0	0.00	Multi-Family Housing (DU's)	-30	-14	
11	Light Industrial (sf)				Light Industrial (sf)		0.97		0		0%		0	0.00	Light Industrial (sf)		0.97		0		0%		0	0.00	Light Industrial (sf)		0	
11	Residential Subtotal	67	91	24	Residential Subtotal	67			56				42		Residential Subtotal	91			76				57		Residential Subtotal	9	15	
11	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0	0	
12	General Office (sf)	0	1,658	1,658	General Office (sf)	0	1.49		0	0%	15%		0		General Office (sf)	1,658	1.49		2	5%	15%	0%	2		General Office (sf)	1,658	2	
12	Business Park (sf)	0	19,348	19,348	Business Park (sf)	0	1.26		0	0%	15%		0		Business Park (sf)	19,348	1.26		24	5%	15%	0%	19		Business Park (sf)	19,348	19	
12	Retail (sf)	0	27,641	27,641	Retail (sf)	0	3.71		0	0%	15%		0		Retail (sf)	27,641	3.71		103	5%	15%	50%	42		Retail (sf)	27,641	42	
12	R & D Office (sf)	0	5,528	5,528	R & D Office (sf)	0	1.07		0	0%	15%		0		R & D Office (sf)	5,528	1.07		6	5%	15%	0%	5		R & D Office (sf)	5,528	5	
12	Restaurant-Fast Food (sf)	0	1,106	1,106	Restaurant-Fast Food (sf)	0	32.65		0		15%		0	0.00	Restaurant-Fast Food (sf)	1,106	32.65		36	5%	15%	50%	15	13.14	Restaurant-Fast Food (sf)	1,106	15	
12	Residential Subtotal	0	0	0	Residential Subtotal	0			0				0		Residential Subtotal	0			0				0		Residential Subtotal	0	0	
12	Non-Residentail Subtotal	0	55,281	55,281	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	55,281			171				82		Non-Residentail Subtotal	55,281	82	
13	Single Family Housing (DU's)			0	Single Family Housing (DU's)		1.00		0	0%	15%	0%	0	0.00	Single Family Housing (DU's)		1.00		0	0%	15%	0%	0	0.00	Single Family Housing (DU's)	0	0	
13	Multi-Family Housing (DU's)	6	6	0	Multi-Family Housing (DU's)	6	0.62		4		15%		3	0.57	Multi-Family Housing (DU's)	6	0.62		4		15%		3	0.57	Multi-Family Housing (DU's)	0	0	
13	Children Care (sf)	9,379	9,379	0	Children Care (sf)	9,379	12.34		116		15%	10%	89	9.46	Children Care (sf)	9,379	12.34		116		15%	10%	89	9.46	Children Care (sf)	0	0	
13	Light Industrial (sf)	26,566	26,566	0	Light Industrial (sf)	26,566	0.97		26		0%		26	0.98	Light Industrial (sf)	26,566	0.97		26		0%		26	0.98	Light Industrial (sf)	0	0	
13	General Office (sf)	0	2,386	2,386	General Office (sf)	0	1.49		0	0%	10%		0		General Office (sf)	2,386	1.49		4	5%	10%		3		General Office (sf)	2,386	3	
13	Business Park (sf)	0	27,833	27,833	Business Park (sf)	0	1.26		0	0%	10%		0		Business Park (sf)	27,833	1.26		35	5%	10%		30		Business Park (sf)	27,833	30	
13	Retail (sf)	0	39,761	39,761	Retail (sf)	0	3.71		0	0%	10%		0		Retail (sf)	39,761	3.71		148	5%	10%	50%	63		Retail (sf)	39,761	63	
13	R & D Office (sf)	0	7,952	7,952	R & D Office (sf)	0	1.07		0	0%	10%		0		R & D Office (sf)	7,952	1.07		9	5%	10%		8		R & D Office (sf)	7,952	8	
13	Restaurant-Fast Food (sf)	0	1,590	1,590	Restaurant-Fast Food (sf)	0	32.65		0		10%		0	0.00	Restaurant-Fast Food (sf)	1,590	32.65		52	5%	10%	50%	22	13.98	Restaurant-Fast Food (sf)	1,590	22	
13	Residential Subtotal	6	6	0	Residential Subtotal	6			4				3		Residential Subtotal	6			4				3		Residential Subtotal	0	0	
13	Non-Residentail Subtotal	35,945	115,467	79,522	Non-Residentail Subtotal	35,945			142				115		Non-Residentail Subtotal	115,467			390				241		Non-Residentail Subtotal	79,522	127	
14	Single Family Housing (DU's)			0	Single Family Housing (DU's)		1.00		0	0%	0%	0%	0	0.00	Single Family Housing (DU's)		1.00		0	0%	0%	0%	0	0.00	Single Family Housing (DU's)	0	0	
14	Multi-Family Housing (DU's)			0	Multi-Family Housing (DU's)		0.62		0		0%		0	0.00	Multi-Family Housing (DU's)		0.62		0		0%		0	0.00	Multi-Family Housing (DU's)	0	0	
14	Non-Residential (sf)			0	Non-Residential (sf)				0		0%		0	0.00	Non-Residential (sf)				0		0%		0	0.00	Non-Residential (sf)	0	0	
14	Residential Subtotal	0	0	0	Residential Subtotal	0			0				0		Residential Subtotal	0			0				0		Residential Subtotal	0	0	
14	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0			0				0		Non-Residentail Subtotal	0	0	
Total	Single Family Housing (DU's)	347	609	262	Single Family Housing (DU's)	347	1.00	1,2	347				268	0.77	Single Family Housing (DU's)	609	1.00	1,2	452				342	0.56	Single Family Housing (DU's)	262	150	
	Multi-Family Housing (DU's)	621	2,206	1,585	Multi-Family Housing (DU's)	621	0.62	1,9	384				314	0.51	Multi-Family Housing (DU's)	2,206	0.62	1,9	1,261				940	0.43	Multi-Family Housing (DU's)	1,585	719	
	Senior Housing (DU's)	0	105	105	Senior Housing (DU's)	0	0.25		0				0		Senior Housing (DU's)	105	0.25		26				18		Senior Housing (DU's)	105	18	
	Retail / Medical Office (sf)	0	0	0	Retail / Medical Office (sf)	0			0				0	0.00	Retail / Medical Office (sf)	0			0				0		Retail / Medical Office (sf)	0	0	
	Hospital / General Office (sf)	0	0	0	Hospital / General Office (sf)	0			0				0	0.00	Hospital / General Office (sf)	0			0				0		Hospital / General Office (sf)	0	0	
	Clinic	34,850	38,586	3,736	Clinic	34,850	5.18		181				136		Clinic	38,586	5.18		200				150		Clinic	3,736	14	
	Hospital	0	1,118	1,118	Hospital	0			0						Hospital	1,118			0						Hospital	1,118	0	
	Fire Station	4,110	6,325	2,215	Fire Station	4,110			0				0		Fire Station	6,325			0				0		Fire Station	2,215	0	
	Library	0	8,939	8,939	Library	0	7.30		0				0		Library	8,939	7.30		65				49		Library	8,939	49	
	Institute	477,842	772,990	295,148	Institute	477,842			0				0		Institute	772,990			0				0		Institute	295,148	0	
	University	625	1,450	825	University	625	0.17		106				90	0.14	University	1,450	0.17	2	247				210	0.14	University	825	120	
	General Office (sf)	8,408	393,745	385,337	General Office (sf)	8,408	1.49		13				10		General Office (sf)	393,745	1.49		588				471	1.20	General Office (sf)	385,337	460	
	Business Park (sf)	0	224,317	224,317	Business Park (sf)	0	1.26	1,4	0				0	0.00	Business Park (sf)	224,317	1.26	1,4	283				228	1.02	Business Park (sf)	224,317	228	
	Medical Office (sf)	0	35,427	35,427	Medical Office (sf)	0	3.57	1,11	0				0	0.00	Medical Office (sf)	35,427	3.57	1,11	127				91	2.58	Medical Office (sf)	35,427	91	
	R & D Office (sf)	0	98,506	98,506	R & D Office (sf)	0	1.07		0				0		R & D Office (sf)	98,506	1.07		106				85		R & D Office (sf)	98,506	85	
	Restaurant-High Turnover (sf)	0	7,086	7,086	Restaurant-High Turnover (sf)	0	9.85	1,5	0				0	0.00	Restaurant-High Turnover (sf)	7,086	9.85	1,5	70				45	6.32	Restaurant-High Turnover (sf)	7,086	45	
	Restaurant-Fast Food (sf)	0	2,696	2,696	Restaurant-Fast Food (sf)	0	32.65		0				0		Restaurant-Fast Food (sf)	2,696	32.65		88				37		Restaurant-Fast Food (sf)	2,696	37	
	Grocery (sf)	3,359	0	-3,359	Grocery (sf)	3,359	3.71		12				6		Grocery (sf)	0	3.71		0				0		Grocery (sf)	-3,359	-6	
	Retail (sf)	0	81,572	81,572	Retail (sf)	0	3.71	1,6	0				0	0.00	Retail (sf)	81,572	3.71	1,6	303				126	1.54	Retail (sf)	81,572	126	
	Pump Station (sf)	8,408	0	-8,408	Pump Station (sf)	8,408			0				0		Pump Station (sf)	0			0				0		Pump Station (sf)	-8,408	0	
	Parking (sf)	150,000	375,926	225,926	Parking (sf)	150,000			0				0		Parking (sf)	375,926			0				0		Parking (sf)	225,926	0	
	Elementary School (sf)	86,684	86,684	0	Elementary School (sf)	86,684	1.21		105				89		Elementary School (sf)	86,684	1.21		105				89		Elementary School (sf)	0	0	
	Shopping Center (sf)	189,286	220,116	30,830	Shopping Center (sf)	189,286	3.71		933				498		Shopping Center (sf)	220,116	3.71		1,037				574		Shopping Center (sf)	30,830	76	
	Church (sf)	4,012	30,440	26,428	Church (sf)	4,012	0.55		2				2		Church (sf)	30,440	0.55		17				13		Church (sf)	26,428	11	
	Open Space (sf)	16,728	16,728	0	Open Space (sf)	16,728			0				0		Open Space (sf)	16,728			0				0		Open Space (sf)	0	0	
	Light Industrial (sf)	26,566	26,566	0	Light Industrial (sf)	26,566	0.97	1,8	26				26	0.98	Light Industrial (sf)	26,566	0.97	1,8	26				26	0.98	Light Industrial (sf)	0	0	
	Children Care (sf)	9,379	9,379	0	Children Care (sf)	9,379	12.34		116				89		Children Care (sf)	9,379	12.34		116				89		Children Care (sf)	0	0	
	Total				Total				2,225				1,527		Total				5,117				3,582		Total		2,224	
	Residential (DU's)	968	2,920	1,952	Residential (DU's)	968			731				581		Residential (DU's)	2,920			1,739				1,299		Residential (DU's)	1,952	887	
	Non-Residential (sf)	1,910,523	4,576,559	2,666,036	Non-Residential (sf)	1,910,523			1,494				945		Non-Residential (sf)	4,576,559			3,378				2,282		Non-Residential (sf)	2,666,036	1,337	

Table A-5 Willowbrook TOD Specific Plan - Trip Generation - PM Peak

Land Uses					Existing Trip Generations									Future Trip Generations									Net Trip Generations			
Group	Land Use	Existing	Future	Net Change	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Trip Rates	Foot - notes	Base Vehicle Trips	% Project Internal/ Walk	% Transit	% Pass-By	Net Vehicle Trips	Net Trip Rate	Land Use	Quantity	Net Vehicle Trips	Total Trips
1	Residential Subtotal	0	100	100	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	100	0	0	0	0	0	0	0	0	Residential Subtotal	100	76	
1	Non-Residentail Subtotal	890,891	2,139,413	1,248,522	Non-Residentail Subtotal	890,891	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	2,139,413	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	1,248,522	1,608	1,684
2A	Residential Subtotal	0	105	105	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	105	0	0	65	0	0	0	44	0	Residential Subtotal	105	44	
2A	Non-Residentail Subtotal	33,000	33,381	381	Non-Residentail Subtotal	33,000	0	0	171	0	0	0	128	0	Non-Residentail Subtotal	33,381	0	0	173	0	0	0	130	0	Non-Residentail Subtotal	381	2	45
2B	Residential Subtotal	0	117	117	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	117	0	0	73	0	0	0	49	0	Residential Subtotal	117	49	
2B	Non-Residentail Subtotal	5,960	36,964	31,004	Non-Residentail Subtotal	5,960	0	0	10	0	0	0	8	0	Non-Residentail Subtotal	36,964	0	0	27	0	0	0	20	0	Non-Residentail Subtotal	31,004	13	62
2C	Residential Subtotal	49	119	70	Residential Subtotal	49	0	0	30	0	0	0	26	0	Residential Subtotal	119	0	0	74	0	0	0	31	0	Residential Subtotal	70	6	
2C	Non-Residentail Subtotal	477,842	772,990	295,148	Non-Residentail Subtotal	477,842	0	0	106	0	0	0	90	0	Non-Residentail Subtotal	772,990	0	0	247	0	0	0	210	0	Non-Residentail Subtotal	295,148	120	126
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3A	Non-Residentail Subtotal	0	8,939	8,939	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	8,939	0	0	65	0	0	0	49	0	Non-Residentail Subtotal	8,939	49	66
3B	Residential Subtotal	19	83	64	Residential Subtotal	19	0	0	19	0	0	0	13	0	Residential Subtotal	83	0	0	51	0	0	0	34	0	Residential Subtotal	64	22	
3B	Non-Residentail Subtotal	0	56,865	56,865	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	56,865	0	0	92	0	0	0	63	0	Non-Residentail Subtotal	56,865	63	84
3C	Residential Subtotal	30	255	225	Residential Subtotal	30	0	0	21	0	0	0	16	0	Residential Subtotal	255	0	0	158	0	0	0	121	0	Residential Subtotal	225	105	
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3D	Residential Subtotal	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	
3D	Non-Residentail Subtotal	150,000	351,610	201,610	Non-Residentail Subtotal	150,000	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	351,610	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	201,610	0	0
3E	Residential Subtotal	0	553	553	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	553	0	0	343	0	0	0	262	0	Residential Subtotal	553	262	
3E	Non-Residentail Subtotal	86,684	375,433	288,749	Non-Residentail Subtotal	86,684	0	0	105	0	0	0	89	0	Non-Residentail Subtotal	375,433	0	0	571	0	0	0	448	0	Non-Residentail Subtotal	288,749	359	621
3F	Residential Subtotal	4	145	141	Residential Subtotal	4	0	0	2	0	0	0	2	0	Residential Subtotal	145	0	0	90	0	0	0	69	0	Residential Subtotal	141	67	
3F	Non-Residentail Subtotal	0	98,494	98,494	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	98,494	0	0	160	0	0	0	123	0	Non-Residentail Subtotal	98,494	123	191
3G	Residential Subtotal	24	134	110	Residential Subtotal	24	0	0	22	0	0	0	17	0	Residential Subtotal	134	0	0	83	0	0	0	63	0	Residential Subtotal	110	47	
3G	Non-Residentail Subtotal	3,359	91,373	88,014	Non-Residentail Subtotal	3,359	0	0	12	0	0	0	6	0	Non-Residentail Subtotal	91,373	0	0	148	0	0	0	114	0	Non-Residentail Subtotal	88,014	108	155
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6	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	2
7	Residential Subtotal	70	70	0	Residential Subtotal	70	0	0	57	0	0	0	48	0	Residential Subtotal	70	0	0	43	0	0	0	37	0	Residential Subtotal	0	-12	
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8	Residential Subtotal	99	102	3	Residential Subtotal	99	0	0	77	0	0	0	65	0	Residential Subtotal	102	0	0	88	0	0	0	75	0	Residential Subtotal	3	9	
8	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	9
9	Residential Subtotal	116	120	4	Residential Subtotal	116	0	0	116	0	0	0	87	0	Residential Subtotal	120	0	0	121	0	0	0	91	0	Residential Subtotal	4	4	
9	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	4
10	Residential Subtotal	129	132	3	Residential Subtotal	129	0	0	104	0	0	0	78	0	Residential Subtotal	132	0	0	133	0	0	0	100	0	Residential Subtotal	3	22	
10	Non-Residentail Subtotal	2,112	2,112	0	Non-Residentail Subtotal	2,112	0	0	1	0	0	0	1	0	Non-Residentail Subtotal	2,112	0	0	1	0	0	0	1	0	Non-Residentail Subtotal	0	0	22
11	Residential Subtotal	67	91	24	Residential Subtotal	67	0	0	56	0	0	0	42	0	Residential Subtotal	91	0	0	76	0	0	0	57	0	Residential Subtotal	9	15	
11	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	15
12	Residential Subtotal	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	
12	Non-Residentail Subtotal	0	55,281	55,281	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	55,281	0	0	171	0	0	0	82	0	Non-Residentail Subtotal	55,281	82	82
13	Residential Subtotal	6	6	0	Residential Subtotal	6	0	0	4	0	0	0	3	0	Residential Subtotal	6	0	0	4	0	0	0	3	0	Residential Subtotal	0	0	
13	Non-Residentail Subtotal	35,945	115,467	79,522	Non-Residentail Subtotal	35,945	0	0	142	0	0	0	115	0	Non-Residentail Subtotal	115,467	0	0	390	0	0	0	241	0	Non-Residentail Subtotal	79,522	127	127
14	Residential Subtotal	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	0	0	0	0	0	0	0	Residential Subtotal	0	0	
14	Non-Residentail Subtotal	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0	0	0	0	0	0	0	Non-Residentail Subtotal	0	0	0
	Total				Total				2,226				1,528		Total				5,256				3,676		Total		3,832	3,832
	Residential (DU's)	968	2,920	1,952	Residential (DU's)	968			732				582		Residential (DU's)	2,920			1,878				1,393		Residential (DU's)	1,952	887	
	Non-Residential (sf)	1,910,523	4,576,559	2,666,036	Non-Residential (sf)	1,910,523			1,494				945		Non-Residential (sf)	4,576,559			3,378				2,282		Non-Residential (sf)	2,666,036	2,945	

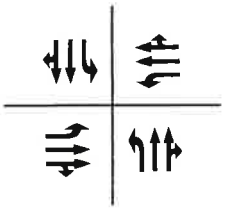
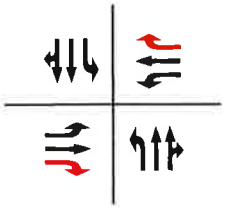
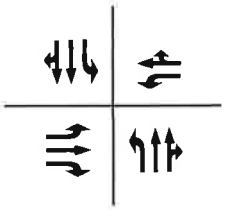
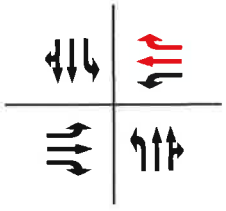
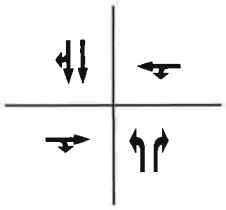
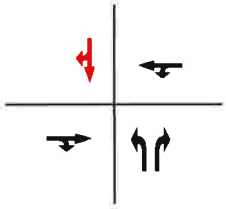
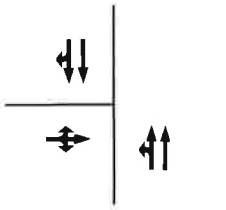
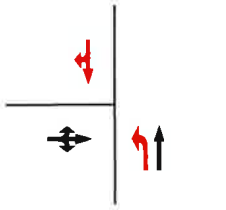
Table A-6. Transit Trips Generated by The Project

3/2/2017

Land Use	Base (Unadjusted) [1] Vehicle Trips		Person Trips [2]		% By Transit [3]		Transit Trips					
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour			PM Peak Hour		
							Total	In	Out	Total	In	Out
Martin Luther King Jr. Medical Campus												
Single Family Housing	51	67	71	94	15%	15%	11	3	8	14	9	5
MLK Medical Campus	1,501	1,993	2,101	2,790	15%	15%	315	215	100	419	152	267
Charles R. Drew University												
Multi-Family Housing	6	7	8	10	15%	15%	1	0	1	1	1	0
University Students	141	141	197	197	15%	15%	30	23	7	30	10	20
Other Specific Plan Land Uses												
Single Family Housing	79	105	111	147	15-25%	15-25%	32	8	24	43	27	16
Multi-Family Housing	714	870	1,000	1,218	15-25%	15-25%	180	37	143	220	145	75
Senior Housing	19	23	27	32	25%	25%	7	2	5	8	4	4
General Office	572	546	801	764	15-25%	15-25%	126	111	15	121	21	100
Business Park	298	269	417	377	10-25%	10-25%	63	53	10	57	15	42
Medical Office	82	121	115	169	15-25%	15-25%	18	15	3	27	8	19
R & D Office	113	101	158	141	10-25%	10-25%	24	18	6	21	2	19
Restaurant-High Turnover	73	67	102	94	15-25%	15-25%	16	9	7	14	9	5
Restaurant-Fast Food	116	84	162	118	10-15%	10-15%	20	10	10	14	8	6
Retail	75	288	105	403	10-25%	10-25%	13	8	5	51	26	25
Elementary School	0	0	0	0	15%	15%	0	0	0	0	0	0
Shopping Center	22	99	31	139	15%	15%	5	3	2	21	10	11
Other/Miscellaneous/Parking	34	88	48	123	15-25%	15-25%	12	6	6	33	15	18
Open Space	0	0	0	0	0%	0%	0	0	0	0	0	0
Light Industrial	0	0	0	0	0%	0%	0	0	0	0	0	0
Children Care	0	0	0	0	15%	15%	0	0	0	0	0	0
	0											
Total	3,896	4,869	5,454	6,816	0-25%	0-25%	873	521	352	1,094	462	632

Appendix B

Intersection Configurations

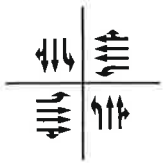
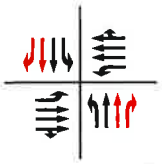
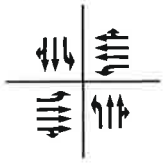
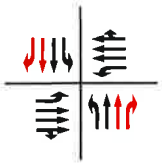
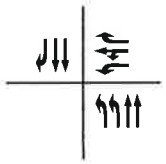
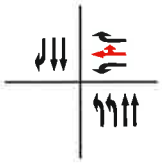
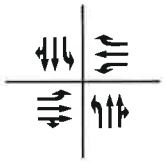
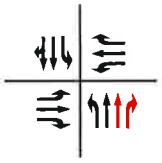
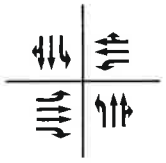
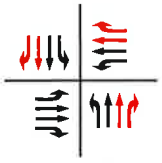
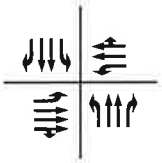
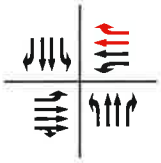
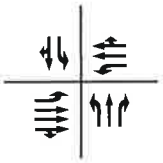
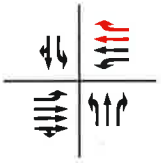
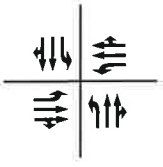
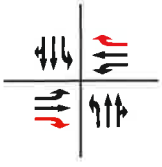
Intersection	Existing Configuration	Specific Plan
19. Compton Ave. & 120th St.		
29. Wilmington Ave. & 120th St. West		
34. Willowbrook W. Ave. & 119th St.		
40. Mona Blvd. & 119th St.		

11/7/16

Figure B-1
Intersection Configurations Changed in Specific Plan

Willowbrook TOD Specific Plan EIR Traffic Study

The **Mobility** Group
Transportation Strategies & Solutions

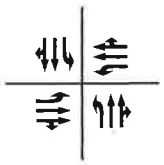
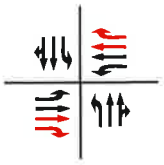
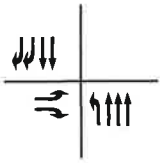
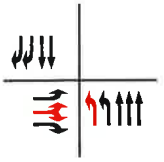
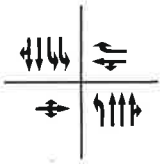
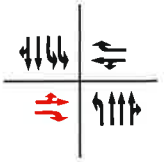
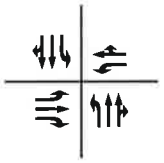
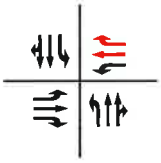
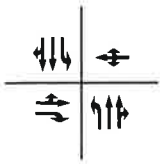
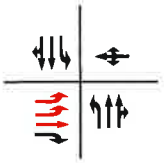
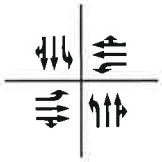
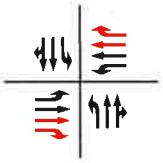
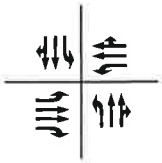
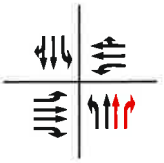
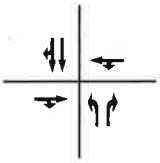
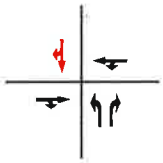
Intersection	Existing Configuration	Specific Plan	Mitigation
3. Avalon Blvd. & El Segundo Bl.		Same as Existing	
4. Avalon Blvd. & Rosecrans Ave.		Same as Existing	
7. Central Ave. & 105 Fwy Ramps WB		Same as Existing	
9. Central Ave. & 120th St.		Same as Existing	
10. Central Ave. & El Segundo Bl.		Same as Existing	
11. Central Ave. & Rosecrans Ave.		Same as Existing	
17. Compton Ave. & Imperial Hwy.		Same as Existing	
19. Compton Ave. & 120th St.			Same as Specific Plan

5/4/17

Figure B-2
Intersection Configurations - Mitigation

The **Mobility** Group
Transportation Strategies & Solutions

Willowbrook TOD Specific Plan EIR Traffic Study

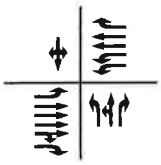
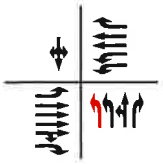
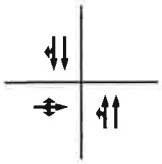
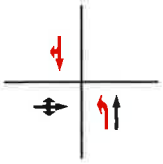
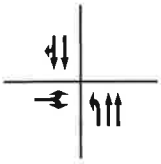
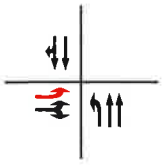
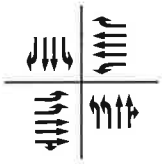
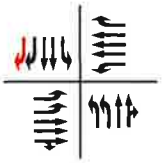
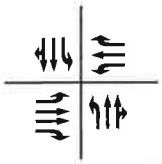
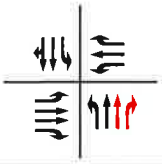
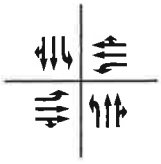
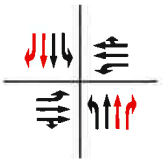
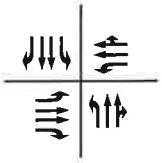
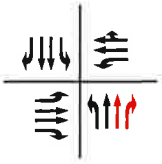
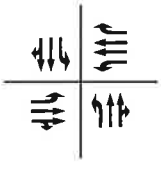
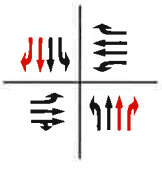
Intersection	Existing Configuration	Specific Plan	Mitigation
21. Compton Ave. & El Segundo Bl.		Same as Existing	
27. Wilmington Ave. & 105 Fwy Ramps EB		Same as Existing	
28. Wilmington Ave. & 118th St.		Same as Existing	
29. Wilmington Ave. & 120th St. (West)			Same as Specific Plan
30. Wilmington Ave. & 120th St. (East)		Same as Existing	
32. Wilmington Ave. & El Segundo Bl.		Same as Existing	
33. Wilmington Ave. & Rosecrans Ave.		Same as Existing	
34. Willowbrook Ave. SB & 119th St.			Same as Specific Plan

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Figure B-2 Cont.
Intersection Configurations - Mitigation

The **Mobility** Group
Transportation Strategies & Solutions

Willowbrook TOD Specific Plan EIR Traffic Study

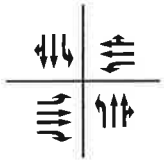
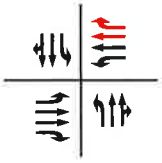
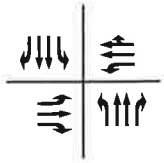
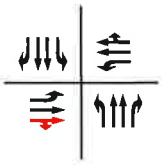
Intersection	Existing Configuration	Specific Plan	Mitigation
36. 105 Fwy Ramps & Imperial Hwy.		Same as Existing	
40. Mona Blvd. & 119th St.			Same as Specific Plan
43. Alameda St. & 103rd St.		Same as Existing	
45. Alameda St. & Imperial Hwy		Same as Existing	
46. Alameda St. & El Segundo Blvd.		Same as Existing	
54. State St. & Imperial Hwy.		Same as Existing	
57. Central Ave. & Compton Blvd.		Same as Existing	
60. Central Ave. & Alondra Blvd.		Same as Existing	

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Figure B-2 cont.
Intersection Configurations - Mitigation

The **Mobility** Group
Transportation Strategies & Solutions

Willowbrook TOD Specific Plan EIR Traffic Study

Intersection	Existing Configuration	Specific Plan	Mitigation
61. Wilmington Ave. & Alondra Blvd.		Same as Existing	
63. Wilmington Ave. & Walnut St.		Same as Existing	

5/4/17

Figure B-2 cont.
Intersection Configurations - Mitigation

The **Mobility** Group
Transportation Strategies & Solutions

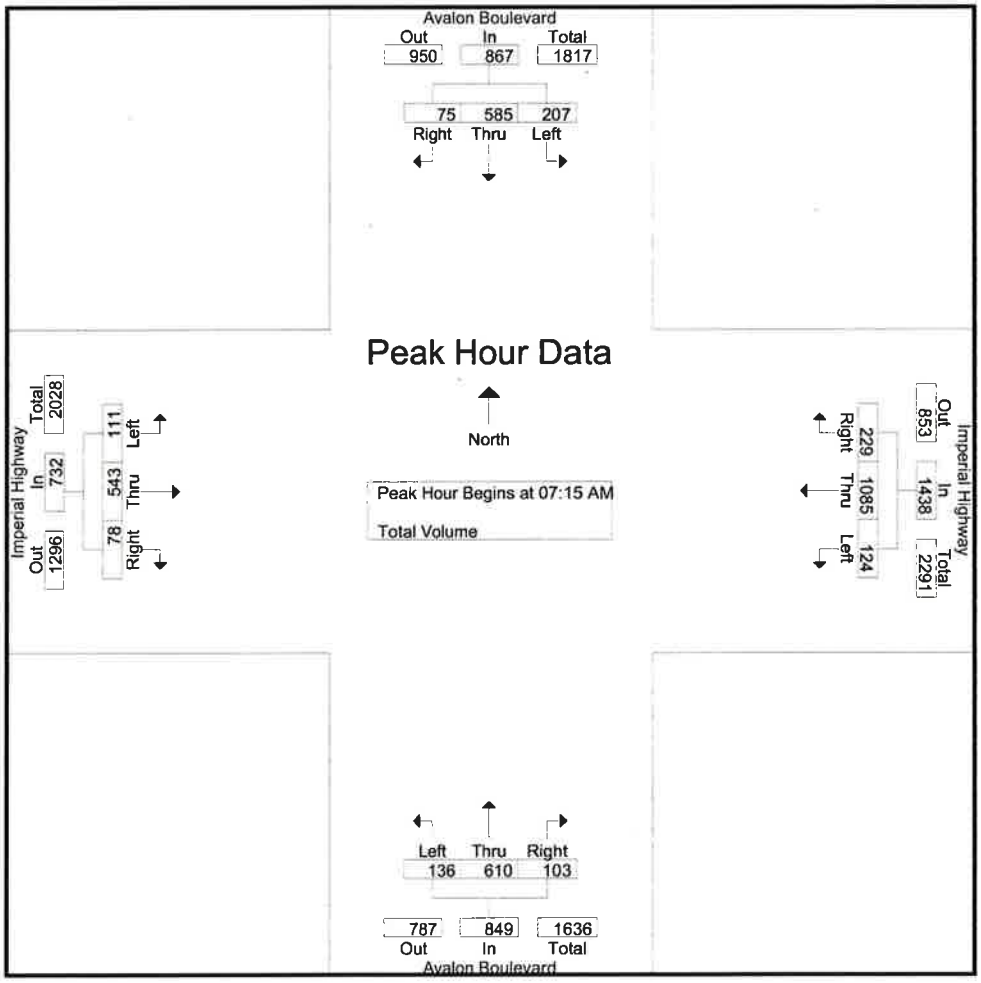
Appendix C

Traffic Count Data

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of Los Angeles
N/S: Avalon Boulevard
E/W: Imperial Highway
Weather: Clear

File Name : LACAVIMAM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



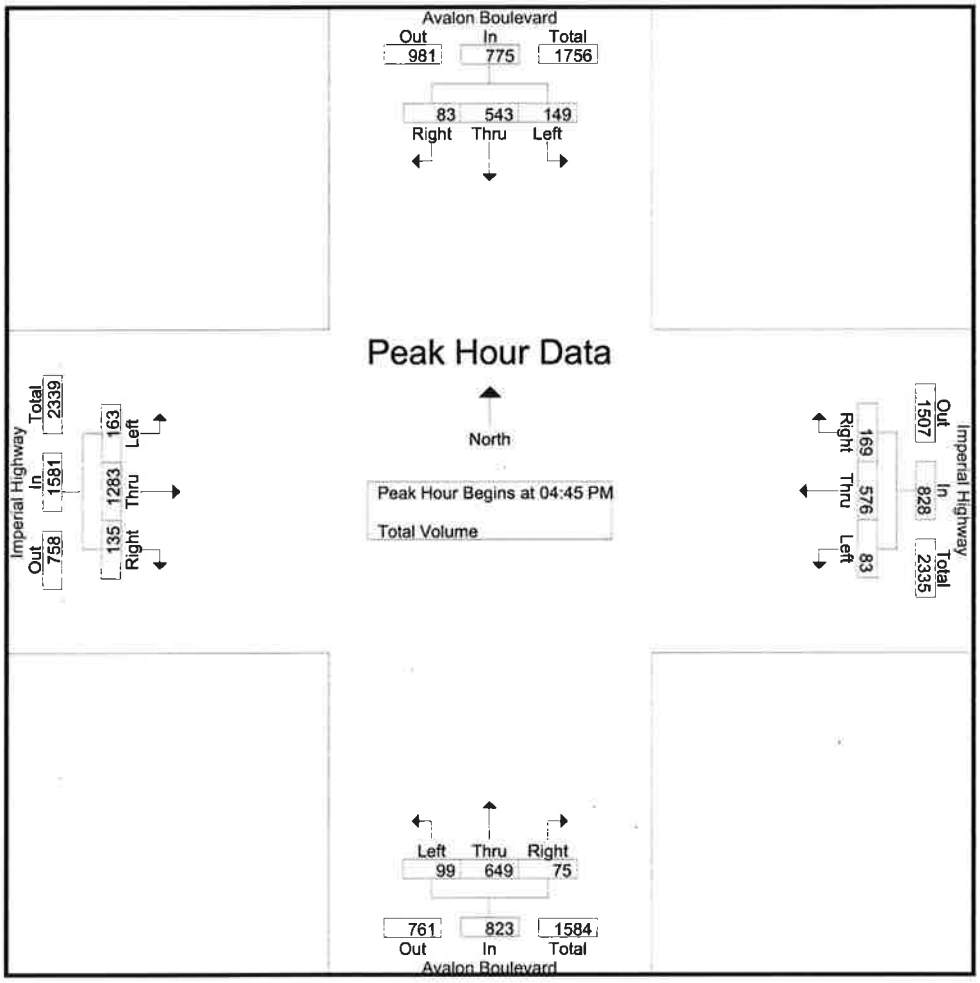
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	48	125	16	189	26	266	50	342	25	146	18	189	20	111	17	148
+15 mins.	51	142	15	208	34	**288**	**61**	**383**	30	**163**	22	215	28	139	16	183
+30 mins.	**57**	**179**	19	**255**	**39**	262	61	362	32	156	**39**	**227**	**41**	**148**	**27**	**216**
+45 mins.	51	139	**25**	215	25	269	57	351	**49**	145	24	218	22	145	18	185
Total Volume	207	585	75	867	124	1085	229	1438	136	610	103	849	111	543	78	732
% App. Total	23.9	67.5	8.7		8.6	75.5	15.9		16	71.8	12.1		15.2	74.2	10.7	
PHF	.908	.817	.750	.850	.795	.942	.939	.939	.694	.936	.660	.935	.677	.917	.722	.847

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of Los Angeles
N/S: Avalon Boulevard
E/W: Imperial Highway
Weather: Clear

File Name : LACAVIMPM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



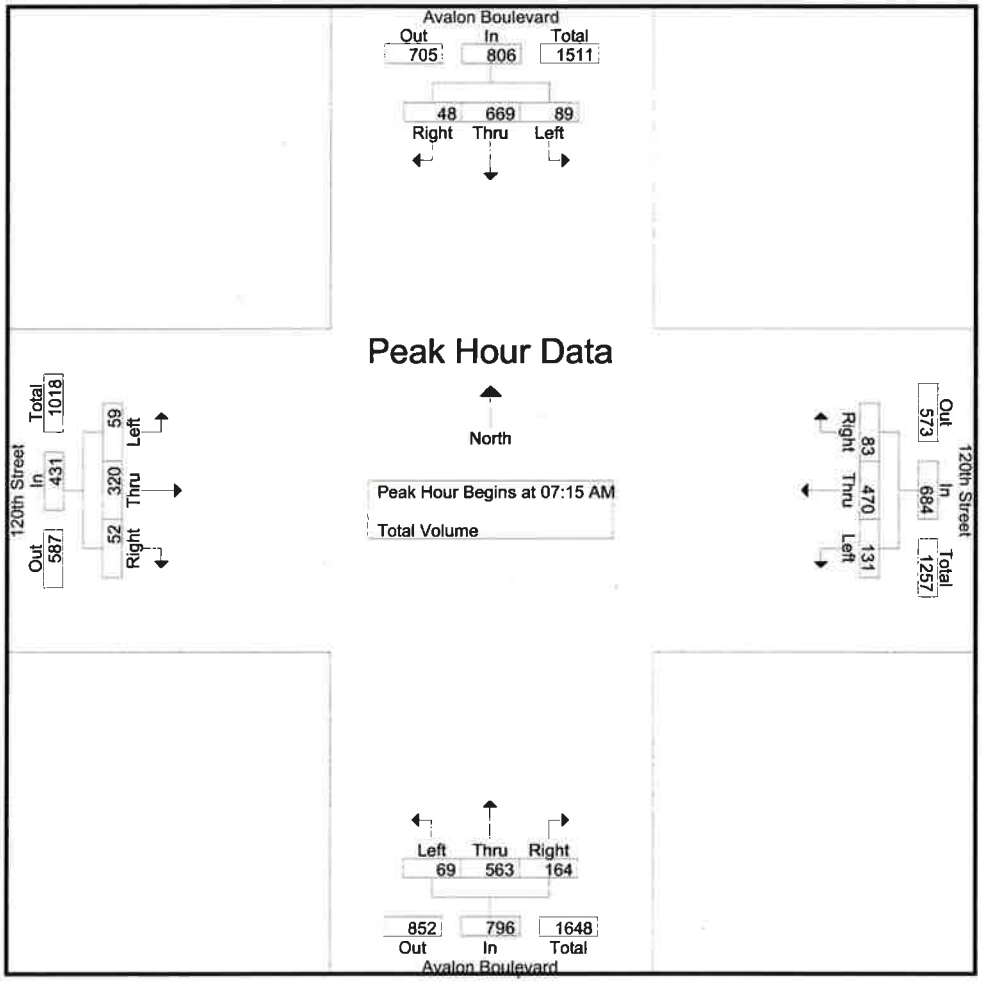
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				05:00 PM				04:45 PM			
+0 mins.	**46**	123	15	184	**23**	**158**	30	211	23	157	**25**	205	**46**	**333**	31	**410**
+15 mins.	38	130	21	189	22	135	46	203	28	167	11	206	46	311	35	392
+30 mins.	31	**154**	21	**206**	17	147	41	205	**29**	166	25	**220**	38	312	27	377
+45 mins.	39	138	**26**	203	20	151	**50**	**221**	21	**171**	14	206	33	327	**42**	402
Total Volume	154	545	83	782	82	591	167	840	101	661	75	837	163	1283	135	1581
% App. Total	19.7	69.7	10.6		9.8	70.4	19.9		12.1	79	9		10.3	81.2	8.5	
PHF	.837	.885	.798	.949	.891	.935	.835	.950	.871	.966	.750	.951	.886	.963	.804	.964

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of Los Angeles
N/S: Avalon Boulevard
E/W: 120th Street
Weather: Clear

File Name : LACAV120AM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



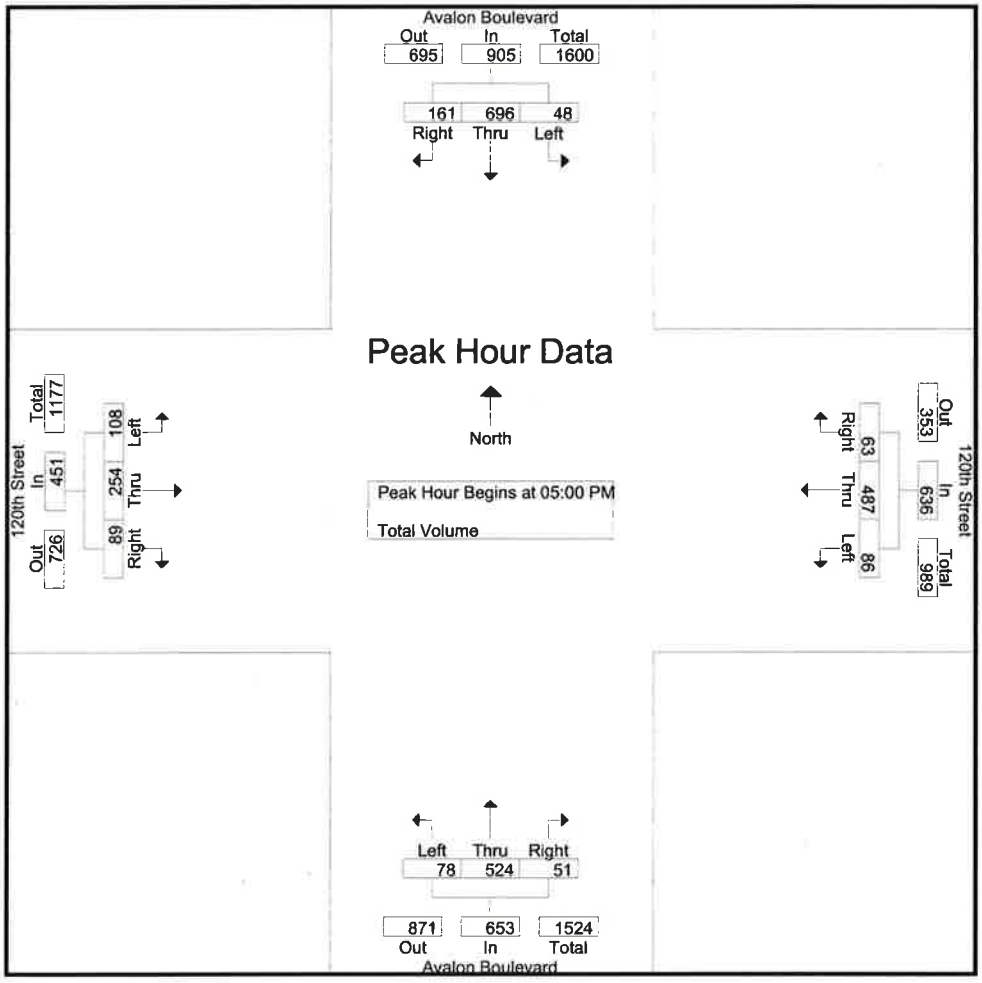
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	11	149	7	167	30	99	21	150	7	136	26	169	8	73	5	86
+15 mins.	18	174	**18**	210	25	128	19	172	18	**147**	46	211	14	85	10	109
+30 mins.	**33**	**181**	13	**227**	34	**133**	21	**188**	21	147	**59**	**227**	14	**95**	**21**	**130**
+45 mins.	27	165	10	202	**42**	110	**22**	174	**23**	133	33	189	**23**	67	16	106
Total Volume	89	669	48	806	131	470	83	684	69	563	164	796	59	320	52	431
% App. Total	11	83	6		19.2	68.7	12.1		8.7	70.7	20.6		13.7	74.2	12.1	
PHF	.674	.924	.667	.888	.780	.883	.943	.910	.750	.957	.695	.877	.641	.842	.619	.829

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County of Los Angeles
N/S: Avalon Boulevard
E/W: 120th Street
Weather: Clear

File Name : LACAV120PM
Site Code : 12815514
Start Date : 9/23/2015
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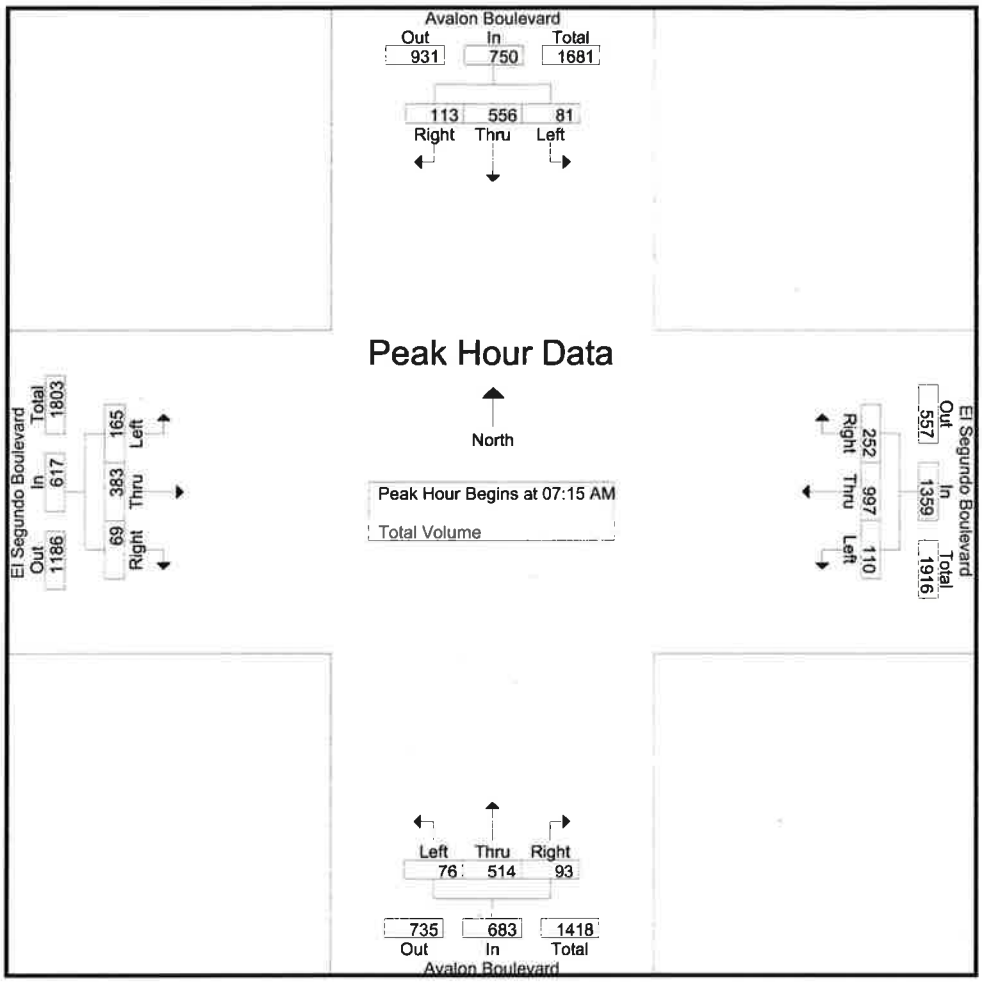
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:15 PM				05:00 PM				05:00 PM			
+0 mins.	18	166	38	222	17	121	15	153	14	133	8	155	23	**80**	22	**125**
+15 mins.	**19**	179	43	**241**	19	118	14	151	20	123	4	147	25	61	**24**	110
+30 mins.	16	161	**51**	228	**24**	**136**	18	178	21	117	**23**	161	28	65	21	114
+45 mins.	14	**187**	37	238	24	135	**21**	**180**	**23**	**151**	16	**190**	**32**	48	22	102
Total Volume	67	693	169	929	84	510	68	662	78	524	51	653	108	254	89	451
% App. Total	7.2	74.6	18.2		12.7	77	10.3		11.9	80.2	7.8		23.9	56.3	19.7	
PHF	.882	.926	.828	.964	.875	.938	.810	.919	.848	.868	.554	.859	.844	.794	.927	.902

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County of Los Angeles
N/S: Avalon Boulevard
E/W: El Segundo Boulevard
Weather: Clear

File Name : CLAAVELAM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



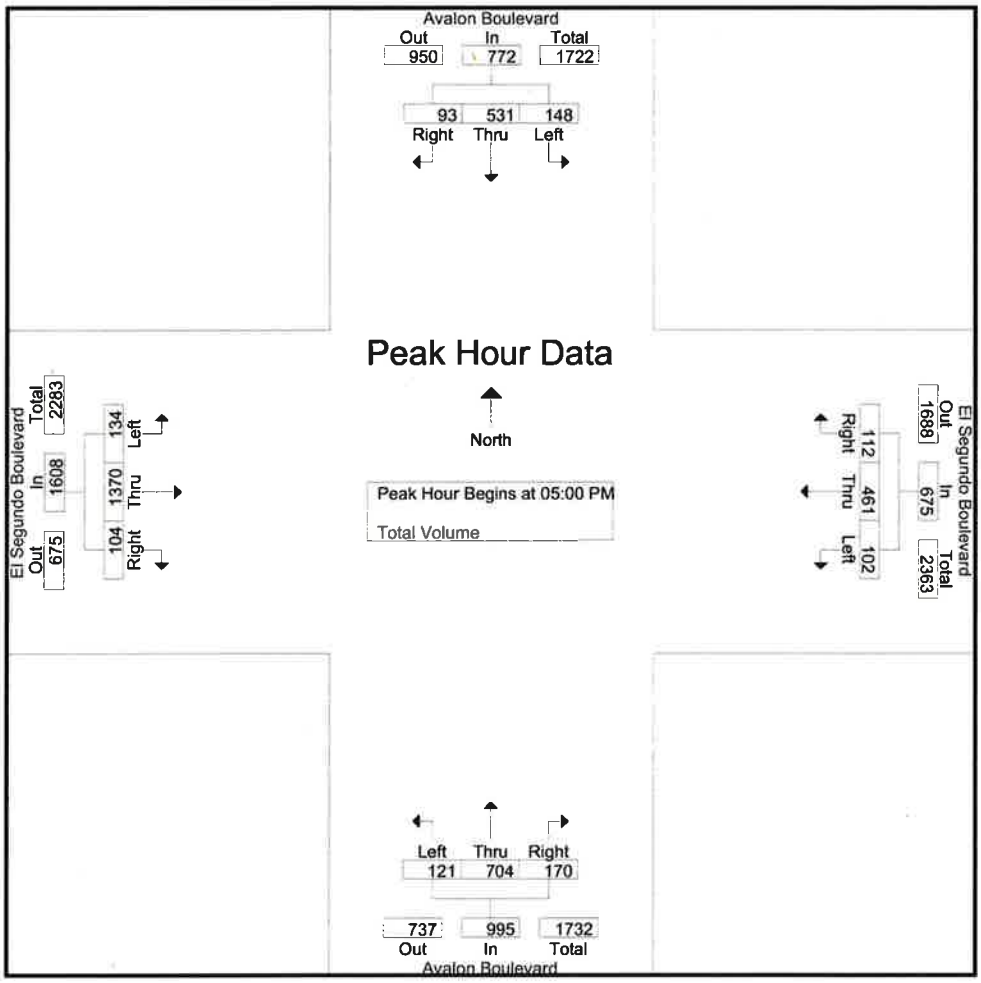
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:00 AM				07:30 AM			
+0 mins.	10	122	28	160	16	258	44	318	**22**	132	**25**	179	43	83	15	141
+15 mins.	17	128	**29**	174	28	**274**	61	**363**	19	124	23	166	**47**	**134**	18	**199**
+30 mins.	24	**155**	28	207	31	199	**94**	324	18	141	23	182	44	103	**22**	169
+45 mins.	**30**	151	28	**209**	**35**	266	53	354	18	**153**	19	**190**	13	110	18	141
Total Volume	81	556	113	750	110	997	252	1359	77	550	90	717	147	430	73	650
% App. Total	10.8	74.1	15.1		8.1	73.4	18.5		10.7	76.7	12.6		22.6	66.2	11.2	
PHF	.675	.897	.974	.897	.786	.910	.670	.936	.875	.899	.900	.943	.782	.802	.830	.817

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County of Los Angeles
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Weather: Clear

File Name : CLAAVELPM
Site Code : 12815514
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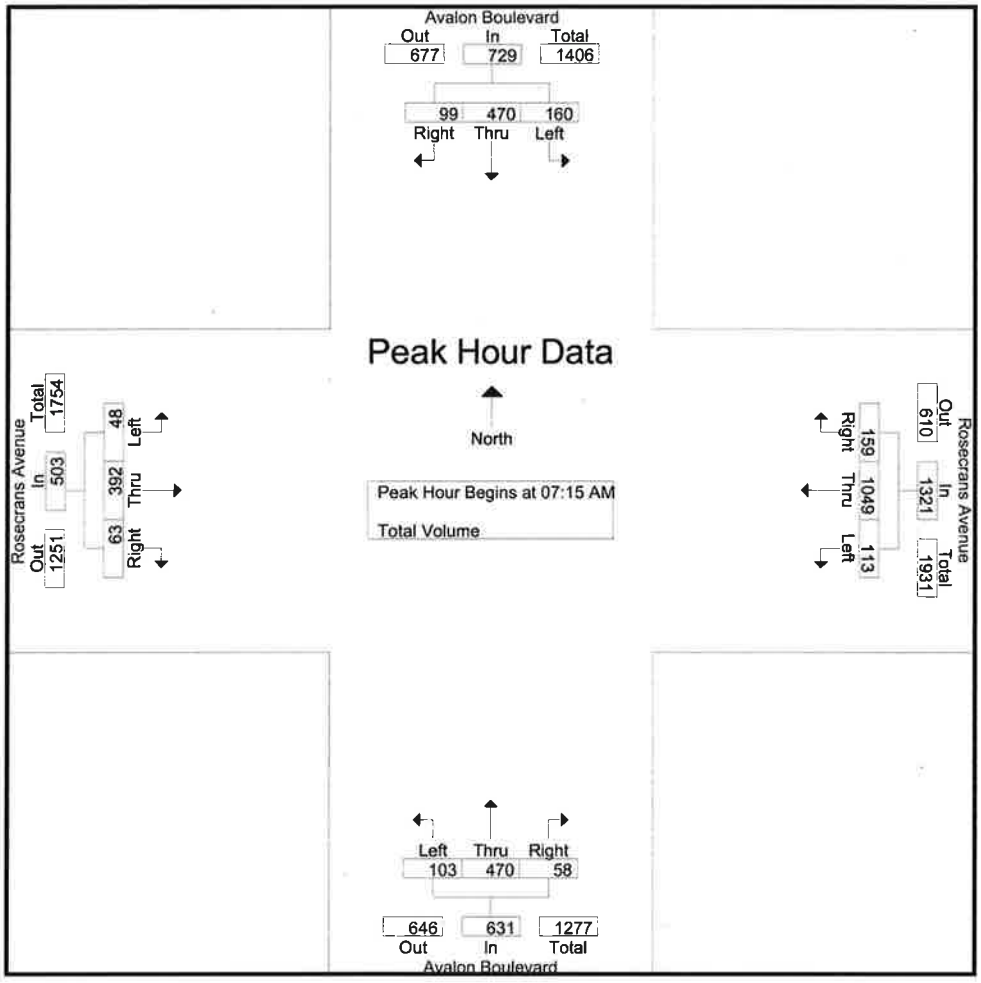
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				04:45 PM				04:45 PM			
+0 mins.	37	**143**	17	197	18	100	31	149	30	**197**	27	254	31	335	**34**	400
+15 mins.	33	118	10	161	16	123	**36**	175	**35**	161	41	237	**35**	351	19	405
+30 mins.	**40**	134	**35**	**209**	29	**149**	25	**203**	28	184	**50**	**262**	31	**358**	30	**419**
+45 mins.	38	136	31	205	**30**	143	28	201	30	183	38	251	31	327	26	384
Total Volume	148	531	93	772	93	515	120	728	123	725	156	1004	128	1371	109	1608
% App. Total	19.2	68.8	12		12.8	70.7	16.5		12.3	72.2	15.5		8	85.3	6.8	
PHF	.925	.928	.664	.923	.775	.864	.833	.897	.879	.920	.780	.958	.914	.957	.801	.959

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Weather: Clear

File Name : CLAAVROAM
Site Code : 12815514
Start Date : 9/23/2015
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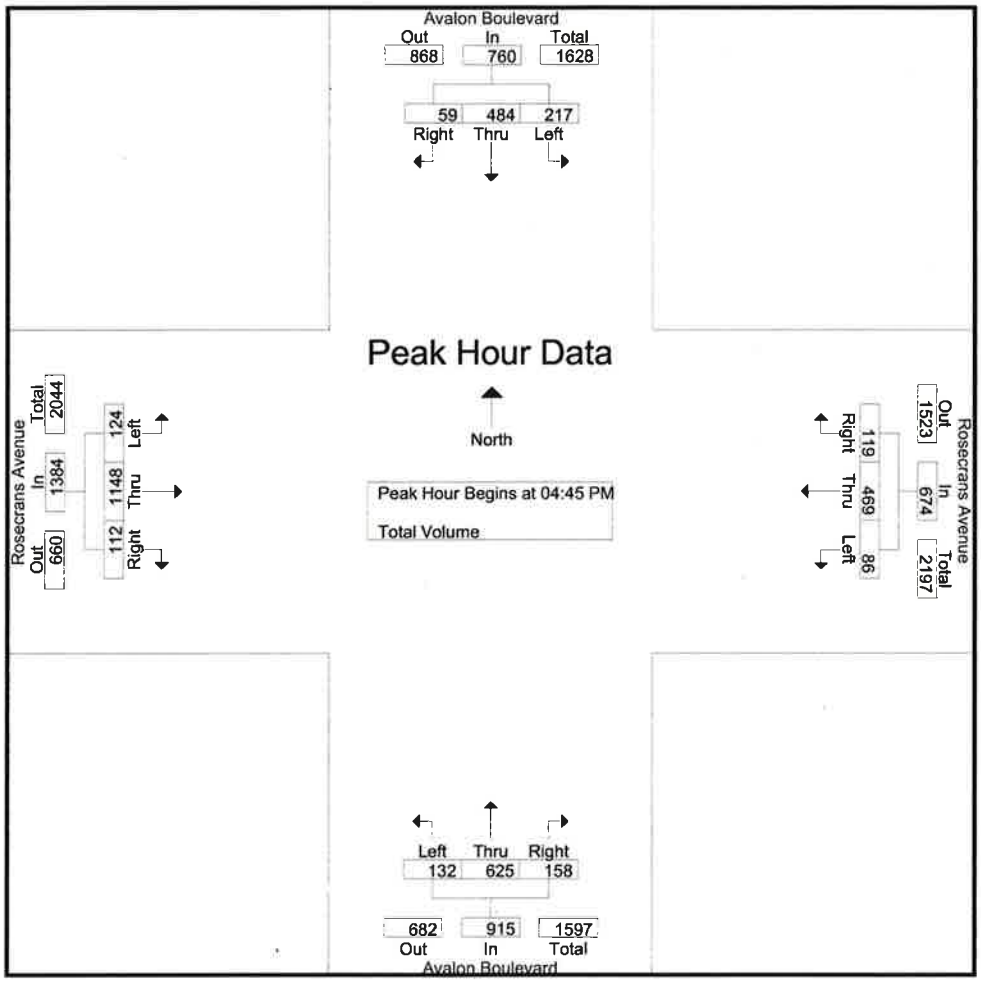
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				07:45 AM			
+0 mins.	22	96	**28**	146	25	**309**	33	**367**	23	**133**	8	164	12	**114**	14	**140**
+15 mins.	37	119	25	181	24	263	36	323	17	109	11	137	13	96	**21**	130
+30 mins.	**55**	**128**	26	**209**	**32**	244	40	316	**32**	117	**26**	**175**	10	92	18	120
+45 mins.	46	127	20	193	32	233	**50**	315	26	111	21	158	**14**	90	17	121
Total Volume	160	470	99	729	113	1049	159	1321	98	470	66	634	49	392	70	511
% App. Total	21.9	64.5	13.6		8.6	79.4	12		15.5	74.1	10.4		9.6	76.7	13.7	
PHF	.727	.918	.884	.872	.883	.849	.795	.900	.766	.883	.635	.906	.875	.860	.833	.913

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County of Los Angeles
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Weather: Clear

File Name : CLAAVROPM
Site Code : 12815514
Start Date : 9/23/2015
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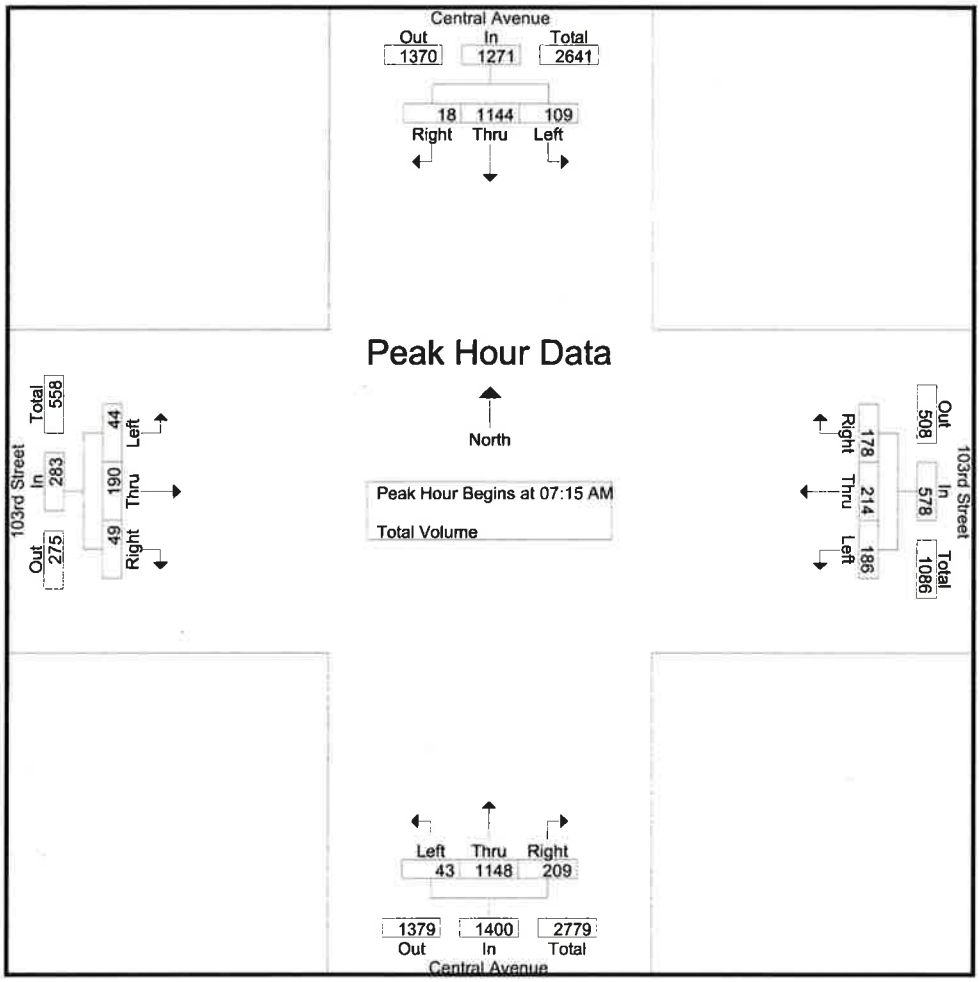
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:30 PM				04:45 PM			
+0 mins.	58	114	**21**	193	**29**	120	**40**	189	33	**158**	43	234	33	275	26	334
+15 mins.	53	119	9	181	21	**132**	37	**190**	27	157	32	216	**35**	299	28	362
+30 mins.	58	**126**	18	**202**	28	119	30	177	**44**	155	37	**236**	32	258	**31**	321
+45 mins.	**62**	114	16	192	23	122	27	172	27	150	**56**	233	24	**316**	27	**367**
Total Volume	231	473	64	768	101	493	134	728	131	620	168	919	124	1148	112	1384
% App. Total	30.1	61.6	8.3		13.9	67.7	18.4		14.3	67.5	18.3		9	82.9	8.1	
PHF	.931	.938	.762	.950	.871	.934	.838	.958	.744	.981	.750	.974	.886	.908	.903	.943

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County of Los Angeles
N/S: Central Avenue
E/W: 103rd Street
Weather: Clear

File Name : LACCE103AM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



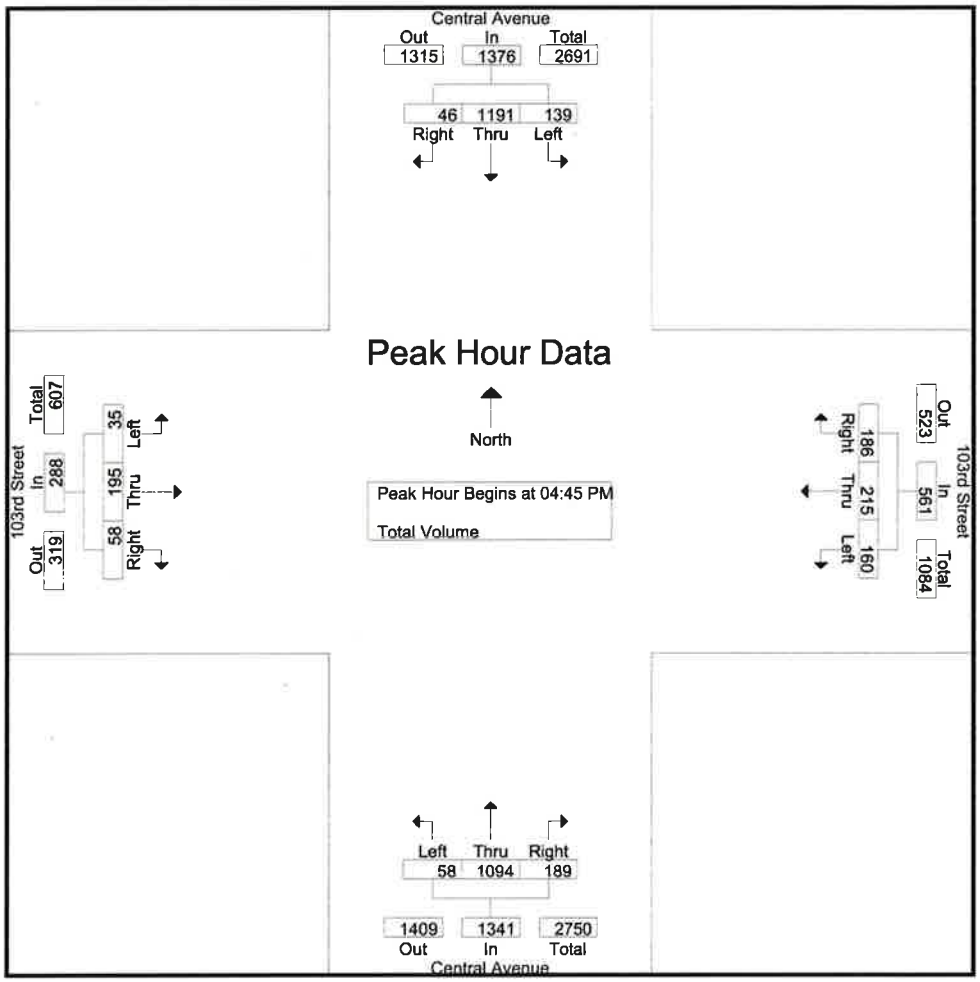
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:00 AM				07:30 AM			
+0 mins.	16	269	4	289	41	55	**55**	**151**	5	295	29	329	8	51	13	72
+15 mins.	27	280	2	309	51	47	51	149	8	**334**	39	**381**	**10**	**55**	**15**	**80**
+30 mins.	31	**328**	4	**363**	**53**	**61**	33	147	7	286	58	351	8	48	13	69
+45 mins.	**35**	267	**8**	310	41	51	39	131	**15**	285	**69**	369	8	44	11	63
Total Volume	109	1144	18	1271	186	214	178	578	35	1200	195	1430	34	198	52	284
% App. Total	8.6	90	1.4		32.2	37	30.8		2.4	83.9	13.6		12	69.7	18.3	
PHF	.779	.872	.563	.875	.877	.877	.809	.957	.583	.898	.707	.938	.850	.900	.867	.888

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County of Los Angeles
N/S: Central Avenue
E/W: 103rd Street
Weather: Clear

File Name : LACCE103PM
Site Code : 12815514
Start Date : 9/23/2015
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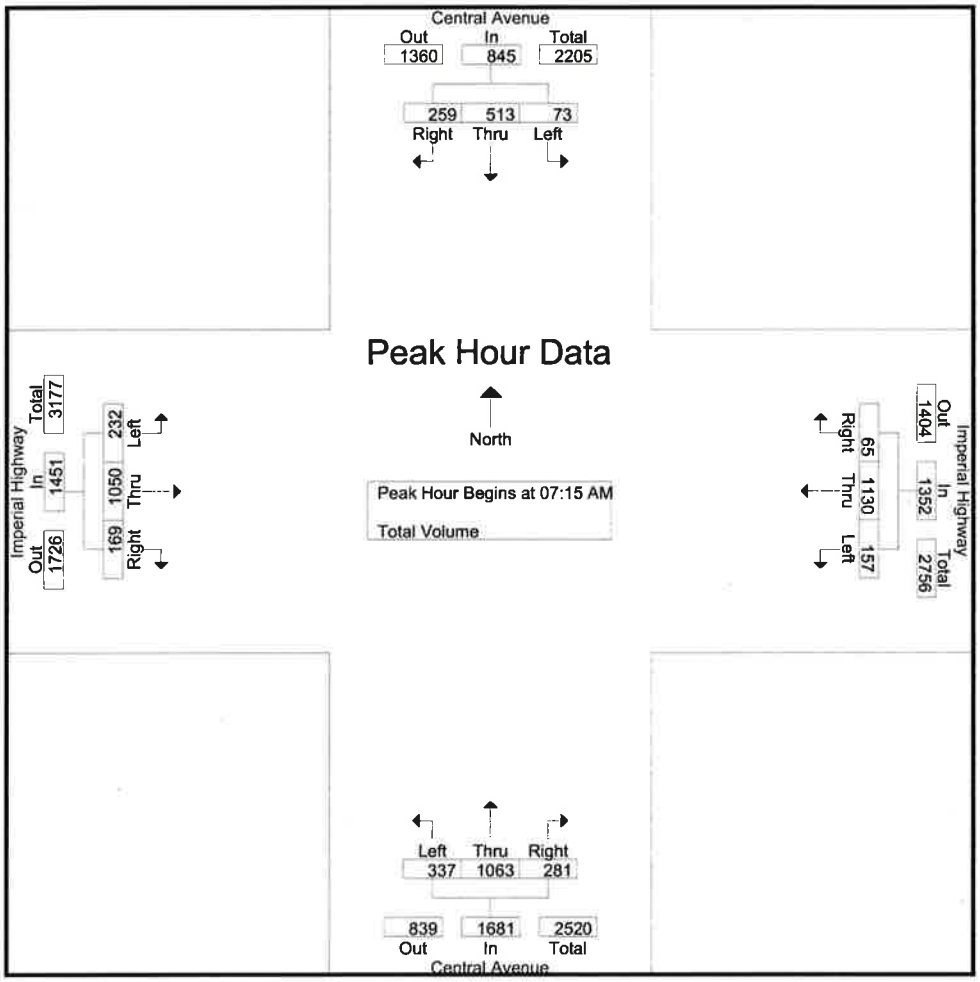
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				04:45 PM				05:00 PM			
+0 mins.	34	288	12	334	43	63	54	**160**	**17**	**282**	**56**	**355**	9	48	11	68
+15 mins.	38	**323**	11	**372**	**44**	**68**	39	151	15	278	48	341	9	54	**16**	79
+30 mins.	37	292	**13**	342	39	45	43	127	14	265	40	319	9	52	12	73
+45 mins.	**41**	312	5	358	39	60	**59**	158	12	269	45	326	**13**	**69**	12	**94**
Total Volume	150	1215	41	1406	165	236	195	596	58	1094	189	1341	40	223	51	314
% App. Total	10.7	86.4	2.9		27.7	39.6	32.7		4.3	81.6	14.1		12.7	71	16.2	
PHF	.915	.940	.788	.945	.938	.868	.826	.931	.853	.970	.844	.944	.769	.808	.797	.835

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County of Los Angeles
N/S: Central Avenue
E/W: Imperial Highway
Weather: Clear

File Name : LACCEIMAM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



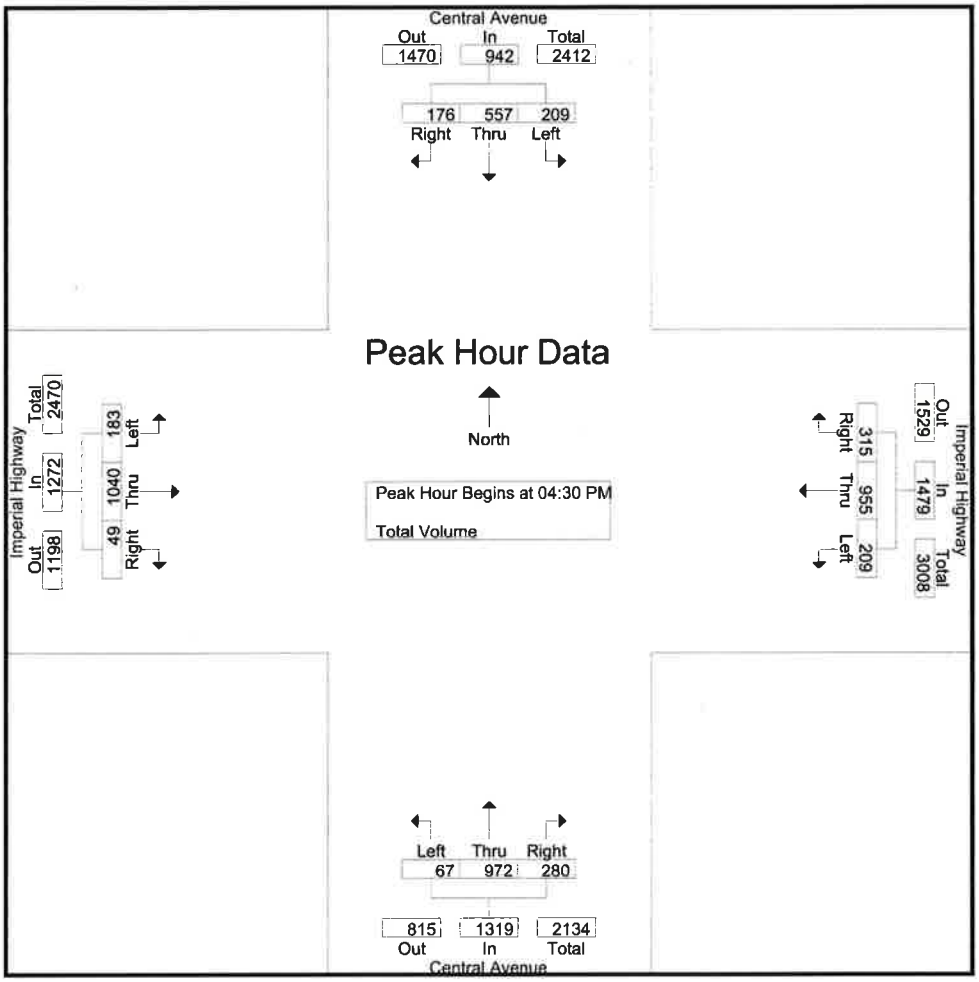
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:00 AM				07:15 AM			
+0 mins.	18	109	**83**	210	30	297	**20**	347	79	244	75	398	60	**277**	31	368
+15 mins.	16	113	65	194	**53**	**332**	12	**397**	92	253	71	416	55	258	44	357
+30 mins.	18	**167**	54	**239**	35	236	18	289	90	265	68	423	**68**	242	**59**	**369**
+45 mins.	**21**	124	57	202	39	265	15	319	**97**	**315**	**80**	**492**	49	273	35	357
Total Volume	73	513	259	845	157	1130	65	1352	358	1077	294	1729	232	1050	169	1451
% App. Total	8.6	60.7	30.7		11.6	83.6	4.8		20.7	62.3	17		16	72.4	11.6	
PHF	.869	.768	.780	.884	.741	.851	.813	.851	.923	.855	.919	.879	.853	.948	.716	.983

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County of Los Angeles
N/S: Central Avenue
E/W: Imperial Highway
Weather: Clear

File Name : LACCEIMPM
Site Code : 12815514
Start Date : 9/23/2015
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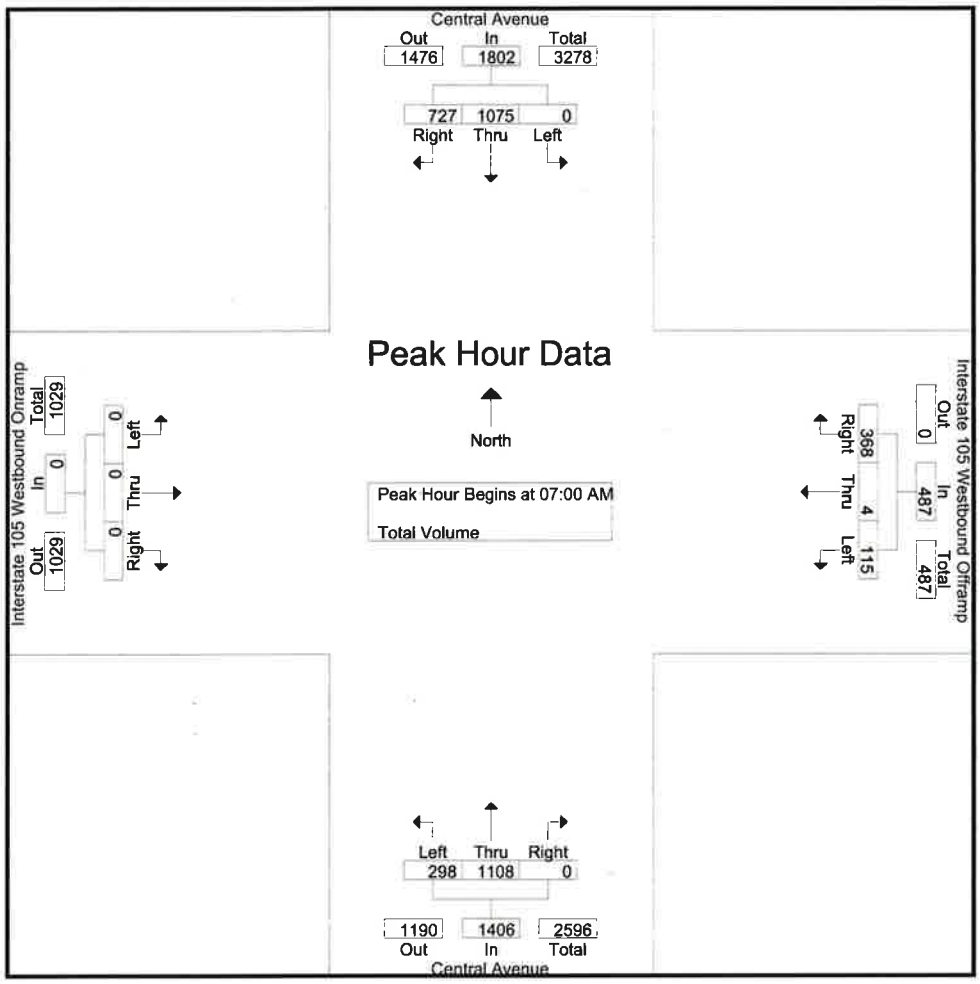
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				04:45 PM				05:00 PM			
+0 mins.	40	137	47	224	49	**256**	78	**383**	14	255	77	346	46	237	12	295
+15 mins.	**68**	**148**	38	**254**	55	226	73	354	**19**	248	69	336	**62**	**301**	**14**	**377**
+30 mins.	55	140	**49**	244	**56**	240	79	375	15	238	**79**	332	49	237	6	292
+45 mins.	46	130	47	223	49	233	**85**	367	17	**279**	67	**363**	55	243	12	310
Total Volume	209	555	181	945	209	955	315	1479	65	1020	292	1377	212	1018	44	1274
% App. Total	22.1	58.7	19.2		14.1	64.6	21.3		4.7	74.1	21.2		16.6	79.9	3.5	
PHF	.768	.938	.923	.930	.933	.933	.926	.965	.855	.914	.924	.948	.855	.846	.786	.845

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County of Los Angeles
N/S: Central Avenue
E/W: Interstate 105 Westbound Ramps
Weather: Clear

File Name : LACCE105WAM
Site Code : 12815514
Start Date : 9/23/2015
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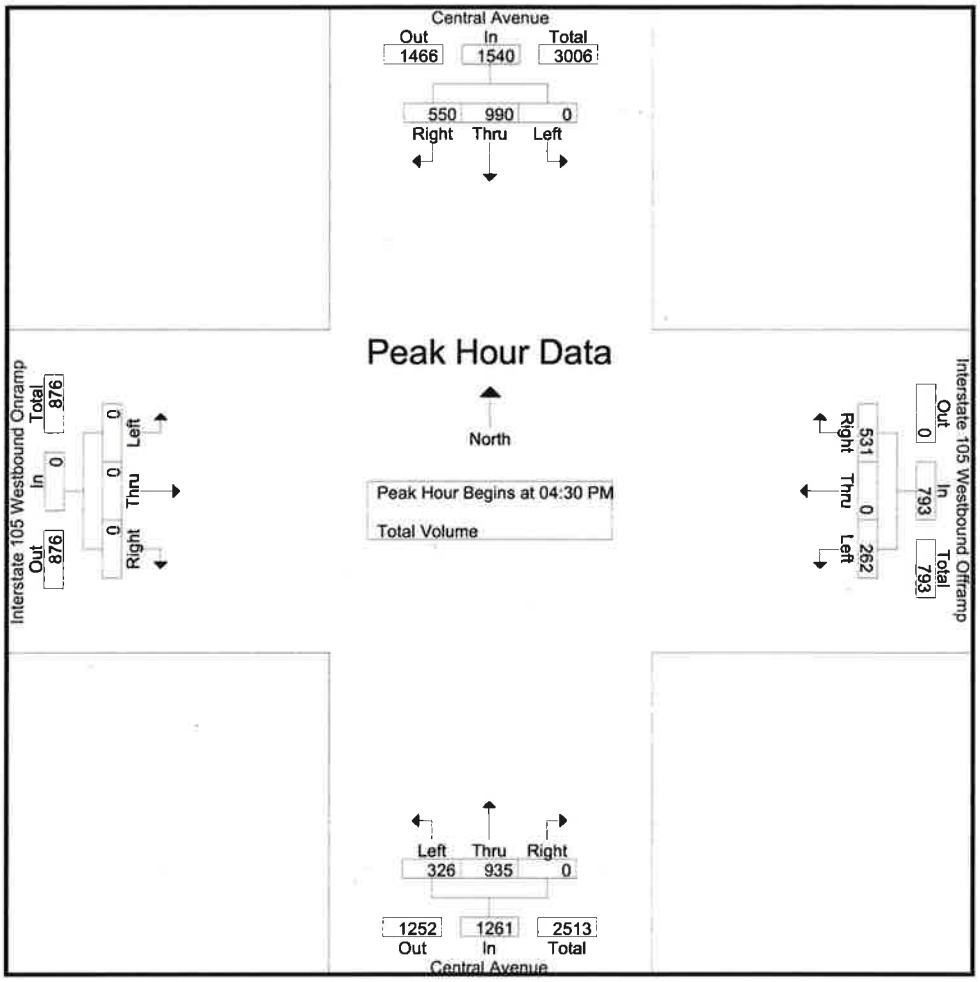
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				07:15 AM				07:00 AM			
+0 mins.	0	243	182	425	45	**3**	**101**	**149**	**84**	285	0	**369**	0	0	0	0
+15 mins.	0	280	**203**	483	**49**	2	81	132	84	266	0	350	0	0	0	0
+30 mins.	0	**312**	194	**506**	31	0	88	119	57	**302**	0	359	0	0	0	0
+45 mins.	0	240	148	388	44	1	92	137	62	285	0	347	0	0	0	0
Total Volume	0	1075	727	1802	169	6	362	537	287	1138	0	1425	0	0	0	0
% App. Total	0	59.7	40.3		31.5	1.1	67.4		20.1	79.9	0		0	0	0	
PHF	.000	.861	.895	.890	.862	.500	.896	.901	.854	.942	.000	.965	.000	.000	.000	.000

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County of Los Angeles
N/S: Central Avenue
E/W: Interstate 105 Westbound Ramps
Weather: Clear

File Name : LACCE105WPM
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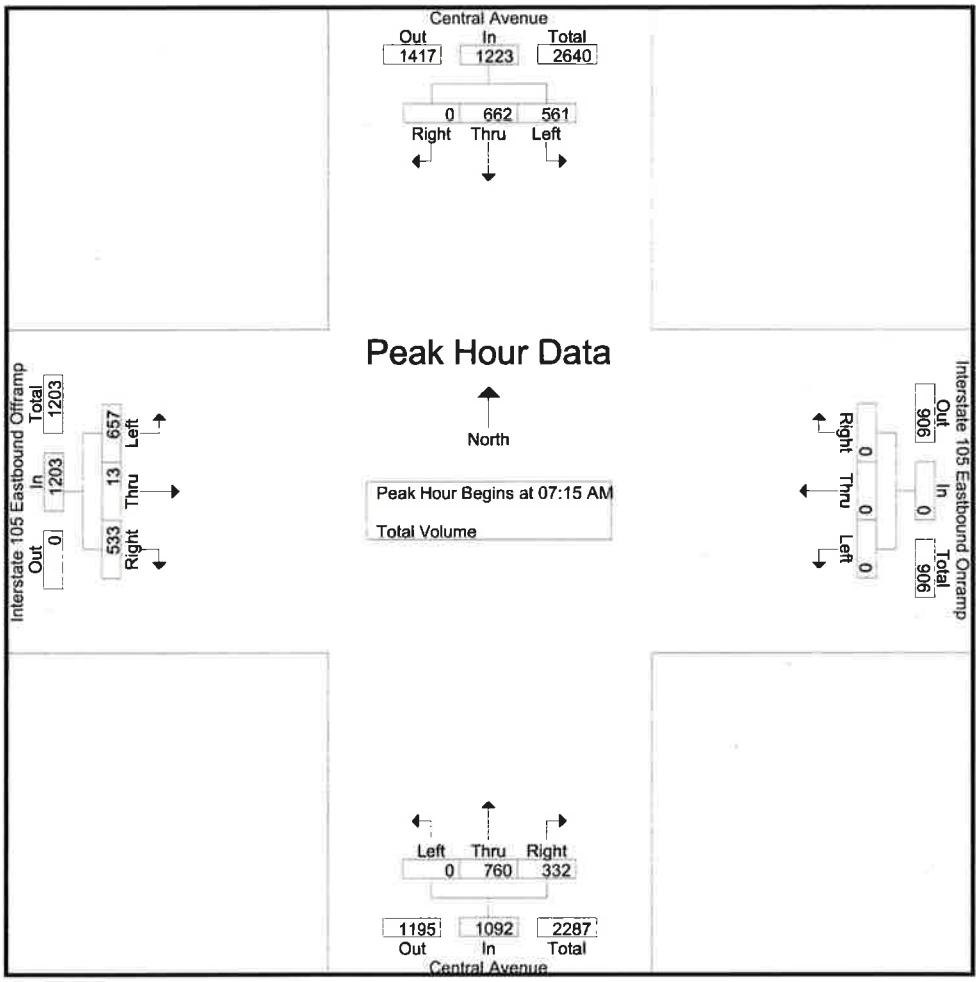
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:30 PM				04:00 PM			
+0 mins.	0	229	**151**	380	74	0	**161**	**235**	77	**239**	0	316	0	0	0	0
+15 mins.	0	**306**	142	**448**	70	0	146	216	82	234	0	316	0	0	0	0
+30 mins.	0	246	109	355	66	0	134	200	81	224	0	305	0	0	0	0
+45 mins.	0	234	126	360	**75**	0	132	207	**86**	238	0	**324**	0	0	0	0
Total Volume	0	1015	528	1543	285	0	573	858	326	935	0	1261	0	0	0	0
% App. Total	0	65.8	34.2		33.2	0	66.8		25.9	74.1	0		0	0	0	
PHF	.000	.829	.874	.861	.950	.000	.890	.913	.948	.978	.000	.973	.000	.000	.000	.000

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County of Los Angeles
N/S: Central Avenue
E/W: Interstate 105 Eastbound Ramps
Weather: Clear

File Name : LACCE105EAM
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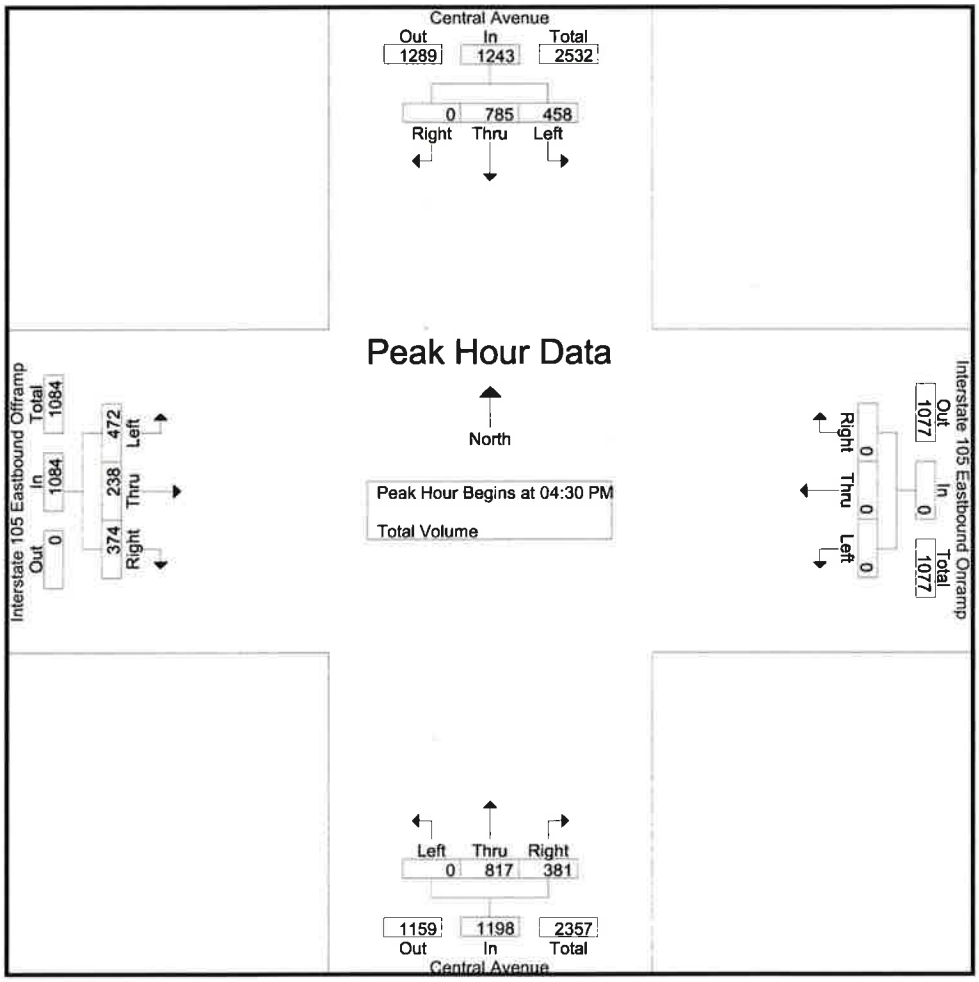
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:15 AM				07:00 AM			
+0 mins.	**167**	126	0	293	0	0	0	0	0	200	88	288	143	1	77	221
+15 mins.	158	175	0	**333**	0	0	0	0	0	**201**	**94**	**295**	180	3	120	303
+30 mins.	106	179	0	285	0	0	0	0	0	170	71	241	169	**6**	144	319
+45 mins.	130	**182**	0	312	0	0	0	0	0	189	79	268	**193**	4	**169**	**366**
Total Volume	561	662	0	1223	0	0	0	0	0	760	332	1092	685	14	510	1209
% App. Total	45.9	54.1	0		0	0	0		0	69.6	30.4		56.7	1.2	42.2	
PHF	.840	.909	.000	.918	.000	.000	.000	.000	.000	.945	.883	.925	.887	.583	.754	.826

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County of Los Angeles
N/S: Central Avenue
E/W: Interstate 105 Eastbound Ramps
Weather: Clear

File Name : LACCE105EPM
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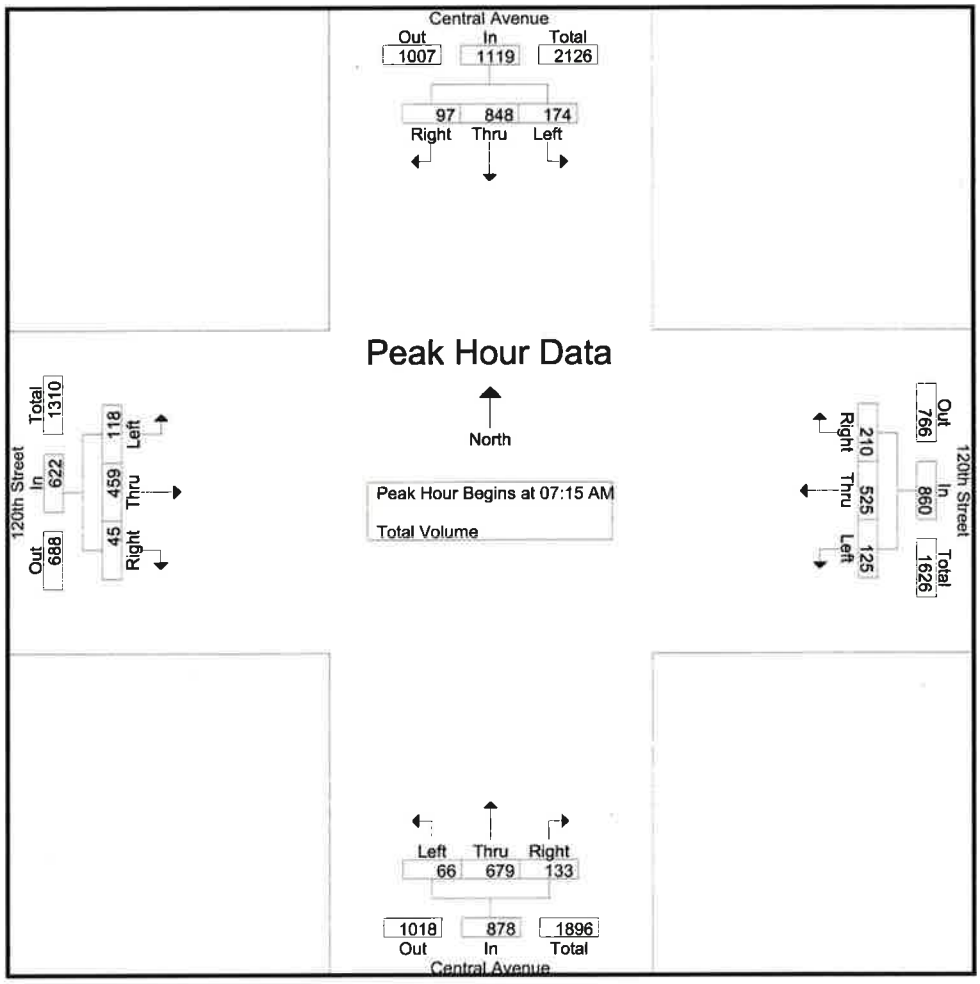
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:00 PM				04:30 PM				05:00 PM			
+0 mins.	129	185	0	314	0	0	0	0	0	**211**	85	296	116	62	86	264
+15 mins.	117	171	0	288	0	0	0	0	0	199	79	278	123	61	103	287
+30 mins.	139	**209**	0	**348**	0	0	0	0	0	207	104	311	**135**	**66**	90	**291**
+45 mins.	**140**	180	0	320	0	0	0	0	0	200	**113**	**313**	122	54	**107**	283
Total Volume	525	745	0	1270	0	0	0	0	0	817	381	1198	496	243	386	1125
% App. Total	41.3	58.7	0		0	0	0		0	68.2	31.8		44.1	21.6	34.3	
PHF	.938	.891	.000	.912	.000	.000	.000	.000	.000	.968	.843	.957	.919	.920	.902	.966

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County of Los Angeles
N/S: Central Avenue
E/W: 120th Street
Weather: Clear

File Name : CLACE120AM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



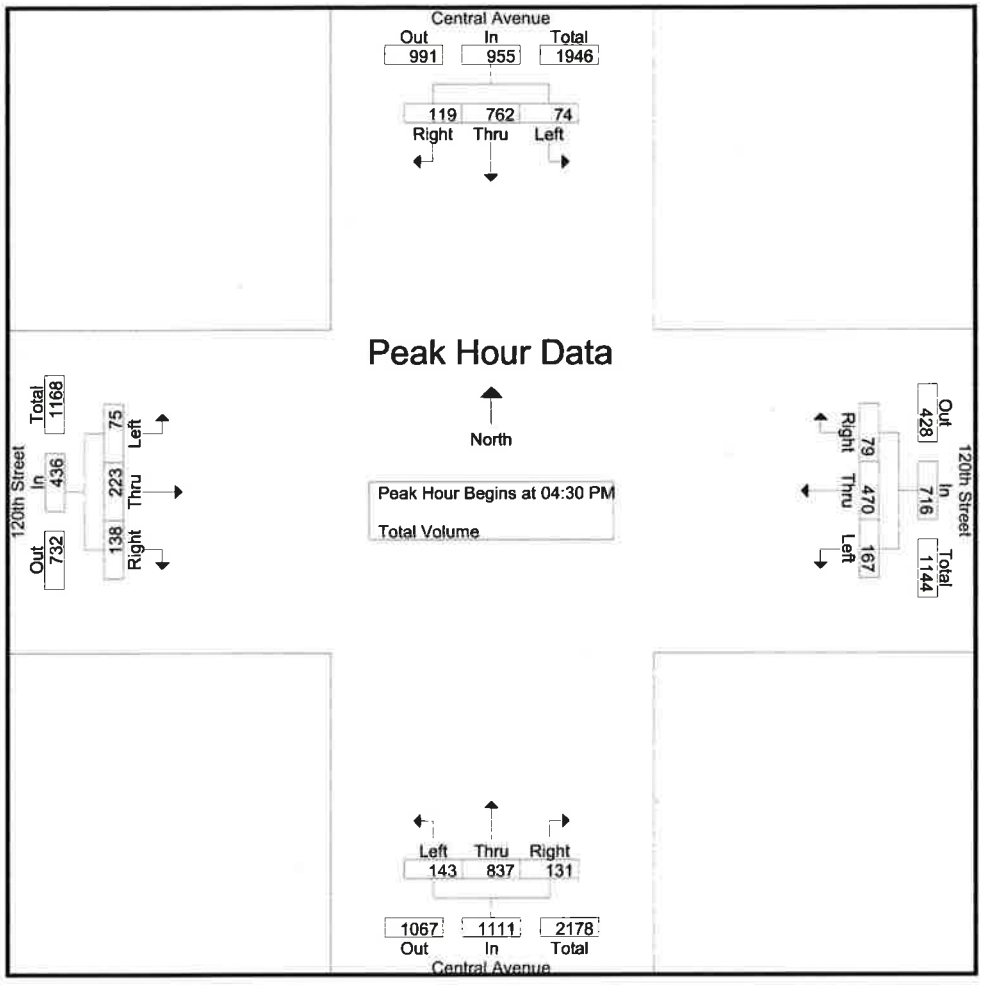
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	39	150	25	214	25	104	37	166	17	**181**	14	212	26	67	7	100
+15 mins.	40	204	16	260	33	138	59	230	**21**	164	44	**229**	26	136	8	170
+30 mins.	47	**255**	**32**	**334**	**34**	**171**	**79**	**284**	10	160	**47**	217	26	**167**	**17**	**210**
+45 mins.	**48**	239	24	311	33	112	35	180	18	174	28	220	**40**	89	13	142
Total Volume	174	848	97	1119	125	525	210	860	66	679	133	878	118	459	45	622
% App. Total	15.5	75.8	8.7		14.5	61	24.4		7.5	77.3	15.1		19	73.8	7.2	
PHF	.906	.831	.758	.838	.919	.768	.665	.757	.786	.938	.707	.959	.738	.687	.662	.740

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County of Los Angeles
N/S: Central Avenue
E/W: 120th Street
Weather: Clear

File Name : CLACE120PM
Site Code : 12815514
Start Date : 9/23/2015
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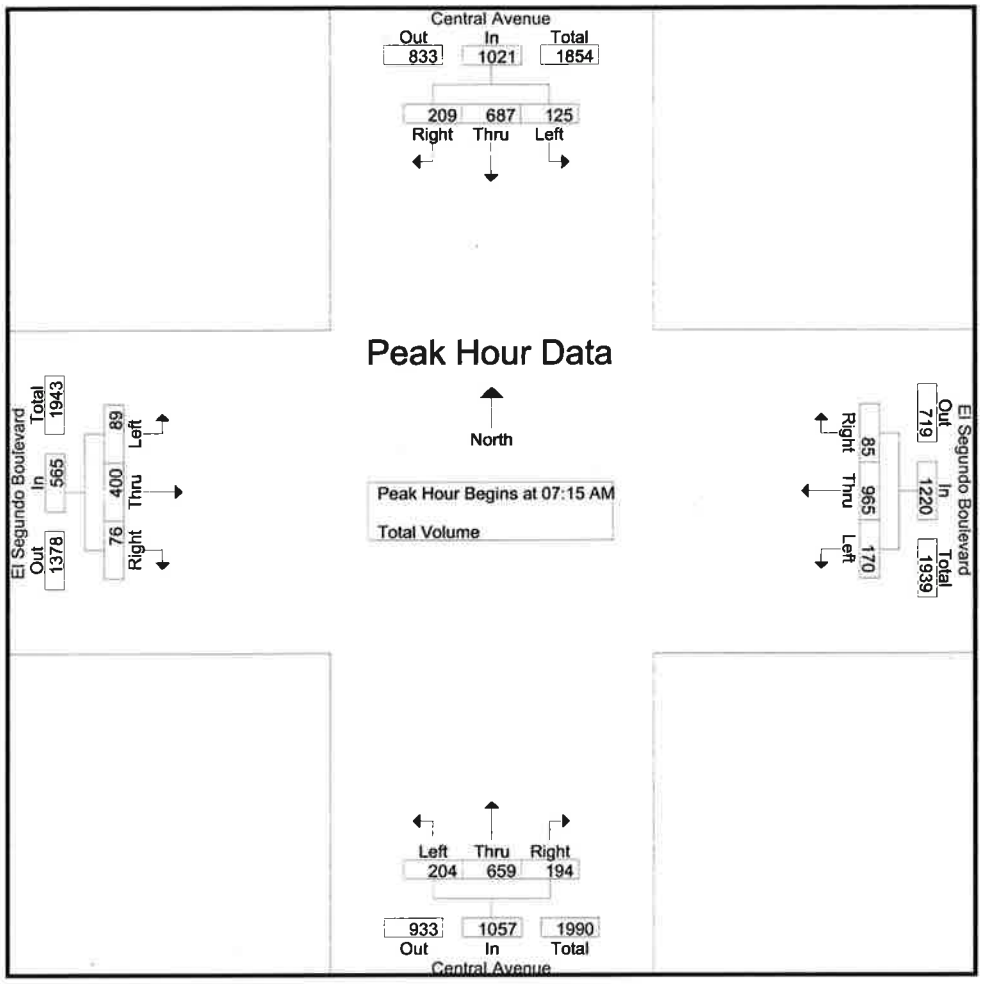
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:15 PM				05:00 PM				04:30 PM			
+0 mins.	12	178	24	214	38	**129**	**24**	**191**	29	209	**38**	276	17	58	**41**	116
+15 mins.	23	203	28	254	40	120	19	179	41	**224**	29	294	18	54	34	106
+30 mins.	14	167	33	214	42	117	19	178	43	188	31	262	**23**	**62**	40	**125**
+45 mins.	**25**	**214**	**34**	**273**	**47**	115	20	182	**47**	224	27	**298**	17	49	23	89
Total Volume	74	762	119	955	167	481	82	730	160	845	125	1130	75	223	138	436
% App. Total	7.7	79.8	12.5		22.9	65.9	11.2		14.2	74.8	11.1		17.2	51.1	31.7	
PHF	.740	.890	.875	.875	.888	.932	.854	.955	.851	.943	.822	.948	.815	.899	.841	.872

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County of Los Angeles
N/S: Central Avenue
E/W: El Segundo Boulevard
Weather: Clear

File Name : CLACEELAM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



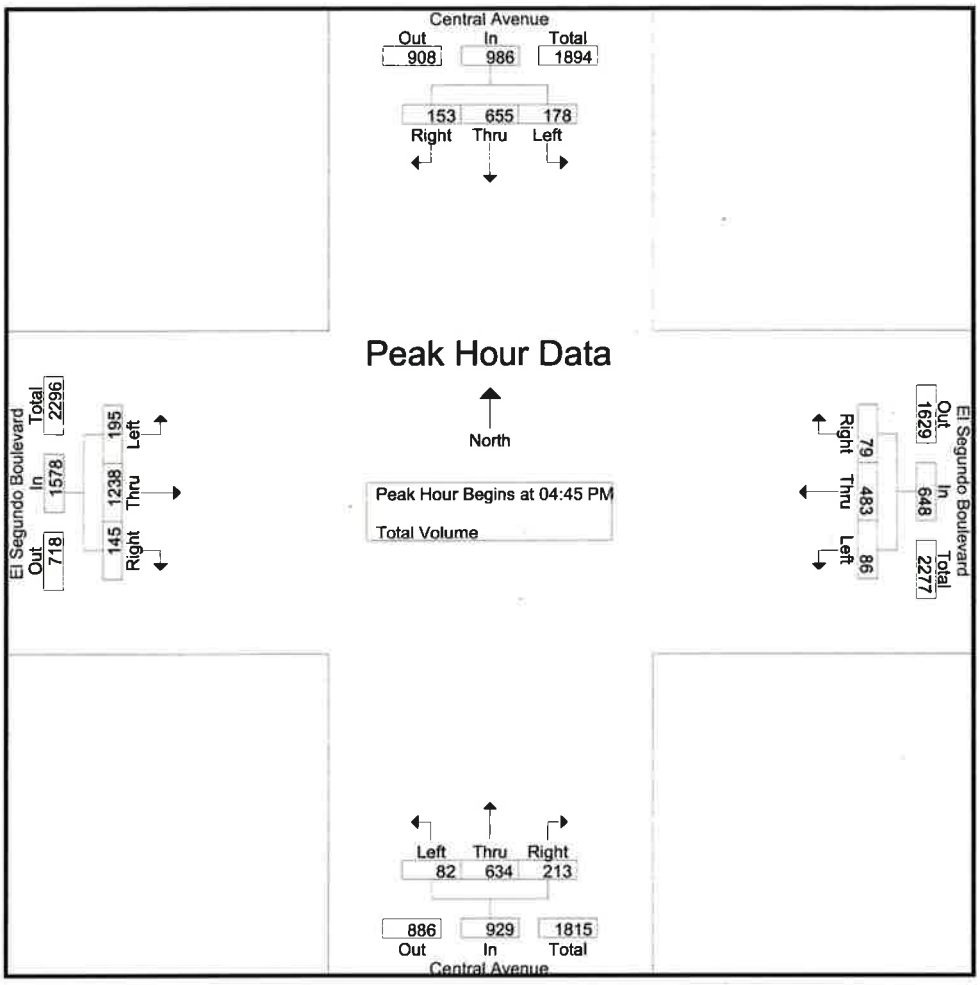
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				07:15 AM				07:30 AM			
+0 mins.	28	173	**59**	260	34	253	22	309	44	**183**	28	255	24	92	12	128
+15 mins.	**40**	182	55	277	40	**256**	21	**317**	42	165	30	237	22	**133**	**32**	**187**
+30 mins.	35	**220**	51	**306**	41	227	19	287	55	152	**74**	281	**25**	100	20	145
+45 mins.	19	122	39	180	**55**	229	**23**	307	**63**	159	62	**284**	24	105	20	149
Total Volume	122	697	204	1023	170	965	85	1220	204	659	194	1057	95	430	84	609
% App. Total	11.9	68.1	19.9		13.9	79.1	7		19.3	62.3	18.4		15.6	70.6	13.8	
PHF	.763	.792	.864	.836	.773	.942	.924	.962	.810	.900	.655	.930	.950	.808	.656	.814

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County of Los Angeles
N/S: Central Avenue
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Weather: Clear

File Name : CLACEELPM
Site Code : 12815514
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

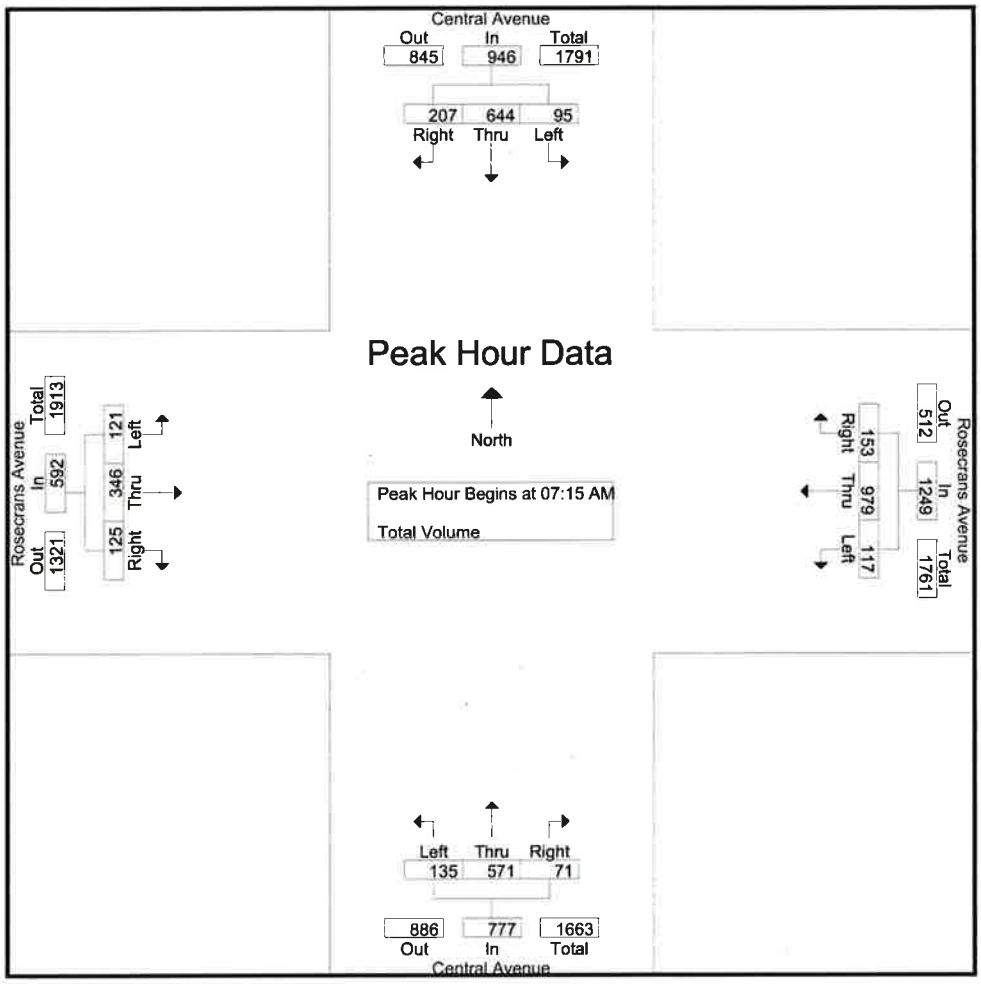
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:45 PM				05:00 PM			
+0 mins.	46	**181**	40	**267**	21	**137**	16	174	22	**187**	55	**264**	**61**	290	31	382
+15 mins.	43	148	**42**	233	**24**	120	20	164	**23**	144	56	223	52	**359**	**42**	**453**
+30 mins.	44	174	31	249	21	92	19	132	16	154	**60**	230	36	306	35	377
+45 mins.	**50**	167	35	252	20	134	**24**	**178**	21	149	42	212	59	307	39	405
Total Volume	183	670	148	1001	86	483	79	648	82	634	213	929	208	1262	147	1617
% App. Total	18.3	66.9	14.8		13.3	74.5	12.2		8.8	68.2	22.9		12.9	78	9.1	
PHF	.915	.925	.881	.937	.896	.881	.823	.910	.891	.848	.888	.880	.852	.879	.875	.892

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County of Los Angeles
N/S: Central Avenue
E/W: Rosecrans Avenue
Weather: Clear

File Name : CLACEROAM
Site Code : 12815514
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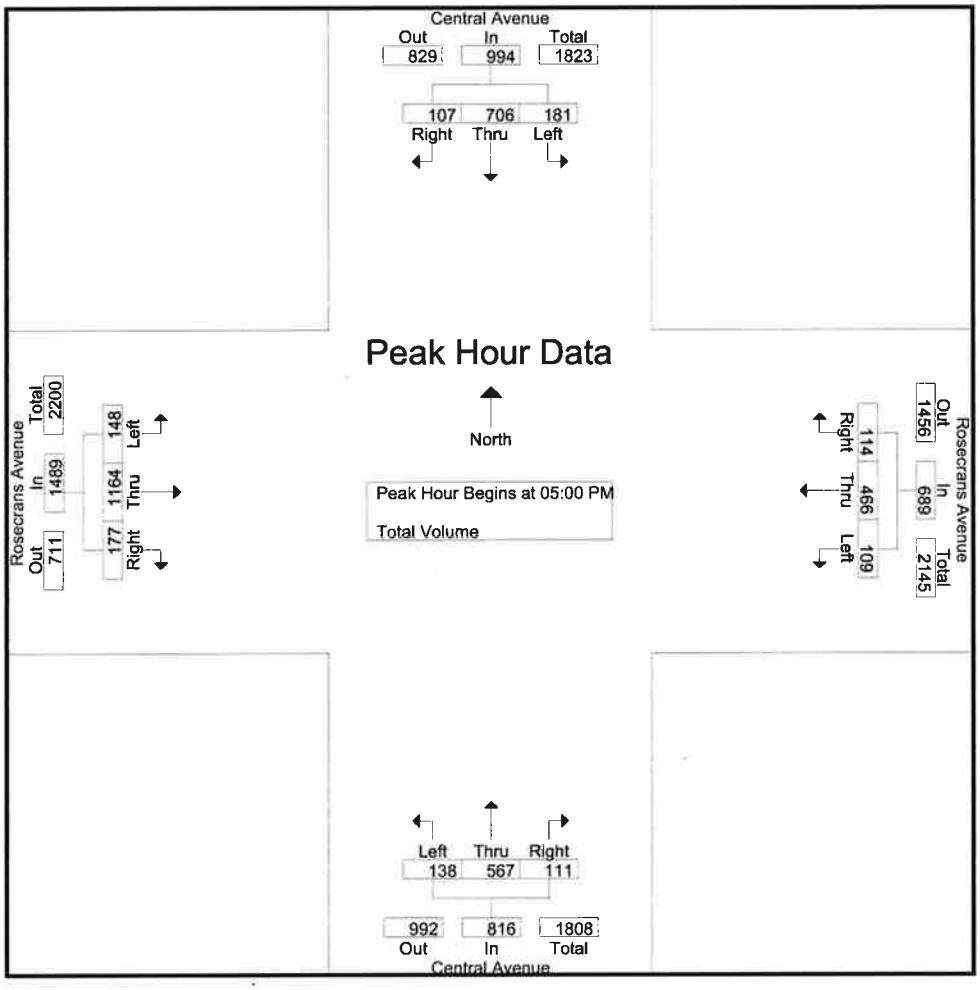
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:15 AM				07:45 AM			
+0 mins.	21	151	36	208	21	243	36	300	**40**	**151**	10	**201**	27	**108**	**33**	**168**
+15 mins.	**32**	**189**	56	**277**	15	254	27	296	30	139	19	188	**43**	85	33	161
+30 mins.	27	179	**65**	271	36	**270**	39	**345**	25	143	**23**	191	22	101	23	146
+45 mins.	22	114	55	191	**41**	244	**48**	333	40	138	19	197	27	92	31	150
Total Volume	102	633	212	947	113	1011	150	1274	135	571	71	777	119	386	120	625
% App. Total	10.8	66.8	22.4		8.9	79.4	11.8		17.4	73.5	9.1		19	61.8	19.2	
PHF	.797	.837	.815	.855	.689	.936	.781	.923	.844	.945	.772	.966	.692	.894	.909	.930

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County of Los Angeles
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E/W: Rosecrans Avenue
Weather: Clear

File Name : CLACEROPM
Site Code : 12815514
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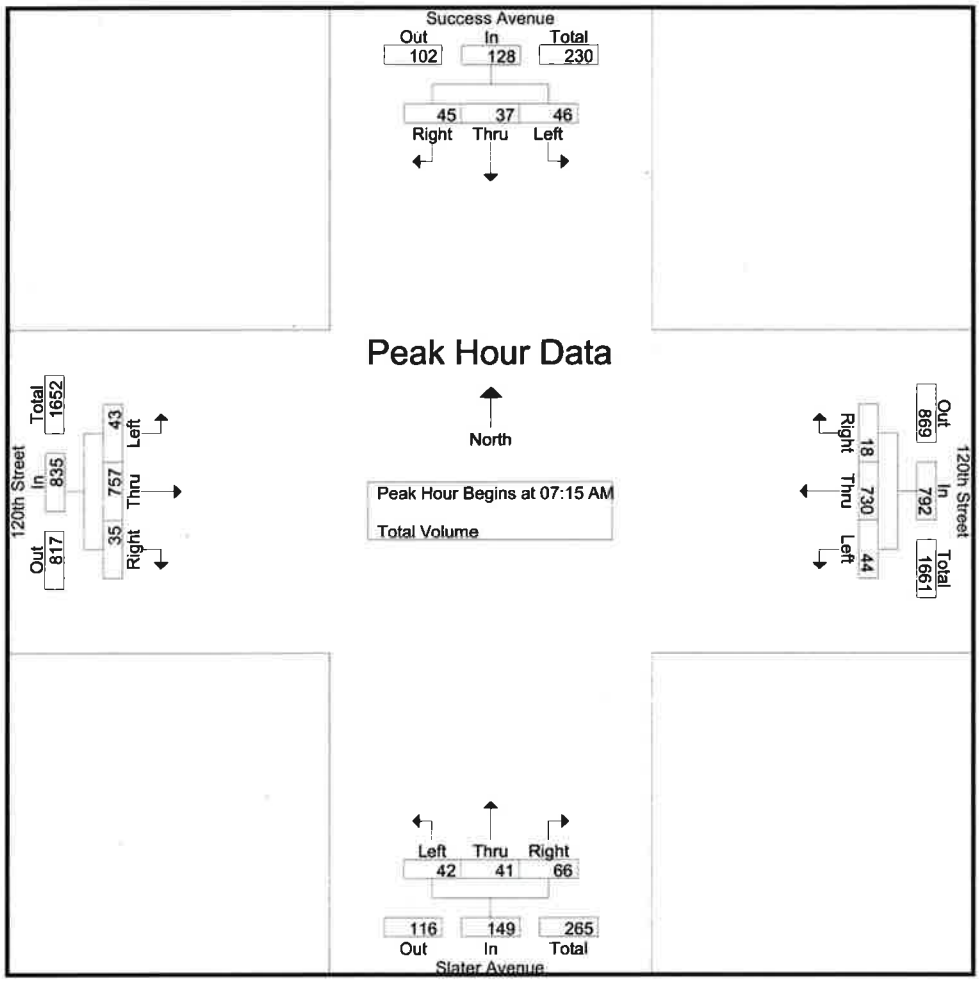
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				05:00 PM				05:00 PM			
+0 mins.	44	180	18	242	31	108	20	159	40	141	21	202	49	279	35	363
+15 mins.	36	171	22	229	30	**132**	25	**187**	23	135	**41**	199	**53**	295	45	**393**
+30 mins.	**53**	159	29	241	32	117	**33**	182	**45**	133	28	206	25	**300**	**49**	374
+45 mins.	48	**196**	**38**	**282**	**38**	104	32	174	30	**158**	21	**209**	21	290	48	359
Total Volume	181	706	107	994	131	461	110	702	138	567	111	816	148	1164	177	1489
% App. Total	18.2	71	10.8		18.7	65.7	15.7		16.9	69.5	13.6		9.9	78.2	11.9	
PHF	.854	.901	.704	.881	.862	.873	.833	.939	.767	.897	.677	.976	.698	.970	.903	.947

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County of Los Angeles
N/S: Slater Avenue
E/W: 120th Street
Weather: Clear

File Name : CLASL120AM
Site Code : 12815514
Start Date : 9/23/2015
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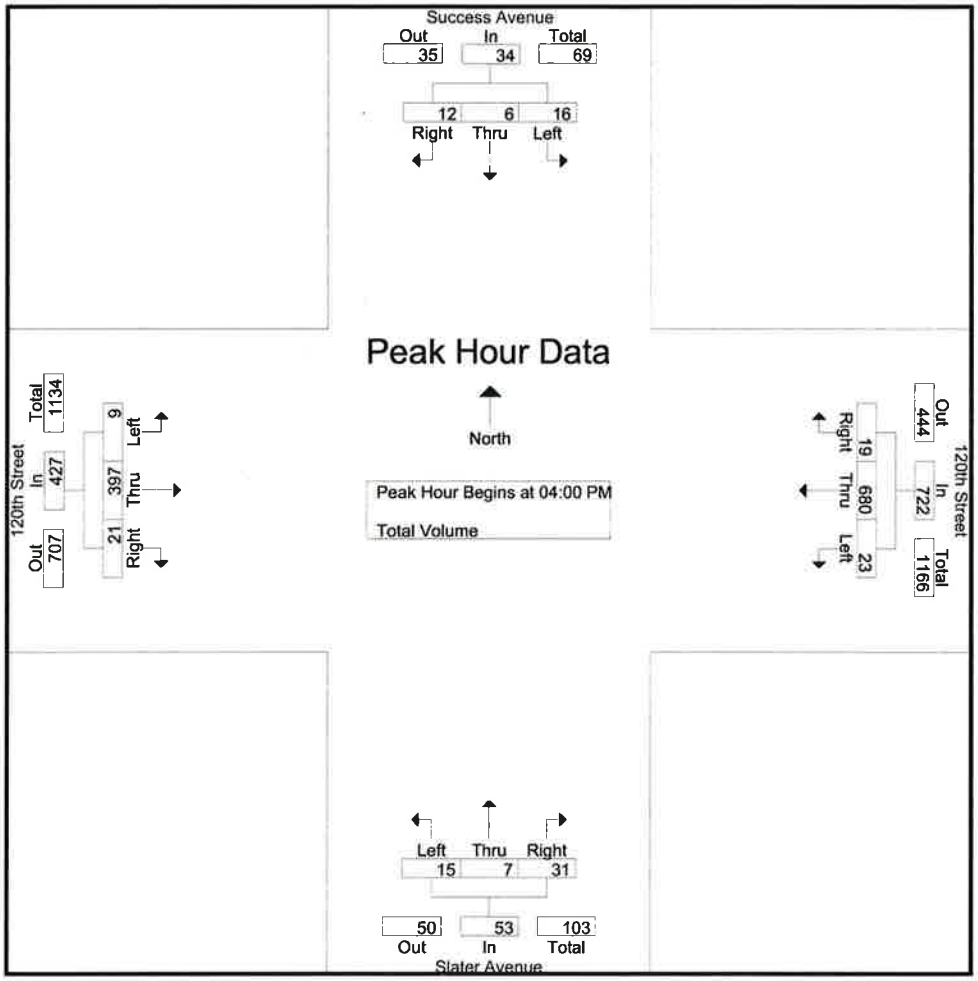
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	12	8	7	27	4	115	3	122	5	3	12	20	2	136	5	143
+15 mins.	**17**	**15**	10	42	12	209	2	223	**16**	10	23	49	5	212	**12**	229
+30 mins.	10	12	**25**	**47**	**22**	**255**	5	**282**	13	**17**	**24**	**54**	14	**257**	11	**282**
+45 mins.	6	5	6	17	6	151	**8**	165	8	11	7	26	**22**	152	7	181
Total Volume	45	40	48	133	44	730	18	792	42	41	66	149	43	757	35	835
% App. Total	33.8	30.1	36.1		5.6	92.2	2.3		28.2	27.5	44.3		5.1	90.7	4.2	
PHF	.662	.667	.480	.707	.500	.716	.563	.702	.656	.603	.688	.690	.489	.736	.729	.740

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County of Los Angeles
N/S: Slater Avenue
E/W: 120th Street
Weather: Clear

File Name : CLASL120PM
Site Code : 12815514
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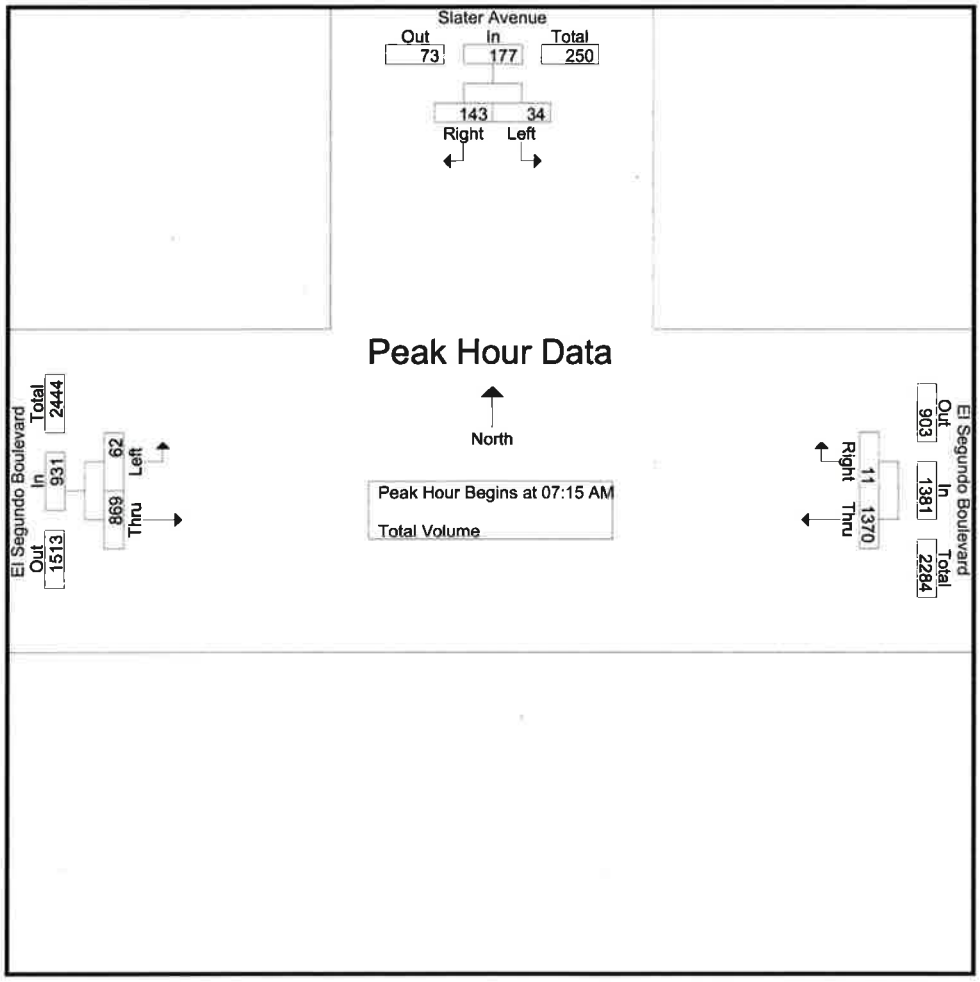
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				05:00 PM				04:30 PM			
+0 mins.	4	1	3	8	6	152	3	161	1	4	13	18	1	**119**	4	**124**
+15 mins.	4	**2**	2	8	8	172	2	182	2	4	6	12	1	109	**5**	115
+30 mins.	**6**	2	**4**	**12**	**10**	172	3	185	**4**	**7**	17	**28**	**5**	99	2	106
+45 mins.	2	1	3	6	7	**187**	**5**	**199**	3	6	**18**	27	1	77	5	83
Total Volume	16	6	12	34	31	683	13	727	10	21	54	85	8	404	16	428
% App. Total	47.1	17.6	35.3		4.3	93.9	1.8		11.8	24.7	63.5		1.9	94.4	3.7	
PHF	.667	.750	.750	.708	.775	.913	.650	.913	.625	.750	.750	.759	.400	.849	.800	.863

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County of Los Angeles
N/S: Slater Avenue
E/W: El Segundo Boulevard
Weather: Clear

File Name : CLASLELAM
Site Code : 12815514
Start Date : 9/23/2015
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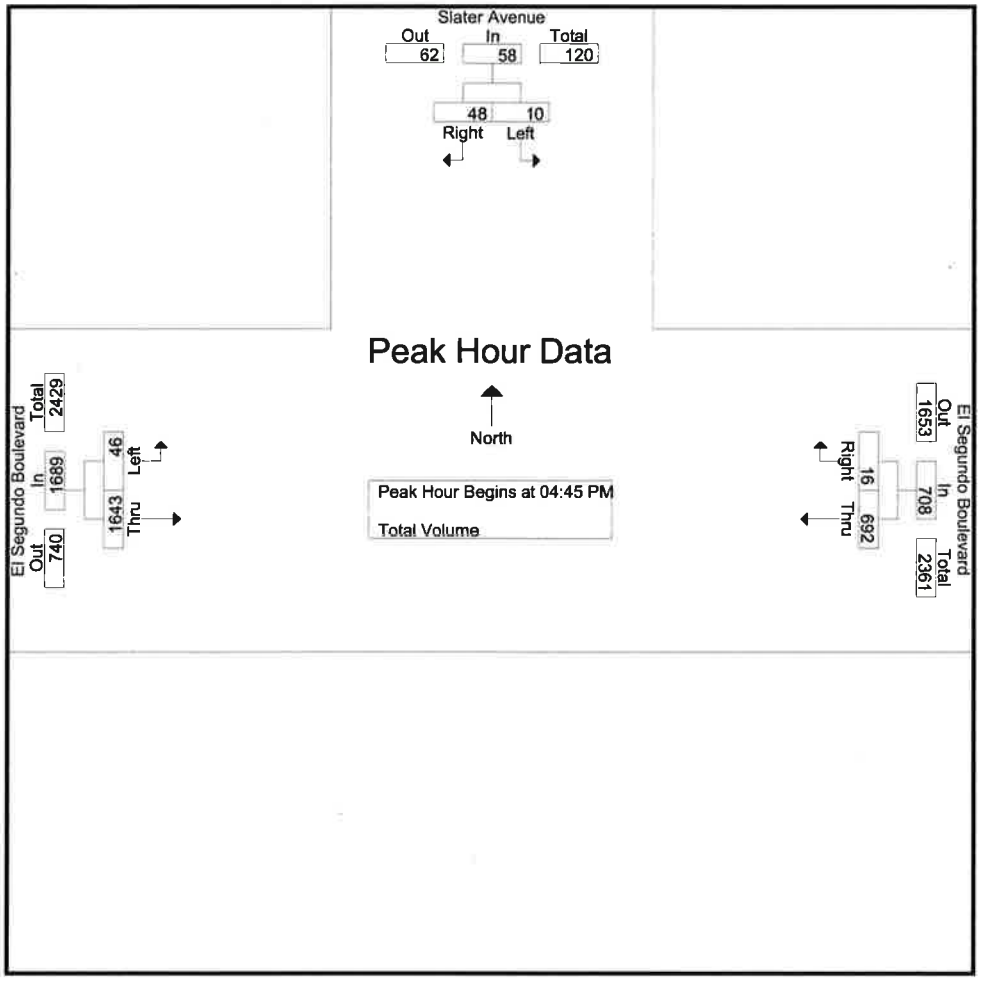
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:30 AM		
+0 mins.	2	21	23	310	1	311	20	211	231
+15 mins.	7	29	36	**400**	1	**401**	**23**	**297**	**320**
+30 mins.	**16**	**66**	**82**	361	**5**	366	12	224	236
+45 mins.	9	27	36	299	4	303	9	145	154
Total Volume	34	143	177	1370	11	1381	64	877	941
% App. Total	19.2	80.8		99.2	0.8		6.8	93.2	
PHF	.531	.542	.540	.856	.550	.861	.696	.738	.735

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County of Los Angeles
N/S: Slater Avenue
E/W: El Segundo Boulevard
Weather: Clear

File Name : CLASLELPM
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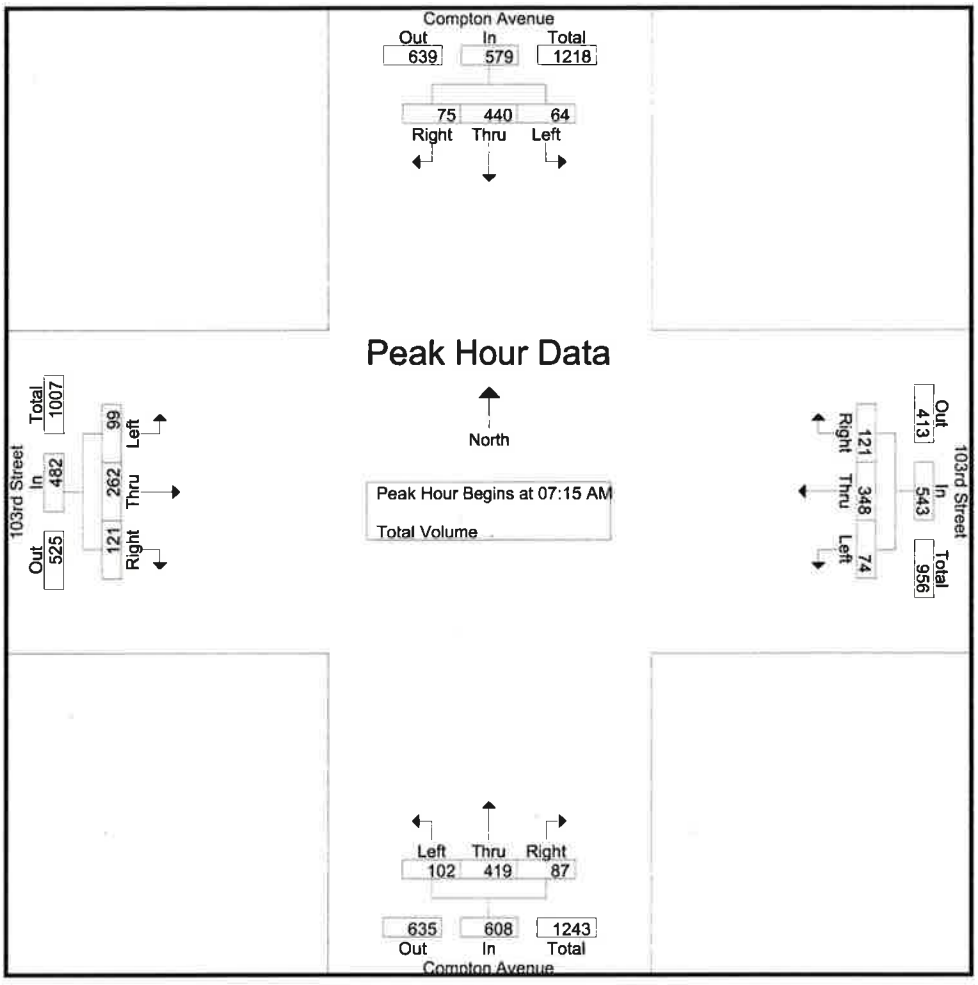
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			05:00 PM		
+0 mins.	2	13	15	183	5	188	9	398	407
+15 mins.	2	**17**	**19**	180	2	182	16	**430**	**446**
+30 mins.	**4**	6	10	135	**7**	142	13	417	430
+45 mins.	2	12	14	**194**	2	**196**	**20**	397	417
Total Volume	10	48	58	692	16	708	58	1642	1700
% App. Total	17.2	82.8		97.7	2.3		3.4	96.6	
PHF	.625	.706	.763	.892	.571	.903	.725	.955	.953

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County of Los Angeles
N/S: Compton Avenue
E/W: 103rd Street
Weather: Clear

File Name : LACCO103AM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



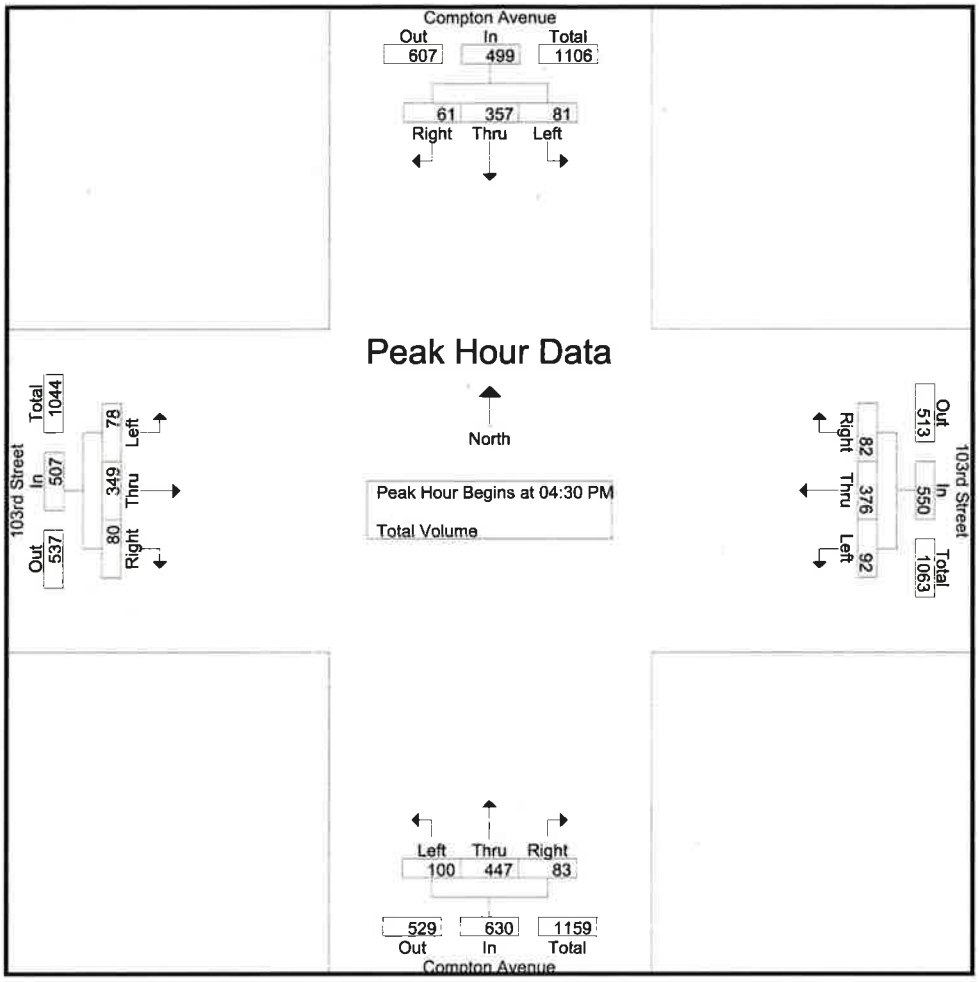
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:15 AM				07:30 AM			
+0 mins.	10	89	19	118	15	**99**	**44**	**158**	27	104	15	146	**33**	67	23	123
+15 mins.	11	**128**	**27**	**166**	**24**	90	28	142	17	**116**	23	156	24	**89**	**47**	**160**
+30 mins.	**22**	118	11	151	24	84	25	133	**30**	107	**27**	**164**	25	66	35	126
+45 mins.	21	105	18	144	17	83	30	130	28	92	22	142	14	61	27	102
Total Volume	64	440	75	579	80	356	127	563	102	419	87	608	96	283	132	511
% App. Total	11.1	76	13		14.2	63.2	22.6		16.8	68.9	14.3		18.8	55.4	25.8	
PHF	.727	.859	.694	.872	.833	.899	.722	.891	.850	.903	.806	.927	.727	.795	.702	.798

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County of Los Angeles
N/S: Compton Avenue
E/W: 103rd Street
Weather: Clear

File Name : LACCO103PM
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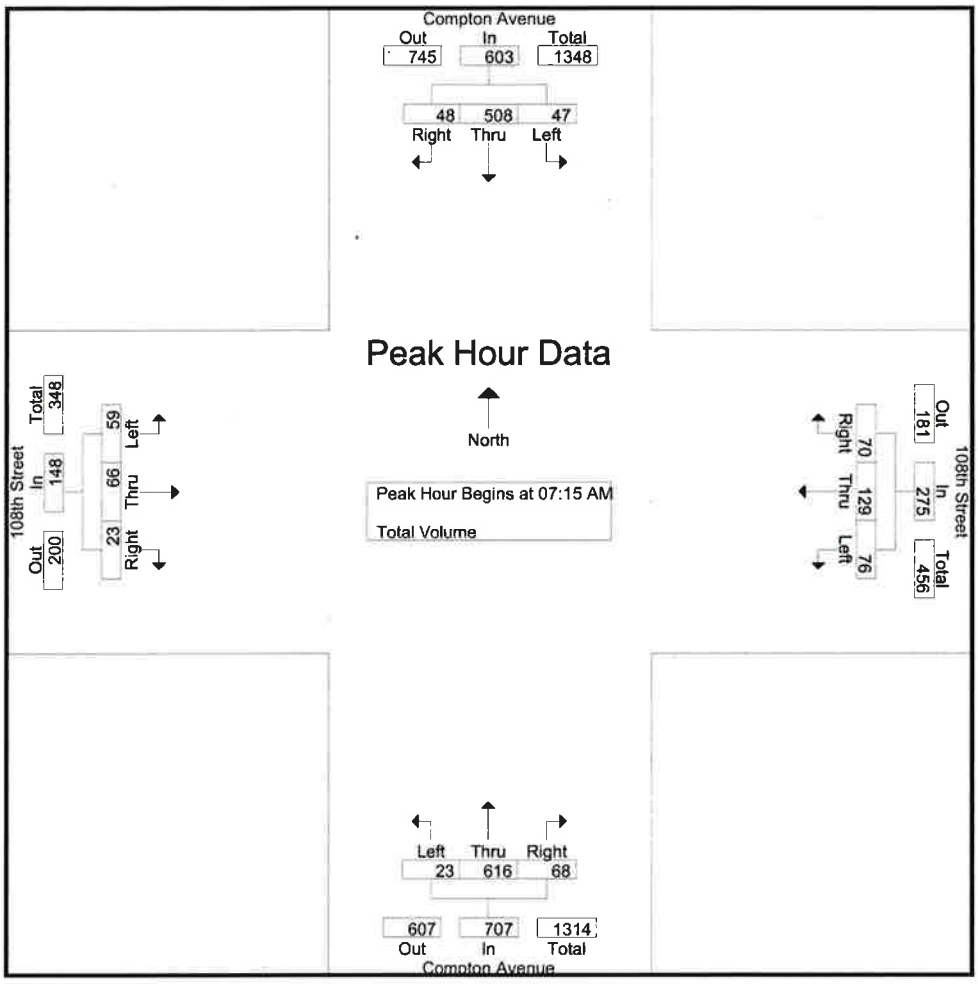
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:30 PM				04:30 PM			
+0 mins.	15	**102**	16	133	22	100	24	146	**36**	104	**25**	**165**	19	87	**25**	131
+15 mins.	13	89	14	116	18	102	**26**	146	24	111	17	152	**24**	91	21	**136**
+30 mins.	19	87	**23**	129	25	**109**	26	**160**	21	**116**	21	158	16	**95**	11	122
+45 mins.	**24**	93	17	**134**	**26**	76	22	124	19	116	20	155	19	76	23	118
Total Volume	71	371	70	512	91	387	98	576	100	447	83	630	78	349	80	507
% App. Total	13.9	72.5	13.7		15.8	67.2	17		15.9	71	13.2		15.4	68.8	15.8	
PHF	.740	.909	.761	.955	.875	.888	.942	.900	.694	.963	.830	.955	.813	.918	.800	.932

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County of Los Angeles
N/S: Compton Avenue
E/W: 108th Street
Weather: Clear

File Name : LACCO108AM
Site Code : 12815514
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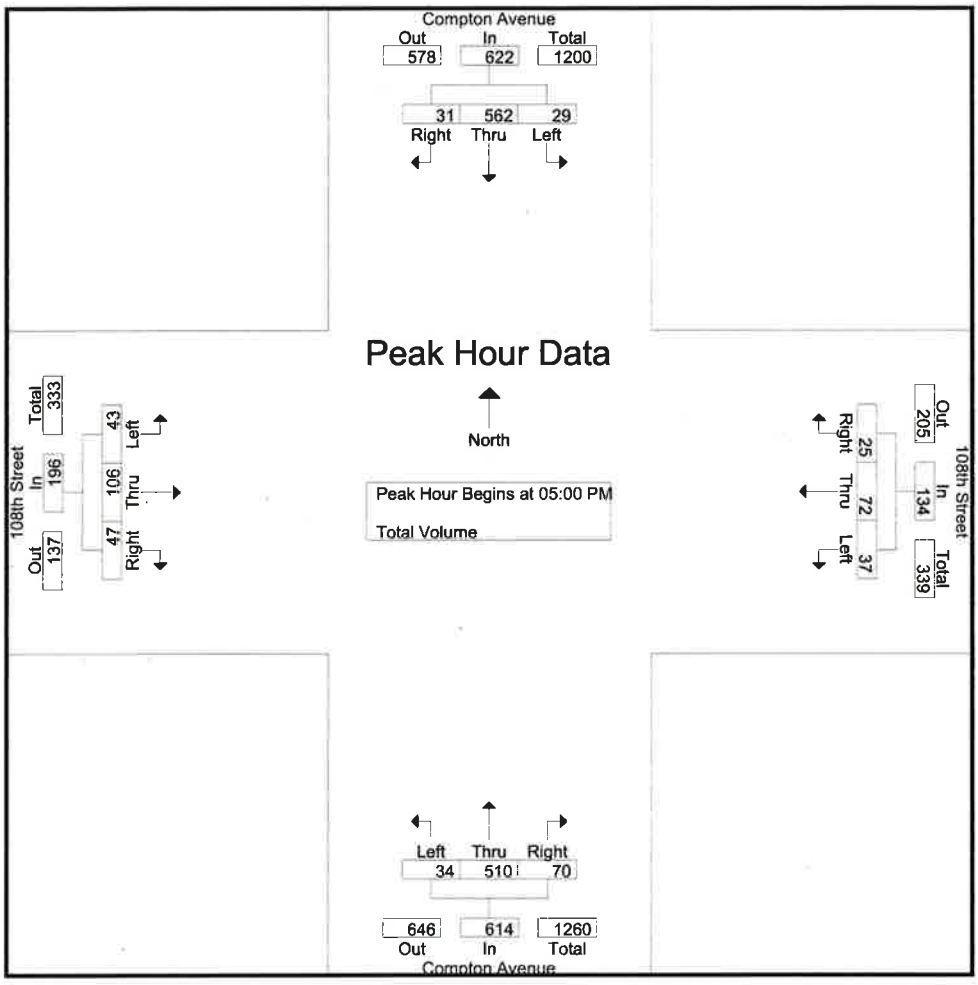
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:15 AM				07:00 AM			
+0 mins.	9	**149**	10	**168**	12	36	22	70	3	151	8	162	9	18	3	30
+15 mins.	**18**	123	**20**	161	27	**38**	**27**	**92**	**11**	151	17	179	10	13	**10**	33
+30 mins.	16	121	13	150	**28**	34	12	74	5	150	19	174	8	16	1	25
+45 mins.	6	108	12	126	16	17	11	44	4	**164**	**24**	**192**	**28**	**24**	8	**60**
Total Volume	49	501	55	605	83	125	72	280	23	616	68	707	55	71	22	148
% App. Total	8.1	82.8	9.1		29.6	44.6	25.7		3.3	87.1	9.6		37.2	48	14.9	
PHF	.681	.841	.688	.900	.741	.822	.667	.761	.523	.939	.708	.921	.491	.740	.550	.617

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County of Los Angeles
N/S: Compton Avenue
E/W: 108th Street
Weather: Clear

File Name : LACCO108PM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



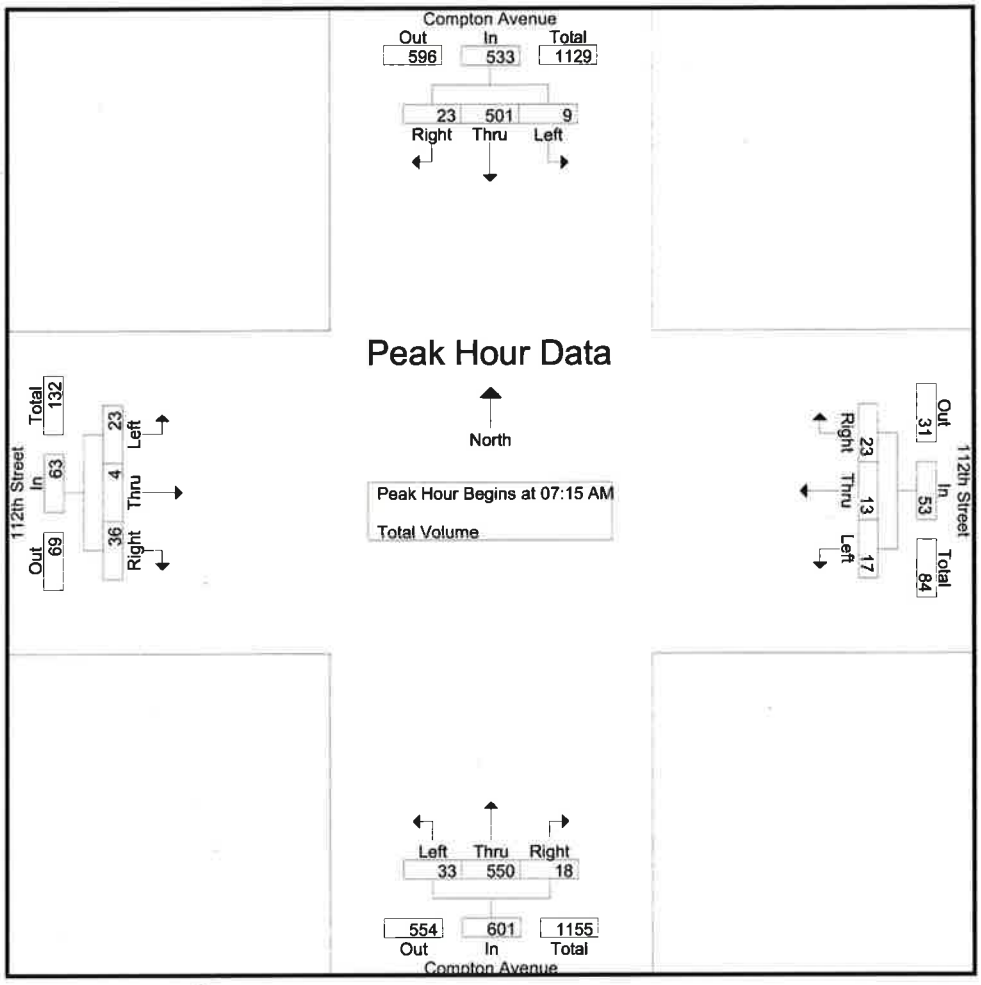
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:15 PM				05:00 PM			
+0 mins.	**10**	**157**	8	**175**	8	15	**10**	33	8	130	13	151	9	22	13	44
+15 mins.	8	121	**11**	140	8	**23**	2	33	9	**139**	15	**163**	9	20	**15**	44
+30 mins.	4	150	7	161	9	14	7	30	**11**	130	19	160	**13**	**32**	13	**58**
+45 mins.	7	134	5	146	**12**	20	6	**38**	11	123	**25**	159	12	32	6	50
Total Volume	29	562	31	622	37	72	25	134	39	522	72	633	43	106	47	196
% App. Total	4.7	90.4	5		27.6	53.7	18.7		6.2	82.5	11.4		21.9	54.1	24	
PHF	.725	.895	.705	.889	.771	.783	.625	.882	.886	.939	.720	.971	.827	.828	.783	.845

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County of Los Angeles
N/S: Compton Avenue
E/W: 112th Street
Weather: Clear

File Name : LACCO112AM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



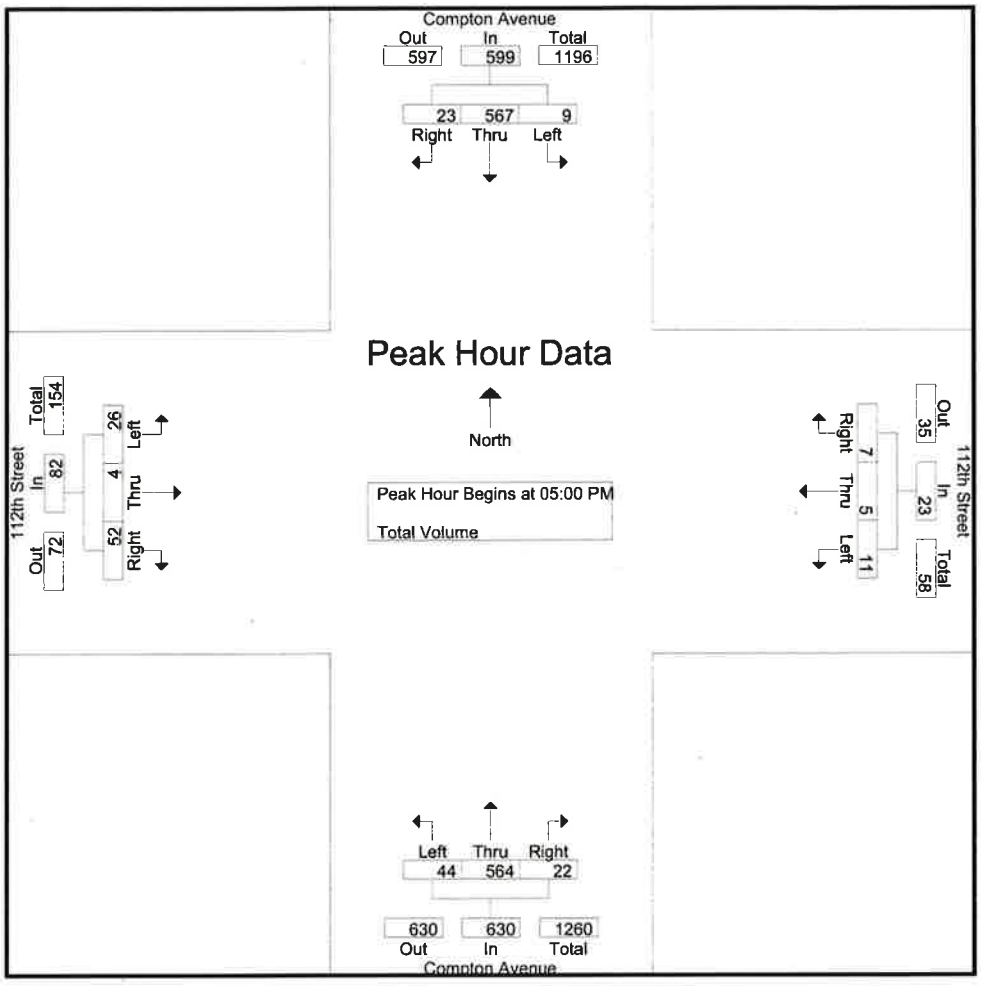
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:00 AM			
+0 mins.	1	126	4	131	3	1	3	7	4	127	3	134	**8**	0	10	18
+15 mins.	1	**163**	3	**167**	3	2	7	12	6	**159**	**6**	**171**	4	**1**	5	10
+30 mins.	2	113	7	122	**7**	**5**	**8**	**20**	11	123	4	138	5	1	**11**	17
+45 mins.	**5**	99	**9**	113	4	5	5	14	**12**	141	5	158	8	1	11	**20**
Total Volume	9	501	23	533	17	13	23	53	33	550	18	601	25	3	37	65
% App. Total	1.7	94	4.3		32.1	24.5	43.4		5.5	91.5	3		38.5	4.6	56.9	
PHF	.450	.768	.639	.798	.607	.650	.719	.663	.688	.865	.750	.879	.781	.750	.841	.813

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County of Los Angeles
N/S: Compton Avenue
E/W: 112th Street
Weather: Clear

File Name : LACCO112PM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



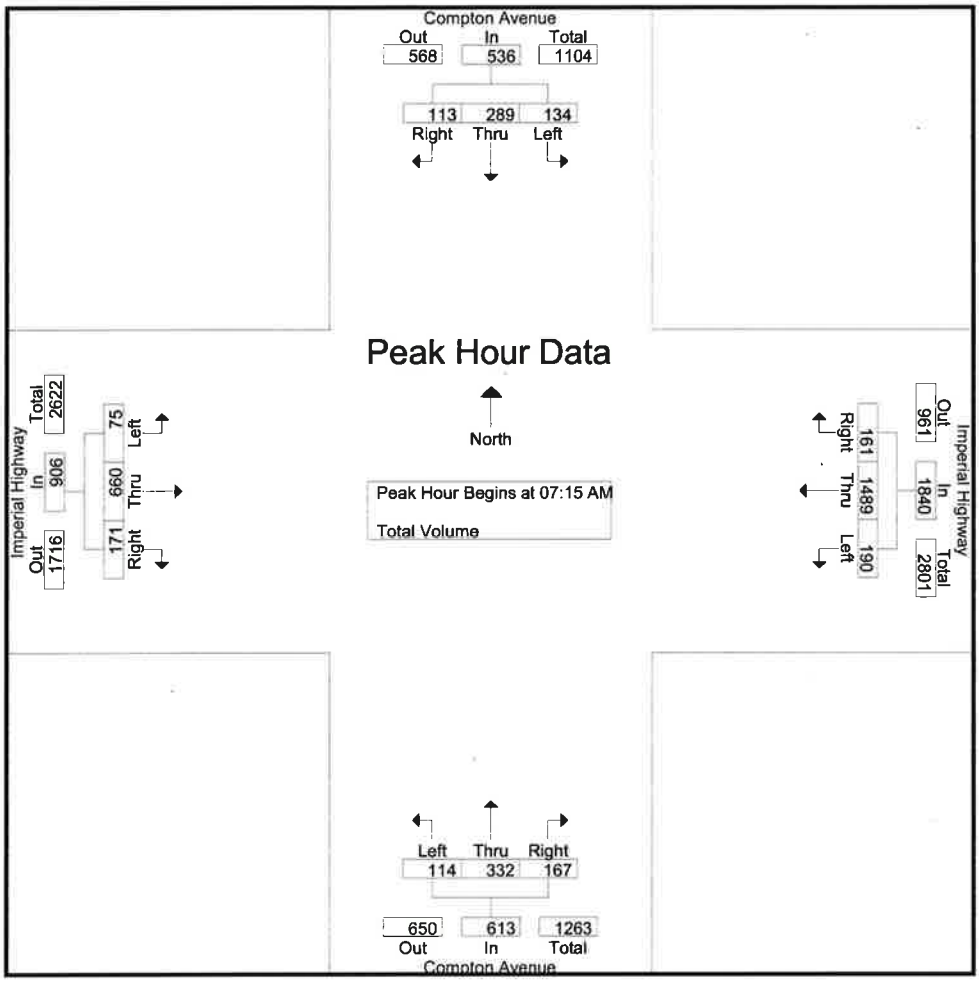
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:00 PM				04:45 PM			
+0 mins.	3	**152**	6	**161**	2	1	**3**	6	13	141	6	160	3	0	10	13
+15 mins.	0	131	5	136	3	1	3	7	4	**157**	10	**171**	**7**	0	**15**	22
+30 mins.	1	152	**8**	161	3	**2**	0	5	**19**	127	**13**	159	7	**2**	15	**24**
+45 mins.	**5**	132	4	141	**4**	2	2	**8**	11	143	9	163	7	1	15	23
Total Volume	9	567	23	599	12	6	8	26	47	568	38	653	24	3	55	82
% App. Total	1.5	94.7	3.8		46.2	23.1	30.8		7.2	87	5.8		29.3	3.7	67.1	
PHF	.450	.933	.719	.930	.750	.750	.667	.813	.618	.904	.731	.955	.857	.375	.917	.854

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County of Los Angeles
N/S: Compton Avenue
E/W: Imperial Highway
Weather: Clear

File Name : LACCOIMAM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



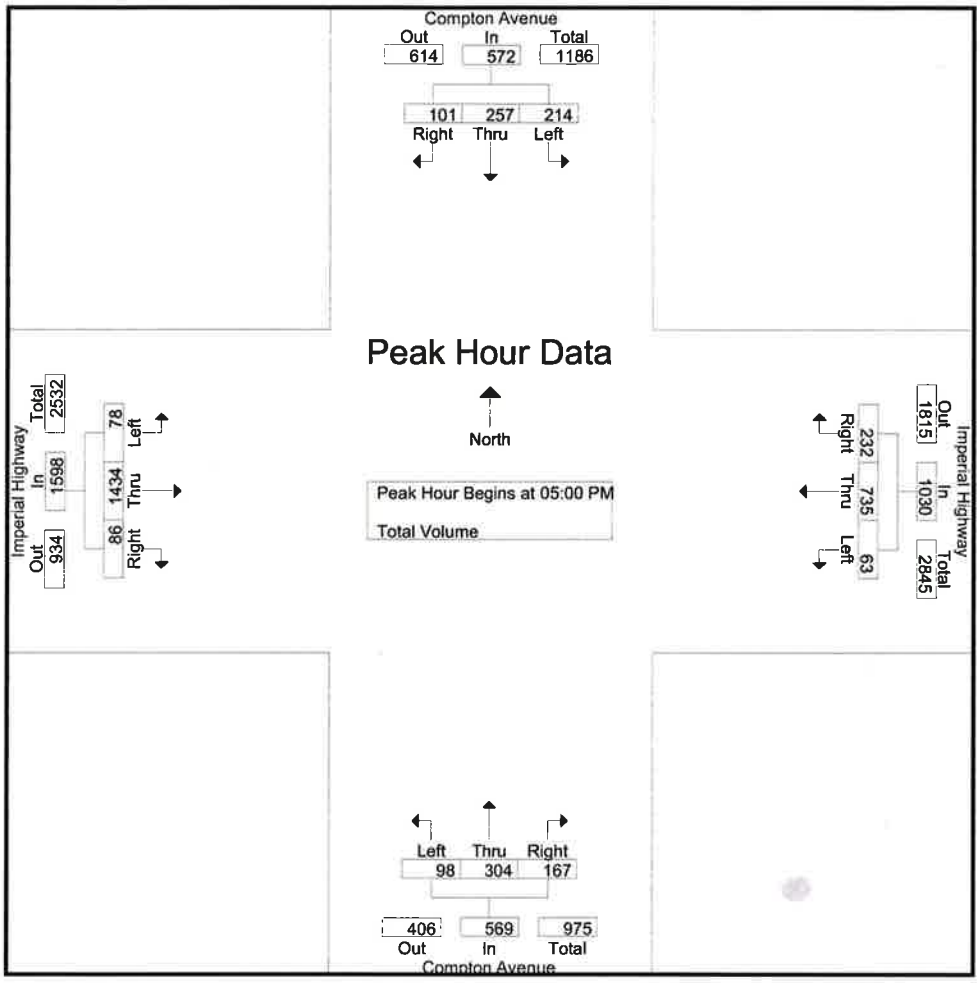
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:15 AM				07:15 AM			
+0 mins.	34	73	28	135	47	348	38	433	30	62	39	131	15	133	32	180
+15 mins.	35	79	26	140	46	394	35	475	26	89	32	147	18	175	56	249
+30 mins.	29	**90**	29	**148**	49	402	35	486	**32**	**104**	**51**	**187**	19	**187**	**60**	**266**
+45 mins.	**36**	47	**30**	113	**51**	**405**	**39**	**495**	26	77	45	148	**23**	165	23	211
Total Volume	134	289	113	536	193	1549	147	1889	114	332	167	613	75	660	171	906
% App. Total	25	53.9	21.1		10.2	82	7.8		18.6	54.2	27.2		8.3	72.8	18.9	
PHF	.931	.803	.942	.905	.946	.956	.942	.954	.891	.798	.819	.820	.815	.882	.713	.852

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County of Los Angeles
N/S: Compton Avenue
E/W: Imperial Highway
Weather: Clear

File Name : LACCOIMPM
Site Code : 12815514
Start Date : 9/23/2015
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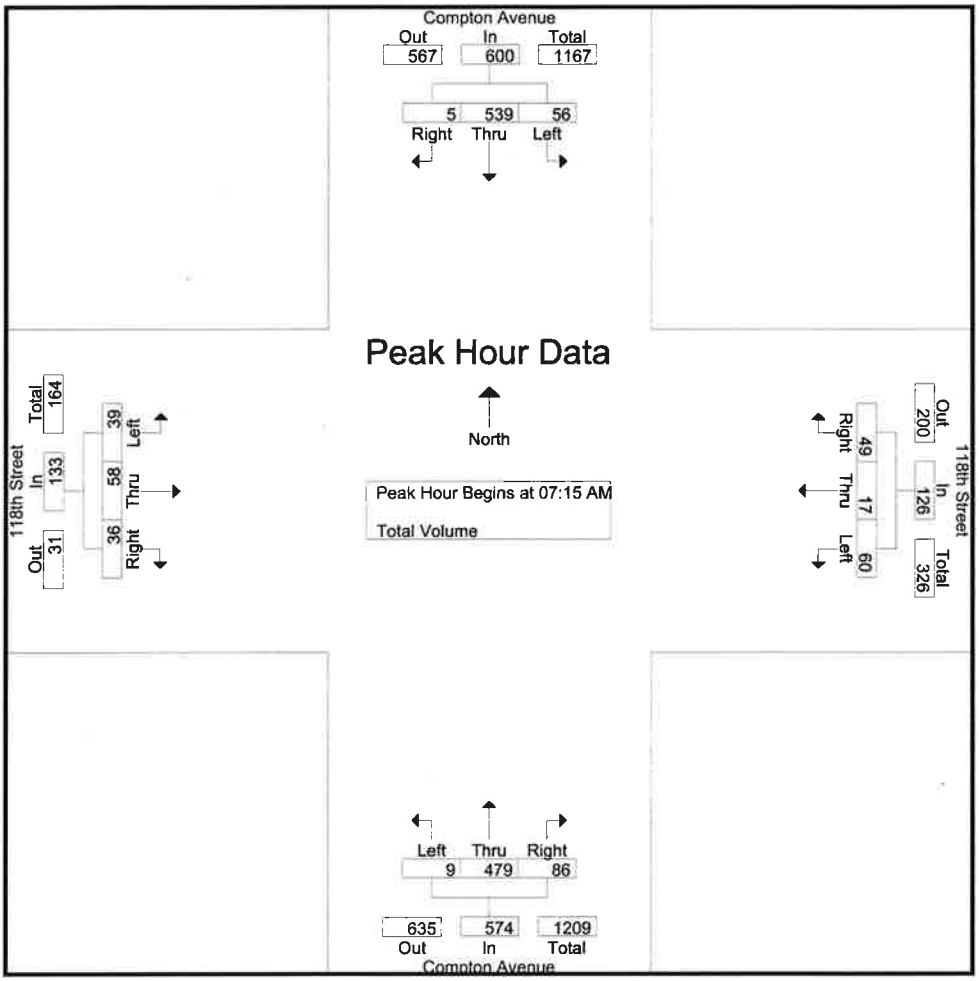
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				04:15 PM				05:00 PM			
+0 mins.	**94**	**90**	**47**	**231**	**23**	178	**67**	268	20	77	51	148	14	356	24	394
+15 mins.	40	58	25	123	20	**205**	55	**280**	**32**	**79**	**52**	**163**	14	350	16	380
+30 mins.	44	66	27	137	13	196	64	273	19	74	51	144	**26**	**367**	**25**	**418**
+45 mins.	44	46	29	119	16	180	55	251	30	73	46	149	24	361	21	406
Total Volume	222	260	128	610	72	759	241	1072	101	303	200	604	78	1434	86	1598
% App. Total	36.4	42.6	21		6.7	70.8	22.5		16.7	50.2	33.1		4.9	89.7	5.4	
PHF	.590	.722	.681	.660	.783	.926	.899	.957	.789	.959	.962	.926	.750	.977	.860	.956

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County of Los Angeles
N/S: Compton Avenue
E/W: 118th Street
Weather: Clear

File Name : CLACO118AM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



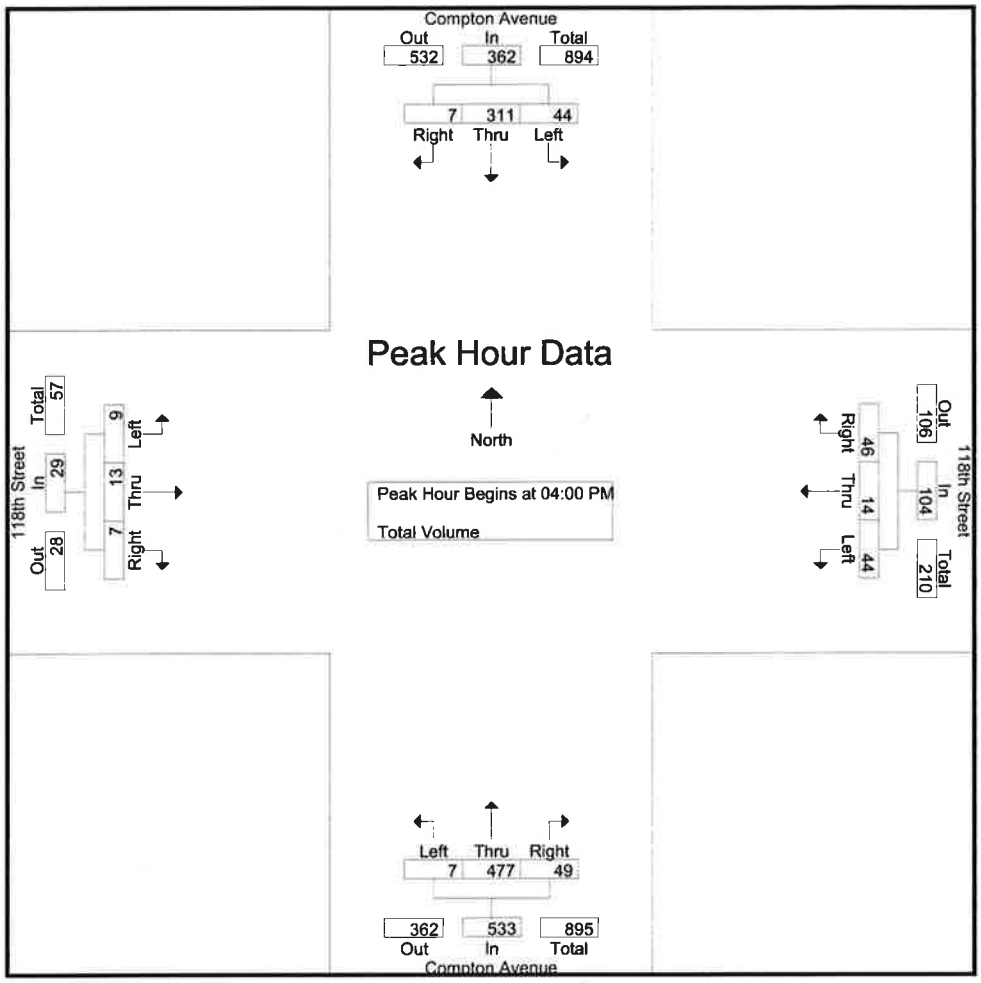
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:15 AM				07:15 AM			
+0 mins.	8	119	1	128	**22**	3	10	35	**4**	113	9	126	2	6	**12**	20
+15 mins.	9	146	0	155	18	**8**	**16**	**42**	3	123	25	151	12	14	9	35
+30 mins.	**20**	**158**	**3**	**181**	15	5	15	35	0	**135**	**32**	**167**	**17**	**21**	12	**50**
+45 mins.	19	116	1	136	15	4	9	28	2	108	20	130	8	17	3	28
Total Volume	56	539	5	600	70	20	50	140	9	479	86	574	39	58	36	133
% App. Total	9.3	89.8	0.8		50	14.3	35.7		1.6	83.4	15		29.3	43.6	27.1	
PHF	.700	.853	.417	.829	.795	.625	.781	.833	.563	.887	.672	.859	.574	.690	.750	.665

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County of Los Angeles
N/S: Compton Avenue
E/W: 118th Street
Weather: Clear

File Name : CLACO118PM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



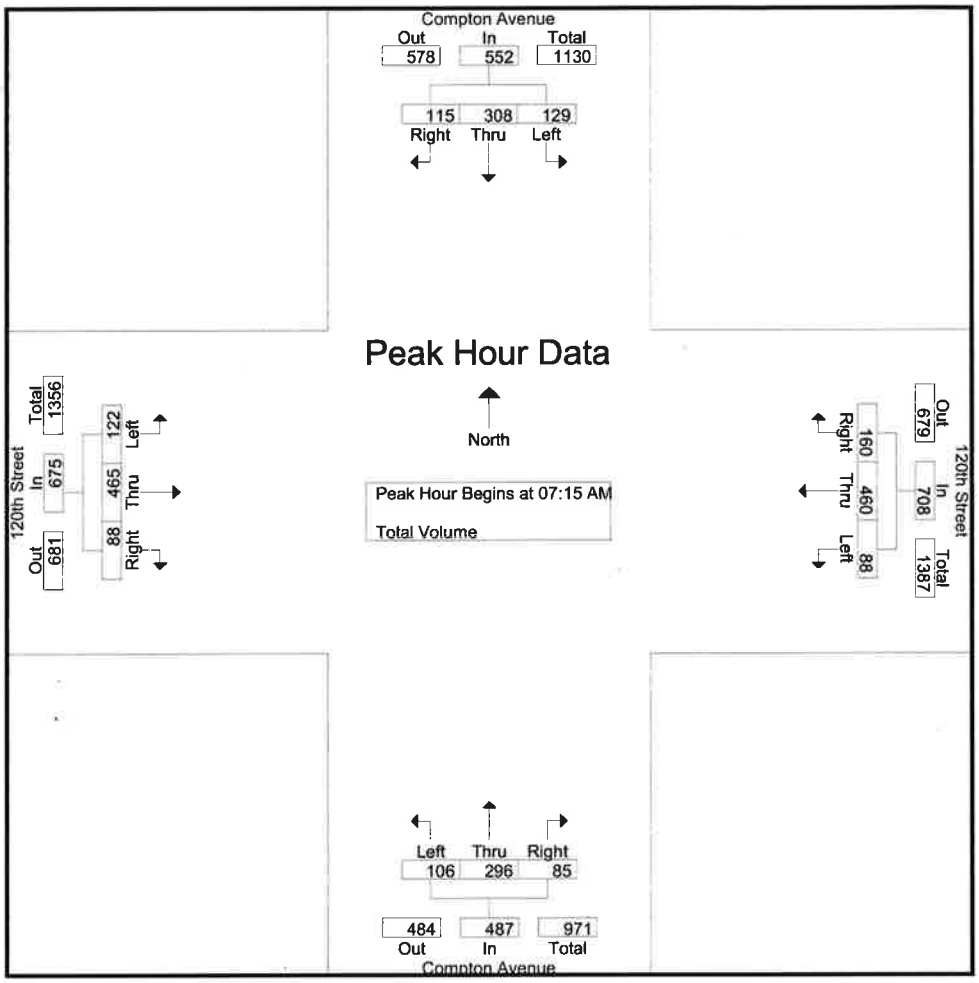
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:00 PM				04:30 PM			
+0 mins.	13	79	**4**	**96**	12	3	16	31	**4**	104	14	122	2	5	2	9
+15 mins.	**16**	79	1	96	**13**	**7**	**18**	**38**	0	127	**17**	144	1	4	1	6
+30 mins.	10	73	1	84	6	3	8	17	2	**133**	12	**147**	0	4	2	6
+45 mins.	5	**80**	1	86	12	4	11	27	1	113	6	120	**3**	**7**	**3**	**13**
Total Volume	44	311	7	362	43	17	53	113	7	477	49	533	6	20	8	34
% App. Total	12.2	85.9	1.9		38.1	15	46.9		1.3	89.5	9.2		17.6	58.8	23.5	
PHF	.688	.972	.438	.943	.827	.607	.736	.743	.438	.897	.721	.906	.500	.714	.667	.654

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County of Los Angeles
N/S: Compton Avenue
E/W: 120th Street
Weather: Clear

File Name : CLACO120AM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



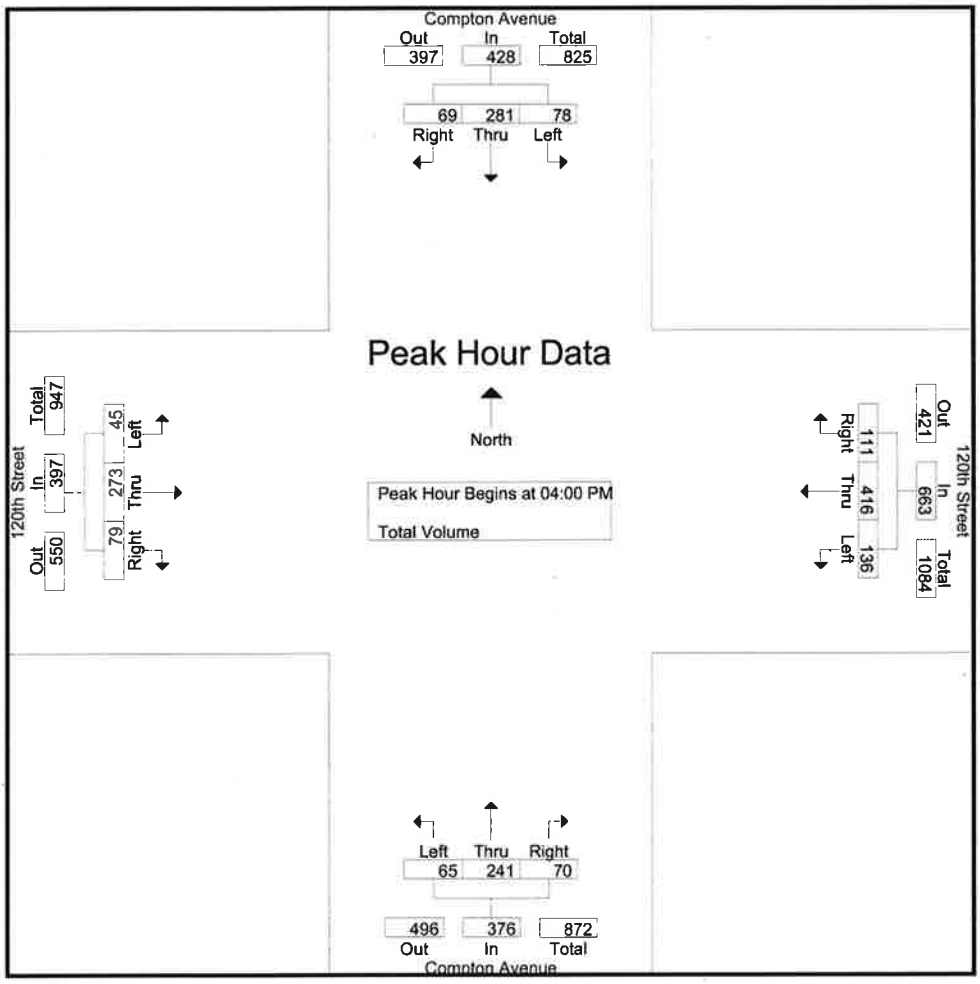
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	17	84	24	125	12	86	32	130	20	76	18	114	27	73	14	114
+15 mins.	30	**89**	20	139	**32**	129	41	202	29	**78**	22	129	**34**	106	25	165
+30 mins.	**47**	69	**44**	**160**	30	**158**	**47**	**235**	**33**	76	21	**130**	34	**164**	**28**	**226**
+45 mins.	35	66	27	128	14	87	40	141	24	66	**24**	114	27	122	21	170
Total Volume	129	308	115	552	88	460	160	708	106	296	85	487	122	465	88	675
% App. Total	23.4	55.8	20.8		12.4	65	22.6		21.8	60.8	17.5		18.1	68.9	13	
PHF	.686	.865	.653	.863	.688	.728	.851	.753	.803	.949	.885	.937	.897	.709	.786	.747

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County of Los Angeles
N/S: Compton Avenue
E/W: 120th Street
Weather: Clear

File Name : CLACO120PM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



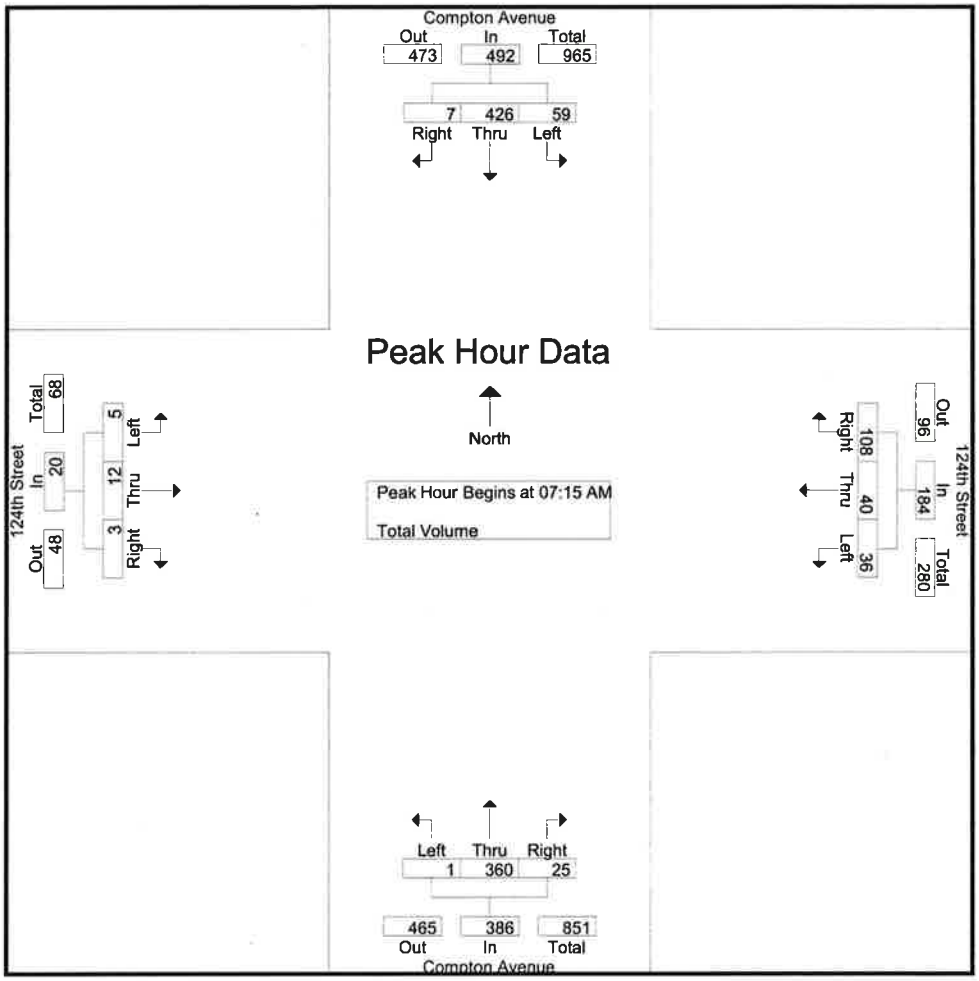
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:15 PM				04:30 PM			
+0 mins.	**24**	66	13	103	25	97	**27**	149	11	**77**	13	**101**	**15**	**89**	**26**	**130**
+15 mins.	18	**91**	15	**124**	**41**	103	27	171	19	48	**23**	90	12	79	20	111
+30 mins.	16	65	19	100	31	119	24	174	**24**	59	17	100	6	70	14	90
+45 mins.	20	59	**22**	101	38	**133**	19	**190**	9	60	17	86	5	51	20	76
Total Volume	78	281	69	428	135	452	97	684	63	244	70	377	38	289	80	407
% App. Total	18.2	65.7	16.1		19.7	66.1	14.2		16.7	64.7	18.6		9.3	71	19.7	
PHF	.813	.772	.784	.863	.823	.850	.898	.900	.656	.792	.761	.933	.633	.812	.769	.783

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County of Los Angeles
N/S: Compton Avenue
E/W: 124th Street
Weather: Clear

File Name : CLACO124AM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



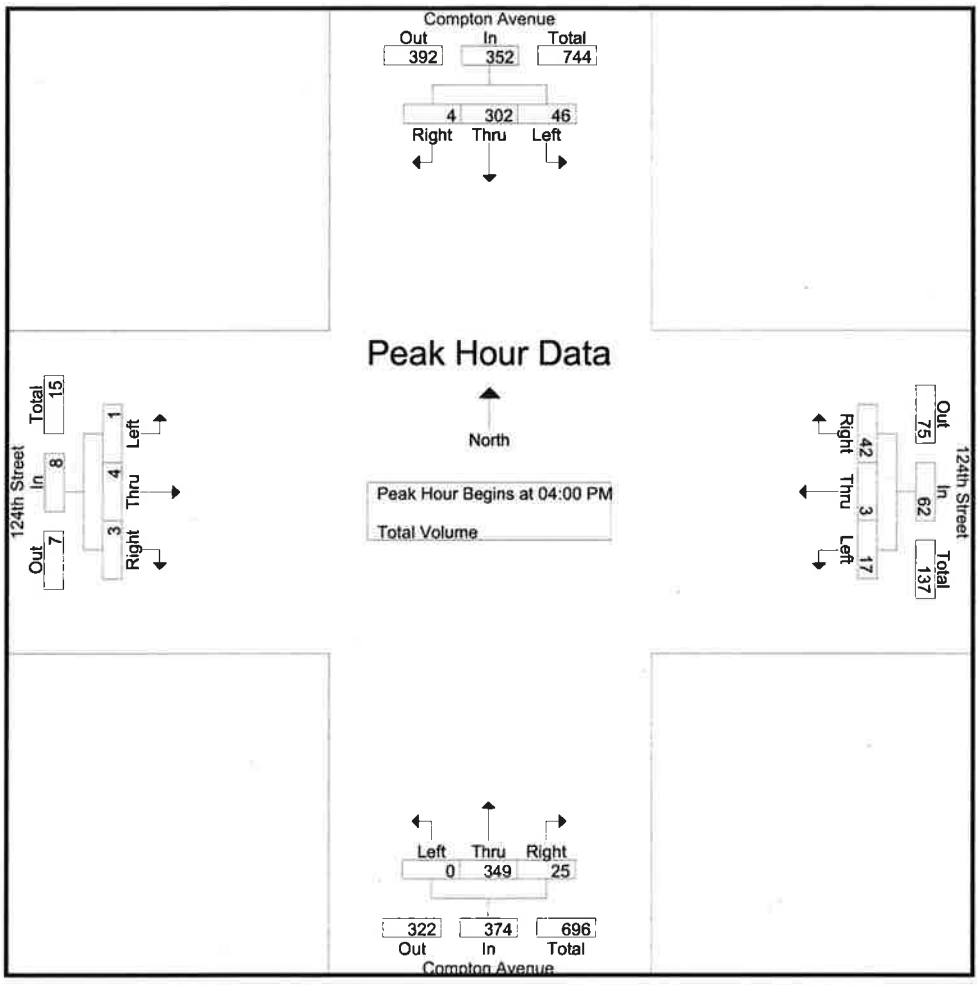
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	12	100	1	113	3	6	26	35	0	72	4	76	1	**4**	**1**	**6**
+15 mins.	13	**130**	**2**	**145**	**14**	9	**31**	54	0	97	5	102	**2**	1	1	4
+30 mins.	**20**	114	2	136	12	**20**	31	**63**	0	**103**	**10**	**113**	1	4	0	5
+45 mins.	14	82	2	98	7	5	20	32	**1**	88	6	95	1	3	1	5
Total Volume	59	426	7	492	36	40	108	184	1	360	25	386	5	12	3	20
% App. Total	12	86.6	1.4		19.6	21.7	58.7		0.3	93.3	6.5		25	60	15	
PHF	.738	.819	.875	.848	.643	.500	.871	.730	.250	.874	.625	.854	.625	.750	.750	.833

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County of Los Angeles
N/S: Compton Avenue
E/W: 124th Street
Weather: Clear

File Name : CLACO124PM
Site Code : 12815514
Start Date : 9/23/2015
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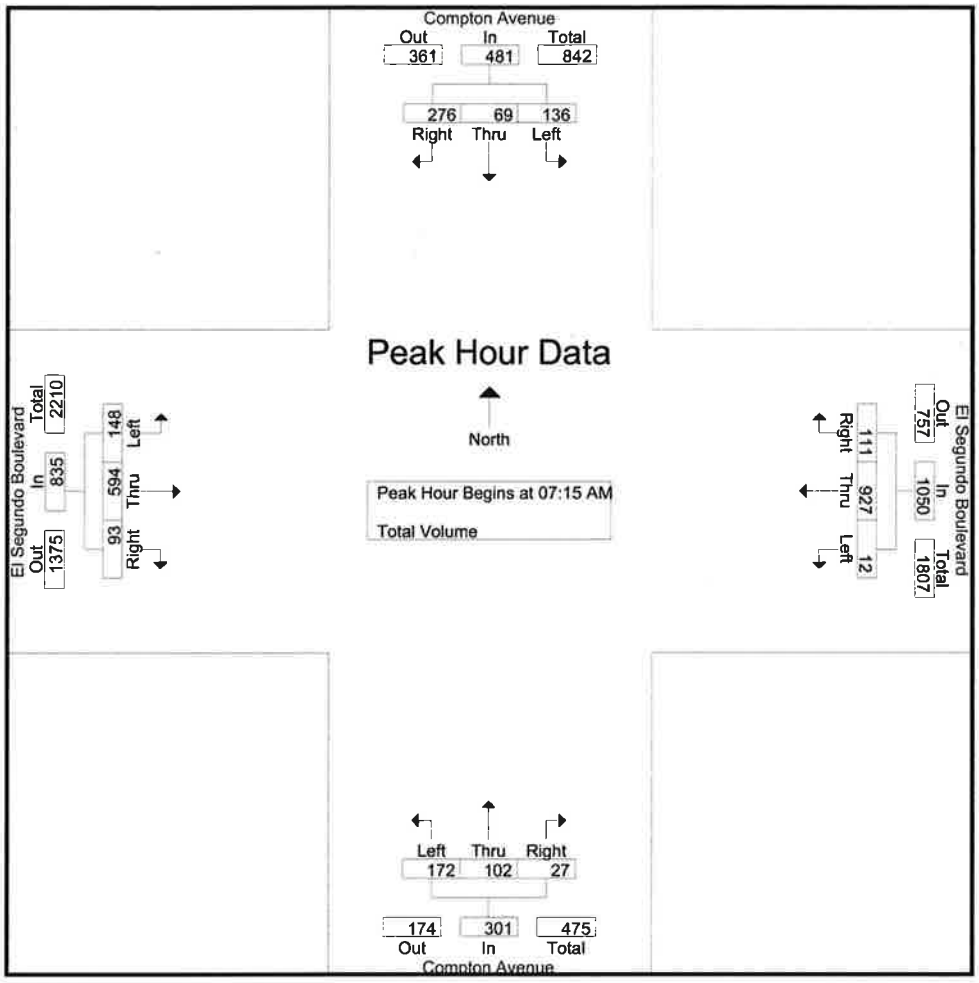
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				04:00 PM				04:15 PM			
+0 mins.	12	**88**	**1**	**101**	**9**	4	12	**25**	0	89	5	94	1	0	1	2
+15 mins.	**13**	69	0	82	6	**5**	8	19	0	**94**	7	**101**	0	**2**	**2**	**4**
+30 mins.	8	65	1	74	7	0	9	16	0	82	**8**	90	0	1	0	1
+45 mins.	12	84	1	97	3	2	**16**	21	0	84	5	89	**2**	1	0	3
Total Volume	45	306	3	354	25	11	45	81	0	349	25	374	3	4	3	10
% App. Total	12.7	86.4	0.8		30.9	13.6	55.6		0	93.3	6.7		30	40	30	
PHF	.865	.869	.750	.876	.694	.550	.703	.810	.000	.928	.781	.926	.375	.500	.375	.625

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County of Los Angeles
N/S: Compton Avenue
E/W: El Segundo Boulevard
Weather: Clear

File Name : CLACOELAM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



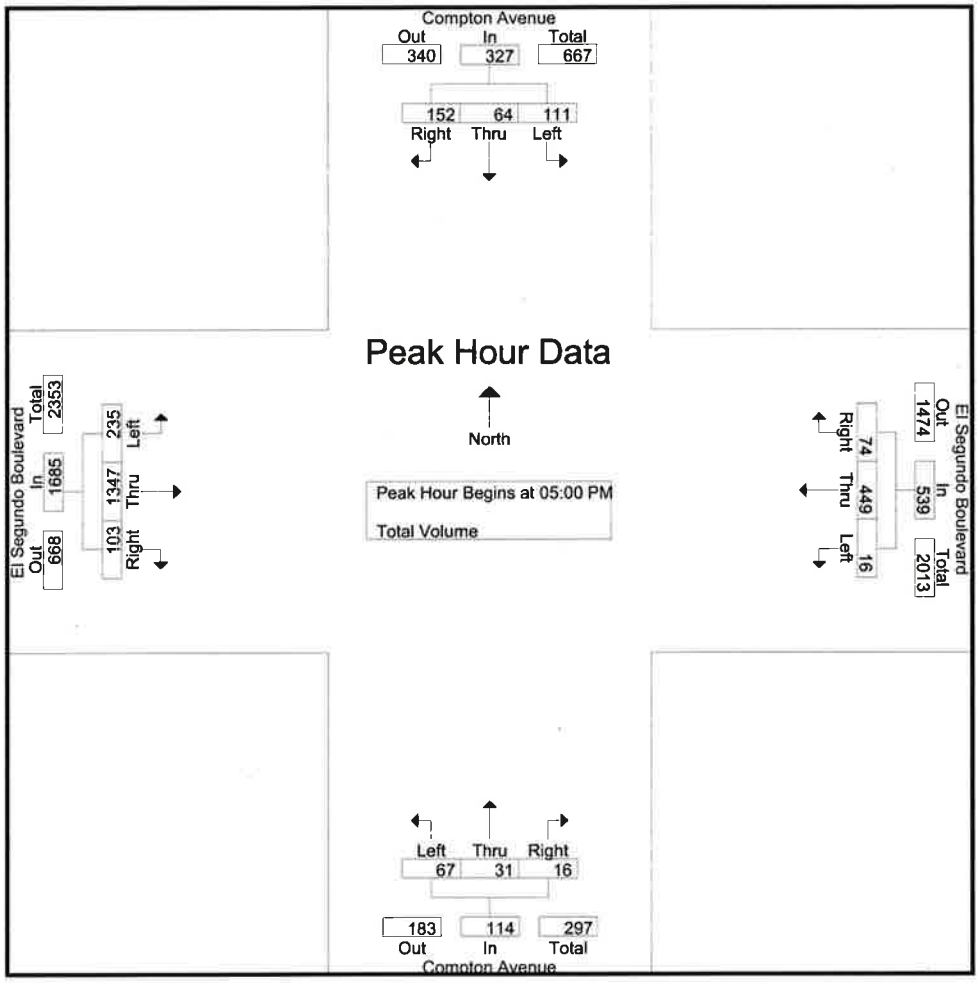
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:15 AM				07:30 AM			
+0 mins.	29	13	61	103	0	216	17	233	33	16	7	56	37	155	13	205
+15 mins.	36	17	81	134	1	223	24	248	49	29	5	83	33	**199**	**39**	**271**
+30 mins.	**48**	**21**	**83**	**152**	5	**270**	26	**301**	**60**	**39**	**11**	**110**	**51**	154	35	240
+45 mins.	23	18	51	92	**6**	240	**34**	280	30	18	4	52	21	102	23	146
Total Volume	136	69	276	481	12	949	101	1062	172	102	27	301	142	610	110	862
% App. Total	28.3	14.3	57.4		1.1	89.4	9.5		57.1	33.9	9		16.5	70.8	12.8	
PHF	.708	.821	.831	.791	.500	.879	.743	.882	.717	.654	.614	.684	.696	.766	.705	.795

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County of Los Angeles
N/S: Compton Avenue
E/W: El Segundo Boulevard
Weather: Clear

File Name : CLACOELPM
Site Code : 12815514
Start Date : 9/23/2015
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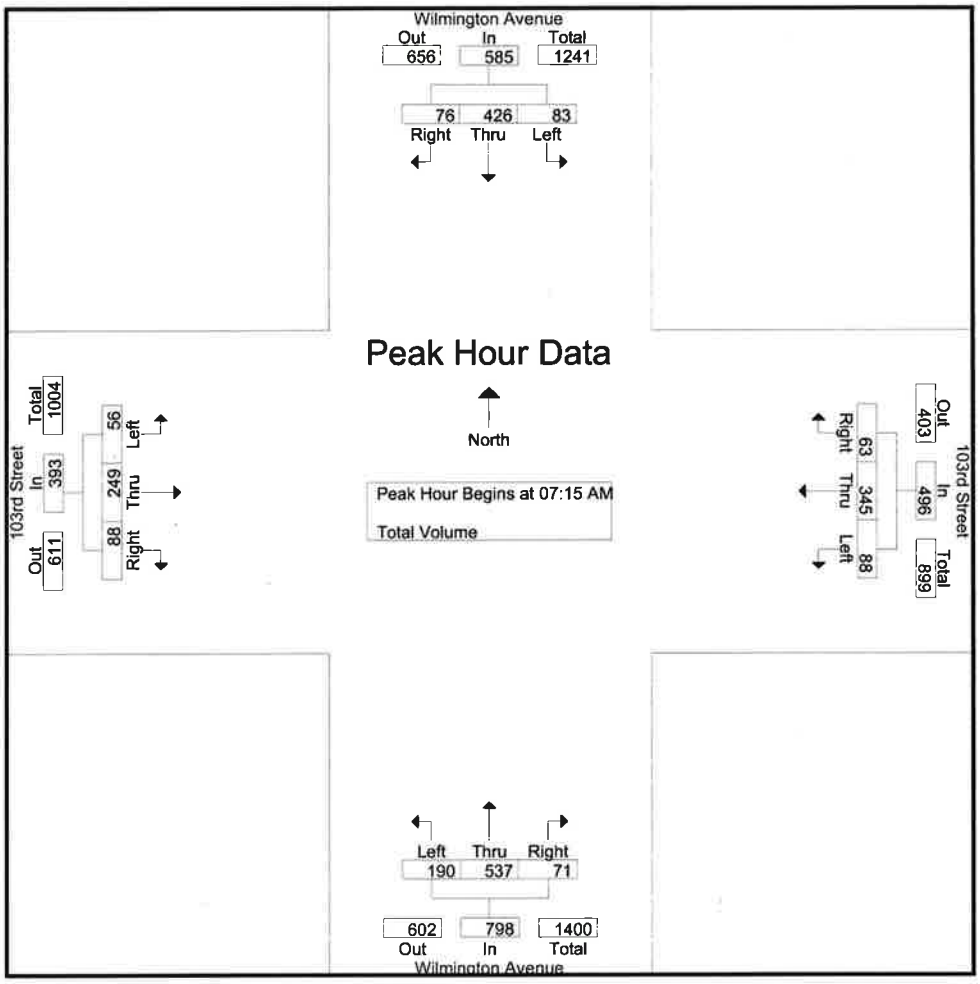
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				05:00 PM				05:00 PM			
+0 mins.	25	**21**	45	**91**	4	112	**25**	141	20	**9**	2	31	52	329	**31**	412
+15 mins.	**29**	15	29	73	4	109	21	134	9	8	3	20	58	**344**	27	**429**
+30 mins.	28	14	**47**	89	4	**130**	24	**158**	**23**	5	**6**	**34**	60	338	18	416
+45 mins.	29	14	31	74	**5**	117	17	139	15	9	5	29	**65**	336	27	428
Total Volume	111	64	152	327	17	468	87	572	67	31	16	114	235	1347	103	1685
% App. Total	33.9	19.6	46.5		3	81.8	15.2		58.8	27.2	14		13.9	79.9	6.1	
PHF	.957	.762	.809	.898	.850	.900	.870	.905	.728	.861	.667	.838	.904	.979	.831	.982

Counts Unlimited
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County of Los Angeles
N/S: Wilmington Avenue
E/W: 103rd Street
Weather: Clear

File Name : LACWI103AM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



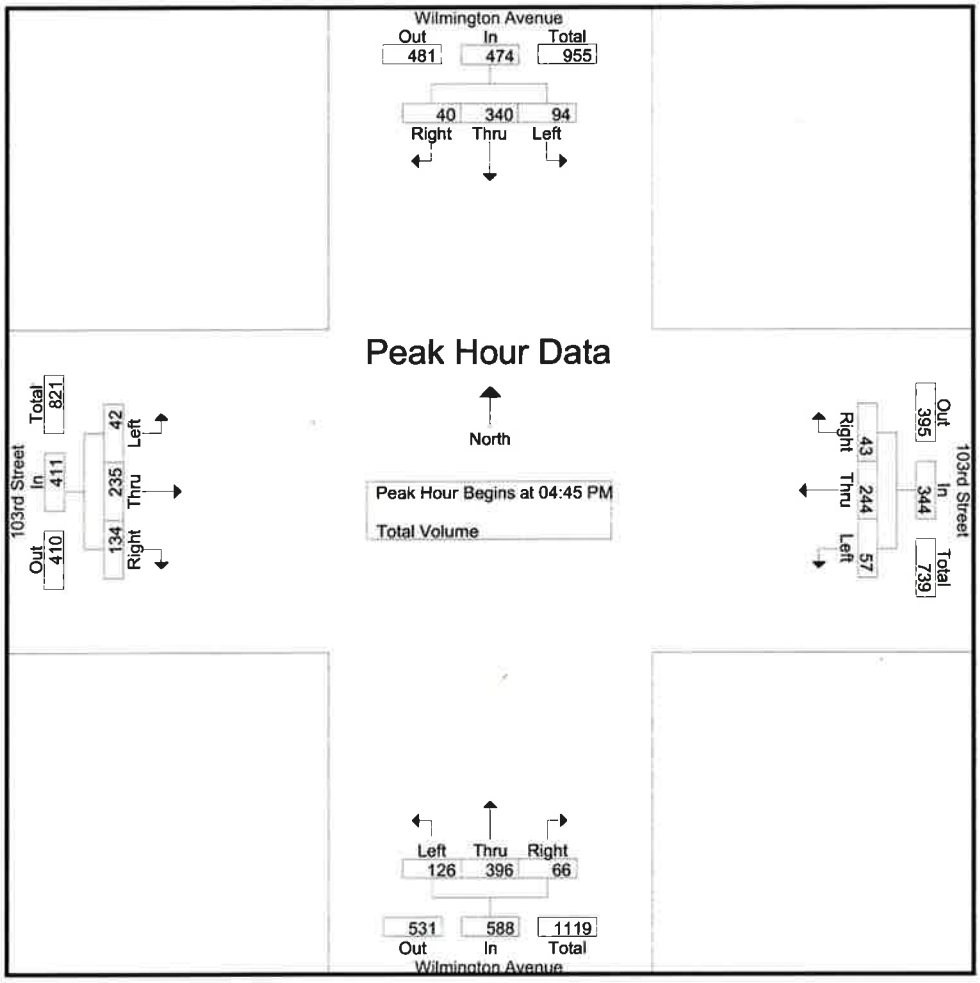
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:30 AM			
+0 mins.	17	96	10	123	12	71	14	97	37	115	16	168	12	62	15	89
+15 mins.	20	111	13	144	**28**	86	10	124	42	144	12	198	**23**	**85**	**37**	**145**
+30 mins.	**28**	**117**	25	**170**	21	**107**	**20**	**148**	55	**149**	19	**223**	15	66	26	107
+45 mins.	18	102	**28**	148	27	81	19	127	**56**	129	**24**	209	12	61	25	98
Total Volume	83	426	76	585	88	345	63	496	190	537	71	798	62	274	103	439
% App. Total	14.2	72.8	13		17.7	69.6	12.7		23.8	67.3	8.9		14.1	62.4	23.5	
PHF	.741	.910	.679	.860	.786	.806	.788	.838	.848	.901	.740	.895	.674	.806	.696	.757

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County of Los Angeles
N/S: Wilmington Avenue
E/W: 103rd Street
Weather: Clear

File Name : LACWI103PM
Site Code : 12815514
Start Date : 9/23/2015
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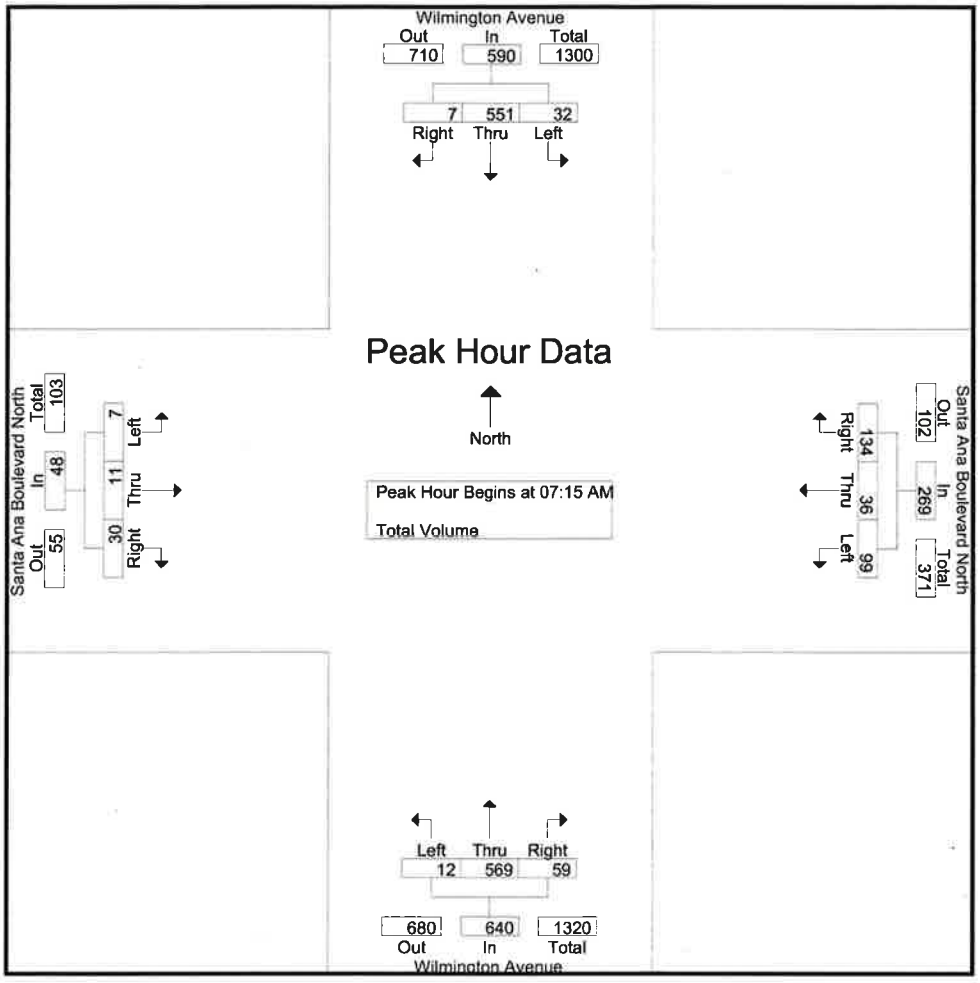
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:30 PM				04:00 PM			
+0 mins.	17	90	**12**	119	10	**75**	**13**	**98**	34	90	19	143	**13**	**75**	26	**114**
+15 mins.	26	83	6	115	**18**	53	8	79	27	100	12	139	12	51	36	99
+30 mins.	30	89	11	130	14	57	11	82	**38**	94	**20**	152	8	67	37	112
+45 mins.	**44**	**97**	10	**151**	15	59	11	85	32	**105**	18	**155**	10	58	**38**	106
Total Volume	117	359	39	515	57	244	43	344	131	389	69	589	43	251	137	431
% App. Total	22.7	69.7	7.6		16.6	70.9	12.5		22.2	66	11.7		10	58.2	31.8	
PHF	.665	.925	.813	.853	.792	.813	.827	.878	.862	.926	.863	.950	.827	.837	.901	.945

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County of Los Angeles
N/S: Wilmington Avenue
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Weather: Clear

File Name : LACWISNAM
Site Code : 12815514
Start Date : 9/23/2015
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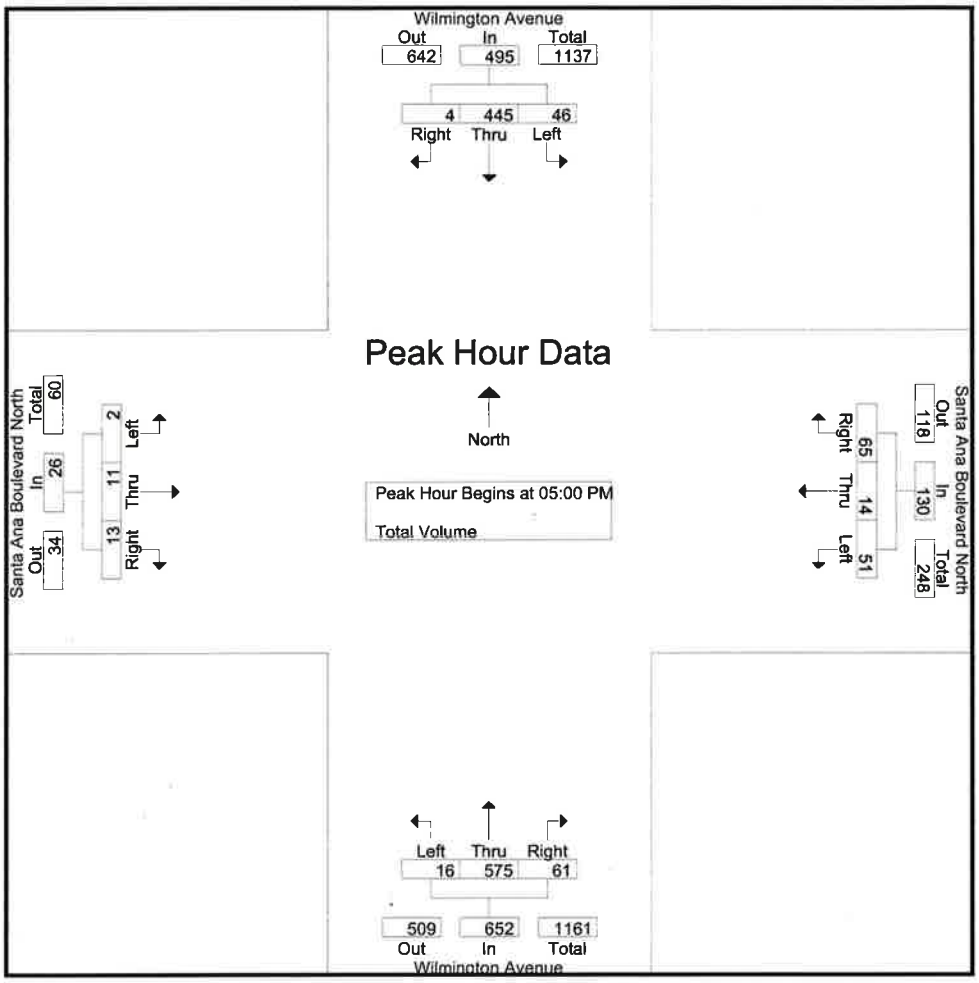
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				07:30 AM			
+0 mins.	6	134	1	141	14	3	27	44	4	141	19	164	0	3	7	10
+15 mins.	**10**	**153**	2	**165**	27	7	**43**	**77**	**5**	**157**	**22**	**184**	3	3	**12**	**18**
+30 mins.	7	137	**3**	147	**33**	12	30	75	1	142	8	151	**4**	**4**	9	17
+45 mins.	9	127	1	137	25	**14**	34	73	2	142	7	151	0	2	3	5
Total Volume	32	551	7	590	99	36	134	269	12	582	56	650	7	12	31	50
% App. Total	5.4	93.4	1.2		36.8	13.4	49.8		1.8	89.5	8.6		14	24	62	
PHF	.800	.900	.583	.894	.750	.643	.779	.873	.600	.927	.636	.883	.438	.750	.646	.694

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County of Los Angeles
N/S: Wilmington Avenue
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Weather: Clear

File Name : LACWISNPM
Site Code : 12815514
Start Date : 9/23/2015
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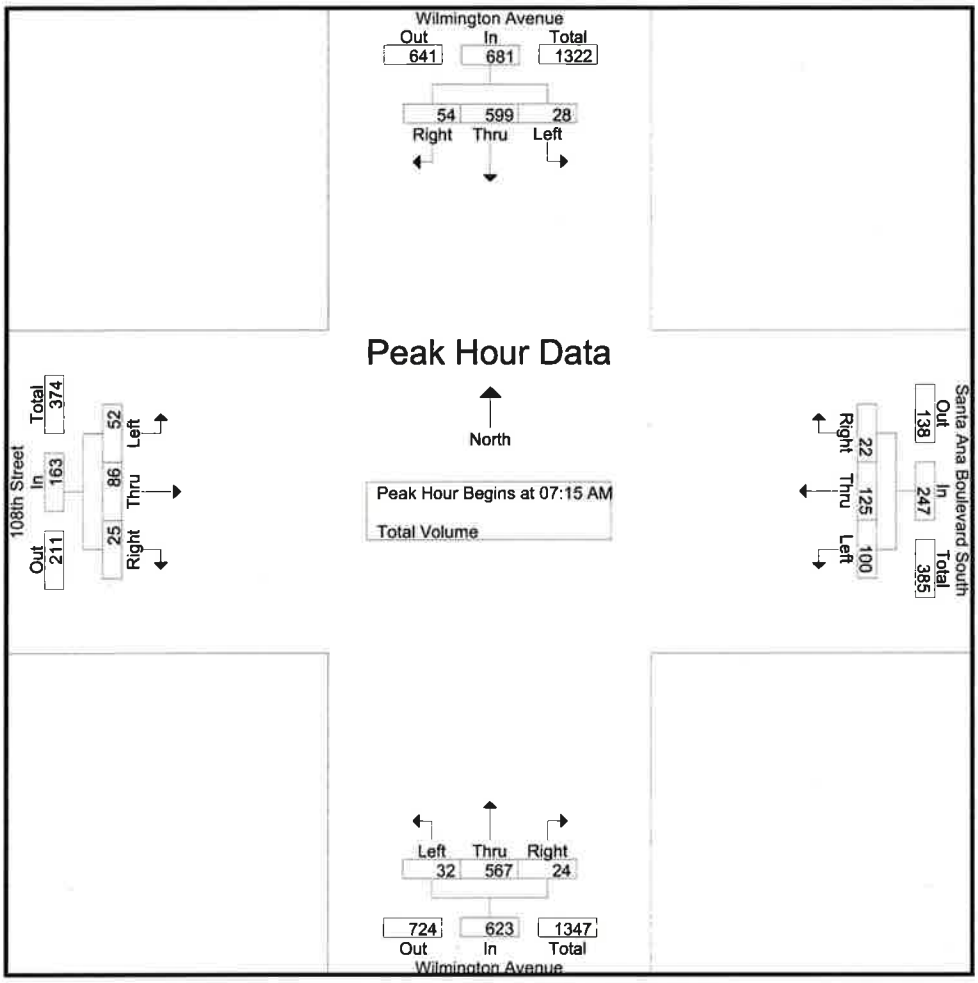
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:45 PM				04:15 PM			
+0 mins.	9	102	1	112	13	**6**	22	41	2	145	**17**	164	**2**	5	4	11
+15 mins.	11	107	1	119	13	4	**25**	42	4	143	13	160	2	**7**	5	**14**
+30 mins.	10	110	0	120	**17**	5	22	**44**	4	145	16	165	1	4	4	9
+45 mins.	**16**	**126**	**2**	**144**	12	3	16	31	**5**	**150**	16	**171**	0	5	**6**	11
Total Volume	46	445	4	495	55	18	85	158	15	583	62	660	5	21	19	45
% App. Total	9.3	89.9	0.8		34.8	11.4	53.8		2.3	88.3	9.4		11.1	46.7	42.2	
PHF	.719	.883	.500	.859	.809	.750	.850	.898	.750	.972	.912	.965	.625	.750	.792	.804

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County of Los Angeles
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Weather: Clear

File Name : LACWISSAM
Site Code : 12815514
Start Date : 9/23/2015
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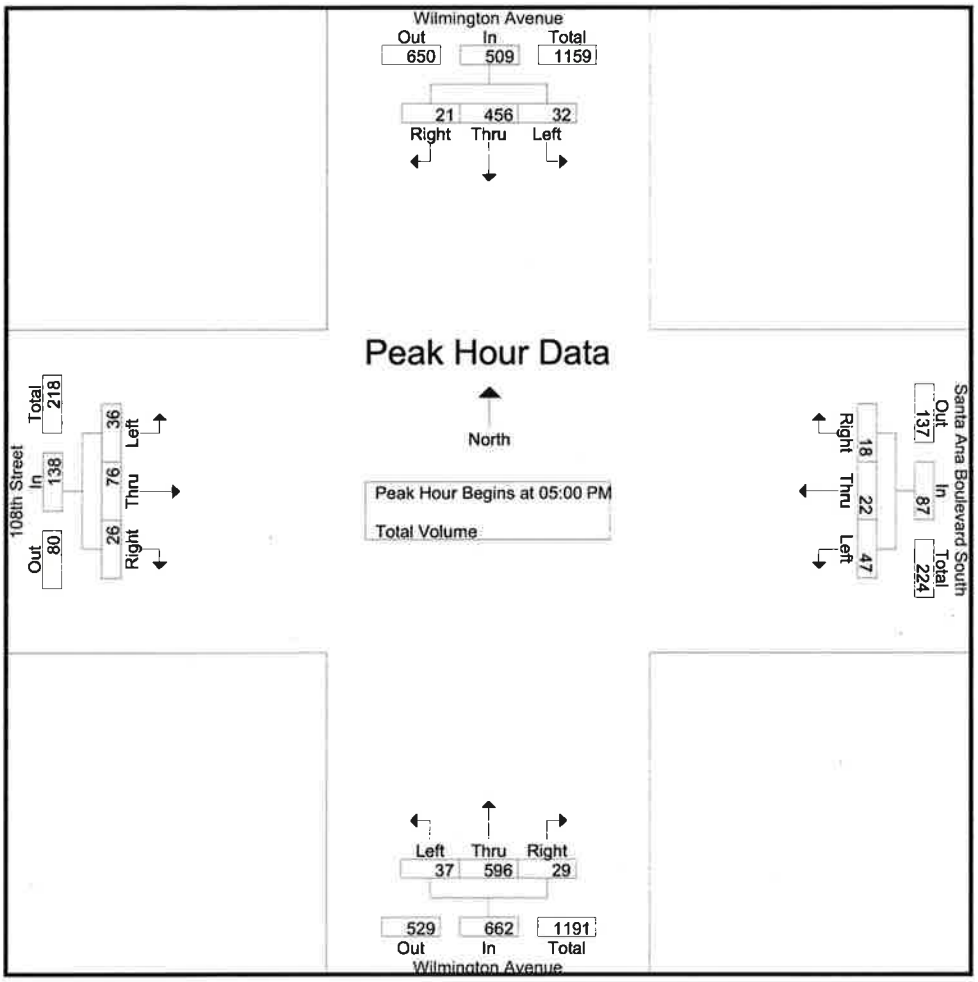
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				07:15 AM			
+0 mins.	2	141	6	149	20	22	4	46	7	149	6	162	6	17	4	27
+15 mins.	8	**168**	12	**188**	26	29	4	59	9	**159**	4	**172**	13	12	3	28
+30 mins.	**10**	153	**21**	184	**33**	**44**	**9**	**86**	**10**	128	**9**	147	**17**	**34**	**11**	**62**
+45 mins.	8	137	15	160	21	30	5	56	7	143	7	157	16	23	7	46
Total Volume	28	599	54	681	100	125	22	247	33	579	26	638	52	86	25	163
% App. Total	4.1	88	7.9		40.5	50.6	8.9		5.2	90.8	4.1		31.9	52.8	15.3	
PHF	.700	.891	.643	.906	.758	.710	.611	.718	.825	.910	.722	.927	.765	.632	.568	.657

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County of Los Angeles
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Weather: Clear

File Name : LACWISSPM
Site Code : 12815514
Start Date : 9/23/2015
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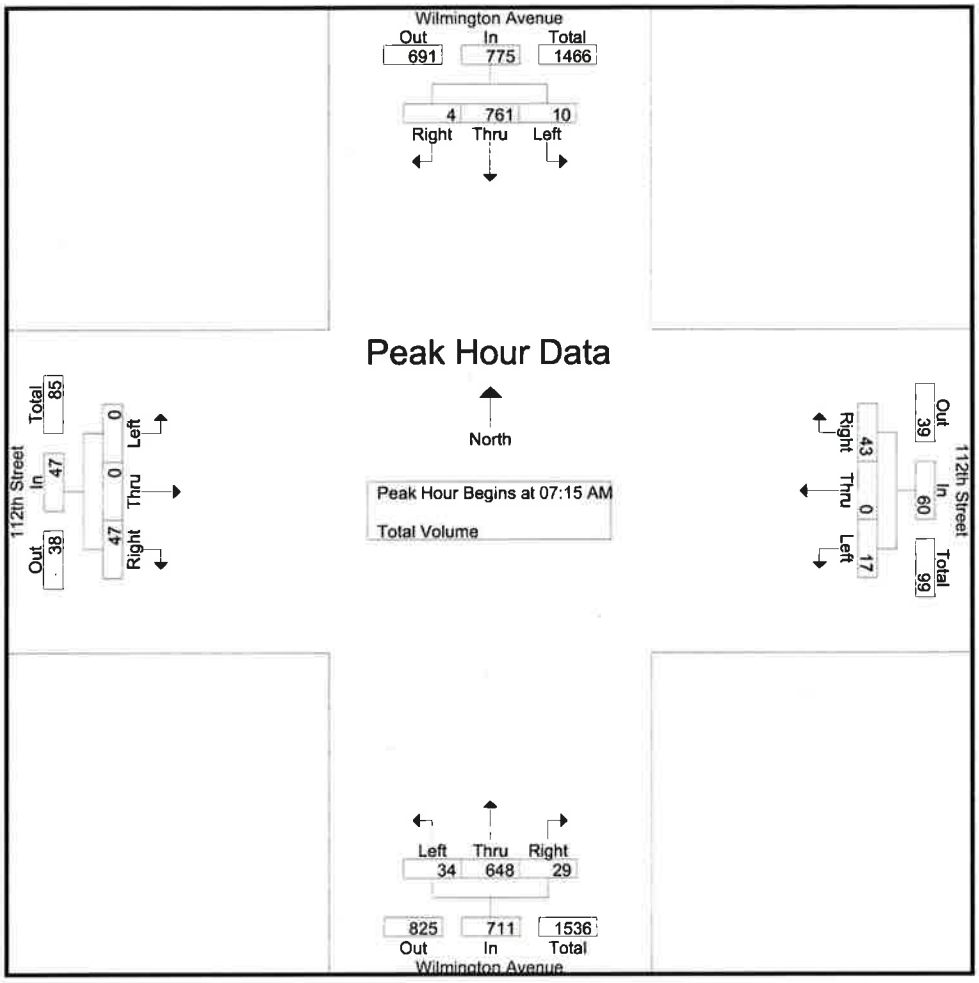
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:45 PM				05:00 PM			
+0 mins.	5	112	**6**	123	12	3	4	19	1	152	3	156	11	**22**	7	**40**
+15 mins.	9	112	6	127	9	**9**	2	20	7	148	5	160	4	22	2	28
+30 mins.	**10**	108	6	124	10	6	**7**	23	6	**158**	5	169	5	14	**13**	32
+45 mins.	8	**124**	3	**135**	**16**	4	5	**25**	**13**	155	**14**	**182**	**16**	18	4	38
Total Volume	32	456	21	509	47	22	18	87	27	613	27	667	36	76	26	138
% App. Total	6.3	89.6	4.1		54	25.3	20.7		4	91.9	4		26.1	55.1	18.8	
PHF	.800	.919	.875	.943	.734	.611	.643	.870	.519	.970	.482	.916	.563	.864	.500	.863

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County of Los Angeles
N/S: Wilmington Avenue
E/W: 112th Street
Weather: Clear

File Name : LACWI112AM
Site Code : 12815514
Start Date : 9/23/2015
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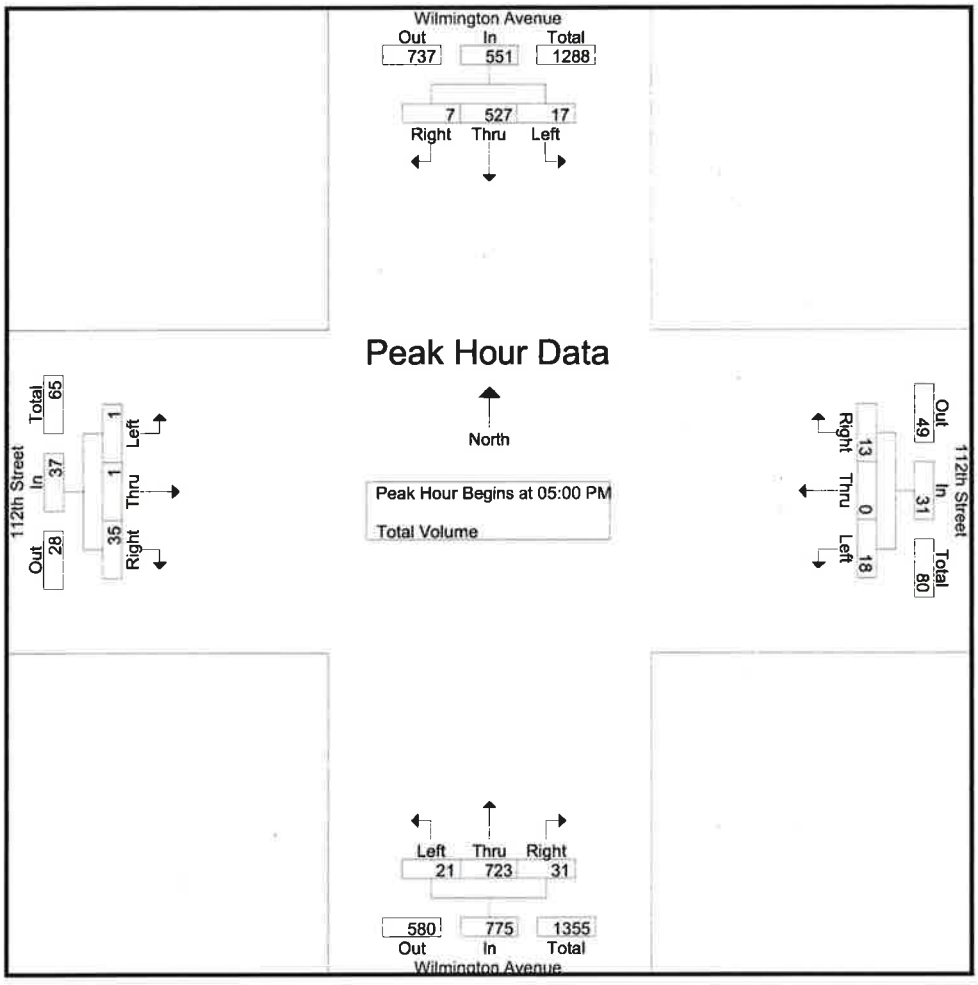
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				07:30 AM			
+0 mins.	0	183	0	183	3	0	8	11	4	173	4	181	0	0	11	11
+15 mins.	0	**206**	1	**207**	3	0	7	10	**16**	**183**	8	**207**	0	0	11	11
+30 mins.	4	187	1	192	5	0	10	15	13	151	**10**	174	0	0	**14**	**14**
+45 mins.	**6**	185	**2**	193	**6**	0	**18**	**24**	6	164	7	177	0	0	13	13
Total Volume	10	761	4	775	17	0	43	60	39	671	29	739	0	0	49	49
% App. Total	1.3	98.2	0.5		28.3	0	71.7		5.3	90.8	3.9		0	0	100	
PHF	.417	.924	.500	.936	.708	.000	.597	.625	.609	.917	.725	.893	.000	.000	.875	.875

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County of Los Angeles
N/S: Wilmington Avenue
E/W: 112th Street
Weather: Clear

File Name : LACWI112PM
Site Code : 12815514
Start Date : 9/23/2015
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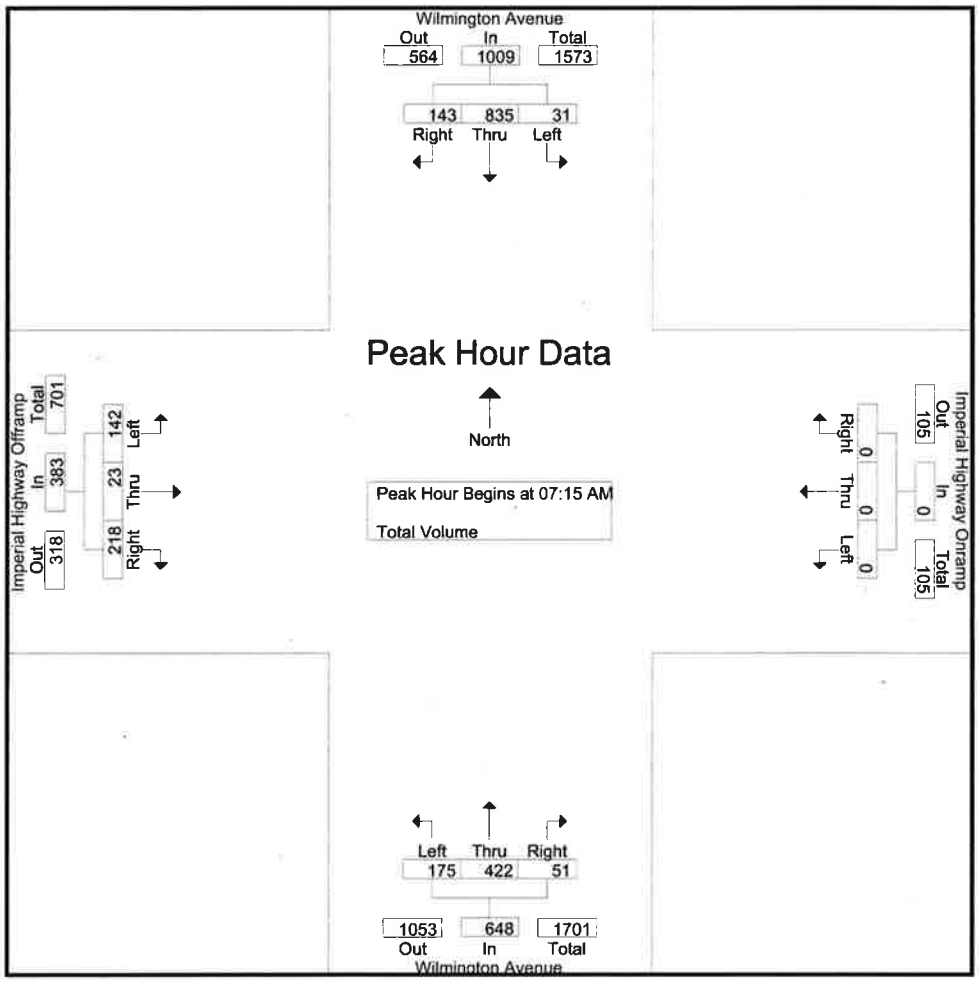
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				04:00 PM			
+0 mins.	3	127	0	130	**6**	0	**5**	**11**	**8**	190	6	**204**	0	1	**14**	**15**
+15 mins.	3	134	2	139	2	0	5	7	6	173	7	186	**1**	1	9	11
+30 mins.	4	**135**	2	**141**	6	0	1	7	2	**193**	7	202	1	0	11	12
+45 mins.	**7**	131	**3**	141	4	0	2	6	5	167	**11**	183	0	**2**	10	12
Total Volume	17	527	7	551	18	0	13	31	21	723	31	775	2	4	44	50
% App. Total	3.1	95.6	1.3		58.1	0	41.9		2.7	93.3	4		4	8	88	
PHF	.607	.976	.583	.977	.750	.000	.650	.705	.656	.937	.705	.950	.500	.500	.786	.833

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County of Los Angeles
N/S: Wilmington Avenue
E/W: Imperial Highway
Weather: Clear

File Name : LACWIIMAM
Site Code : 12815514
Start Date : 9/23/2015
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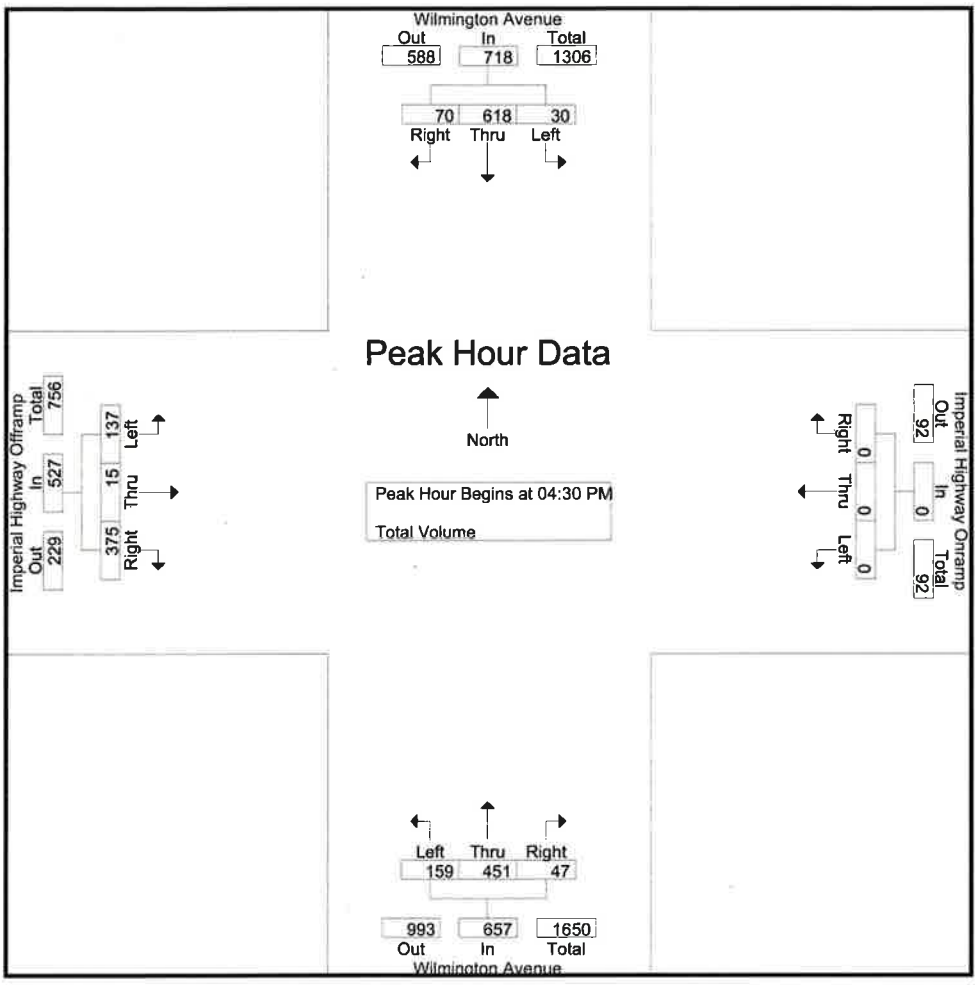
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:15 AM				07:15 AM			
+0 mins.	**10**	203	37	250	0	0	0	0	47	95	13	155	22	6	49	77
+15 mins.	9	**227**	33	**269**	0	0	0	0	39	108	13	160	30	**9**	**66**	**105**
+30 mins.	5	197	**38**	240	0	0	0	0	**56**	**118**	**14**	**188**	**51**	1	52	104
+45 mins.	7	208	35	250	0	0	0	0	33	101	11	145	39	7	51	97
Total Volume	31	835	143	1009	0	0	0	0	175	422	51	648	142	23	218	383
% App. Total	3.1	82.8	14.2		0	0	0		27	65.1	7.9		37.1	6	56.9	
PHF	.775	.920	.941	.938	.000	.000	.000	.000	.781	.894	.911	.862	.696	.639	.826	.912

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County of Los Angeles
N/S: Wilmington Avenue
E/W: Imperial Highway
Weather: Clear

File Name : LACWIIMPM
Site Code : 12815514
Start Date : 9/23/2015
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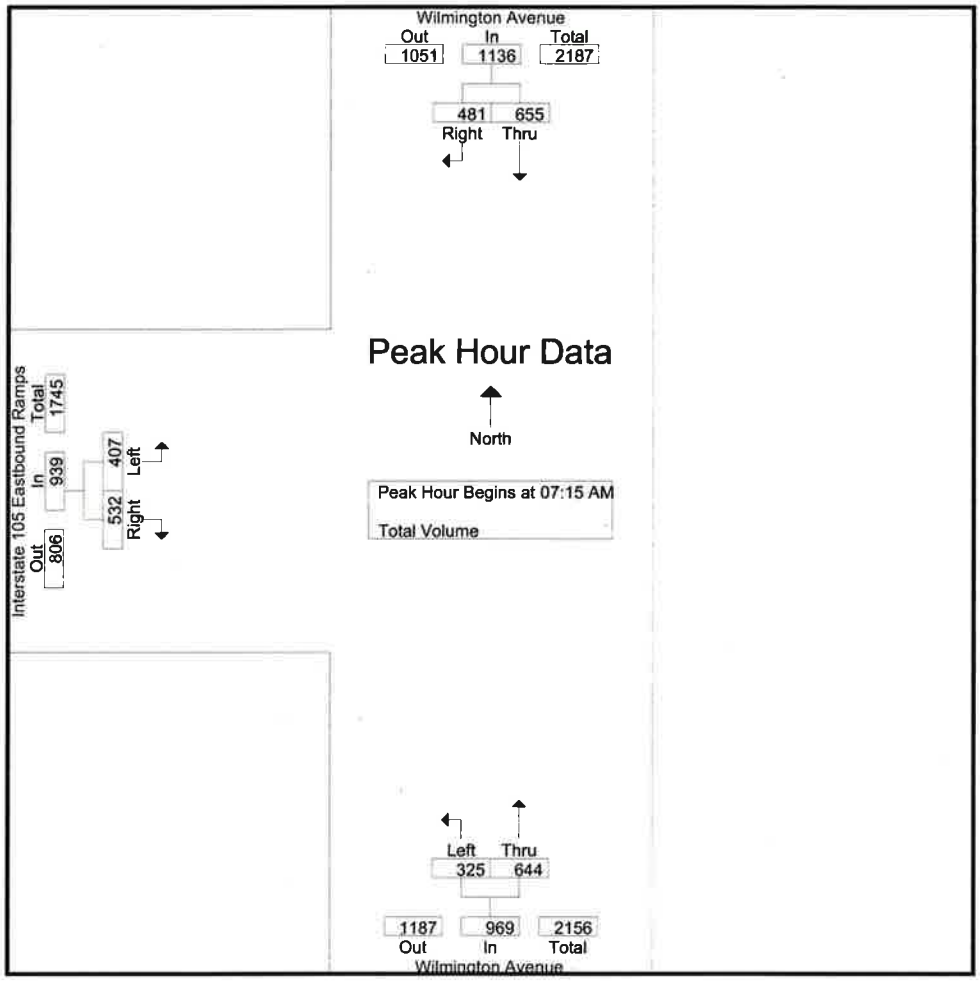
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				04:15 PM				05:00 PM			
+0 mins.	**9**	**168**	10	**187**	0	0	0	0	42	**120**	12	**174**	35	4	94	133
+15 mins.	6	150	16	172	0	0	0	0	37	117	9	163	30	5	93	128
+30 mins.	8	148	20	176	0	0	0	0	**44**	109	9	162	30	4	**107**	141
+45 mins.	7	152	**24**	183	0	0	0	0	39	114	**16**	169	**39**	**6**	102	**147**
Total Volume	30	618	70	718	0	0	0	0	162	460	46	668	134	19	396	549
% App. Total	4.2	86.1	9.7		0	0	0		24.3	68.9	6.9		24.4	3.5	72.1	
PHF	.833	.920	.729	.960	.000	.000	.000	.000	.920	.958	.719	.960	.859	.792	.925	.934

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County of Los Angeles
N/S: Wilmington Avenue
E/W: Interstate 105 Eastbound Ramps
Weather: Clear

File Name : LACWI105EAM
Site Code : 12815514
Start Date : 9/23/2015
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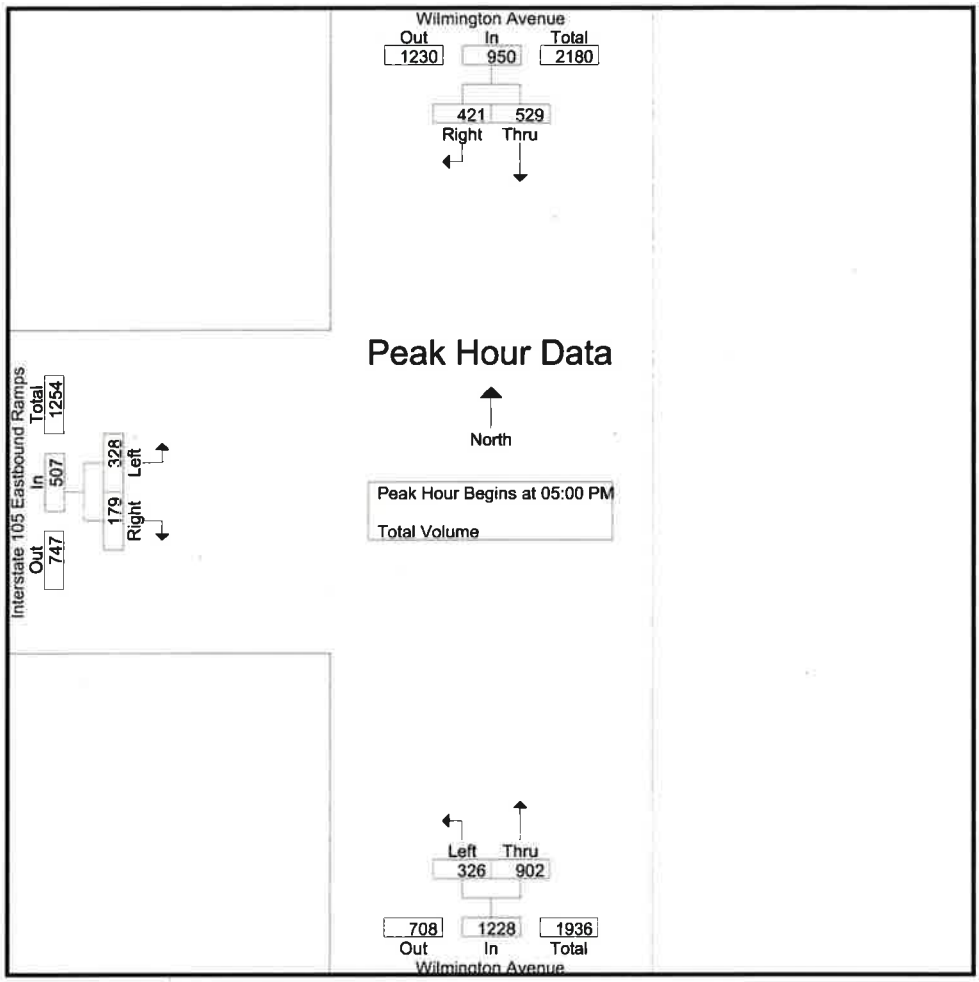
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:00 AM			07:30 AM		
+0 mins.	142	135	277	92	158	250	**124**	**153**	**277**
+15 mins.	157	**143**	**300**	95	143	238	84	126	210
+30 mins.	**189**	97	286	**97**	**191**	**288**	100	132	232
+45 mins.	167	106	273	78	164	242	99	129	228
Total Volume	655	481	1136	362	656	1018	407	540	947
% App. Total	57.7	42.3		35.6	64.4		43	57	
PHF	.866	.841	.947	.933	.859	.884	.821	.882	.855

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County of Los Angeles
N/S: Wilmington Avenue
E/W: Interstate 105 Eastbound Ramps
Weather: Clear

File Name : LACWI105EPM
Site Code : 12815514
Start Date : 9/23/2015
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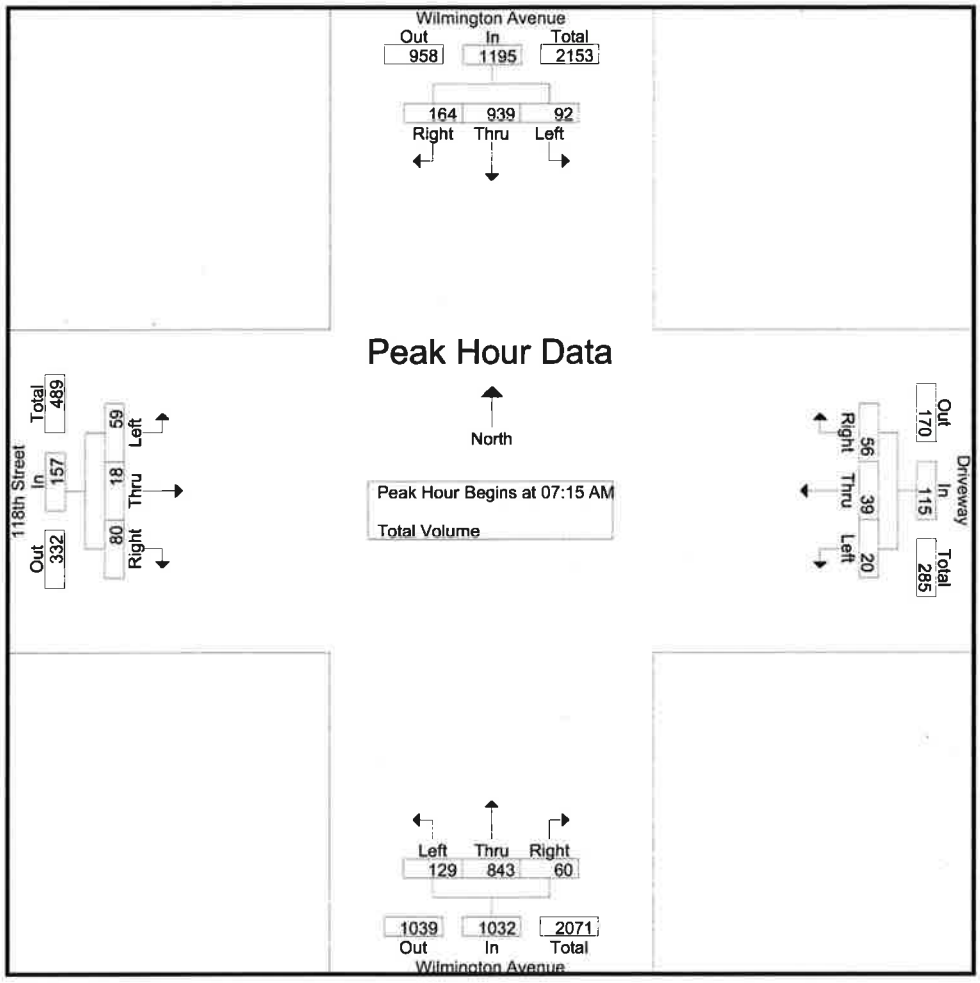
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:30 PM			05:00 PM		
+0 mins.	119	93	212	**100**	215	315	72	45	117
+15 mins.	117	**122**	239	94	227	321	86	33	119
+30 mins.	117	114	231	91	**242**	**333**	78	41	119
+45 mins.	**176**	92	**268**	82	222	304	**92**	**60**	**152**
Total Volume	529	421	950	367	906	1273	328	179	507
% App. Total	55.7	44.3		28.8	71.2		64.7	35.3	
PHF	.751	.863	.886	.918	.936	.956	.891	.746	.834

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County of Los Angeles
N/S: Wilmington Avenue
E/W: 118th Street
Weather: Clear

File Name : CLAWI118AM
Site Code : 12815514
Start Date : 9/23/2015
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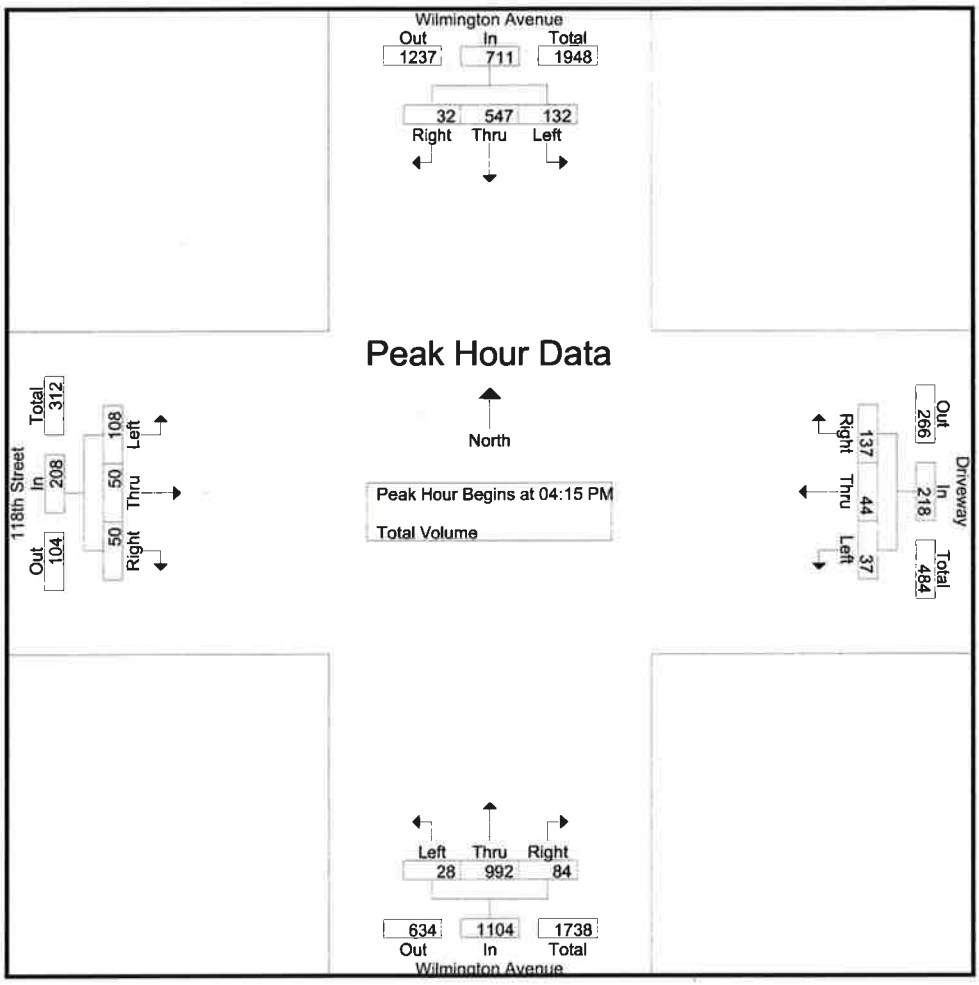
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				08:00 AM				07:00 AM				07:30 AM			
+0 mins.	23	208	31	262	3	**13**	14	30	5	221	6	232	14	3	20	37
+15 mins.	20	**252**	38	310	**7**	7	**26**	**40**	17	225	9	251	**23**	7	19	**49**
+30 mins.	**26**	245	**50**	**321**	7	6	24	37	36	**250**	**17**	**303**	12	6	**31**	49
+45 mins.	23	234	45	302	5	7	18	30	**42**	203	17	262	9	**9**	17	35
Total Volume	92	939	164	1195	22	33	82	137	100	899	49	1048	58	25	87	170
% App. Total	7.7	78.6	13.7		16.1	24.1	59.9		9.5	85.8	4.7		34.1	14.7	51.2	
PHF	.885	.932	.820	.931	.786	.635	.788	.856	.595	.899	.721	.865	.630	.694	.702	.867

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Weather: Clear

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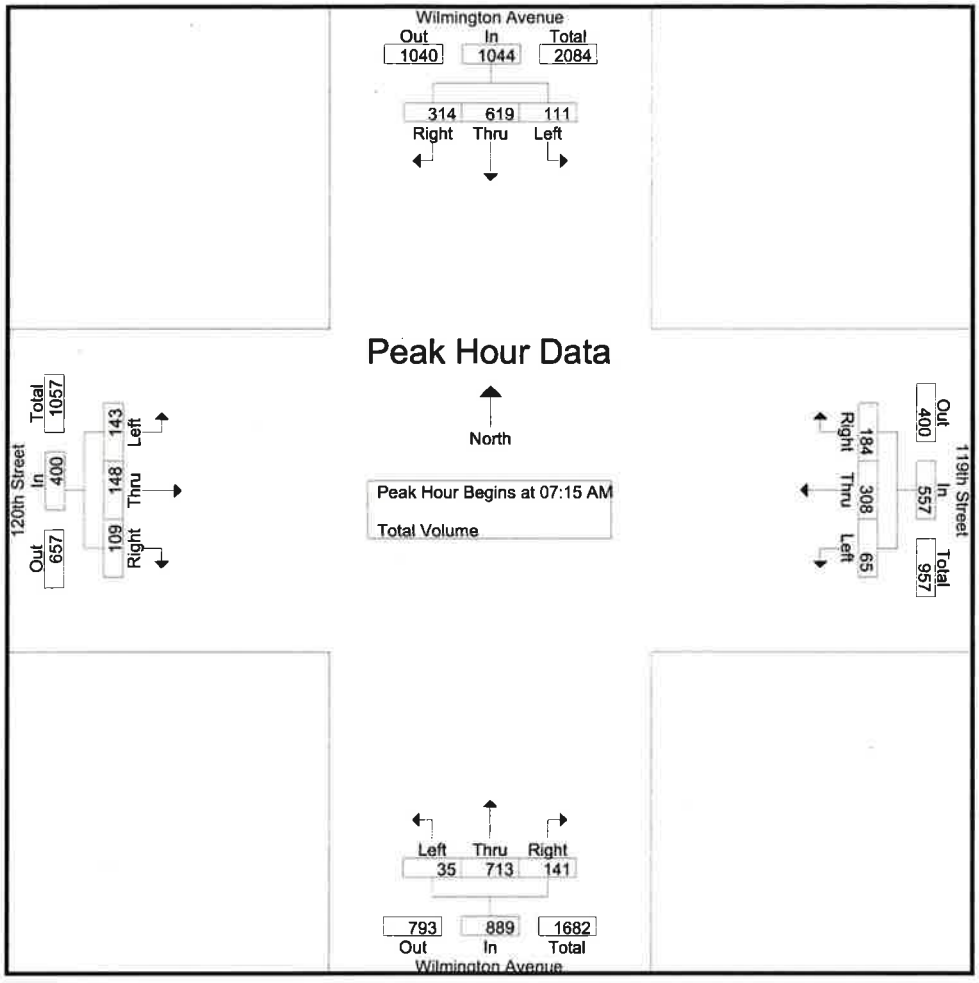
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				04:30 PM				04:15 PM			
+0 mins.	24	135	9	168	7	8	44	59	**10**	**274**	**25**	**309**	20	**19**	**17**	56
+15 mins.	**39**	**150**	**11**	**200**	12	9	32	53	5	247	18	270	**33**	16	14	**63**
+30 mins.	32	137	8	177	**16**	**12**	34	62	4	254	25	283	28	5	8	41
+45 mins.	37	125	4	166	9	9	**45**	**63**	5	241	17	263	27	10	11	48
Total Volume	132	547	32	711	44	38	155	237	24	1016	85	1125	108	50	50	208
% App. Total	18.6	76.9	4.5		18.6	16	65.4		2.1	90.3	7.6		51.9	24	24	
PHF	.846	.912	.727	.889	.688	.792	.861	.940	.600	.927	.850	.910	.818	.658	.735	.825

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County of Los Angeles
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File Name : CLAWI119AM
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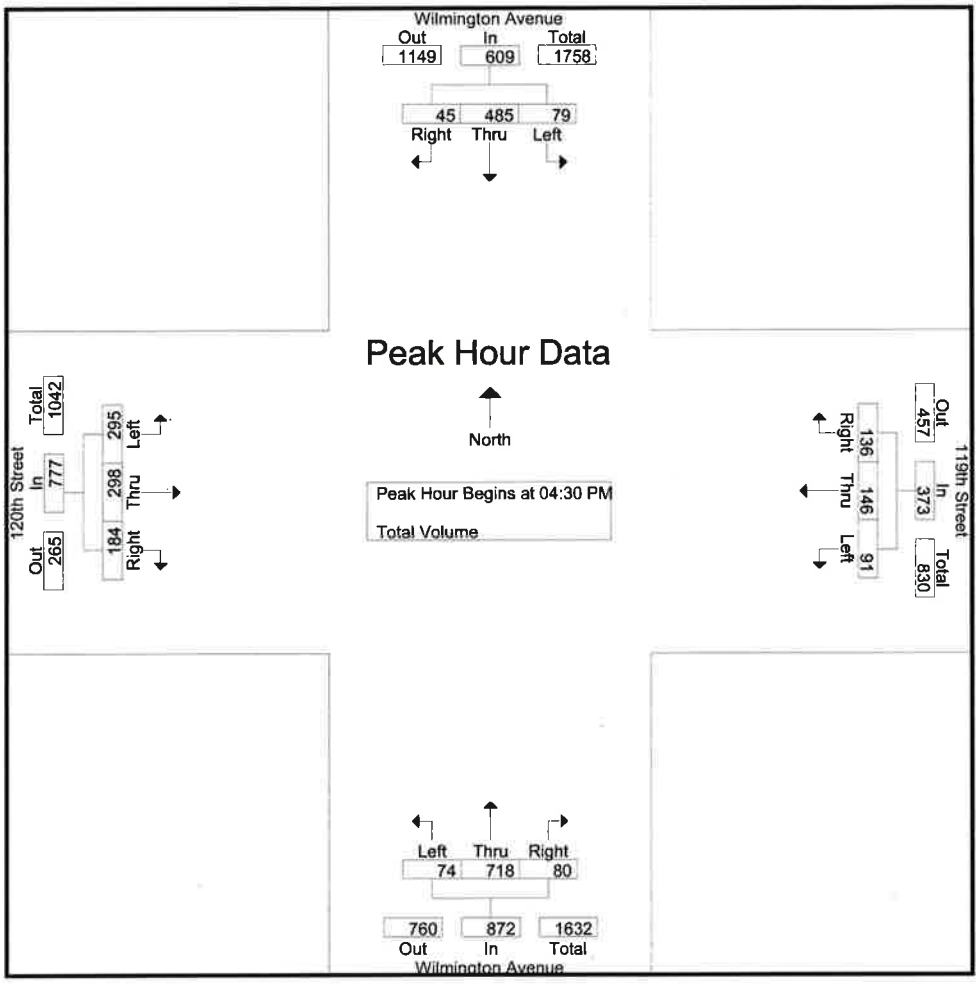
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:00 AM				07:15 AM			
+0 mins.	20	140	63	223	8	76	34	118	5	184	22	211	31	23	20	74
+15 mins.	25	166	90	**281**	**22**	85	46	153	7	184	30	221	**42**	36	24	102
+30 mins.	27	144	**95**	266	14	**92**	**53**	**159**	6	**218**	41	**265**	32	**48**	**38**	**118**
+45 mins.	**39**	**169**	66	274	21	55	51	127	**11**	174	**46**	231	38	41	27	106
Total Volume	111	619	314	1044	65	308	184	557	29	760	139	928	143	148	109	400
% App. Total	10.6	59.3	30.1		11.7	55.3	33		3.1	81.9	15		35.8	37	27.2	
PHF	.712	.916	.826	.929	.739	.837	.868	.876	.659	.872	.755	.875	.851	.771	.717	.847

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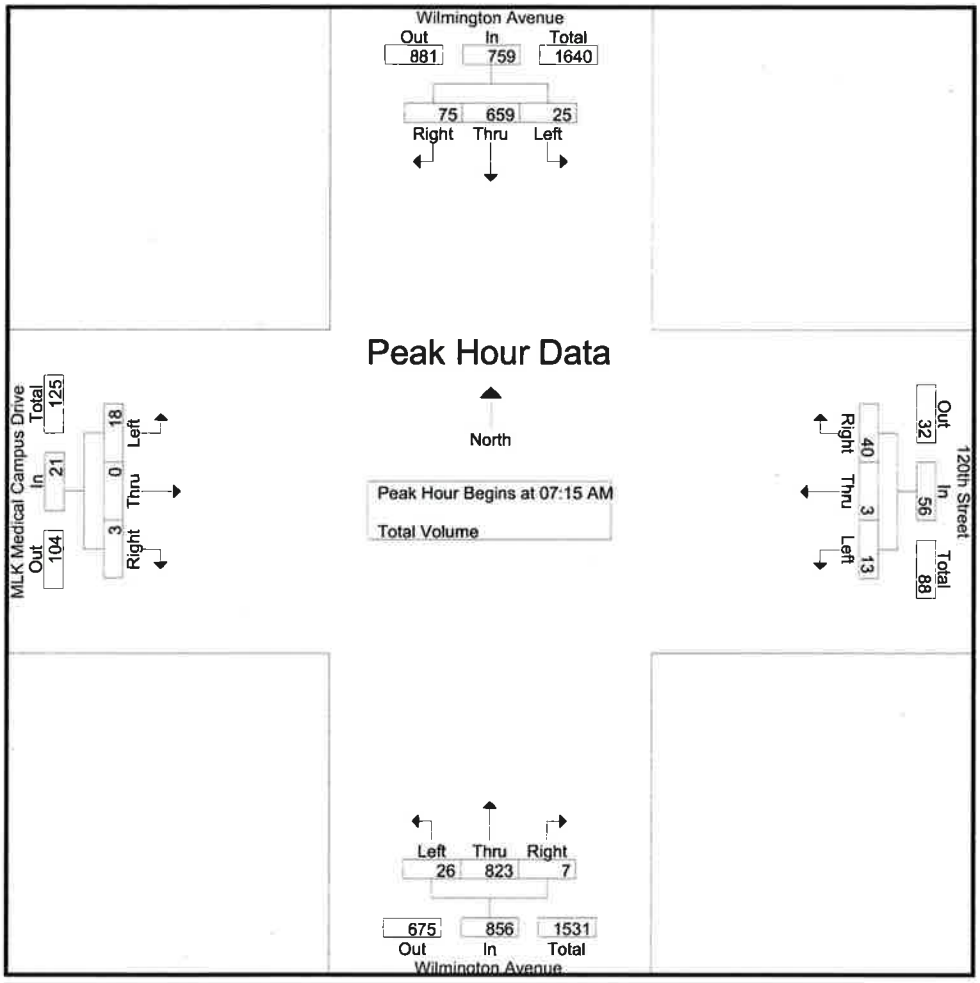
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:30 PM				05:00 PM				04:30 PM			
+0 mins.	18	132	12	162	13	36	**43**	92	16	172	21	209	78	86	**64**	**228**
+15 mins.	**23**	**139**	14	**176**	26	**44**	30	**100**	**18**	181	15	214	75	**95**	45	215
+30 mins.	15	127	**15**	157	**28**	30	30	88	17	**208**	20	**245**	**79**	48	38	165
+45 mins.	20	115	7	142	24	36	33	93	18	169	**22**	209	63	69	37	169
Total Volume	76	513	48	637	91	146	136	373	69	730	78	877	295	298	184	777
% App. Total	11.9	80.5	7.5		24.4	39.1	36.5		7.9	83.2	8.9		38	38.4	23.7	
PHF	.826	.923	.800	.905	.813	.830	.791	.933	.958	.877	.886	.895	.934	.784	.719	.852

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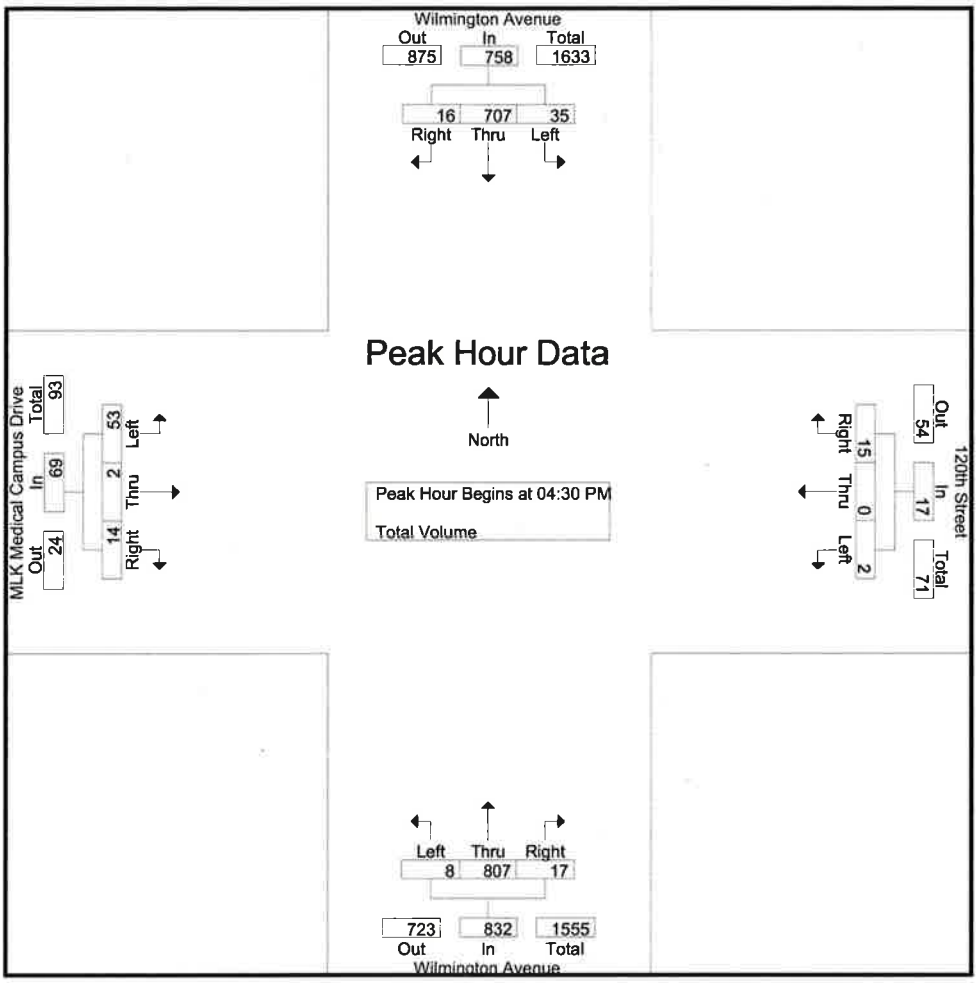
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:00 AM				07:15 AM			
+0 mins.	7	**177**	17	201	0	1	8	9	3	198	1	202	2	0	0	2
+15 mins.	3	172	19	194	**4**	0	13	17	5	219	1	225	2	0	**1**	3
+30 mins.	**11**	177	**25**	**213**	3	1	**14**	**18**	**8**	**241**	0	**249**	**8**	0	1	**9**
+45 mins.	9	158	13	180	3	**2**	10	15	8	205	**2**	215	6	0	1	7
Total Volume	30	684	74	788	10	4	45	59	24	863	4	891	18	0	3	21
% App. Total	3.8	86.8	9.4		16.9	6.8	76.3		2.7	96.9	0.4		85.7	0	14.3	
PHF	.682	.966	.740	.925	.625	.500	.804	.819	.750	.895	.500	.895	.563	.000	.750	.583

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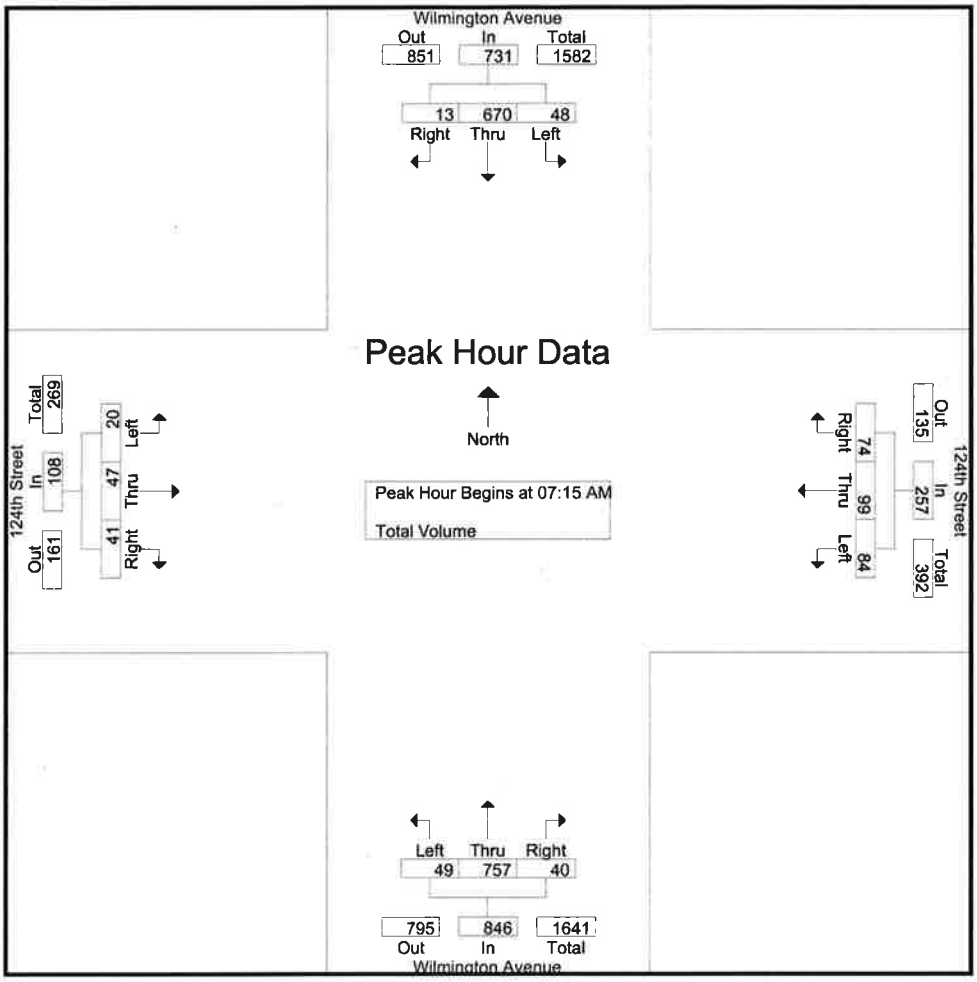
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:45 PM				04:30 PM				04:15 PM			
+0 mins.	5	162	2	169	1	0	**6**	7	**3**	**218**	2	223	10	0	**5**	15
+15 mins.	9	**198**	**6**	**213**	1	0	4	5	1	201	4	206	**17**	**2**	3	**22**
+30 mins.	**11**	181	5	197	0	0	4	4	2	171	5	178	15	0	3	18
+45 mins.	7	174	2	183	**3**	0	6	**9**	2	217	**6**	**225**	10	0	5	15
Total Volume	32	715	15	762	5	0	20	25	8	807	17	832	52	2	16	70
% App. Total	4.2	93.8	2		20	0	80		1	97	2		74.3	2.9	22.9	
PHF	.727	.903	.625	.894	.417	.000	.833	.694	.667	.925	.708	.924	.765	.250	.800	.795

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Weather: Clear

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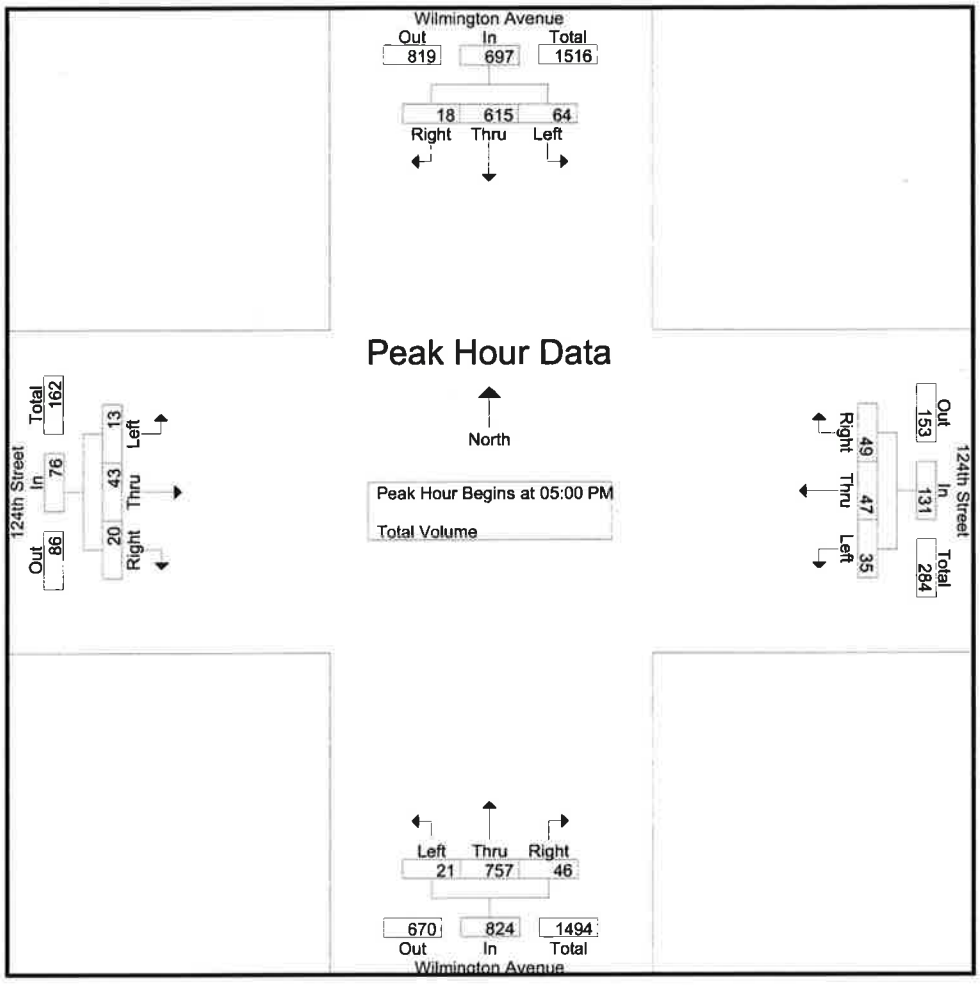
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				07:00 AM				07:15 AM			
+0 mins.	10	**185**	3	**198**	10	21	**21**	52	5	169	8	182	**9**	8	6	23
+15 mins.	12	169	**4**	185	25	28	17	70	11	199	7	217	4	10	11	25
+30 mins.	**16**	166	2	184	**34**	**33**	19	**86**	12	**219**	**13**	**244**	5	**18**	**15**	**38**
+45 mins.	12	158	1	171	15	17	17	49	**19**	199	9	227	2	11	9	22
Total Volume	50	678	10	738	84	99	74	257	47	786	37	870	20	47	41	108
% App. Total	6.8	91.9	1.4		32.7	38.5	28.8		5.4	90.3	4.3		18.5	43.5	38	
PHF	.781	.916	.625	.932	.618	.750	.881	.747	.618	.897	.712	.891	.556	.653	.683	.711

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County of Los Angeles
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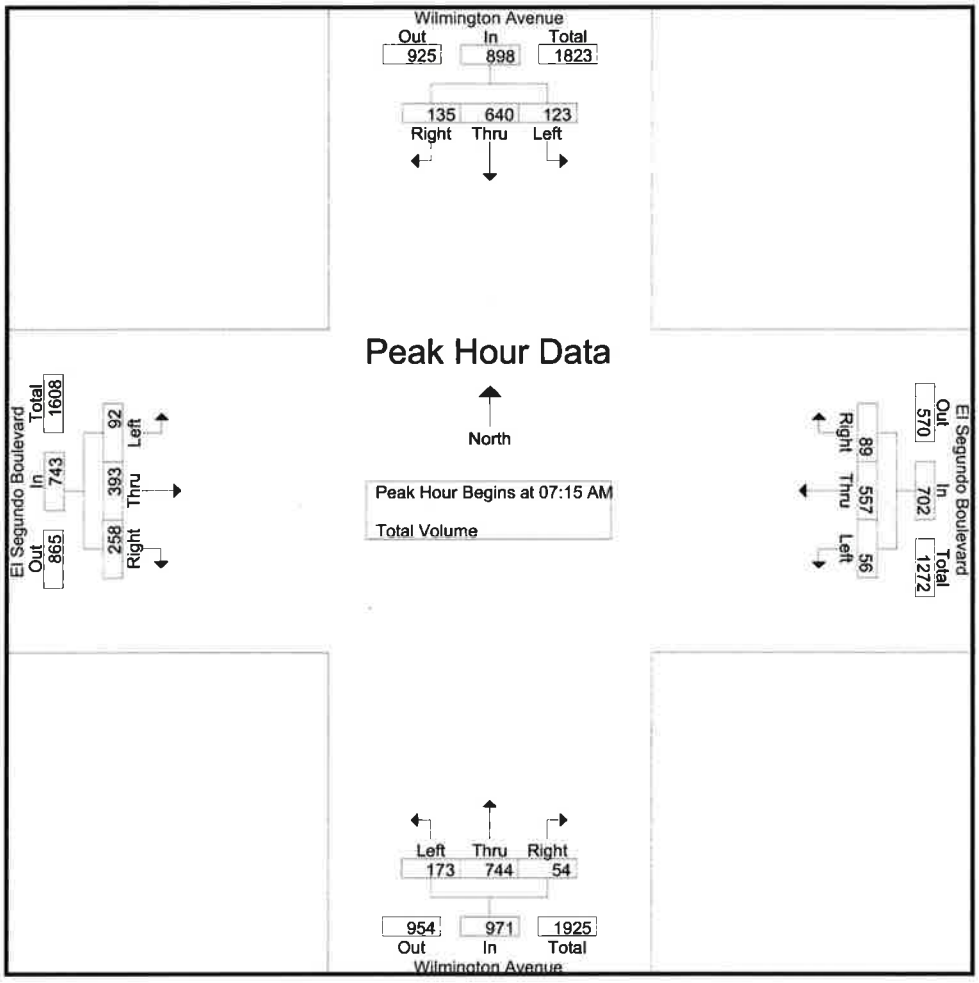
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				04:30 PM				05:00 PM			
+0 mins.	13	156	0	169	9	12	6	27	2	200	12	214	4	11	3	18
+15 mins.	16	**177**	**10**	**203**	9	**17**	10	**36**	2	186	10	198	4	**12**	6	**22**
+30 mins.	13	151	9	173	7	8	**21**	36	**10**	166	**13**	189	0	12	4	16
+45 mins.	**18**	154	5	177	**10**	10	12	32	4	**209**	13	**226**	**5**	8	**7**	20
Total Volume	60	638	24	722	35	47	49	131	18	761	48	827	13	43	20	76
% App. Total	8.3	88.4	3.3		26.7	35.9	37.4		2.2	92	5.8		17.1	56.6	26.3	
PHF	.833	.901	.600	.889	.875	.691	.583	.910	.450	.910	.923	.915	.650	.896	.714	.864

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Weather: Clear

File Name : CPTWIELAM
Site Code : 12815514
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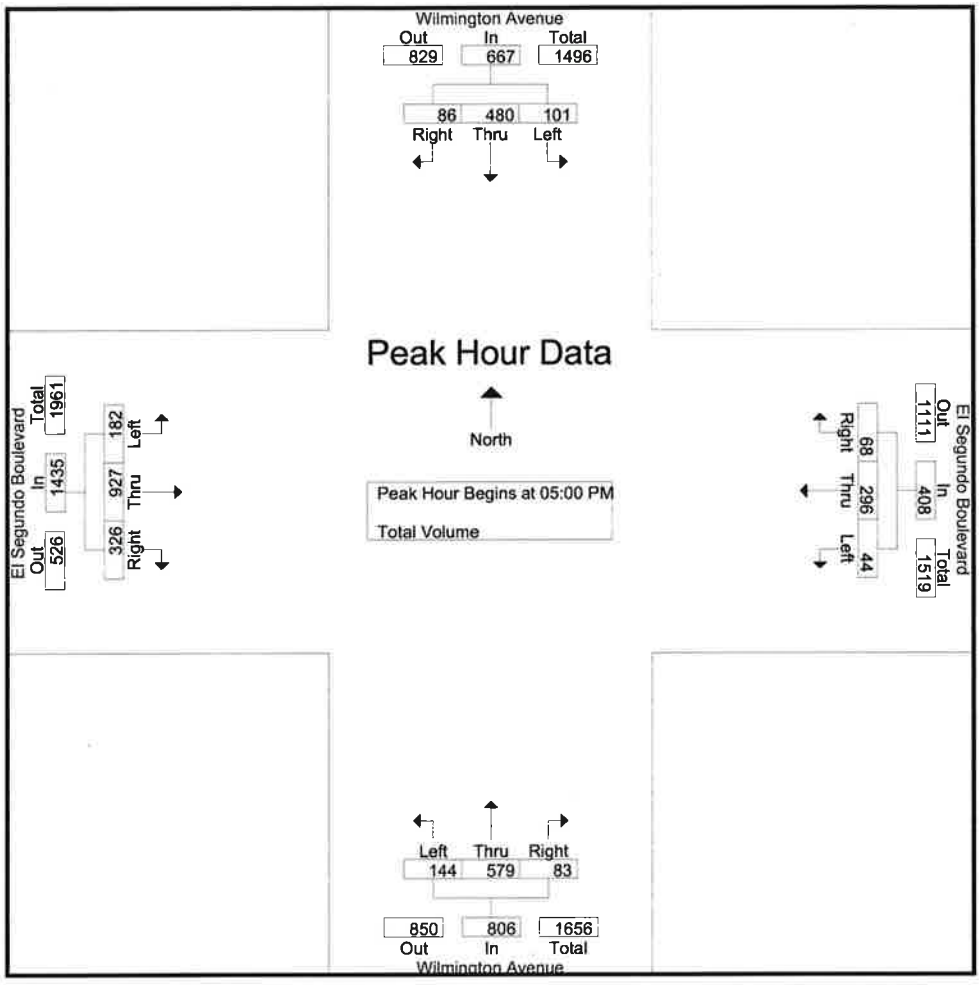
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:00 AM				07:30 AM			
+0 mins.	25	177	**42**	244	9	151	10	170	48	149	2	199	18	100	69	187
+15 mins.	**40**	**193**	40	**273**	8	**153**	21	182	27	192	10	229	**27**	**118**	**91**	**236**
+30 mins.	36	148	21	205	**15**	137	**31**	**183**	**52**	210	**16**	**278**	26	103	64	193
+45 mins.	23	138	24	185	13	140	19	172	46	**211**	16	273	25	75	41	141
Total Volume	124	656	127	907	45	581	81	707	173	762	44	979	96	396	265	757
% App. Total	13.7	72.3	14		6.4	82.2	11.5		17.7	77.8	4.5		12.7	52.3	35	
PHF	.775	.850	.756	.831	.750	.949	.653	.966	.832	.903	.688	.880	.889	.839	.728	.802

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County of Los Angeles
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File Name : CPTWIELPM
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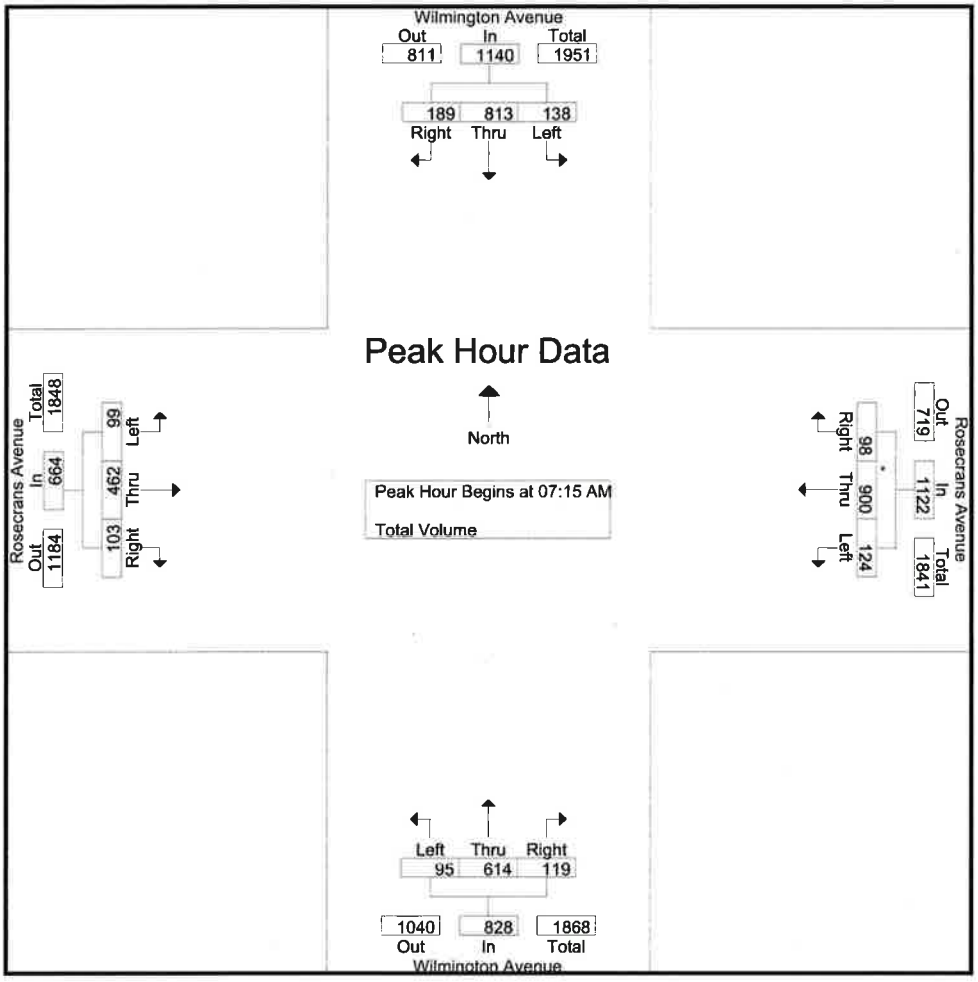
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				04:45 PM				05:00 PM			
+0 mins.	24	122	24	170	**12**	71	18	101	39	141	**20**	200	38	213	69	320
+15 mins.	24	**152**	17	**193**	12	**77**	18	**107**	40	134	18	192	**56**	**255**	**87**	**398**
+30 mins.	24	107	**28**	159	11	73	**20**	104	31	142	20	193	42	219	87	348
+45 mins.	**29**	120	22	171	9	75	12	96	**44**	**170**	18	**232**	46	240	83	369
Total Volume	101	501	91	693	44	296	68	408	154	587	76	817	182	927	326	1435
% App. Total	14.6	72.3	13.1		10.8	72.5	16.7		18.8	71.8	9.3		12.7	64.6	22.7	
PHF	.871	.824	.813	.898	.917	.961	.850	.953	.875	.863	.950	.880	.813	.909	.937	.901

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Weather: Clear

File Name : CPTWIROAM
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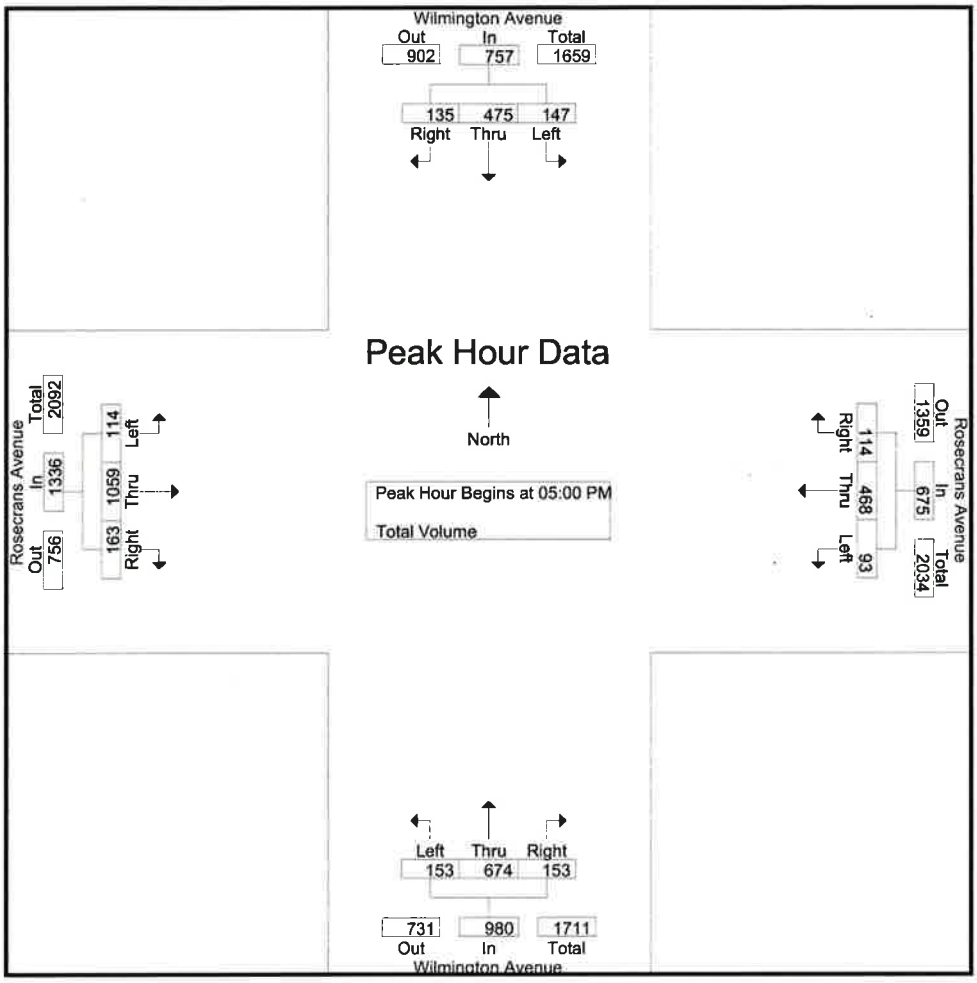
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:15 AM				07:15 AM			
+0 mins.	25	174	30	229	21	**260**	18	299	22	125	17	164	18	107	24	149
+15 mins.	36	223	46	305	38	219	22	279	**28**	**170**	31	**229**	27	115	**31**	173
+30 mins.	36	**225**	**59**	**320**	18	232	23	273	20	169	**38**	227	25	**147**	22	**194**
+45 mins.	**41**	191	54	286	**42**	247	**26**	**315**	25	150	33	208	**29**	93	26	148
Total Volume	138	813	189	1140	119	958	89	1166	95	614	119	828	99	462	103	664
% App. Total	12.1	71.3	16.6		10.2	82.2	7.6		11.5	74.2	14.4		14.9	69.6	15.5	
PHF	.841	.903	.801	.891	.708	.921	.856	.925	.848	.903	.783	.904	.853	.786	.831	.856

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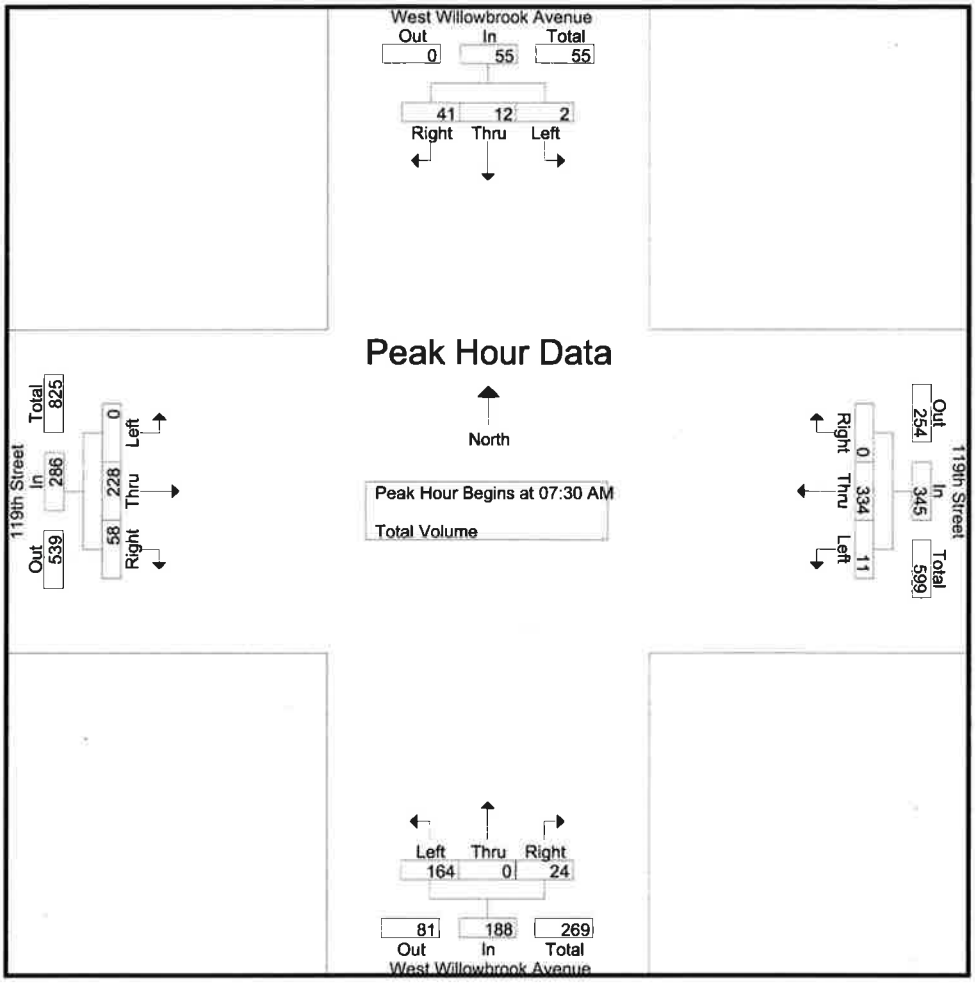
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:30 PM				05:00 PM			
+0 mins.	31	117	36	184	**36**	111	29	176	32	185	36	253	20	263	37	320
+15 mins.	27	104	33	164	27	**126**	**34**	**187**	30	**194**	**41**	**265**	33	267	44	344
+30 mins.	44	**127**	25	196	18	116	22	156	**37**	165	35	237	23	**278**	**48**	**349**
+45 mins.	**45**	127	**41**	**213**	32	98	26	156	32	176	39	247	**38**	251	34	323
Total Volume	147	475	135	757	113	451	111	675	131	720	151	1002	114	1059	163	1336
% App. Total	19.4	62.7	17.8		16.7	66.8	16.4		13.1	71.9	15.1		8.5	79.3	12.2	
PHF	.817	.935	.823	.888	.785	.895	.816	.902	.885	.928	.921	.945	.750	.952	.849	.957

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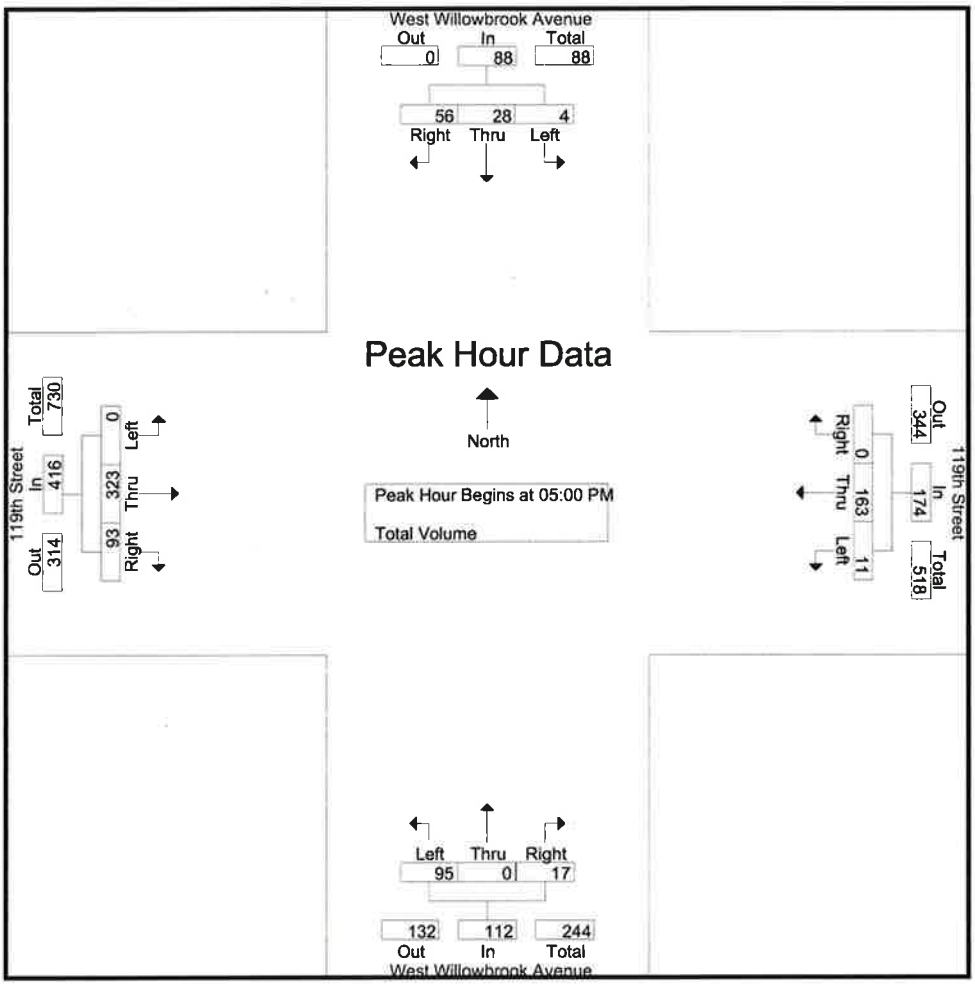
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:30 AM				07:15 AM				07:30 AM			
+0 mins.	0	2	**15**	**17**	3	92	0	95	40	0	3	43	0	53	10	63
+15 mins.	**1**	3	6	10	1	80	0	81	46	0	6	52	0	53	17	70
+30 mins.	0	**5**	12	17	**4**	**96**	0	**100**	**57**	0	**7**	**64**	0	**65**	**18**	**83**
+45 mins.	1	3	11	15	3	66	0	69	32	0	6	38	0	57	13	70
Total Volume	2	13	44	59	11	334	0	345	175	0	22	197	0	228	58	286
% App. Total	3.4	22	74.6		3.2	96.8	0		88.8	0	11.2		0	79.7	20.3	
PHF	.500	.650	.733	.868	.688	.870	.000	.863	.768	.000	.786	.770	.000	.877	.806	.861

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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

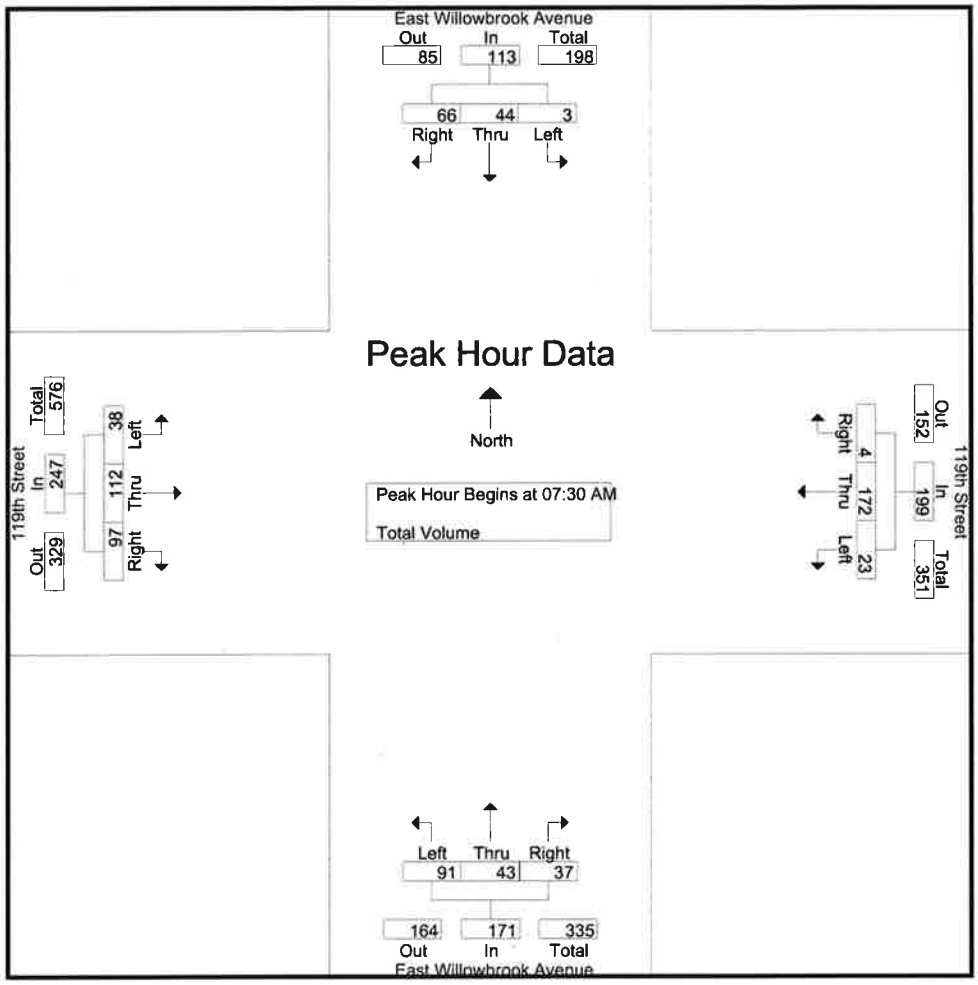
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:30 PM				05:00 PM			
+0 mins.	**1**	4	14	19	2	**47**	0	**49**	23	0	5	28	0	81	18	99
+15 mins.	1	8	**18**	**27**	**5**	40	0	45	**27**	0	**6**	**33**	0	**88**	14	102
+30 mins.	1	6	11	18	2	43	0	45	27	0	2	29	0	76	25	101
+45 mins.	1	**10**	13	24	2	45	0	47	27	0	4	31	0	78	**36**	**114**
Total Volume	4	28	56	88	11	175	0	186	104	0	17	121	0	323	93	416
% App. Total	4.5	31.8	63.6		5.9	94.1	0		86	0	14		0	77.6	22.4	
PHF	1.000	.700	.778	.815	.550	.931	.000	.949	.963	.000	.708	.917	.000	.918	.646	.912

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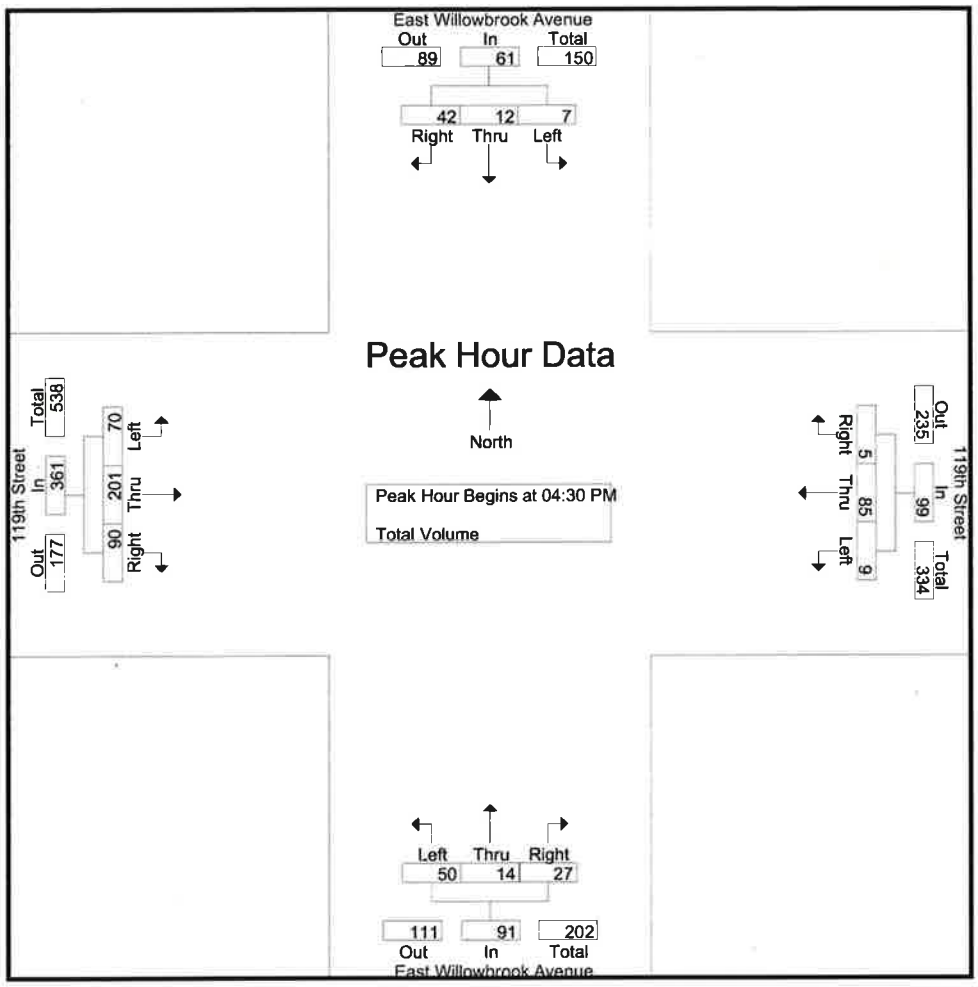
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				07:30 AM			
+0 mins.	**2**	4	17	23	1	44	0	45	17	5	5	27	4	29	25	58
+15 mins.	0	**21**	21	**42**	**10**	47	1	**58**	22	12	9	43	10	21	**28**	59
+30 mins.	2	14	**24**	40	8	**49**	1	58	**32**	**18**	**15**	**65**	**12**	**31**	26	**69**
+45 mins.	0	8	11	19	4	47	**2**	53	20	8	8	36	12	31	18	61
Total Volume	4	47	73	124	23	187	4	214	91	43	37	171	38	112	97	247
% App. Total	3.2	37.9	58.9		10.7	87.4	1.9		53.2	25.1	21.6		15.4	45.3	39.3	
PHF	.500	.560	.760	.738	.575	.954	.500	.922	.711	.597	.617	.658	.792	.903	.866	.895

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County of Los Angeles
N/S: East Willowbrook Avenue
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File Name : CLANW119PM
Site Code : 12815514
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

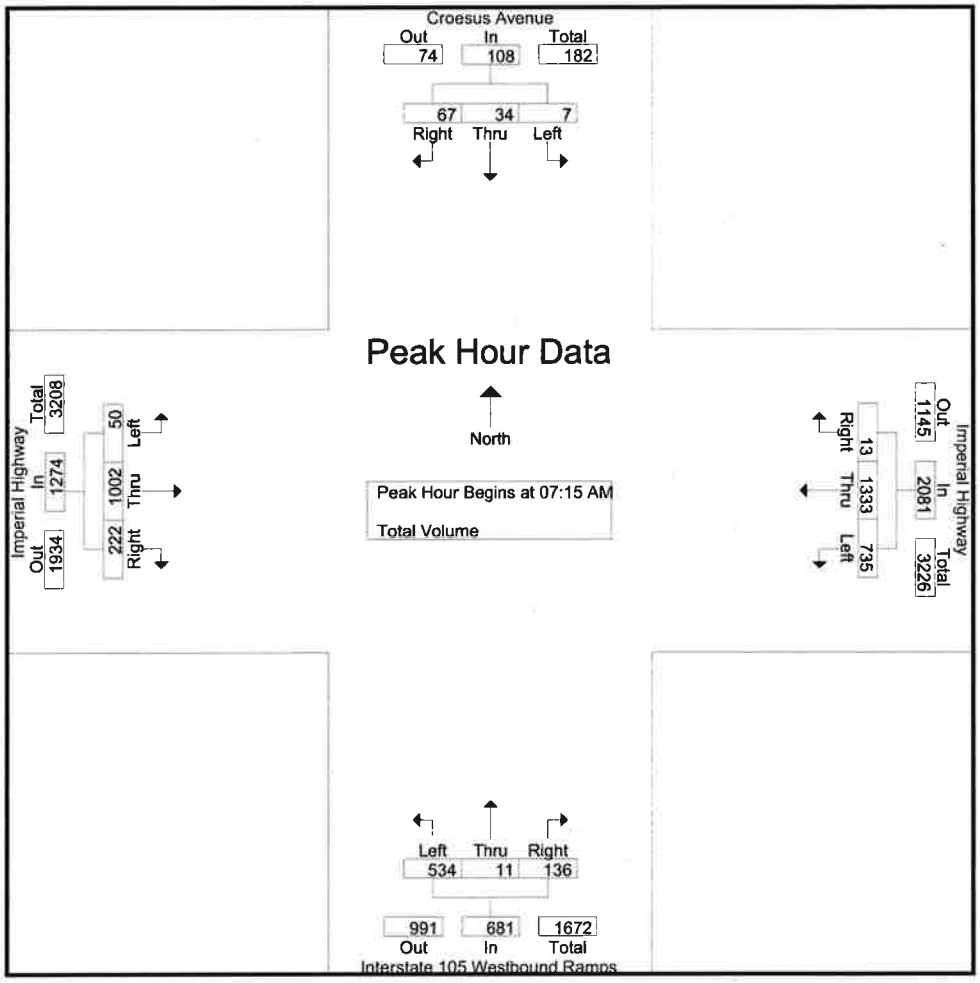
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				05:00 PM				04:30 PM			
+0 mins.	2	3	**12**	17	2	**30**	0	**32**	**13**	1	4	18	17	45	**26**	88
+15 mins.	2	**9**	7	**18**	2	18	**4**	24	8	6	8	22	18	**56**	23	**97**
+30 mins.	**3**	3	9	15	**4**	22	0	26	13	**10**	8	**31**	**19**	44	17	80
+45 mins.	2	3	12	17	2	18	1	21	9	7	**10**	26	16	56	24	96
Total Volume	9	18	40	67	10	88	5	103	43	24	30	97	70	201	90	361
% App. Total	13.4	26.9	59.7		9.7	85.4	4.9		44.3	24.7	30.9		19.4	55.7	24.9	
PHF	.750	.500	.833	.931	.625	.733	.313	.805	.827	.600	.750	.782	.921	.897	.865	.930

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County of Los Angeles
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Weather: Clear

File Name : LAC105WIMAM
Site Code : 12815514
Start Date : 9/23/2015
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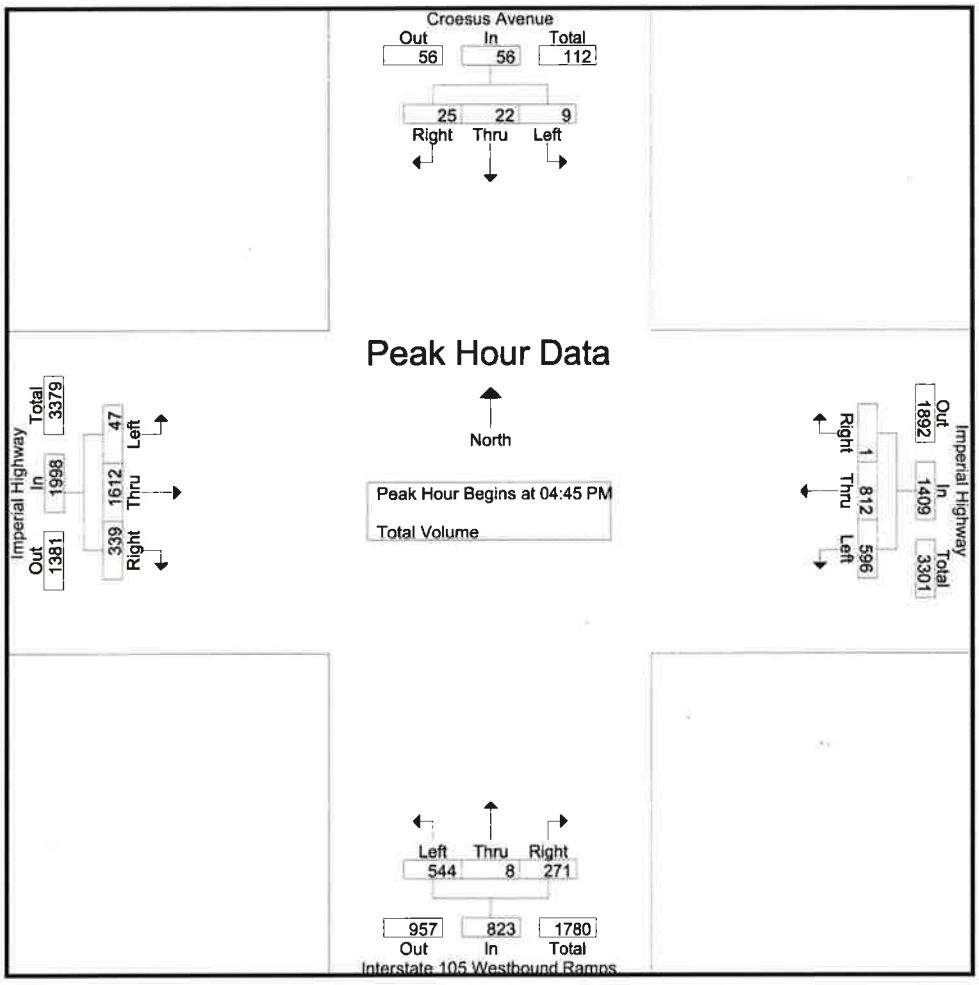
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				08:00 AM				07:15 AM			
+0 mins.	**4**	**17**	18	**39**	155	292	3	450	156	**7**	40	203	5	240	**67**	312
+15 mins.	0	9	19	28	**215**	**382**	1	**598**	152	3	44	199	13	232	56	301
+30 mins.	1	7	**20**	28	197	322	0	519	105	0	40	145	**20**	**290**	59	**369**
+45 mins.	4	12	17	33	155	365	**6**	526	**162**	0	**49**	**211**	12	240	40	292
Total Volume	9	45	74	128	722	1361	10	2093	575	10	173	758	50	1002	222	1274
% App. Total	7	35.2	57.8		34.5	65	0.5		75.9	1.3	22.8		3.9	78.6	17.4	
PHF	.563	.662	.925	.821	.840	.891	.417	.875	.887	.357	.883	.898	.625	.864	.828	.863

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County of Los Angeles
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Weather: Clear

File Name : LAC105WIMPM
Site Code : 12815514
Start Date : 9/23/2015



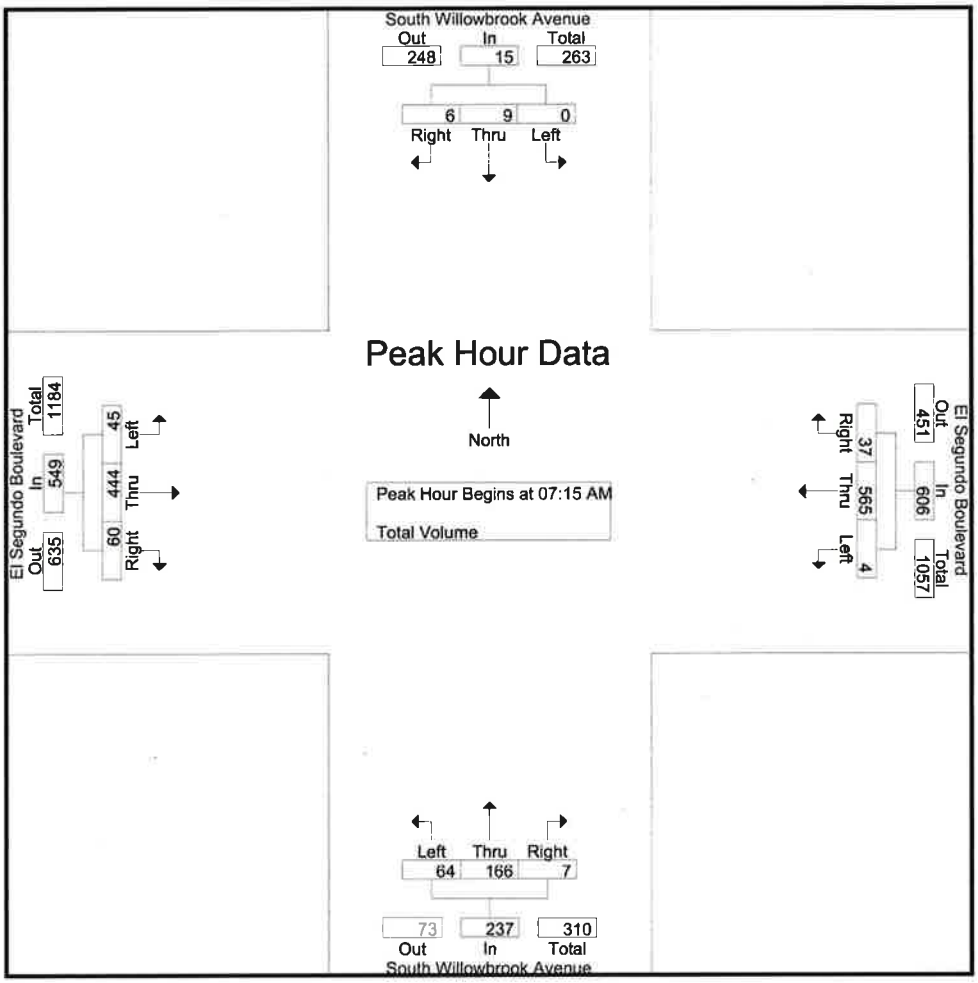
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:45 PM				04:30 PM				04:45 PM			
+0 mins.	3	**8**	13	24	134	201	**1**	336	133	**4**	**81**	218	10	398	**90**	498
+15 mins.	**5**	8	**15**	**28**	**170**	**216**	0	**386**	**156**	2	68	226	**16**	401	87	504
+30 mins.	5	5	11	21	137	196	0	333	111	2	70	183	10	383	81	474
+45 mins.	0	7	6	13	155	199	0	354	153	1	75	**229**	11	**430**	81	**522**
Total Volume	13	28	45	86	596	812	1	1409	553	9	294	856	47	1612	339	1998
% App. Total	15.1	32.6	52.3		42.3	57.6	0.1		64.6	1.1	34.3		2.4	80.7	17	
PHF	.650	.875	.750	.768	.876	.940	.250	.913	.886	.563	.907	.934	.734	.937	.942	.957

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Weather: Clear

File Name : CLASWELAM
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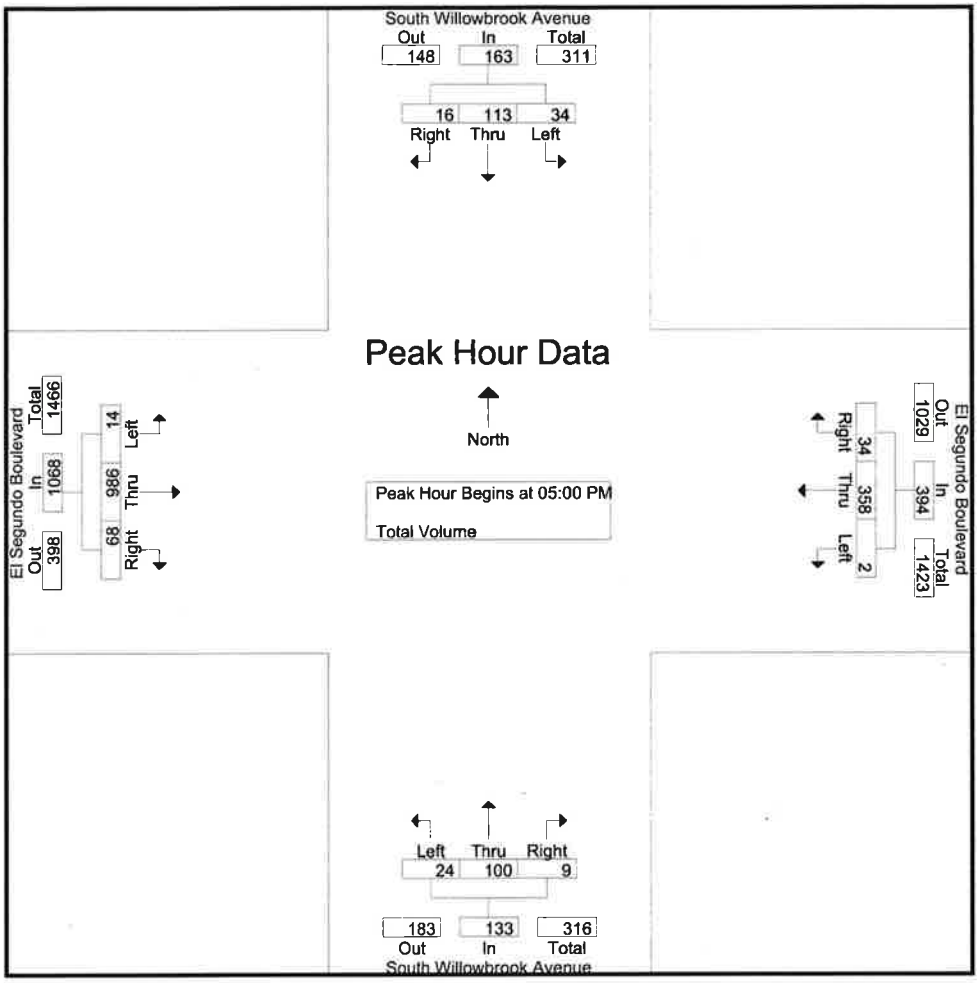
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				07:00 AM				07:15 AM			
+0 mins.	0	2	**4**	6	0	152	2	154	**19**	28	**4**	51	5	103	5	113
+15 mins.	0	2	0	2	**2**	151	7	160	16	43	2	61	9	112	12	133
+30 mins.	0	1	2	3	1	**159**	8	**168**	18	**53**	3	**74**	**17**	**121**	19	**157**
+45 mins.	**8**	**8**	4	**20**	1	132	**16**	149	17	49	1	67	14	108	**24**	146
Total Volume	8	13	10	31	4	594	33	631	70	173	10	253	45	444	60	549
% App. Total	25.8	41.9	32.3		0.6	94.1	5.2		27.7	68.4	4		8.2	80.9	10.9	
PHF	.250	.406	.625	.388	.500	.934	.516	.939	.921	.816	.625	.855	.662	.917	.625	.874

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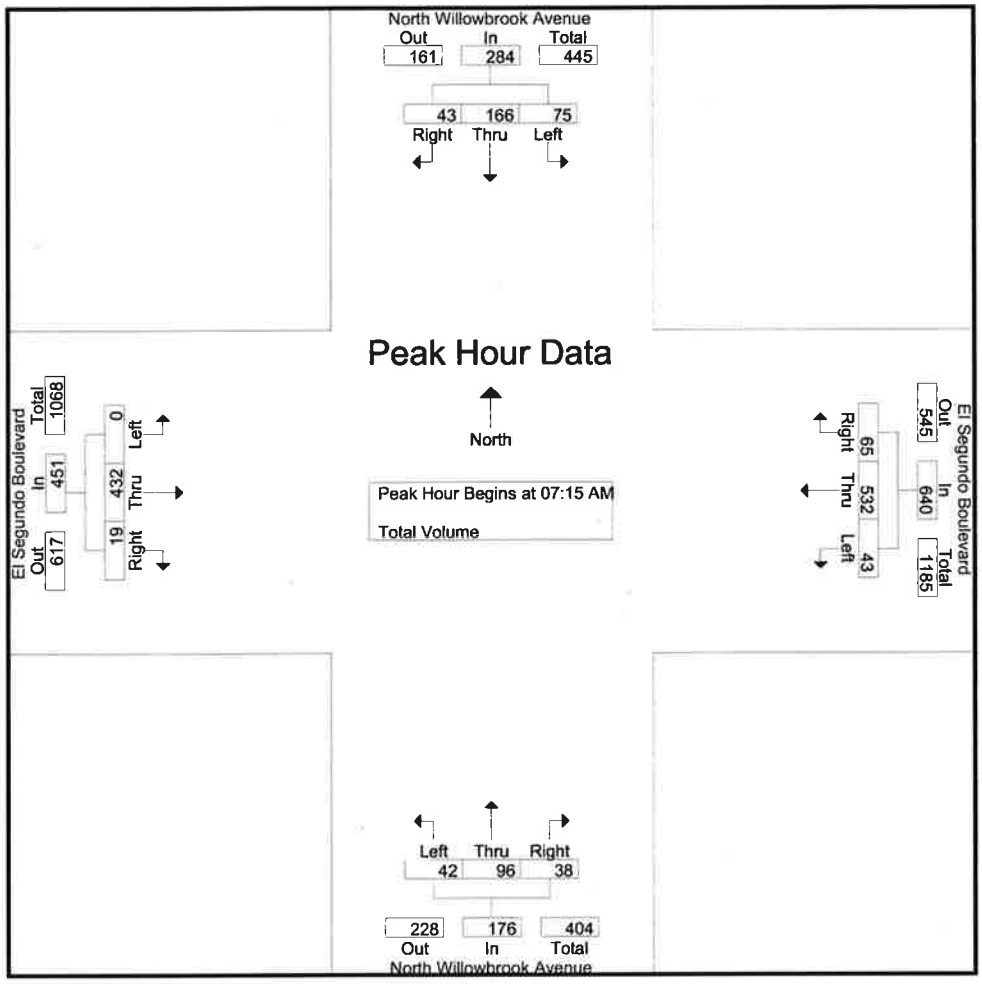
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:15 PM				05:00 PM			
+0 mins.	7	28	2	37	0	96	3	99	**9**	26	**5**	40	**5**	243	**24**	272
+15 mins.	7	23	4	34	**1**	88	6	95	9	**28**	4	**41**	4	**254**	12	270
+30 mins.	**10**	27	4	41	0	**99**	**9**	**108**	7	17	3	27	1	239	11	251
+45 mins.	10	**35**	**6**	**51**	1	88	9	98	5	26	3	34	4	250	21	**275**
Total Volume	34	113	16	163	2	371	27	400	30	97	15	142	14	986	68	1068
% App. Total	20.9	69.3	9.8		0.5	92.8	6.8		21.1	68.3	10.6		1.3	92.3	6.4	
PHF	.850	.807	.667	.799	.500	.937	.750	.926	.833	.866	.750	.866	.700	.970	.708	.971

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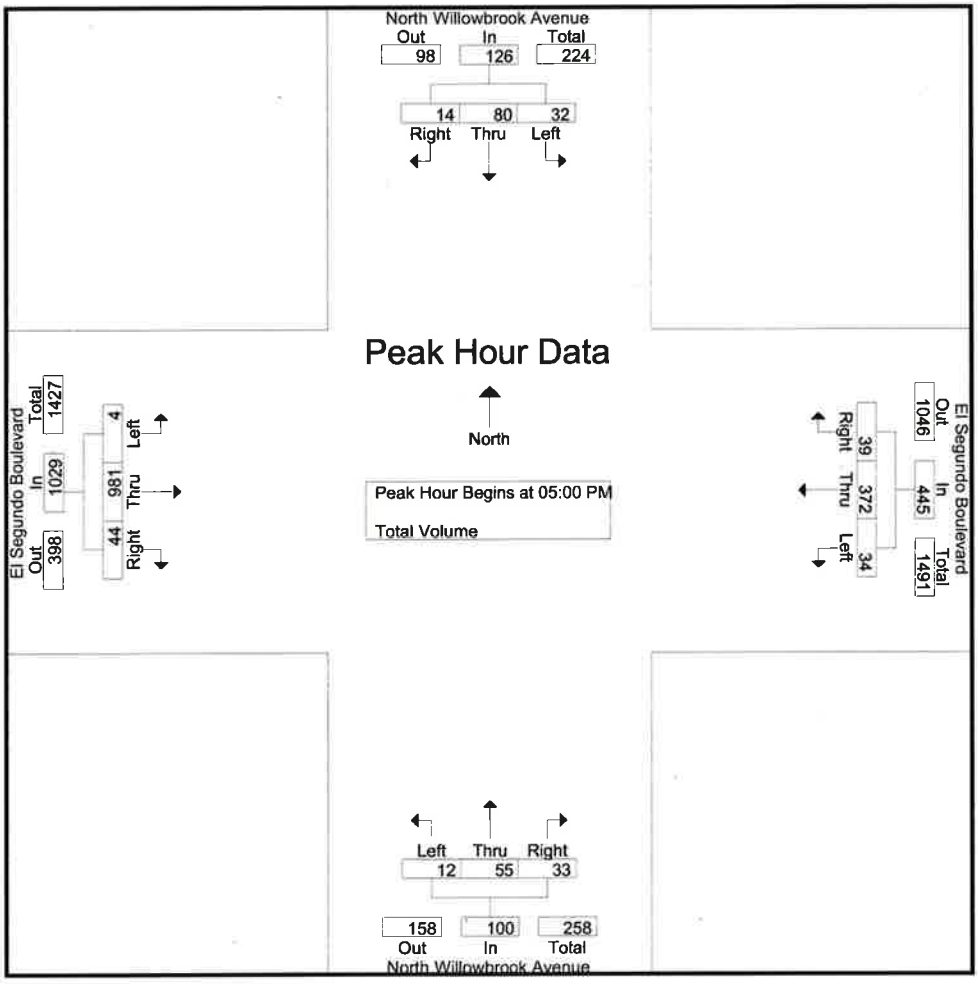
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:15 AM				07:15 AM			
+0 mins.	15	19	10	44	2	**145**	9	156	**12**	9	5	26	0	83	4	87
+15 mins.	20	38	**16**	74	4	141	12	157	11	**33**	8	**52**	0	116	4	120
+30 mins.	**21**	51	9	81	**19**	144	**23**	**186**	11	27	11	49	0	**130**	**6**	**136**
+45 mins.	19	**58**	8	**85**	17	131	19	167	8	27	**14**	49	0	103	5	108
Total Volume	75	166	43	284	42	561	63	666	42	96	38	176	0	432	19	451
% App. Total	26.4	58.5	15.1		6.3	84.2	9.5		23.9	54.5	21.6		0	95.8	4.2	
PHF	.893	.716	.672	.835	.553	.967	.685	.895	.875	.727	.679	.846	.000	.831	.792	.829

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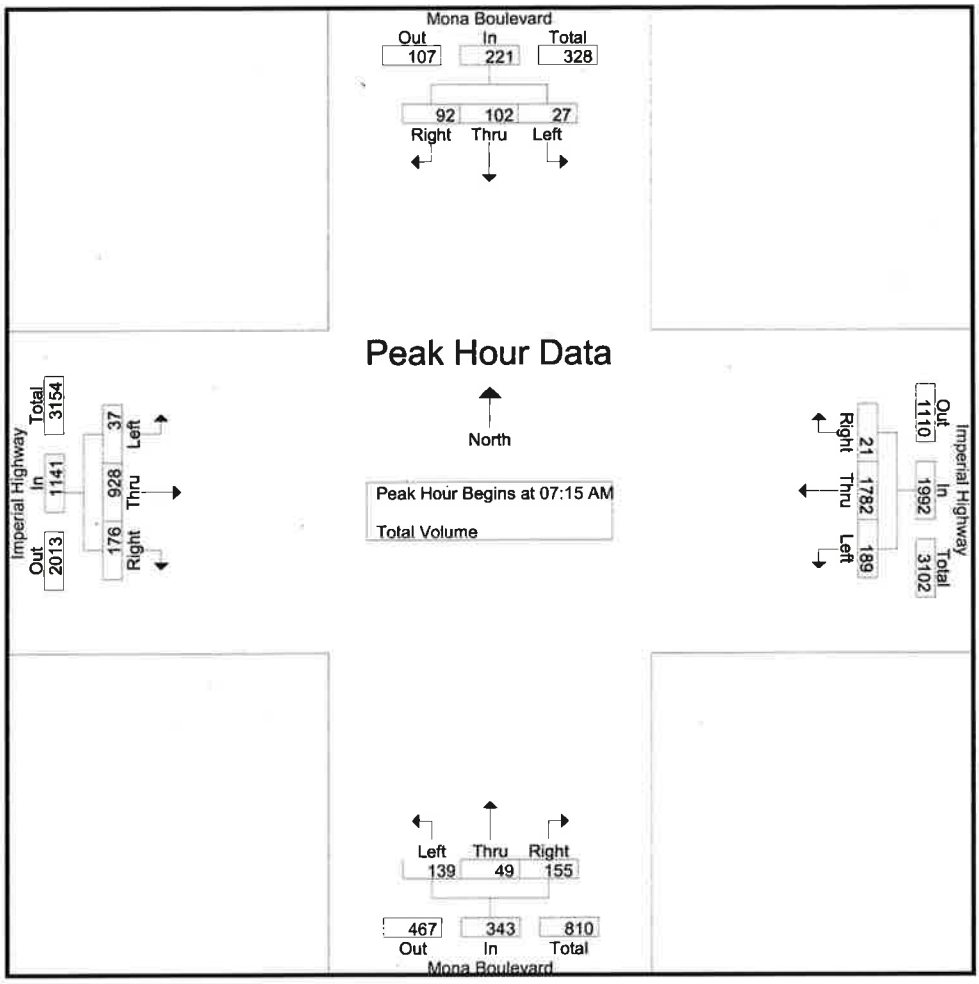
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				04:00 PM				05:00 PM			
+0 mins.	6	22	3	31	10	86	10	106	**6**	17	**12**	**35**	**2**	235	9	246
+15 mins.	**9**	13	3	25	**14**	91	**15**	120	4	11	4	19	1	**256**	6	263
+30 mins.	9	18	**4**	31	4	86	12	102	5	**18**	9	32	1	237	13	251
+45 mins.	8	**27**	4	**39**	8	**104**	13	**125**	3	17	7	27	0	253	**16**	**269**
Total Volume	32	80	14	126	36	367	50	453	18	63	32	113	4	981	44	1029
% App. Total	25.4	63.5	11.1		7.9	81	11		15.9	55.8	28.3		0.4	95.3	4.3	
PHF	.889	.741	.875	.808	.643	.882	.833	.906	.750	.875	.667	.807	.500	.958	.688	.956

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County of Los Angeles
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E/W: Imperial Highway
Weather: Clear

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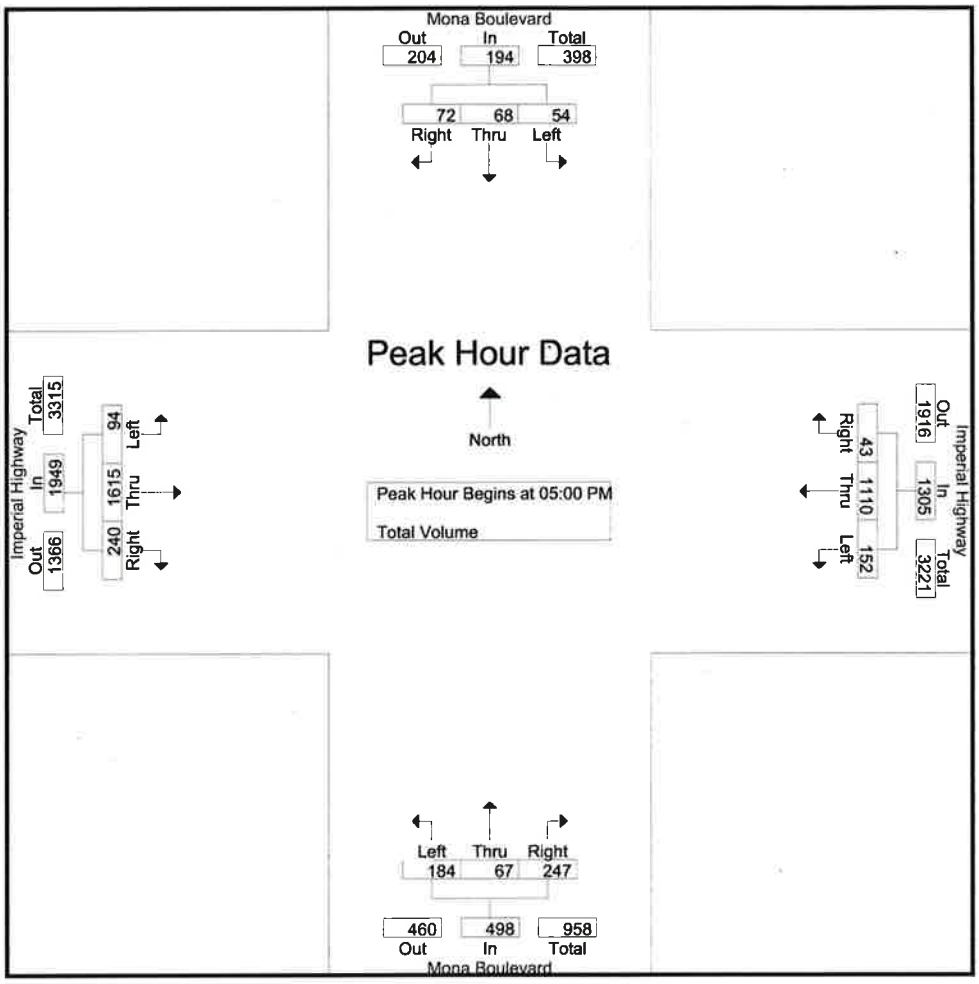
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:15 AM				07:30 AM			
+0 mins.	6	22	**25**	53	28	446	**10**	484	**47**	9	41	**97**	11	238	41	290
+15 mins.	7	30	24	**61**	37	**495**	3	**535**	31	9	38	78	11	**259**	**51**	**321**
+30 mins.	**8**	**32**	21	61	48	477	2	527	30	**18**	32	80	11	227	49	287
+45 mins.	6	18	22	46	**53**	430	9	492	31	13	**44**	88	**21**	210	51	282
Total Volume	27	102	92	221	166	1848	24	2038	139	49	155	343	54	934	192	1180
% App. Total	12.2	46.2	41.6		8.1	90.7	1.2		40.5	14.3	45.2		4.6	79.2	16.3	
PHF	.844	.797	.920	.906	.783	.933	.600	.952	.739	.681	.881	.884	.643	.902	.941	.919

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County of Los Angeles
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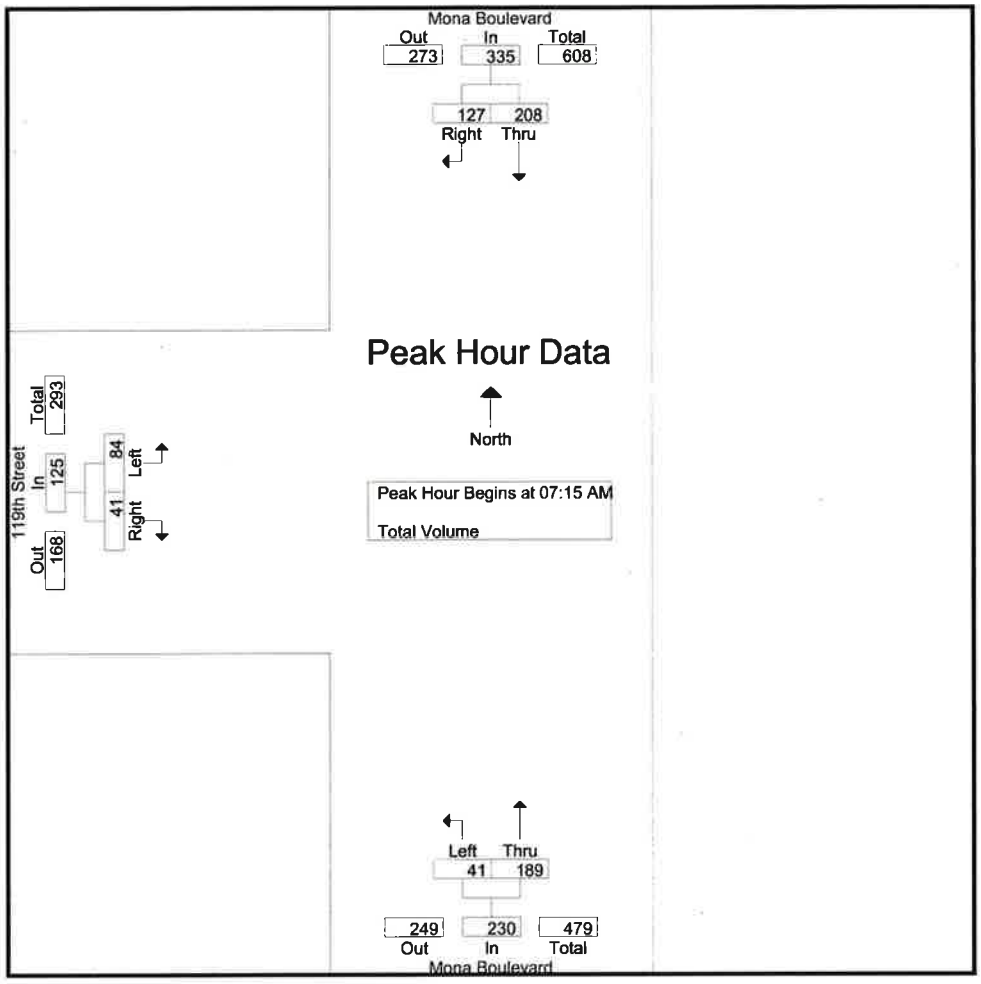
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				05:00 PM				05:00 PM			
+0 mins.	12	15	16	43	36	286	8	330	**50**	13	**63**	126	13	392	57	462
+15 mins.	10	14	17	41	**47**	**304**	**11**	**362**	44	17	61	122	25	403	68	496
+30 mins.	**18**	**21**	18	**57**	36	286	10	332	48	**19**	60	**127**	**30**	399	44	473
+45 mins.	14	18	**21**	53	28	263	9	300	42	18	63	123	26	**421**	**71**	**518**
Total Volume	54	68	72	194	147	1139	38	1324	184	67	247	498	94	1615	240	1949
% App. Total	27.8	35.1	37.1		11.1	86	2.9		36.9	13.5	49.6		4.8	82.9	12.3	
PHF	.750	.810	.857	.851	.782	.937	.864	.914	.920	.882	.980	.980	.783	.959	.845	.941

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County of Los Angeles
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File Name : CLAMO119AM
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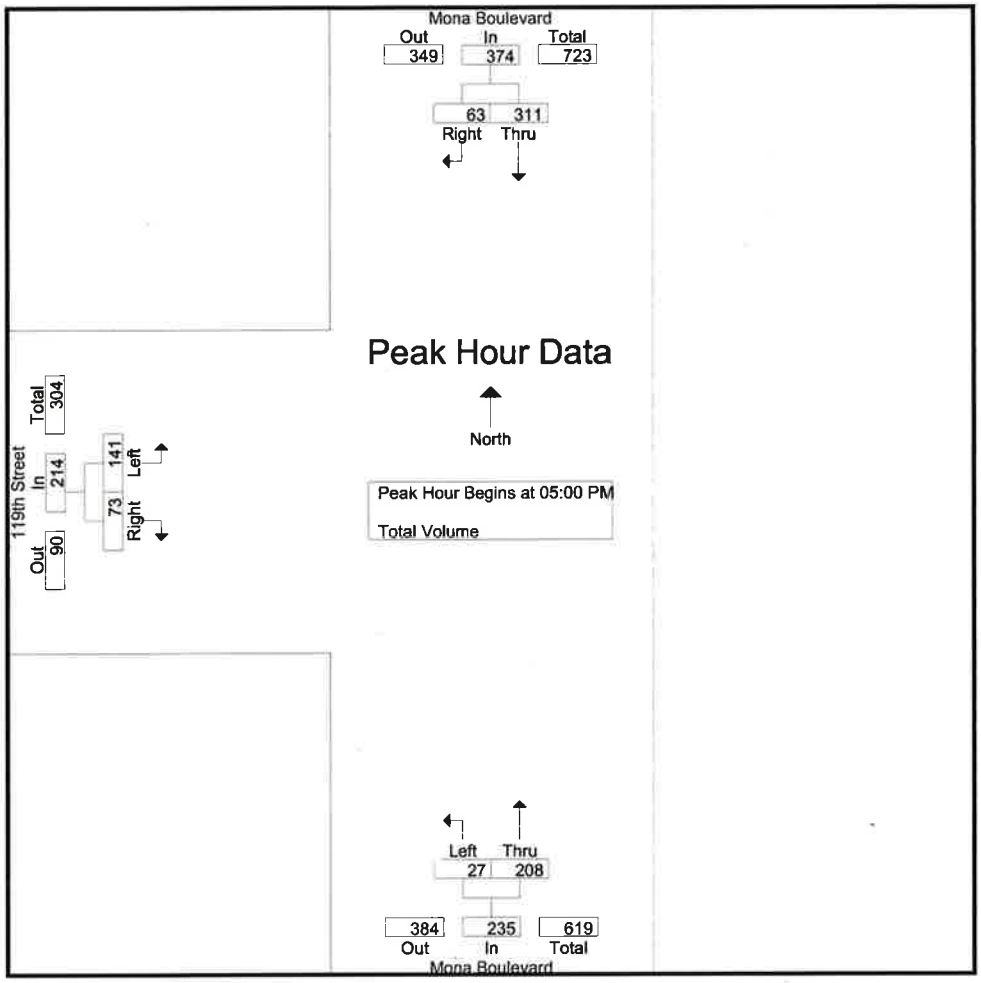
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:30 AM		
+0 mins.	45	**35**	80	6	36	42	**24**	10	34
+15 mins.	59	35	94	9	**63**	**72**	23	**13**	**36**
+30 mins.	**61**	34	**95**	**15**	46	61	22	12	34
+45 mins.	43	23	66	11	44	55	24	9	33
Total Volume	208	127	335	41	189	230	93	44	137
% App. Total	62.1	37.9		17.8	82.2		67.9	32.1	
PHF	.852	.907	.882	.683	.750	.799	.969	.846	.951

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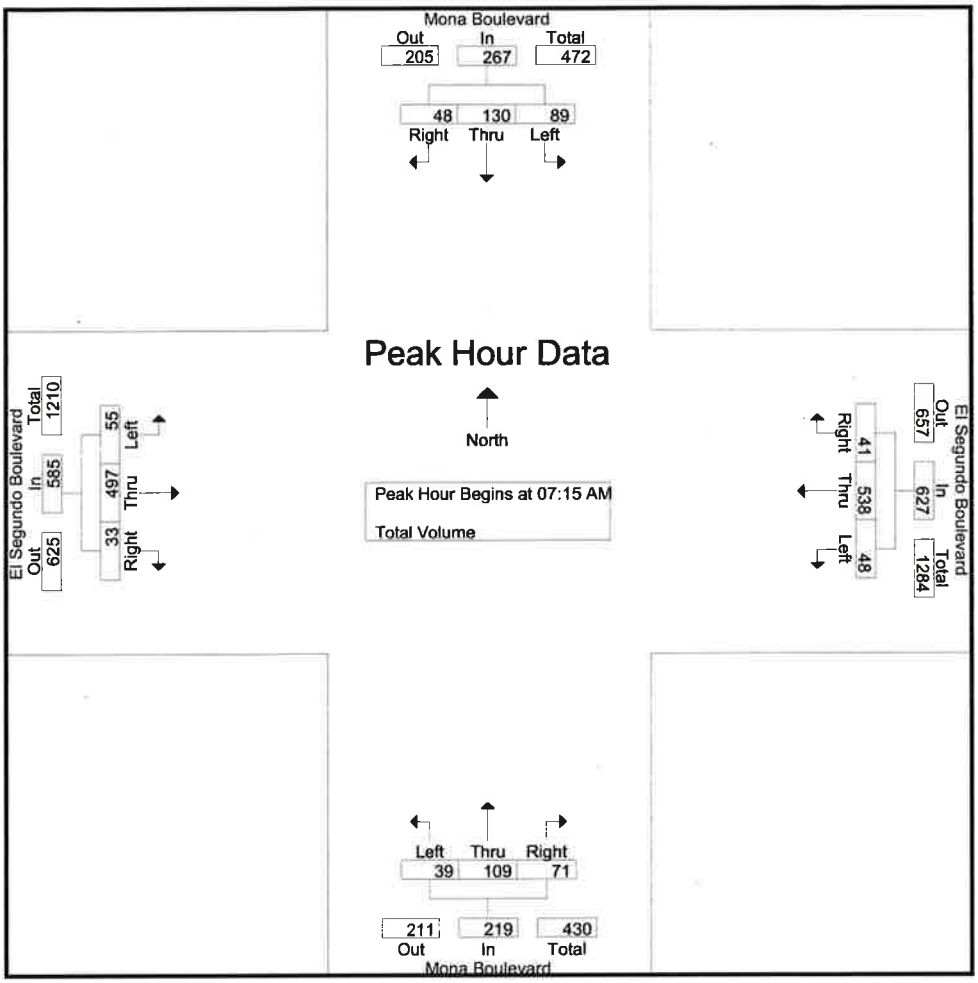
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	74	**23**	**97**	**9**	**55**	**64**	38	17	**55**
+15 mins.	**82**	13	95	6	51	57	31	22	53
+30 mins.	81	14	95	4	52	56	**40**	11	51
+45 mins.	74	13	87	8	50	58	32	**23**	55
Total Volume	311	63	374	27	208	235	141	73	214
% App. Total	83.2	16.8		11.5	88.5		65.9	34.1	
PHF	.948	.685	.964	.750	.945	.918	.881	.793	.973

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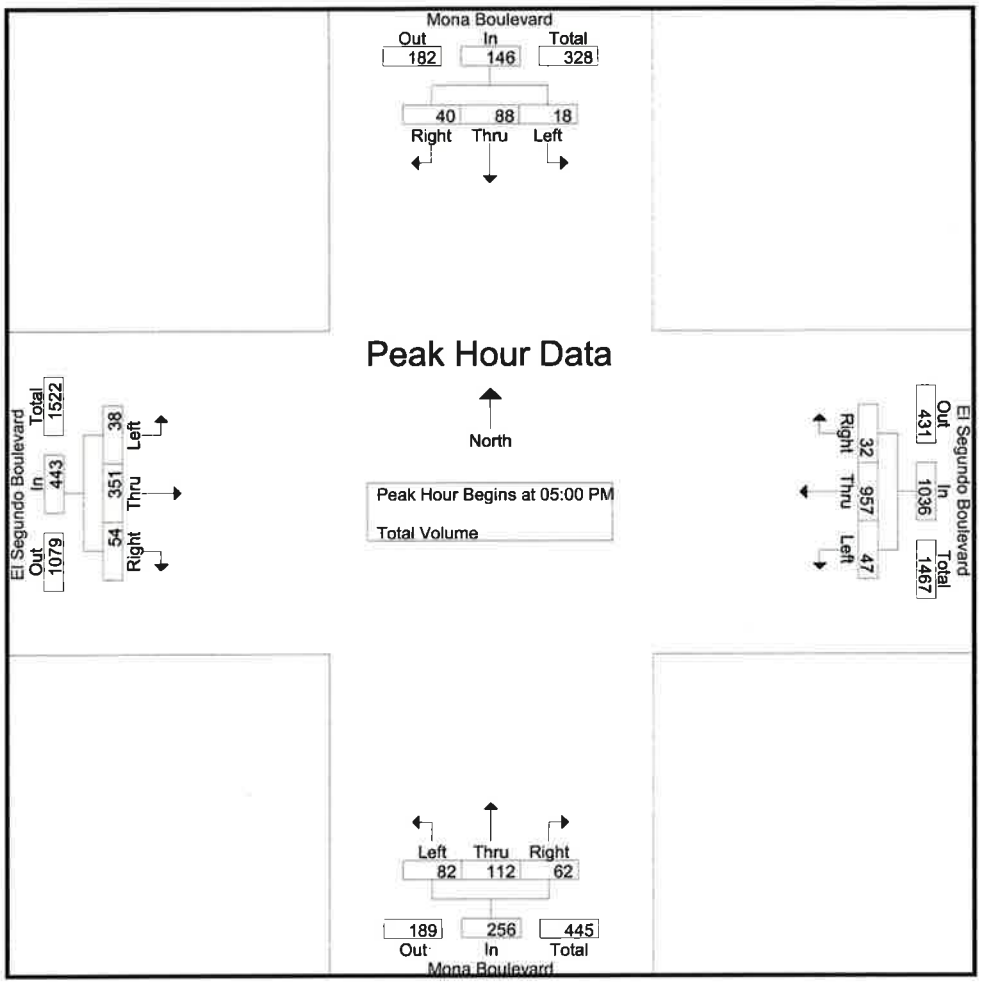
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	16	17	11	44	7	136	10	153	**13**	16	**20**	49	10	107	8	125
+15 mins.	**29**	**39**	13	**81**	**18**	137	**15**	**170**	12	**42**	18	**72**	16	139	6	161
+30 mins.	24	38	**15**	77	15	**139**	9	163	6	33	14	53	**20**	**140**	9	**169**
+45 mins.	20	36	9	65	8	126	7	141	8	18	19	45	9	111	**10**	130
Total Volume	89	130	48	267	48	538	41	627	39	109	71	219	55	497	33	585
% App. Total	33.3	48.7	18		7.7	85.8	6.5		17.8	49.8	32.4		9.4	85	5.6	
PHF	.767	.833	.800	.824	.667	.968	.683	.922	.750	.649	.888	.760	.688	.888	.825	.865

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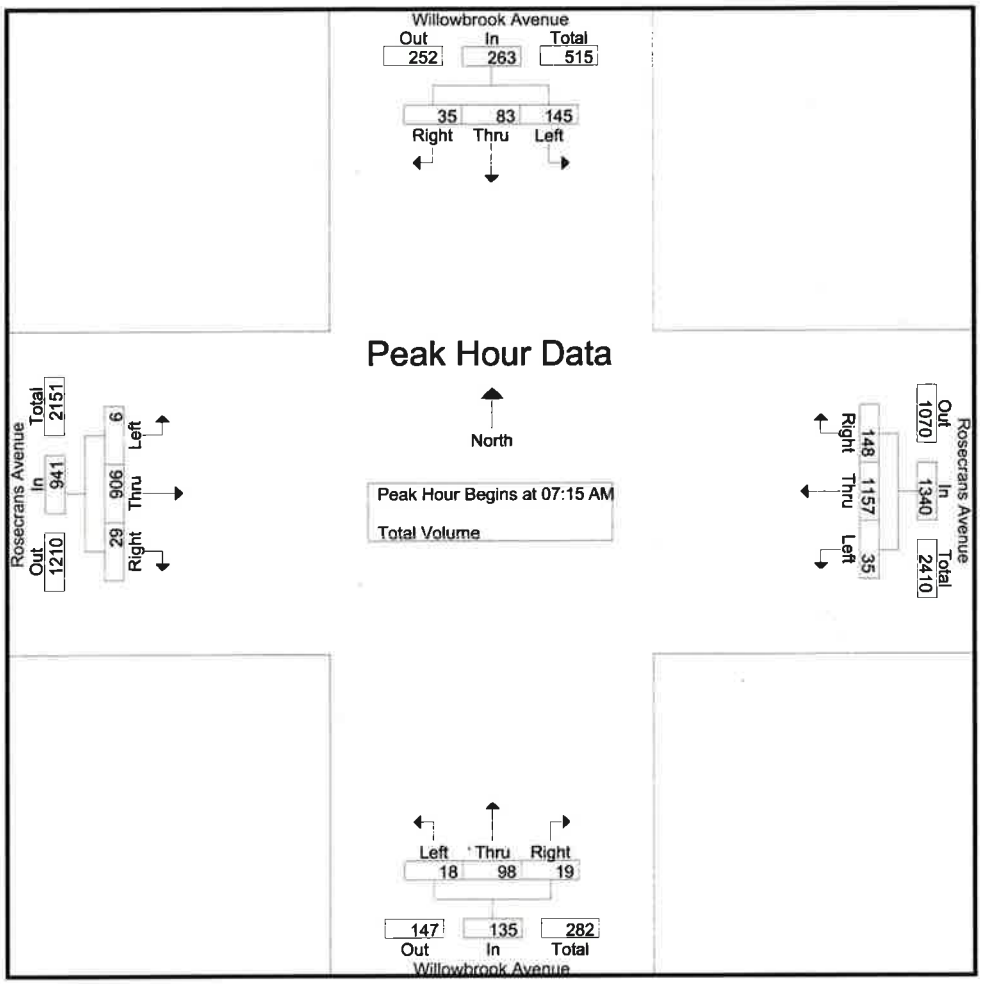
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				05:00 PM				04:30 PM			
+0 mins.	**5**	17	13	35	9	227	8	244	20	28	16	64	7	**100**	13	**120**
+15 mins.	4	24	10	38	**19**	**255**	7	**281**	20	**32**	14	66	5	94	12	111
+30 mins.	5	18	4	27	10	225	5	240	18	22	**19**	59	**9**	92	13	114
+45 mins.	5	**26**	**15**	**46**	9	250	**12**	271	**24**	30	13	**67**	9	89	**17**	115
Total Volume	19	85	42	146	47	957	32	1036	82	112	62	256	30	375	55	460
% App. Total	13	58.2	28.8		4.5	92.4	3.1		32	43.8	24.2		6.5	81.5	12	
PHF	.950	.817	.700	.793	.618	.938	.667	.922	.854	.875	.816	.955	.833	.938	.809	.958

Counts Unlimited
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County of Los Angeles
N/S: Willowbrook Avenue
E/W: Rosecrans Avenue
Weather: Clear

File Name : CLASWROAM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



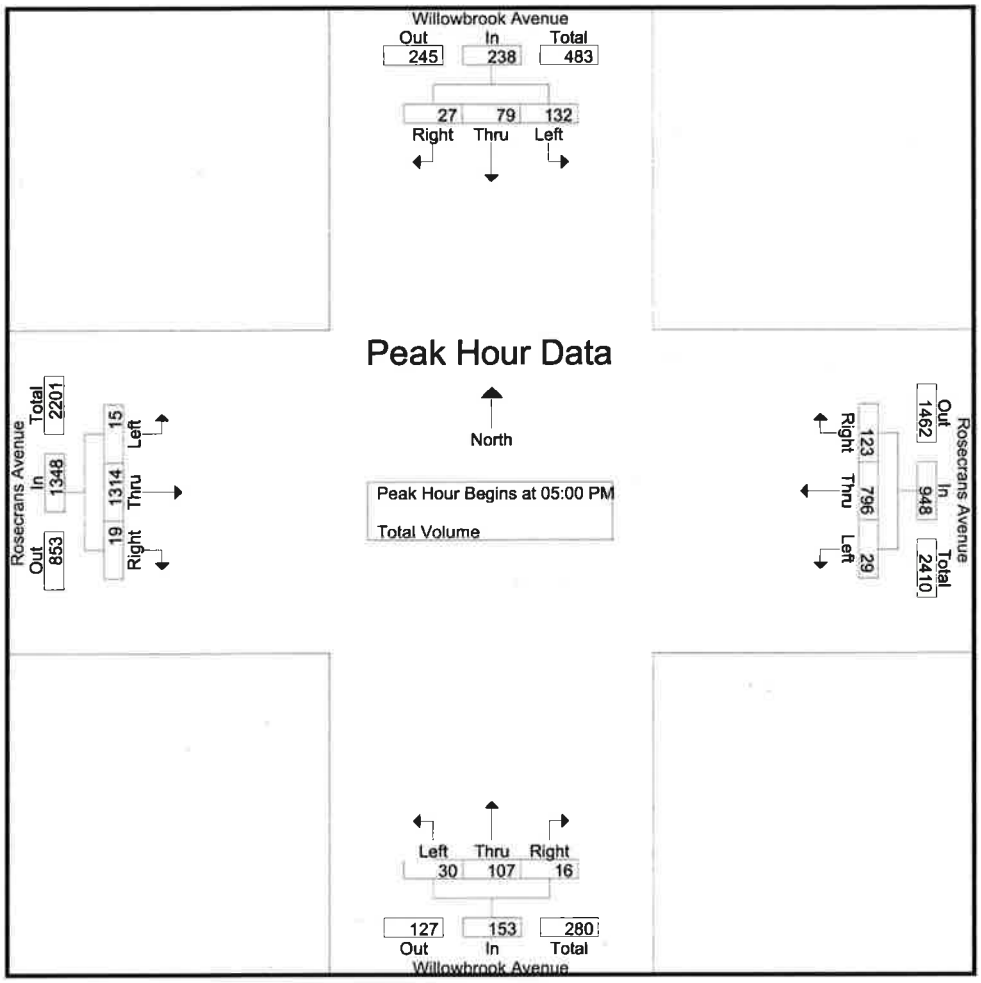
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	33	15	6	54	5	277	38	320	2	22	2	26	1	195	5	201
+15 mins.	41	**26**	**10**	**77**	10	**307**	**46**	**363**	**6**	**29**	3	**38**	1	235	4	240
+30 mins.	**43**	21	9	73	8	299	39	346	4	24	**7**	35	**3**	**246**	9	**258**
+45 mins.	28	21	10	59	**12**	274	25	311	6	23	7	36	1	230	**11**	242
Total Volume	145	83	35	263	35	1157	148	1340	18	98	19	135	6	906	29	941
% App. Total	55.1	31.6	13.3		2.6	86.3	11		13.3	72.6	14.1		0.6	96.3	3.1	
PHF	.843	.798	.875	.854	.729	.942	.804	.923	.750	.845	.679	.888	.500	.921	.659	.912

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County of Los Angeles
N/S: Willowbrook Avenue
E/W: Rosecrans Avenue
Weather: Clear

File Name : CLASWROPM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



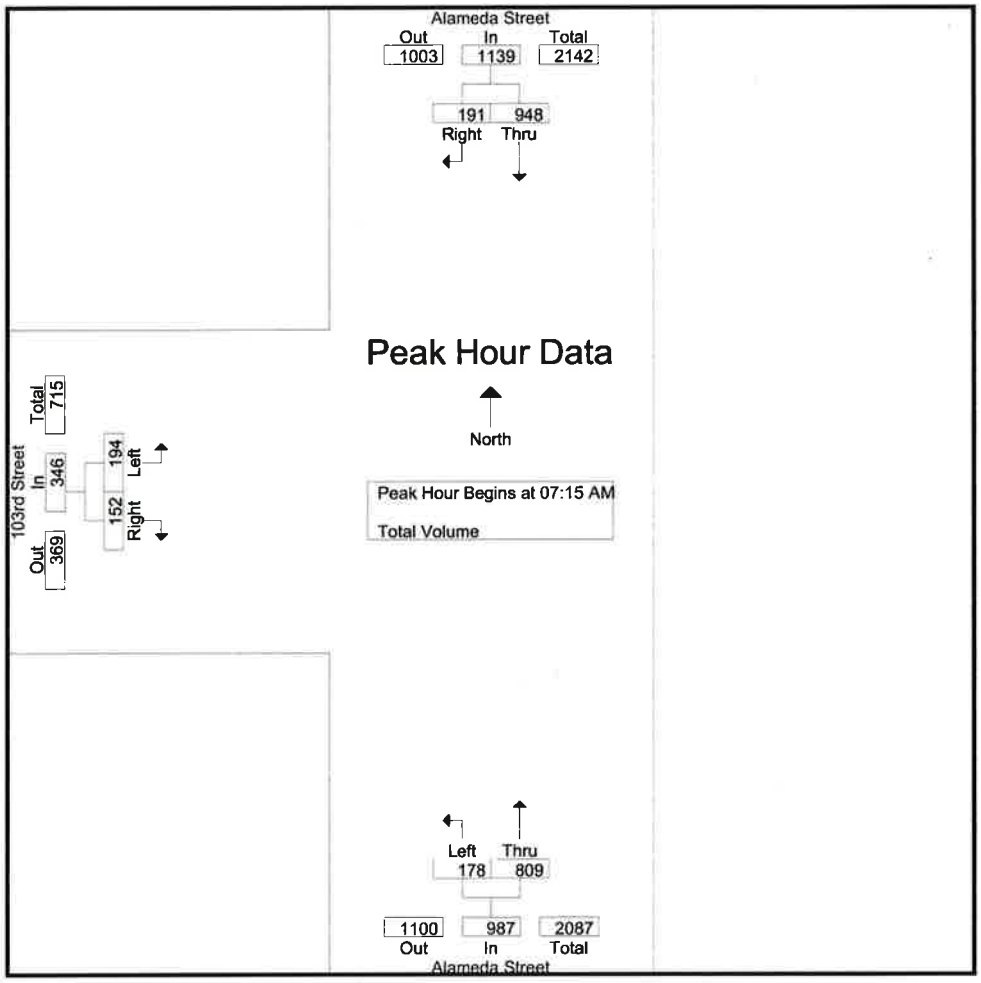
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:30 PM				04:45 PM			
+0 mins.	28	22	6	56	**11**	192	31	234	4	**32**	7	43	5	**347**	**6**	**358**
+15 mins.	35	15	**9**	59	9	181	**34**	224	**12**	24	2	38	3	328	4	335
+30 mins.	30	**18**	6	54	4	**223**	30	**257**	5	27	4	36	4	317	2	323
+45 mins.	**39**	**24**	6	**69**	5	200	28	233	8	29	**8**	**45**	**6**	334	6	346
Total Volume	132	79	27	238	29	796	123	948	29	112	21	162	18	1326	18	1362
% App. Total	55.5	33.2	11.3		3.1	84	13		17.9	69.1	13		1.3	97.4	1.3	
PHF	.846	.823	.750	.862	.659	.892	.904	.922	.604	.875	.656	.900	.750	.955	.750	.951

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County of Los Angeles
N/S: Alameda Street
E/W: 103rd Street
Weather: Clear

File Name : LWDAL103AM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



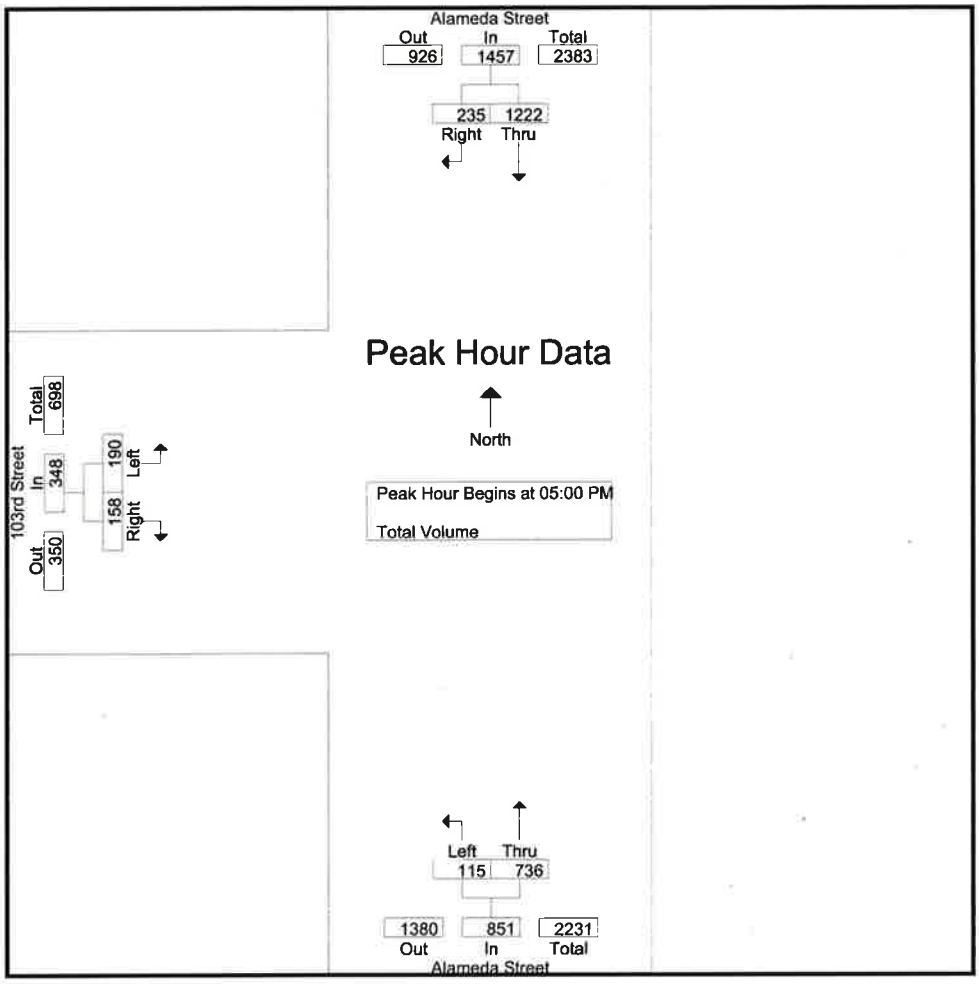
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			08:00 AM		
+0 mins.	227	43	270	**50**	195	245	**58**	43	**101**
+15 mins.	207	44	251	44	194	238	39	26	65
+30 mins.	**263**	**64**	**327**	42	**223**	**265**	49	40	89
+45 mins.	251	40	291	42	197	239	44	**49**	93
Total Volume	948	191	1139	178	809	987	190	158	348
% App. Total	83.2	16.8		18	82		54.6	45.4	
PHF	.901	.746	.871	.890	.907	.931	.819	.806	.861

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County of Los Angeles
N/S: Alameda Street
E/W: 103rd Street
Weather: Clear

File Name : LWDAL103PM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



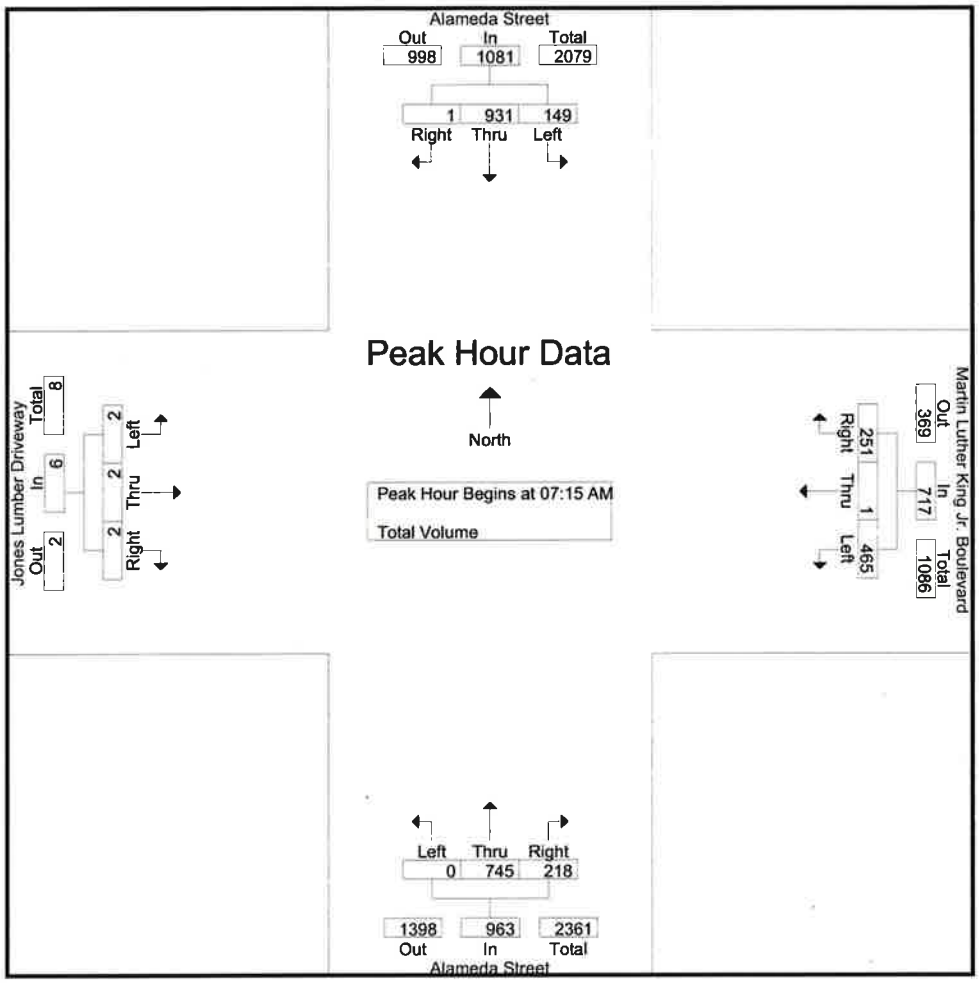
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:00 PM			05:00 PM		
+0 mins.	300	55	355	30	191	221	**58**	43	**101**
+15 mins.	**328**	**74**	**402**	28	174	202	39	26	65
+30 mins.	282	55	337	**32**	**194**	**226**	49	40	89
+45 mins.	312	51	363	29	176	205	44	**49**	93
Total Volume	1222	235	1457	119	735	854	190	158	348
% App. Total	83.9	16.1		13.9	86.1		54.6	45.4	
PHF	.931	.794	.906	.930	.947	.945	.819	.806	.861

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County of Los Angeles
N/S: Alameda Street
E/W: Martin Luther King Jr. Boulevard
Weather: Clear

File Name : LWDALMLAM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



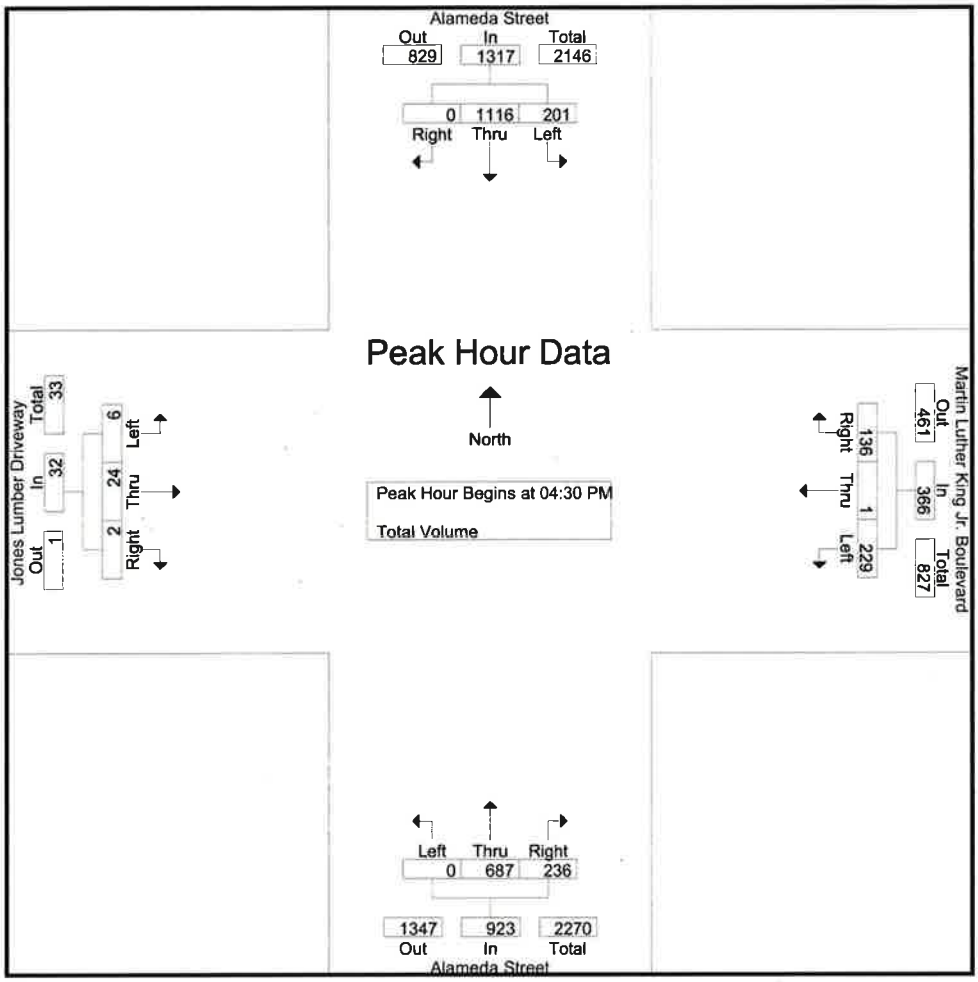
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:00 AM			
+0 mins.	34	228	1	263	108	0	57	165	0	177	55	232	**3**	**1**	0	**4**
+15 mins.	37	215	0	252	**153**	0	**67**	**220**	0	194	**79**	**273**	0	1	0	1
+30 mins.	**42**	243	0	**285**	122	0	63	185	0	171	37	208	1	0	**1**	2
+45 mins.	36	**245**	0	281	82	**1**	64	147	0	**203**	47	250	0	1	1	2
Total Volume	149	931	1	1081	465	1	251	717	0	745	218	963	4	3	2	9
% App. Total	13.8	86.1	0.1		64.9	0.1	35		0	77.4	22.6		44.4	33.3	22.2	
PHF	.887	.950	.250	.948	.760	.250	.937	.815	.000	.917	.690	.882	.333	.750	.500	.563

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County of Los Angeles
N/S: Alameda Street
E/W: Martin Luther King Jr. Boulevard
Weather: Clear

File Name : LWDALMLPM
Site Code : 12815514
Start Date : 9/23/2015
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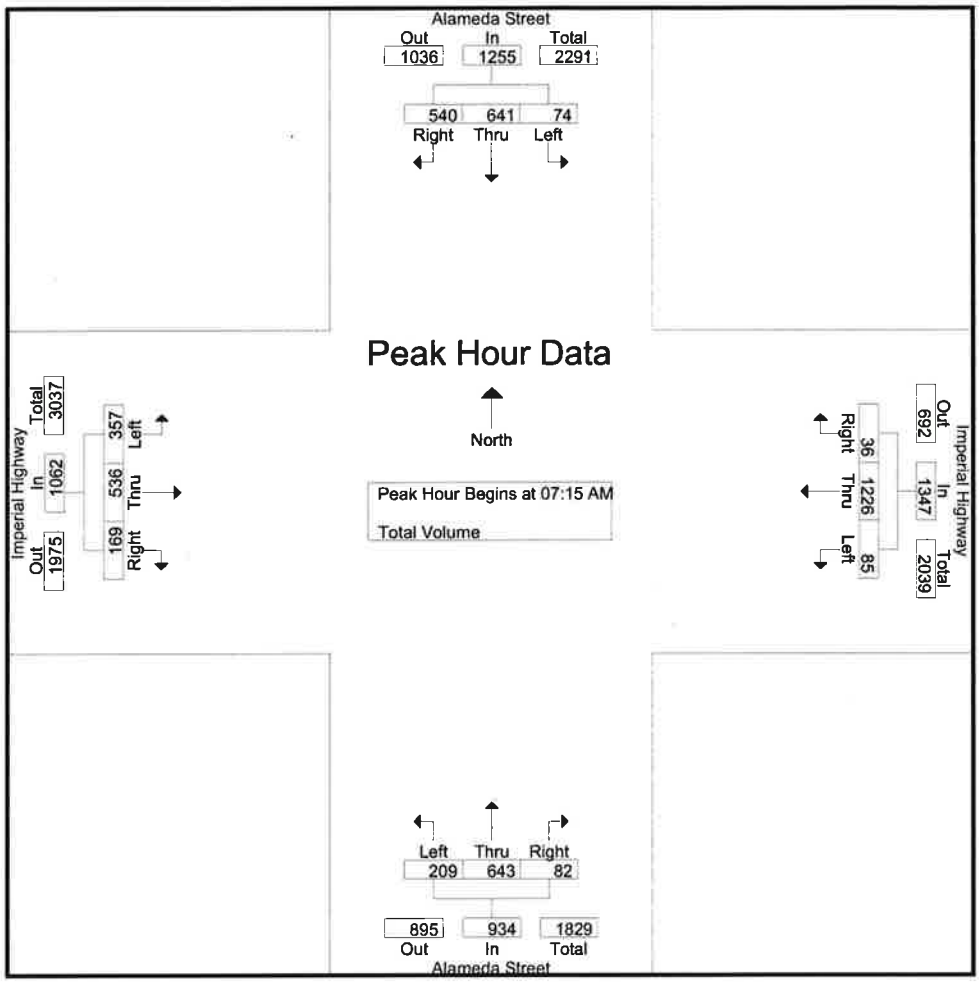
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	**54**	273	0	327	48	**1**	**40**	89	0	**192**	**68**	**260**	**3**	2	**1**	6
+15 mins.	54	280	0	**334**	55	0	32	87	0	177	59	236	1	5	1	7
+30 mins.	54	274	0	328	**68**	0	29	**97**	0	150	49	199	1	**11**	0	**12**
+45 mins.	39	**289**	0	328	58	0	35	93	0	168	60	228	1	6	0	7
Total Volume	201	1116	0	1317	229	1	136	366	0	687	236	923	6	24	2	32
% App. Total	15.3	84.7	0		62.6	0.3	37.2		0	74.4	25.6		18.8	75	6.2	
PHF	.931	.965	.000	.986	.842	.250	.850	.943	.000	.895	.868	.888	.500	.545	.500	.667

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County of Los Angeles
N/S: Alameda Street
E/W: Imperial Highway
Weather: Clear

File Name : CPTALIMAM
Site Code : 12815514
Start Date : 9/23/2015
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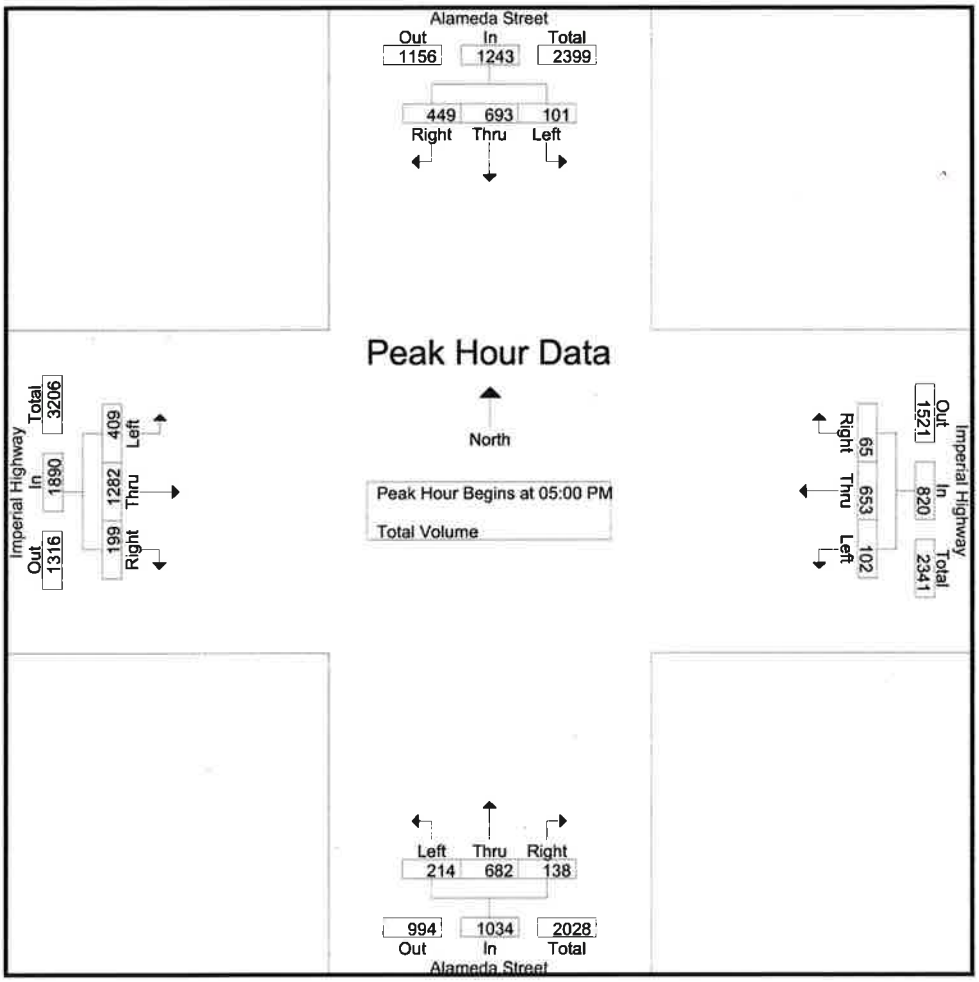
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:15 AM				07:30 AM			
+0 mins.	11	149	**149**	309	14	307	7	328	42	**208**	16	**266**	83	**166**	40	**289**
+15 mins.	21	172	139	332	15	318	7	340	52	136	20	208	**97**	120	**48**	265
+30 mins.	18	**180**	141	**339**	25	**349**	9	**383**	**61**	157	**23**	241	72	145	45	262
+45 mins.	**24**	140	111	275	**28**	269	**11**	308	54	142	23	219	77	155	31	263
Total Volume	74	641	540	1255	82	1243	34	1359	209	643	82	934	329	586	164	1079
% App. Total	5.9	51.1	43		6	91.5	2.5		22.4	68.8	8.8		30.5	54.3	15.2	
PHF	.771	.890	.906	.926	.732	.890	.773	.887	.857	.773	.891	.878	.848	.883	.854	.933

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County of Los Angeles
N/S: Alameda Street
E/W: Imperial Highway
Weather: Clear

File Name : CPTALIMPM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



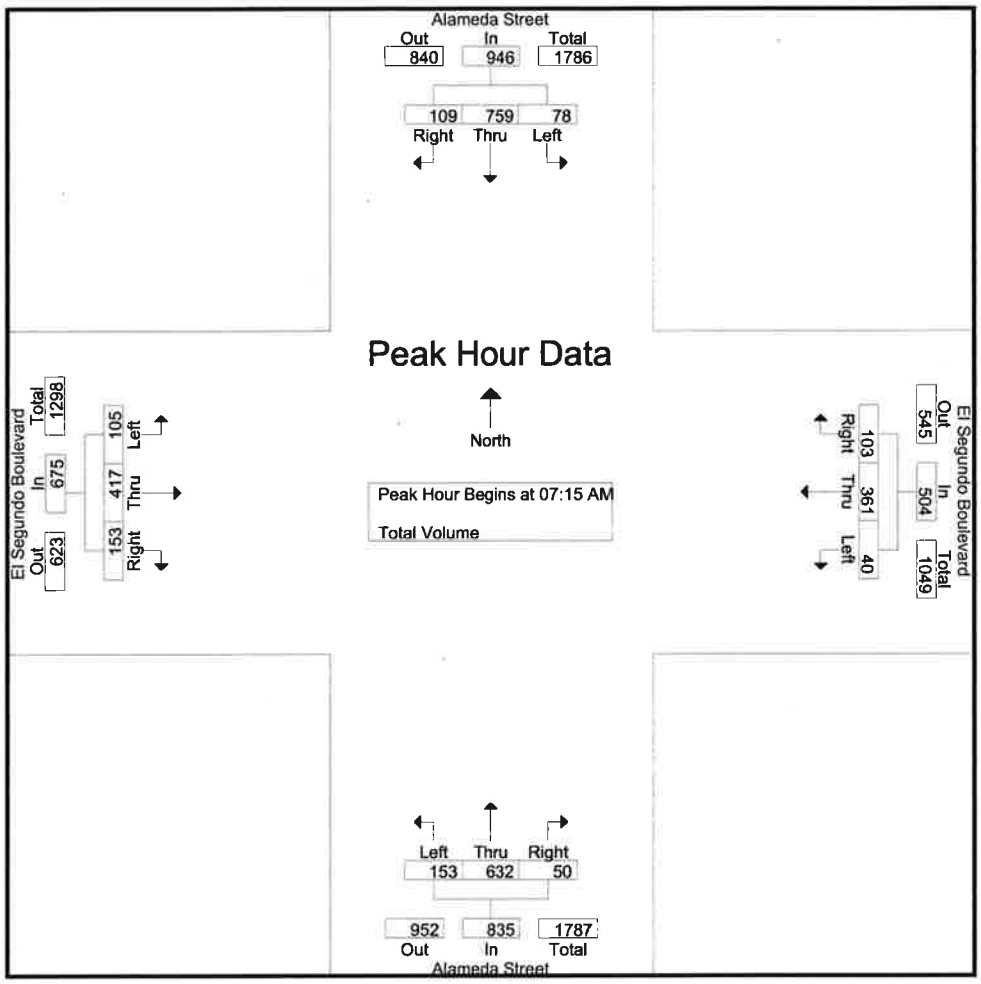
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				05:00 PM				05:00 PM			
+0 mins.	31	131	86	248	**29**	162	14	205	48	149	35	232	95	**346**	47	488
+15 mins.	29	193	110	332	28	**203**	**22**	**253**	**59**	**207**	29	**295**	96	295	48	439
+30 mins.	**38**	152	117	307	24	155	17	196	56	144	27	227	102	342	**55**	**499**
+45 mins.	28	**214**	**128**	**370**	25	169	15	209	51	182	**47**	280	**116**	299	49	464
Total Volume	126	690	441	1257	106	689	68	863	214	682	138	1034	409	1282	199	1890
% App. Total	10	54.9	35.1		12.3	79.8	7.9		20.7	66	13.3		21.6	67.8	10.5	
PHF	.829	.806	.861	.849	.914	.849	.773	.853	.907	.824	.734	.876	.881	.926	.905	.947

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County of Los Angeles
N/S: Alameda Street
E/W: El Segundo Boulevard
Weather: Clear

File Name : CPTALELAM
Site Code : 12815514
Start Date : 9/23/2015
Page No : 2



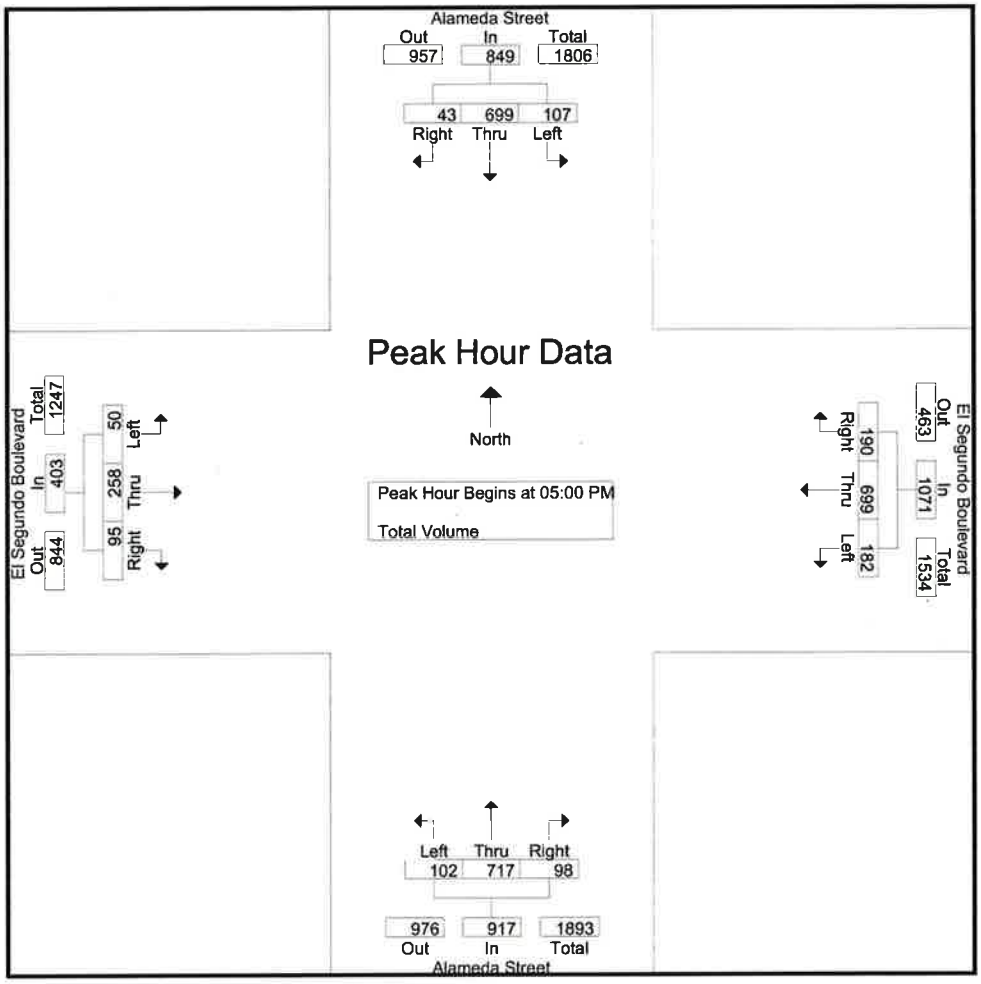
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:00 AM				07:15 AM			
+0 mins.	13	149	28	190	7	**95**	25	127	35	163	3	201	**33**	71	**43**	147
+15 mins.	**23**	**235**	**38**	**296**	10	95	22	127	**40**	149	8	197	32	**121**	40	**193**
+30 mins.	22	202	22	246	5	95	**34**	**134**	34	**190**	**14**	**238**	18	119	39	176
+45 mins.	20	173	21	214	**18**	76	22	116	37	151	13	201	22	106	31	159
Total Volume	78	759	109	946	40	361	103	504	146	653	38	837	105	417	153	675
% App. Total	8.2	80.2	11.5		7.9	71.6	20.4		17.4	78	4.5		15.6	61.8	22.7	
PHF	.848	.807	.717	.799	.556	.950	.757	.940	.913	.859	.679	.879	.795	.862	.890	.874

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County of Los Angeles
N/S: Alameda Street
E/W: El Segundo Boulevard
Weather: Clear

File Name : CPTALELPM
Site Code : 12815514
Start Date : 9/23/2015
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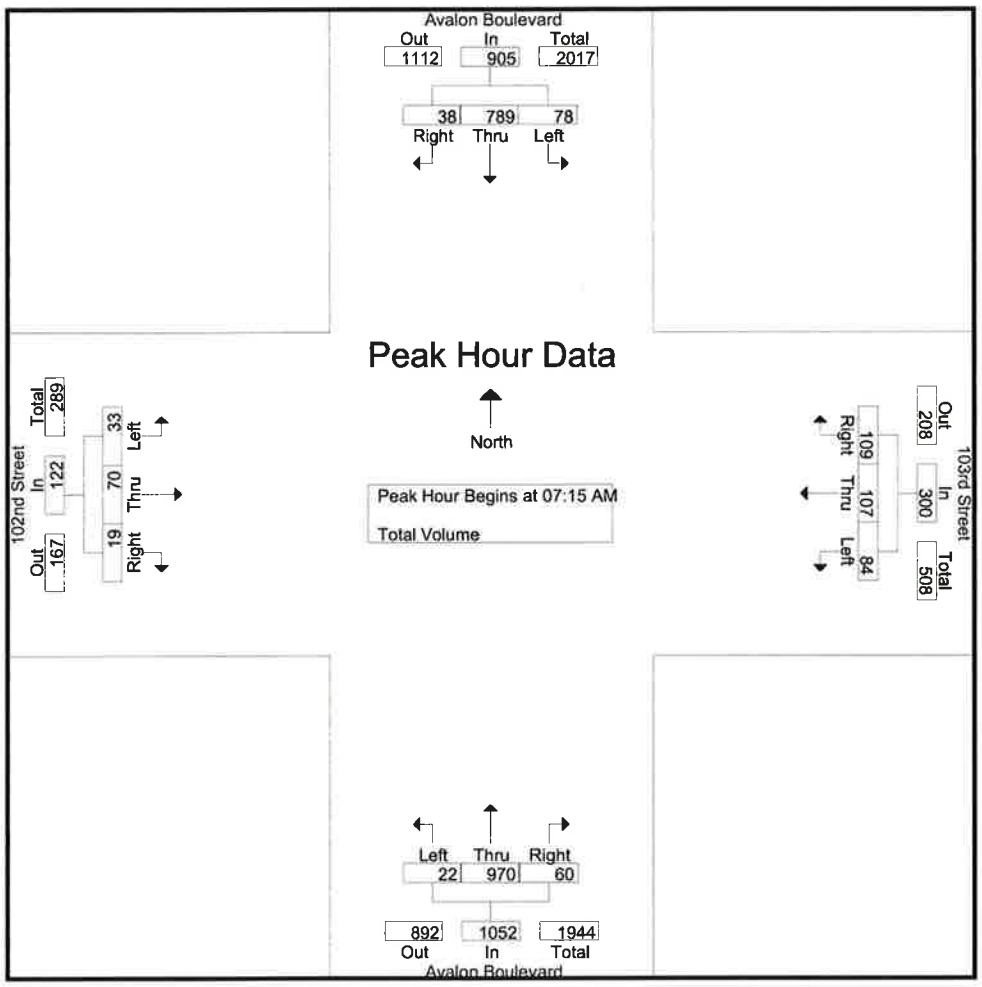
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	28	156	12	196	37	172	34	243	22	**191**	24	**237**	8	64	27	99
+15 mins.	**30**	172	**14**	216	**55**	**194**	48	**297**	**30**	172	25	227	**19**	70	21	110
+30 mins.	25	179	8	212	43	151	46	240	25	180	**32**	237	10	50	18	78
+45 mins.	26	**198**	13	**237**	47	182	**62**	291	25	174	17	216	13	**74**	**29**	**116**
Total Volume	109	705	47	861	182	699	190	1071	102	717	98	917	50	258	95	403
% App. Total	12.7	81.9	5.5		17	65.3	17.7		11.1	78.2	10.7		12.4	64	23.6	
PHF	.908	.890	.839	.908	.827	.901	.766	.902	.850	.938	.766	.967	.658	.872	.819	.869

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City of Los Angeles
N/S: Avalon Boulevard
E/W: 102nd Street/103rd Street
Weather: Clear

File Name : LACAV102nAM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



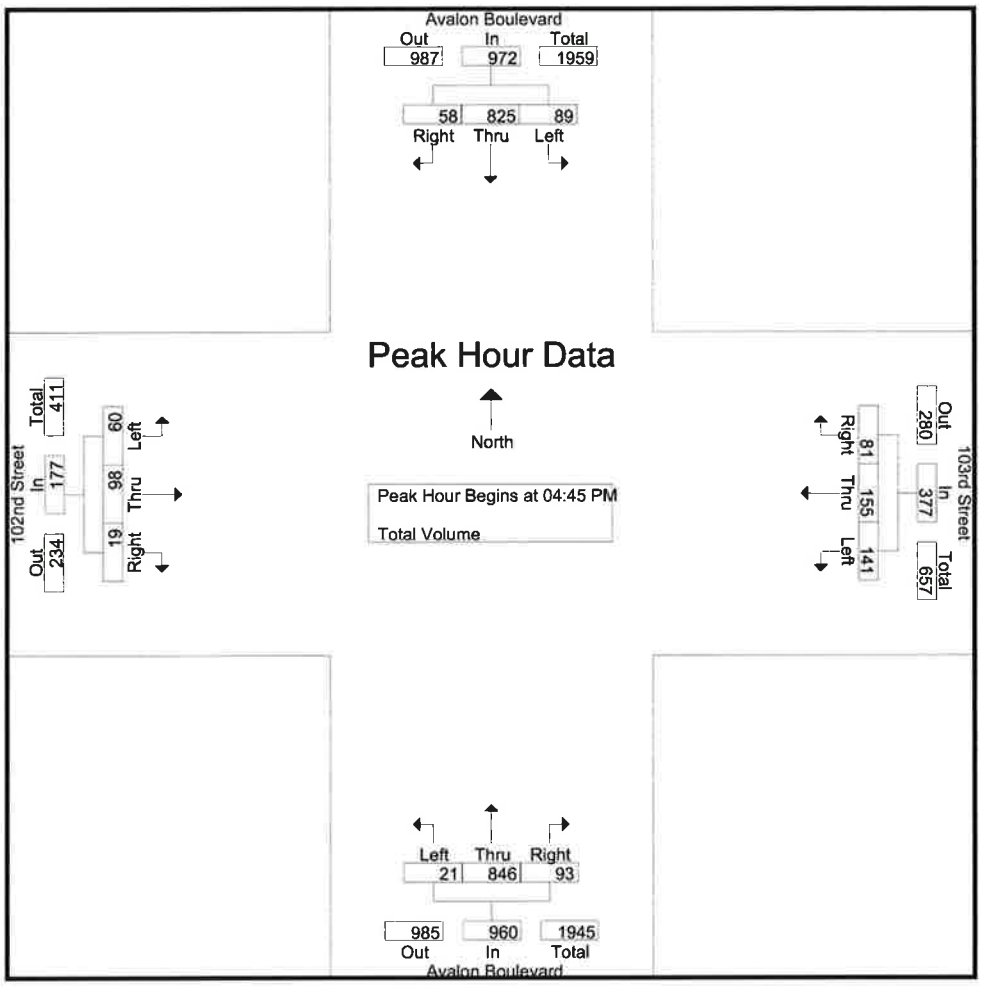
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:00 AM				07:30 AM			
+0 mins.	14	173	3	190	23	24	29	76	2	231	6	239	7	**23**	5	35
+15 mins.	17	208	9	234	14	29	**31**	74	**7**	**264**	13	**284**	6	20	3	29
+30 mins.	21	**216**	11	**248**	**27**	**32**	20	**79**	4	254	**15**	273	**10**	15	9	34
+45 mins.	**26**	192	**15**	233	20	22	29	71	5	240	11	256	8	21	**12**	**41**
Total Volume	78	789	38	905	84	107	109	300	18	989	45	1052	31	79	29	139
% App. Total	8.6	87.2	4.2		28	35.7	36.3		1.7	94	4.3		22.3	56.8	20.9	
PHF	.750	.913	.633	.912	.778	.836	.879	.949	.643	.937	.750	.926	.775	.859	.604	.848

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City of Los Angeles
N/S: Avalon Boulevard
E/W: 102nd Street/103rd Street
Weather: Clear

File Name : LACAV102nPM
Site Code : 12816682
Start Date : 12/7/2016
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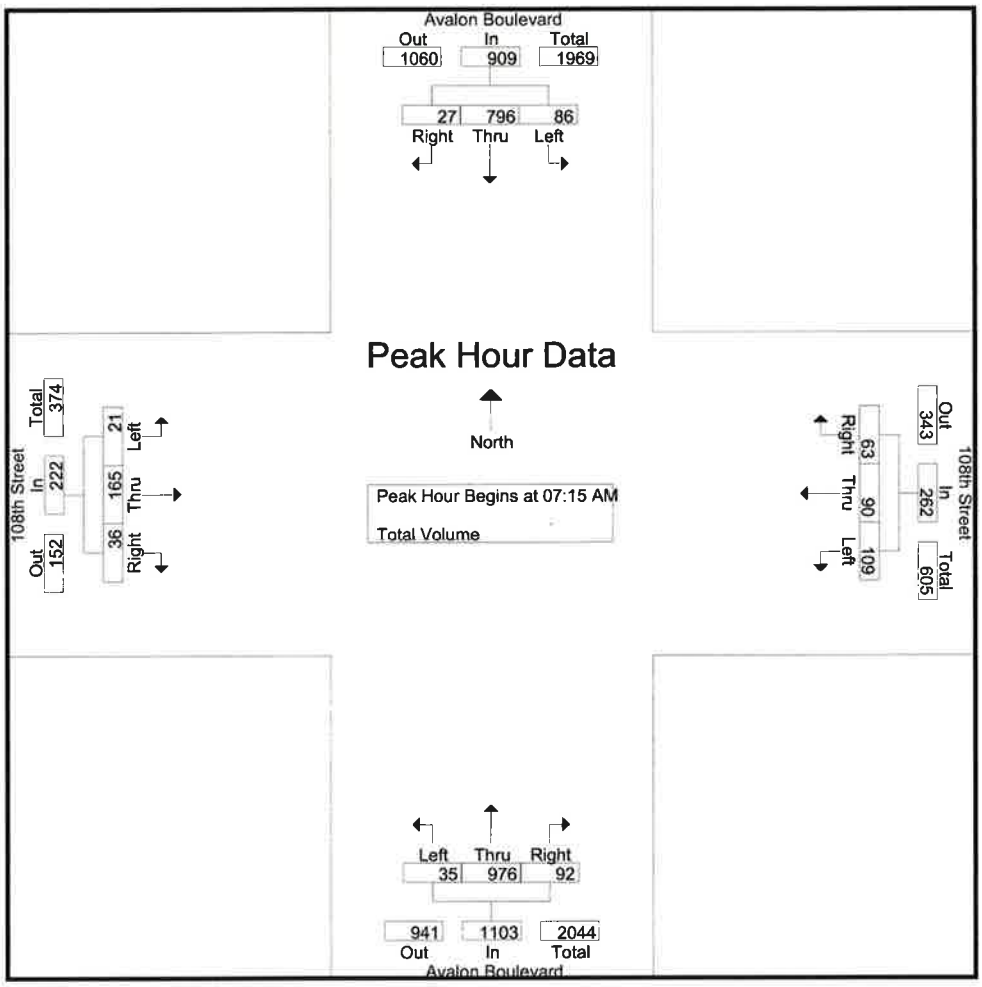
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				04:45 PM				05:00 PM			
+0 mins.	**34**	211	7	252	23	27	19	69	2	212	25	239	12	28	6	46
+15 mins.	25	201	15	241	**42**	**47**	19	108	3	212	**27**	242	**17**	**30**	4	**51**
+30 mins.	21	181	**16**	218	41	46	**24**	**111**	**9**	**225**	21	**255**	17	22	**7**	46
+45 mins.	20	**232**	12	**264**	35	35	19	89	7	197	20	224	14	27	4	45
Total Volume	100	825	50	975	141	155	81	377	21	846	93	960	60	107	21	188
% App. Total	10.3	84.6	5.1		37.4	41.1	21.5		2.2	88.1	9.7		31.9	56.9	11.2	
PHF	.735	.889	.781	.923	.839	.824	.844	.849	.583	.940	.861	.941	.882	.892	.750	.922

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City of Los Angeles
N/S: Avalon Boulevard
E/W: 108th Street
Weather: Clear

File Name : LACAV108tAM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



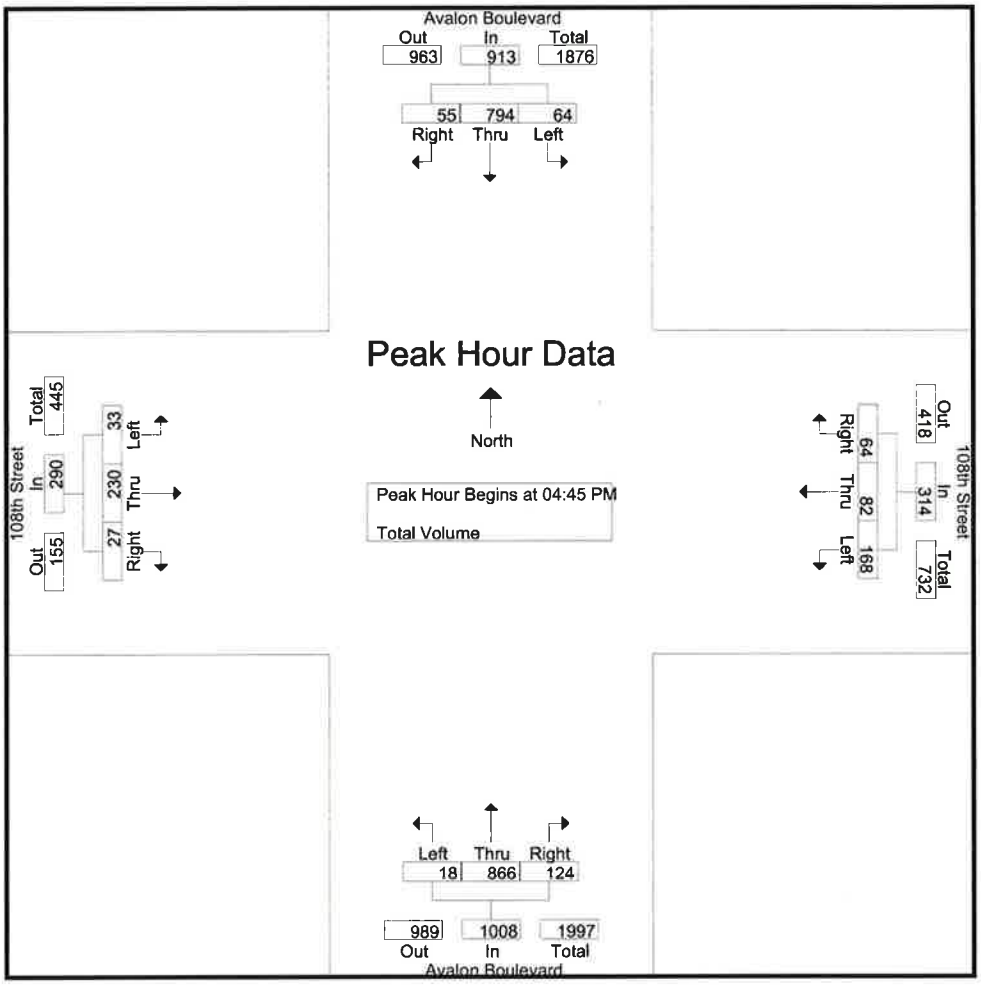
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:30 AM			
+0 mins.	14	178	6	198	25	**26**	12	63	**10**	249	17	276	4	37	8	49
+15 mins.	19	**229**	6	**254**	**33**	23	13	**69**	9	244	18	271	**8**	**59**	**14**	**81**
+30 mins.	**29**	208	**11**	248	32	19	18	69	9	232	26	267	6	45	9	60
+45 mins.	24	181	4	209	19	22	**20**	61	7	**251**	**31**	**289**	4	27	7	38
Total Volume	86	796	27	909	109	90	63	262	35	976	92	1103	22	168	38	228
% App. Total	9.5	87.6	3		41.6	34.4	24		3.2	88.5	8.3		9.6	73.7	16.7	
PHF	.741	.869	.614	.895	.826	.865	.788	.949	.875	.972	.742	.954	.688	.712	.679	.704

Counts Unlimited
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City of Los Angeles
N/S: Avalon Boulevard
E/W: 108th Street
Weather: Clear

File Name : LACAV108tPM
Site Code : 12816682
Start Date : 12/7/2016
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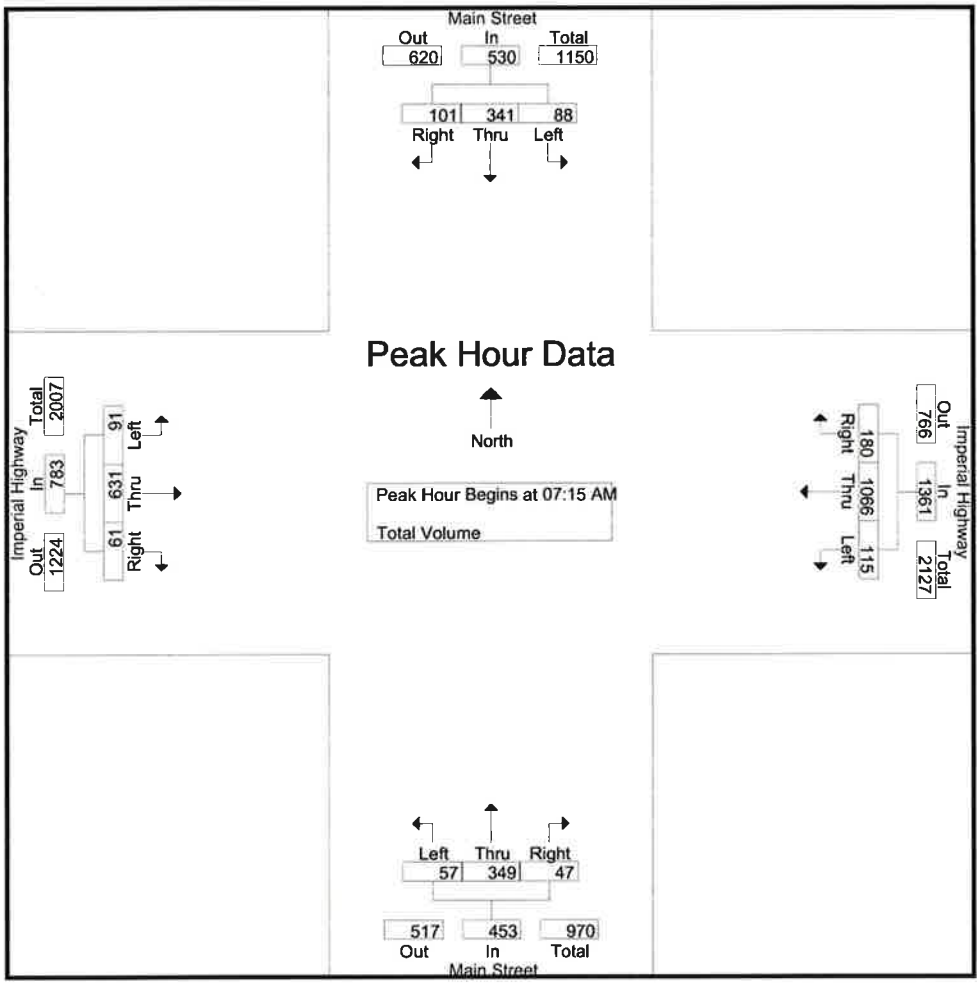
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				05:00 PM			
+0 mins.	15	186	11	212	39	**23**	12	74	3	**246**	28	**277**	9	56	7	72
+15 mins.	16	199	**16**	231	41	22	17	80	**6**	238	30	274	9	60	6	75
+30 mins.	**17**	**213**	15	**245**	43	19	16	78	5	202	32	239	6	**69**	7	**82**
+45 mins.	16	196	13	225	**45**	18	**19**	**82**	4	180	**34**	218	**10**	61	**8**	79
Total Volume	64	794	55	913	168	82	64	314	18	866	124	1008	34	246	28	308
% App. Total	7	87	6		53.5	26.1	20.4		1.8	85.9	12.3		11	79.9	9.1	
PHF	.941	.932	.859	.932	.933	.891	.842	.957	.750	.880	.912	.910	.850	.891	.875	.939

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City of Los Angeles
N/S: Main Street
E/W: Imperial Highway
Weather: Clear

File Name : LACMAIMAM
Site Code : 12816682
Start Date : 12/7/2016
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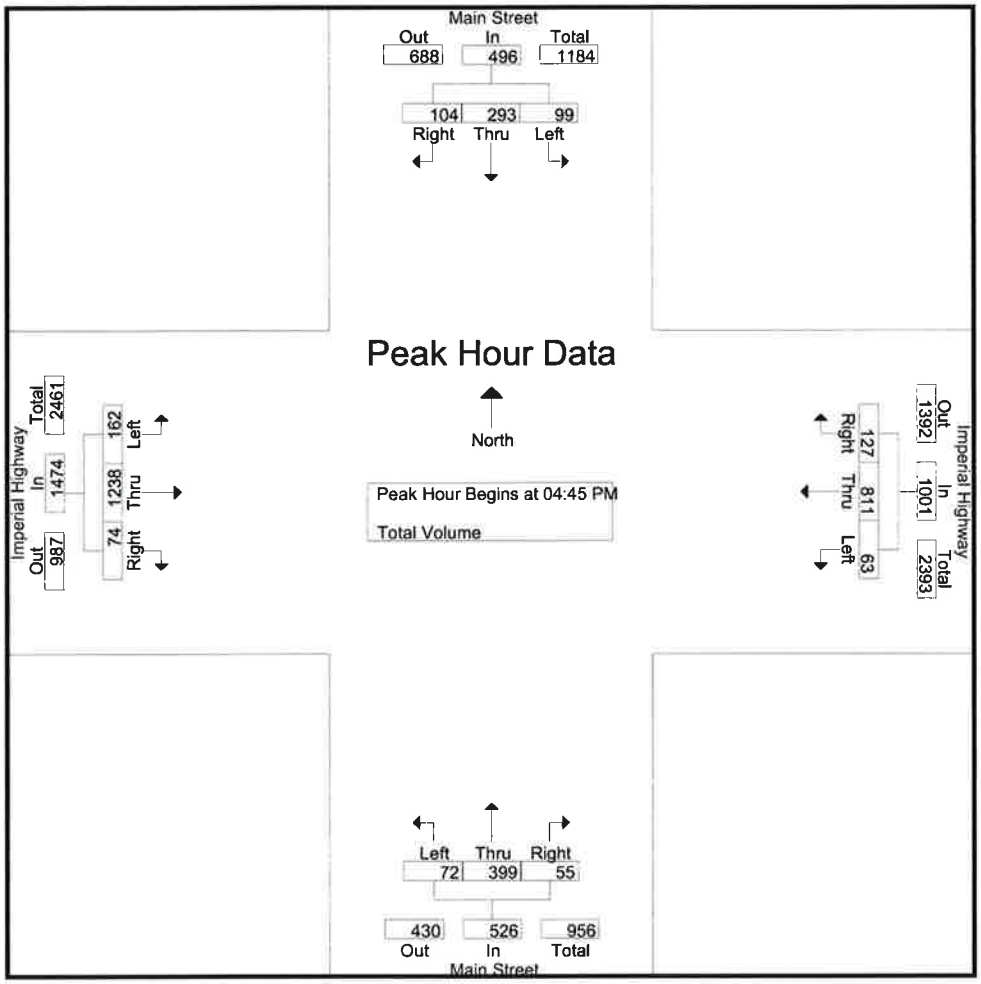
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:15 AM				07:15 AM			
+0 mins.	18	83	20	121	19	**309**	26	354	10	86	**14**	110	17	130	12	159
+15 mins.	19	81	21	121	28	278	51	**357**	13	78	11	102	**29**	176	19	224
+30 mins.	**30**	**108**	26	**164**	**31**	242	**52**	325	16	**97**	13	**126**	25	**184**	**21**	**230**
+45 mins.	21	69	**34**	124	31	261	38	330	**18**	88	9	115	20	141	9	170
Total Volume	88	341	101	530	109	1090	167	1366	57	349	47	453	91	631	61	783
% App. Total	16.6	64.3	19.1		8	79.8	12.2		12.6	77	10.4		11.6	80.6	7.8	
PHF	.733	.789	.743	.808	.879	.882	.803	.957	.792	.899	.839	.899	.784	.857	.726	.851

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City of Los Angeles
N/S: Main Street
E/W: Imperial Highway
Weather: Clear

File Name : LACMAIMPM
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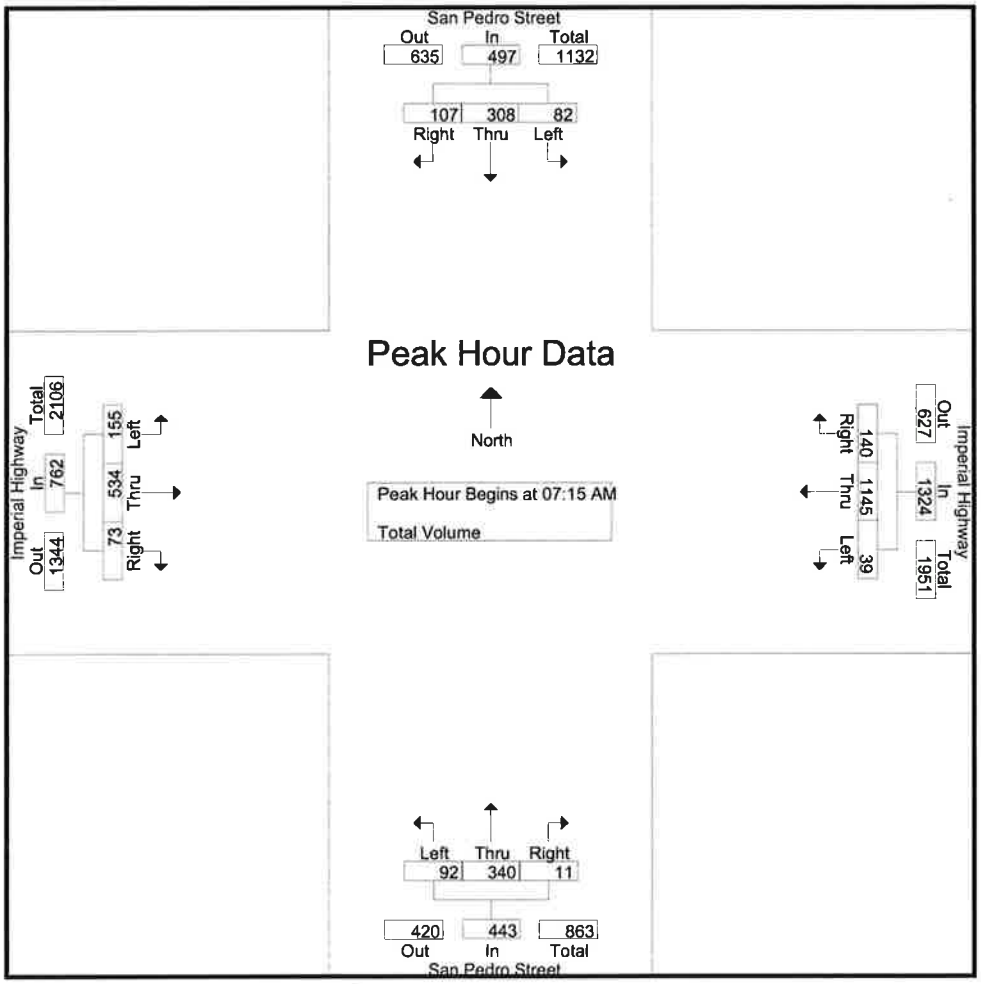
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:30 PM				04:45 PM			
+0 mins.	26	**81**	22	**129**	16	192	38	246	11	83	6	100	38	314	**20**	372
+15 mins.	22	74	27	123	**17**	**218**	**43**	**278**	19	**127**	15	**161**	39	285	17	341
+30 mins.	26	69	**29**	124	16	211	24	251	16	107	**17**	140	42	313	19	374
+45 mins.	**27**	70	27	124	14	190	22	226	**22**	86	17	125	**43**	**326**	18	**387**
Total Volume	101	294	105	500	63	811	127	1001	68	403	55	526	162	1238	74	1474
% App. Total	20.2	58.8	21		6.3	81	12.7		12.9	76.6	10.5		11	84	5	
PHF	.935	.907	.905	.969	.926	.930	.738	.900	.773	.793	.809	.817	.942	.949	.925	.952

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City of Los Angeles
N/S: San Pedro Street
E/W: Imperial Highway
Weather: Clear

File Name : LACSPIMAM
Site Code : 12816682
Start Date : 12/7/2016
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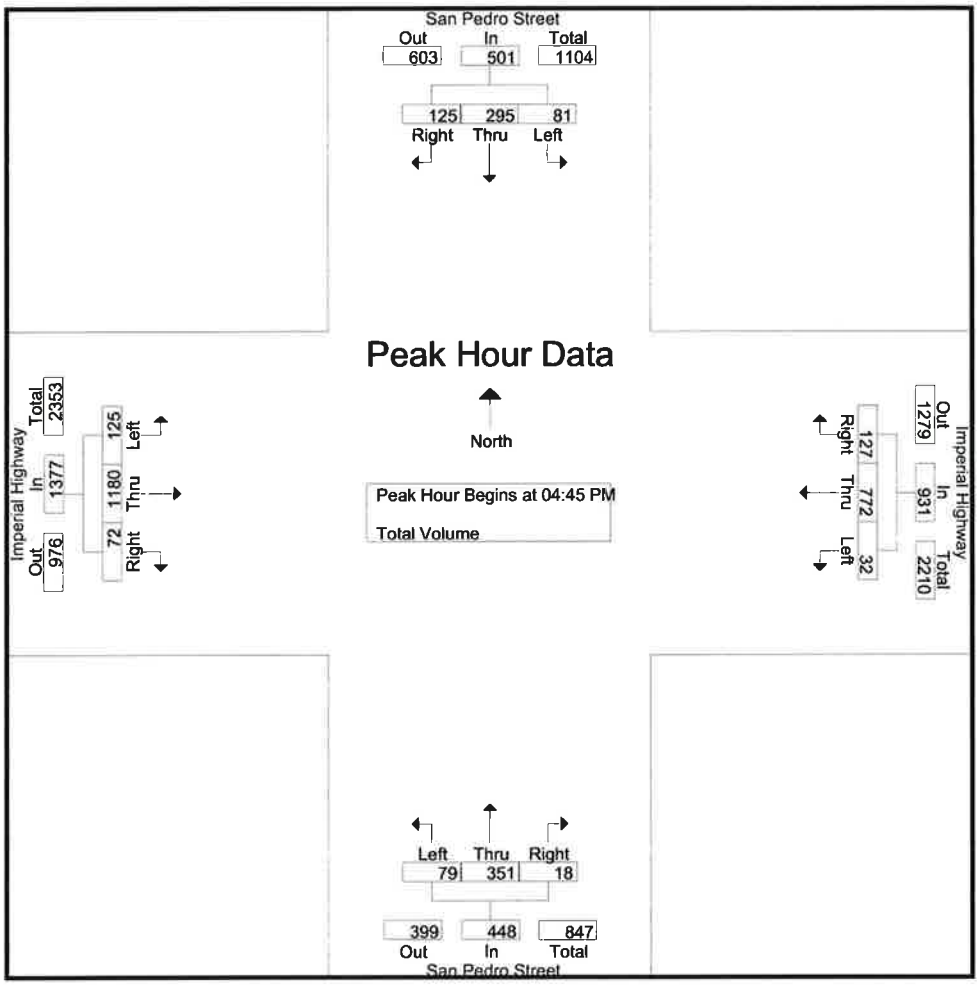
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:15 AM				07:15 AM			
+0 mins.	17	**95**	27	139	2	302	34	338	23	76	**7**	106	31	122	10	163
+15 mins.	**30**	93	26	**149**	8	**324**	28	**360**	22	80	1	103	**53**	128	22	203
+30 mins.	24	69	**32**	125	**12**	290	30	332	**24**	**99**	1	**124**	39	**156**	**26**	**221**
+45 mins.	12	51	23	86	12	260	**42**	314	23	85	2	110	32	128	15	175
Total Volume	83	308	108	499	34	1176	134	1344	92	340	11	443	155	534	73	762
% App. Total	16.6	61.7	21.6		2.5	87.5	10		20.8	76.7	2.5		20.3	70.1	9.6	
PHF	.692	.811	.844	.837	.708	.907	.798	.933	.958	.859	.393	.893	.731	.856	.702	.862

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City of Los Angeles
N/S: San Pedro Street
E/W: Imperial Highway
Weather: Clear

File Name : LACSPIMPM
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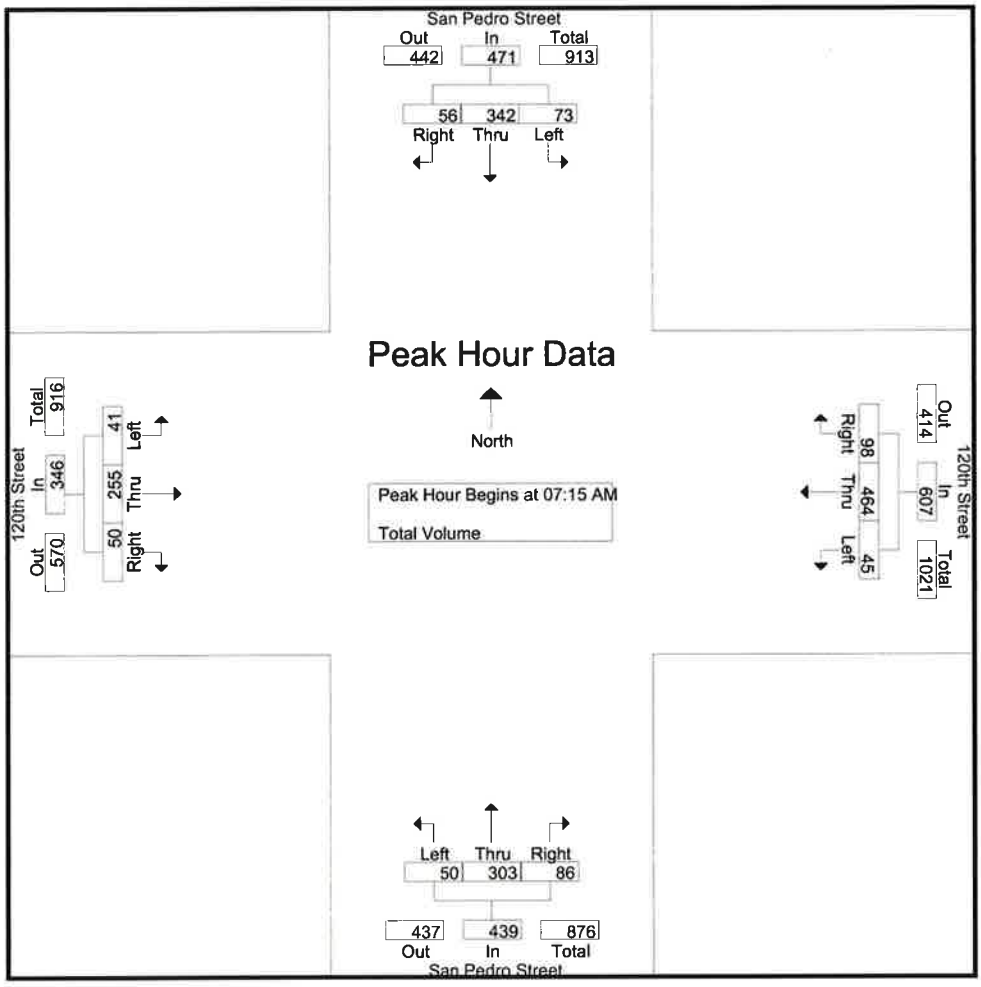
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				04:45 PM				05:00 PM			
+0 mins.	22	**86**	24	132	5	**214**	**48**	**267**	21	**97**	2	**120**	**36**	311	15	362
+15 mins.	**27**	75	**41**	**143**	11	213	26	250	**22**	91	3	116	33	293	**24**	350
+30 mins.	20	74	32	126	10	165	27	202	18	75	6	99	24	294	14	332
+45 mins.	12	60	28	100	**12**	175	36	223	18	88	**7**	113	28	**327**	17	**372**
Total Volume	81	295	125	501	38	767	137	942	79	351	18	448	121	1225	70	1416
% App. Total	16.2	58.9	25		4	81.4	14.5		17.6	78.3	4		8.5	86.5	4.9	
PHF	.750	.858	.762	.876	.792	.896	.714	.882	.898	.905	.643	.933	.840	.937	.729	.952

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City of Los Angeles
N/S: San Pedro Street
E/W: 120th Street
Weather: Clear

File Name : LACSP120tAM
Site Code : 12816682
Start Date : 12/7/2016
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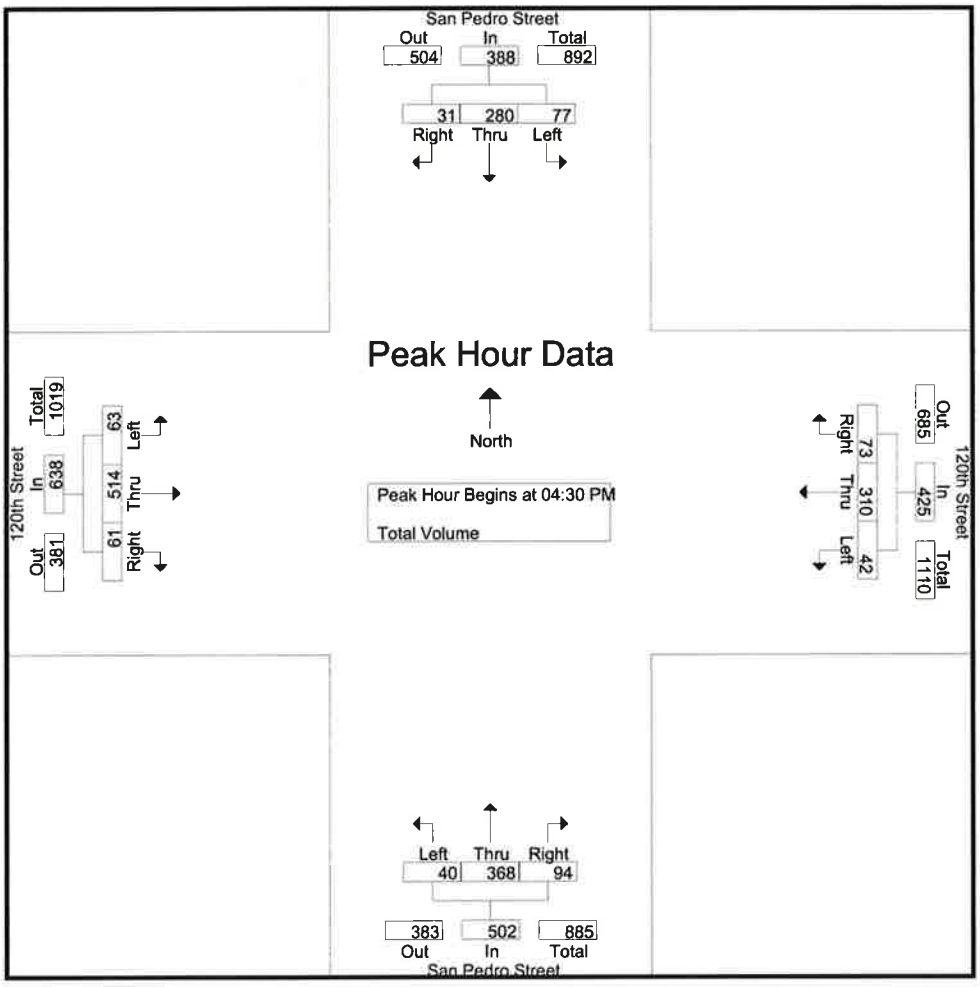
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	15	72	9	96	7	**120**	26	153	12	68	15	95	6	51	11	68
+15 mins.	19	**96**	15	130	8	118	16	142	11	76	23	110	12	**74**	13	**99**
+30 mins.	**20**	93	**19**	**132**	**17**	117	**33**	**167**	10	**93**	**28**	**131**	**14**	65	**17**	96
+45 mins.	19	81	13	113	13	109	23	145	**17**	66	20	103	9	65	9	83
Total Volume	73	342	56	471	45	464	98	607	50	303	86	439	41	255	50	346
% App. Total	15.5	72.6	11.9		7.4	76.4	16.1		11.4	69	19.6		11.8	73.7	14.5	
PHF	.913	.891	.737	.892	.662	.967	.742	.909	.735	.815	.768	.838	.732	.861	.735	.874

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City of Los Angeles
N/S: San Pedro Street
E/W: 120th Street
Weather: Clear

File Name : LACSP120tPM
Site Code : 12816682
Start Date : 12/7/2016
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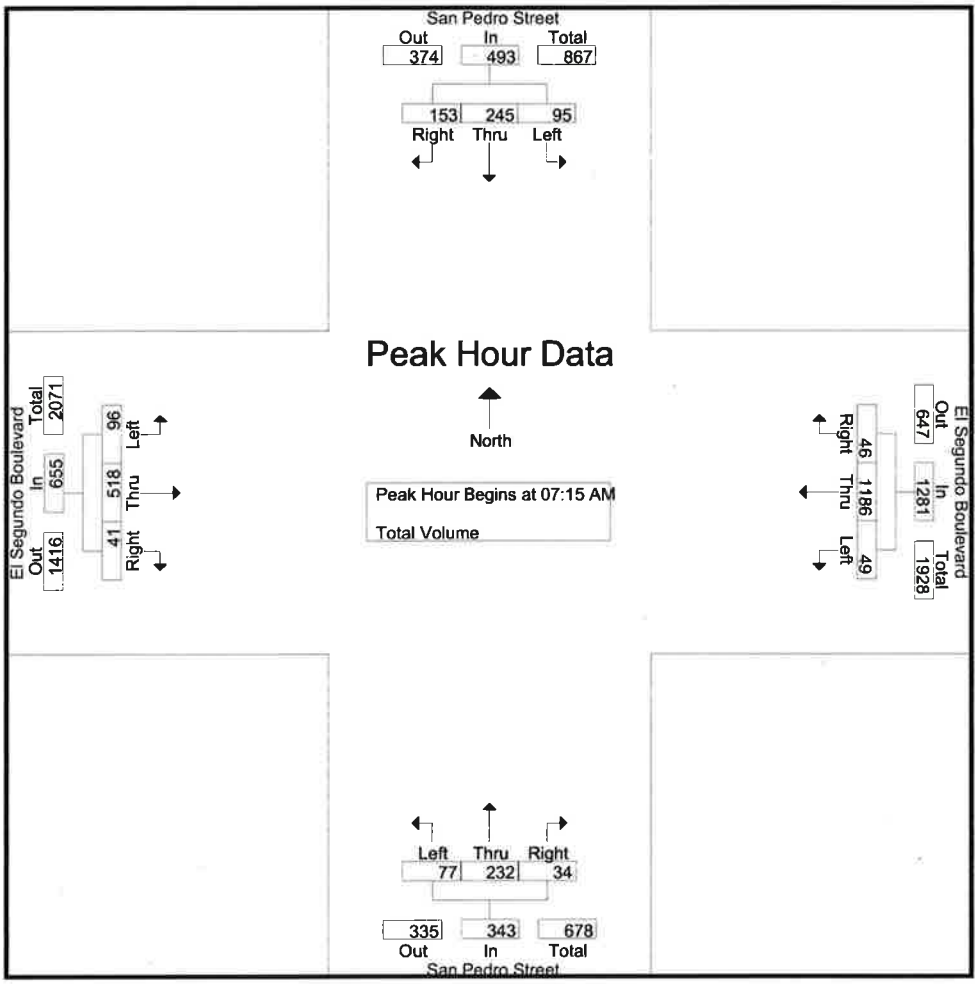
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				04:15 PM				04:30 PM			
+0 mins.	**24**	72	7	103	**13**	71	17	101	8	91	14	113	12	**134**	10	156
+15 mins.	15	62	**11**	88	11	72	15	98	**15**	**107**	**27**	**149**	**20**	128	15	**163**
+30 mins.	18	**80**	9	**107**	10	**87**	**21**	**118**	5	93	24	122	16	125	**19**	160
+45 mins.	23	59	9	91	8	80	20	108	14	85	21	120	15	127	17	159
Total Volume	80	273	36	389	42	310	73	425	42	376	86	504	63	514	61	638
% App. Total	20.6	70.2	9.3		9.9	72.9	17.2		8.3	74.6	17.1		9.9	80.6	9.6	
PHF	.833	.853	.818	.909	.808	.891	.869	.900	.700	.879	.796	.846	.788	.959	.803	.979

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City of Los Angeles
N/S: San Pedro Street
E/W: El Segundo Boulevard
Weather: Clear

File Name : LACSPELAM
Site Code : 12816682
Start Date : 12/7/2016
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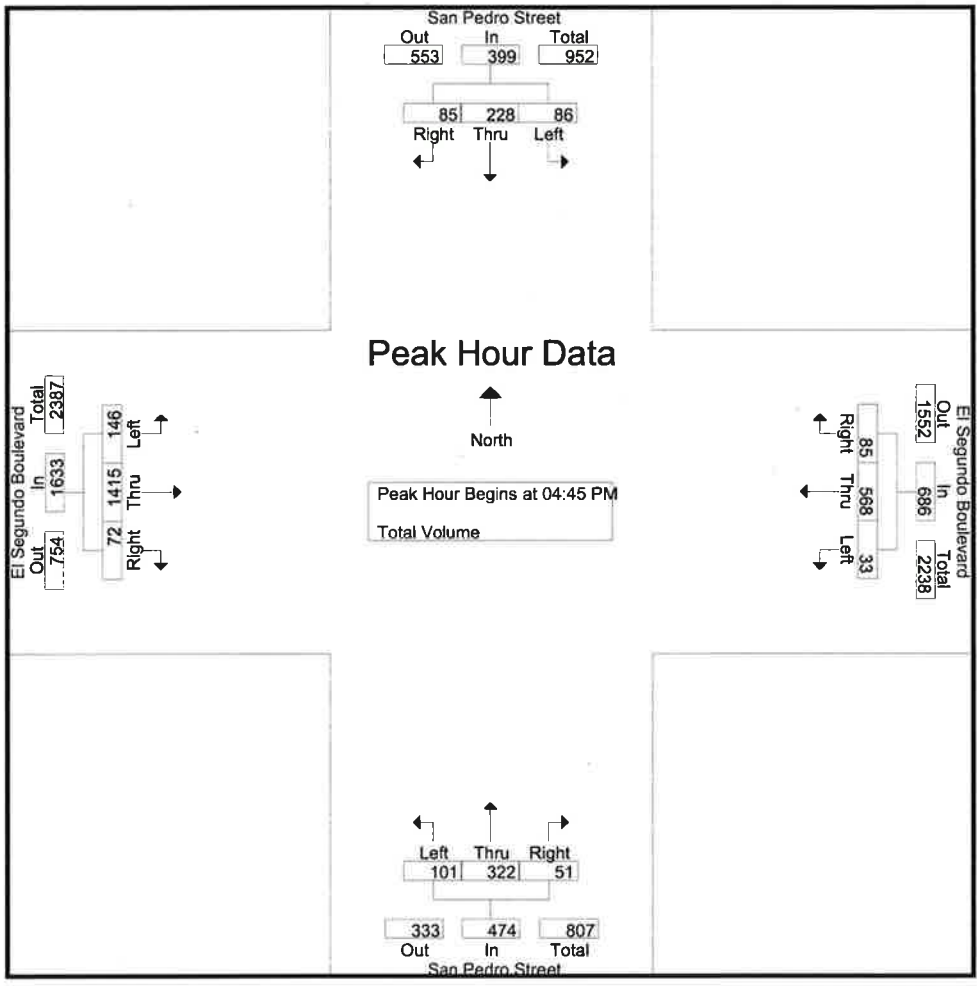
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:15 AM				07:15 AM			
+0 mins.	23	49	28	100	6	274	9	289	20	59	6	85	15	123	7	145
+15 mins.	20	57	**50**	127	5	**327**	11	**343**	**26**	50	8	84	24	**143**	10	**177**
+30 mins.	21	**80**	37	**138**	11	299	10	320	14	**72**	6	**92**	**31**	126	10	167
+45 mins.	**31**	59	38	128	**19**	301	**12**	332	17	51	**14**	82	26	126	**14**	166
Total Volume	95	245	153	493	41	1201	42	1284	77	232	34	343	96	518	41	655
% App. Total	19.3	49.7	31		3.2	93.5	3.3		22.4	67.6	9.9		14.7	79.1	6.3	
PHF	.766	.766	.765	.893	.539	.918	.875	.936	.740	.806	.607	.932	.774	.906	.732	.925

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City of Los Angeles
N/S: San Pedro Street
E/W: El Segundo Boulevard
Weather: Clear

File Name : LACSPELPM
Site Code : 12816682
Start Date : 12/7/2016
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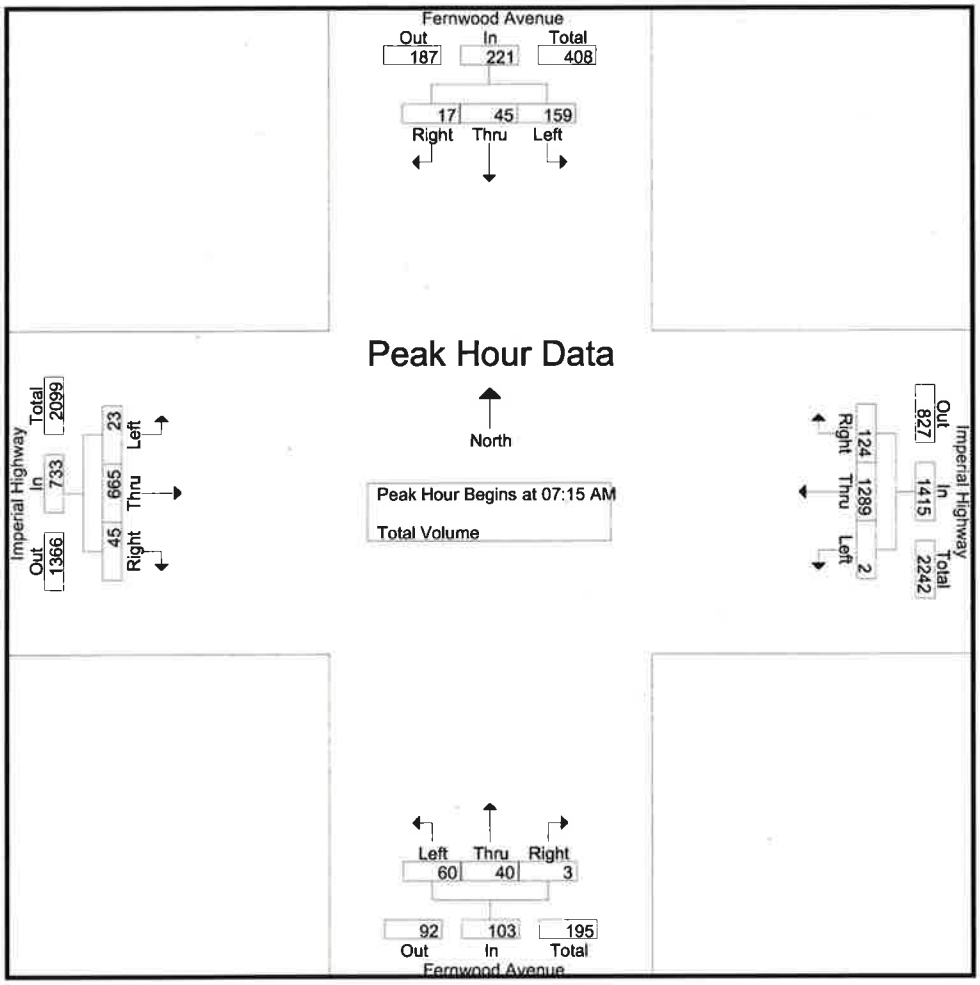
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:15 PM				04:45 PM				04:15 PM			
+0 mins.	**22**	53	18	93	**11**	136	18	165	18	77	9	104	43	331	**25**	399
+15 mins.	22	**64**	16	102	6	134	27	167	24	74	**14**	112	39	352	10	401
+30 mins.	21	61	**27**	**109**	5	151	20	176	**30**	79	14	123	**44**	**366**	17	**427**
+45 mins.	21	50	24	95	6	**154**	**32**	**192**	29	**92**	14	**135**	40	363	23	426
Total Volume	86	228	85	399	28	575	97	700	101	322	51	474	166	1412	75	1653
% App. Total	21.6	57.1	21.3		4	82.1	13.9		21.3	67.9	10.8		10	85.4	4.5	
PHF	.977	.891	.787	.915	.636	.933	.758	.911	.842	.875	.911	.878	.943	.964	.750	.968

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City of Lynwood
N/S: Fernwood Avenue
E/W: Imperial Highway
Weather: Clear

File Name : LWDFEIMAM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



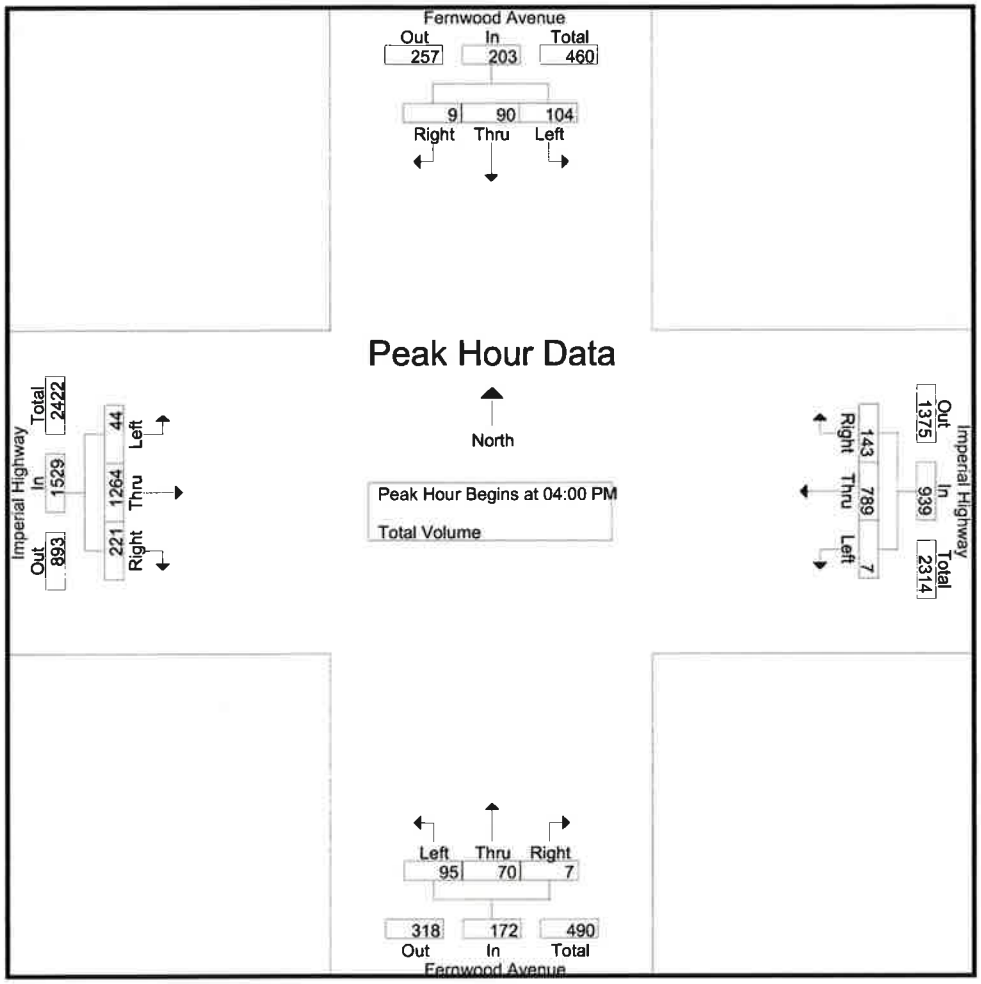
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:30 AM				07:15 AM			
+0 mins.	30	**13**	**7**	50	0	344	23	367	15	10	0	25	**7**	163	7	177
+15 mins.	43	10	4	57	0	**361**	**34**	**395**	7	7	**1**	15	5	174	12	191
+30 mins.	39	13	3	55	**1**	310	28	339	**21**	15	0	**36**	4	**179**	**13**	**196**
+45 mins.	**47**	9	3	**59**	1	323	29	353	17	**17**	1	35	7	149	13	169
Total Volume	159	45	17	221	2	1338	114	1454	60	49	2	111	23	665	45	733
% App. Total	71.9	20.4	7.7		0.1	92	7.8		54.1	44.1	1.8		3.1	90.7	6.1	
PHF	.846	.865	.607	.936	.500	.927	.838	.920	.714	.721	.500	.771	.821	.929	.865	.935

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City of Lynwood
N/S: Fernwood Avenue
E/W: Imperial Highway
Weather: Clear

File Name : LWDFEIMPM
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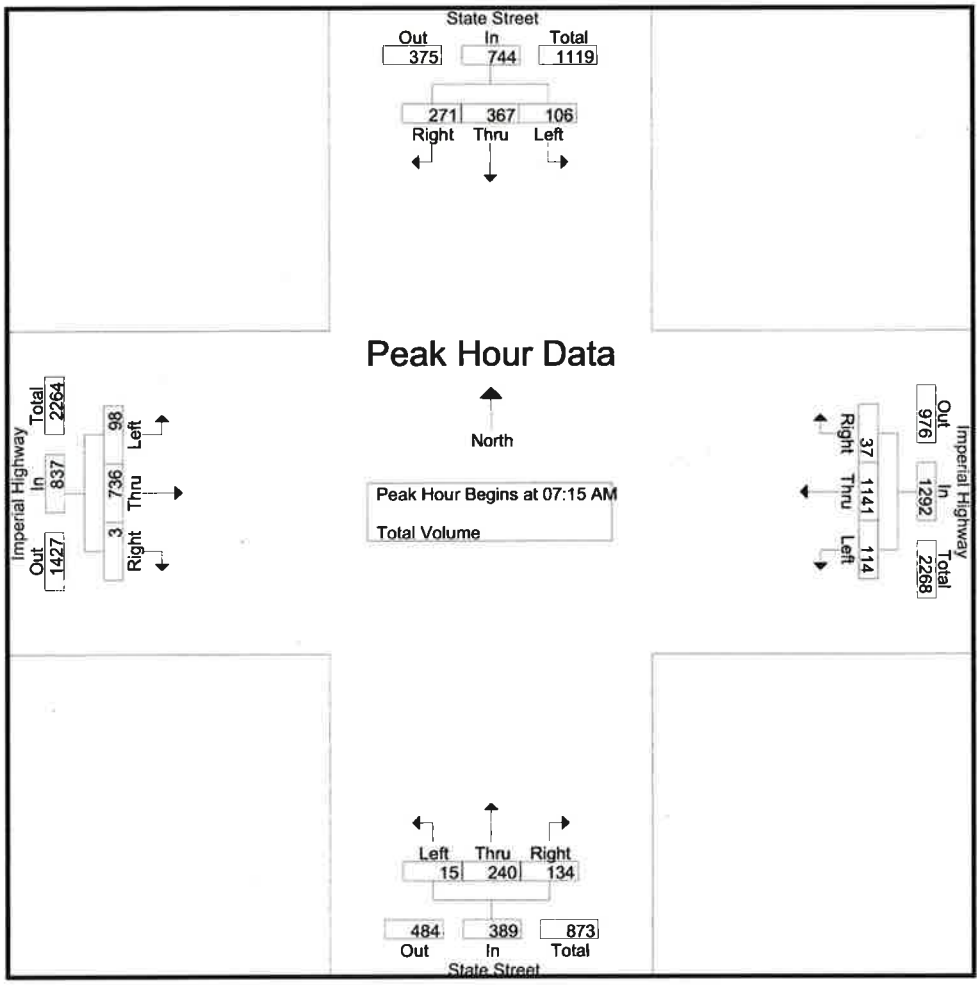
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:15 PM				04:45 PM			
+0 mins.	28	**30**	1	59	0	187	**43**	230	25	**20**	1	46	**17**	325	**69**	411
+15 mins.	24	20	**2**	46	2	**207**	29	238	**27**	20	**4**	**51**	7	302	69	378
+30 mins.	**33**	25	2	**60**	2	207	33	**242**	22	15	1	38	8	289	33	330
+45 mins.	32	23	1	56	**3**	188	38	229	25	14	2	41	10	**384**	56	**450**
Total Volume	117	98	6	221	7	789	143	939	99	69	8	176	42	1300	227	1569
% App. Total	52.9	44.3	2.7		0.7	84	15.2		56.2	39.2	4.5		2.7	82.9	14.5	
PHF	.886	.817	.750	.921	.583	.953	.831	.970	.917	.863	.500	.863	.618	.846	.822	.872

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City of Lynwood
N/S: State Street
E/W: Imperial Highway
Weather: Clear

File Name : LWDSTIMAM
Site Code : 12816682
Start Date : 12/7/2016
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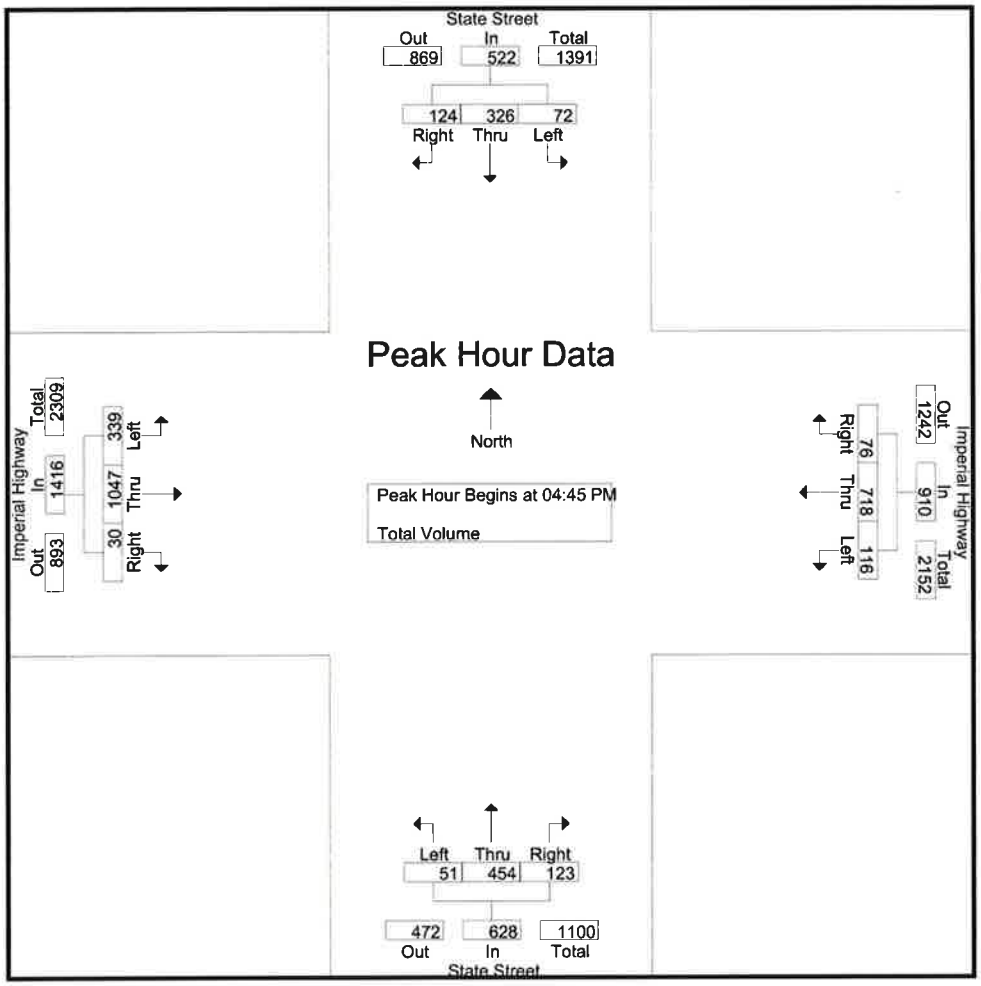
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:00 AM				07:15 AM			
+0 mins.	20	91	66	177	19	**322**	4	**345**	**7**	58	33	98	22	169	0	191
+15 mins.	**31**	91	**77**	199	25	282	6	313	2	61	22	85	**31**	**210**	**2**	**243**
+30 mins.	29	**101**	71	**201**	20	302	4	326	1	**80**	**42**	**123**	21	178	0	199
+45 mins.	26	84	57	167	**36**	273	**14**	323	7	56	36	99	24	179	1	204
Total Volume	106	367	271	744	100	1179	28	1307	17	255	133	405	98	736	3	837
% App. Total	14.2	49.3	36.4		7.7	90.2	2.1		4.2	63	32.8		11.7	87.9	0.4	
PHF	.855	.908	.880	.925	.694	.915	.500	.947	.607	.797	.792	.823	.790	.876	.375	.861

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City of Lynwood
N/S: State Street
E/W: Imperial Highway
Weather: Clear

File Name : LWDSTIMPM
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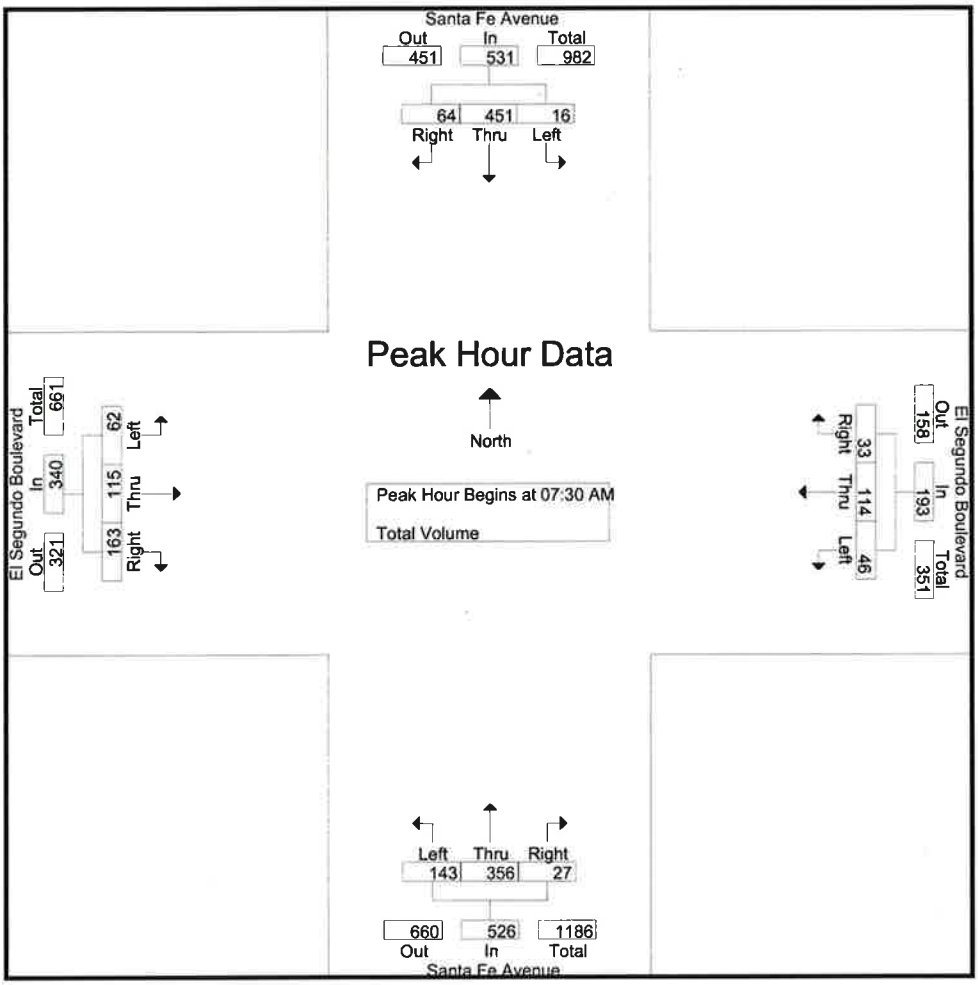
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:45 PM				04:45 PM			
+0 mins.	6	83	**39**	128	**36**	193	15	244	12	114	25	151	75	264	5	344
+15 mins.	**20**	91	35	**146**	35	**202**	20	**257**	11	**126**	22	159	73	246	**11**	330
+30 mins.	19	74	39	132	22	200	**26**	248	**17**	100	34	151	93	261	3	357
+45 mins.	20	**98**	26	144	25	185	21	231	11	114	**42**	**167**	**98**	**276**	11	**385**
Total Volume	65	346	139	550	118	780	82	980	51	454	123	628	339	1047	30	1416
% App. Total	11.8	62.9	25.3		12	79.6	8.4		8.1	72.3	19.6		23.9	73.9	2.1	
PHF	.813	.883	.891	.942	.819	.965	.788	.953	.750	.901	.732	.940	.865	.948	.682	.919

Counts Unlimited
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City of Compton
N/S: Santa Fe Avenue
E/W: El Segundo Boulevard
Weather: Clear

File Name : CPTSAELAM
Site Code : 12816682
Start Date : 12/7/2016
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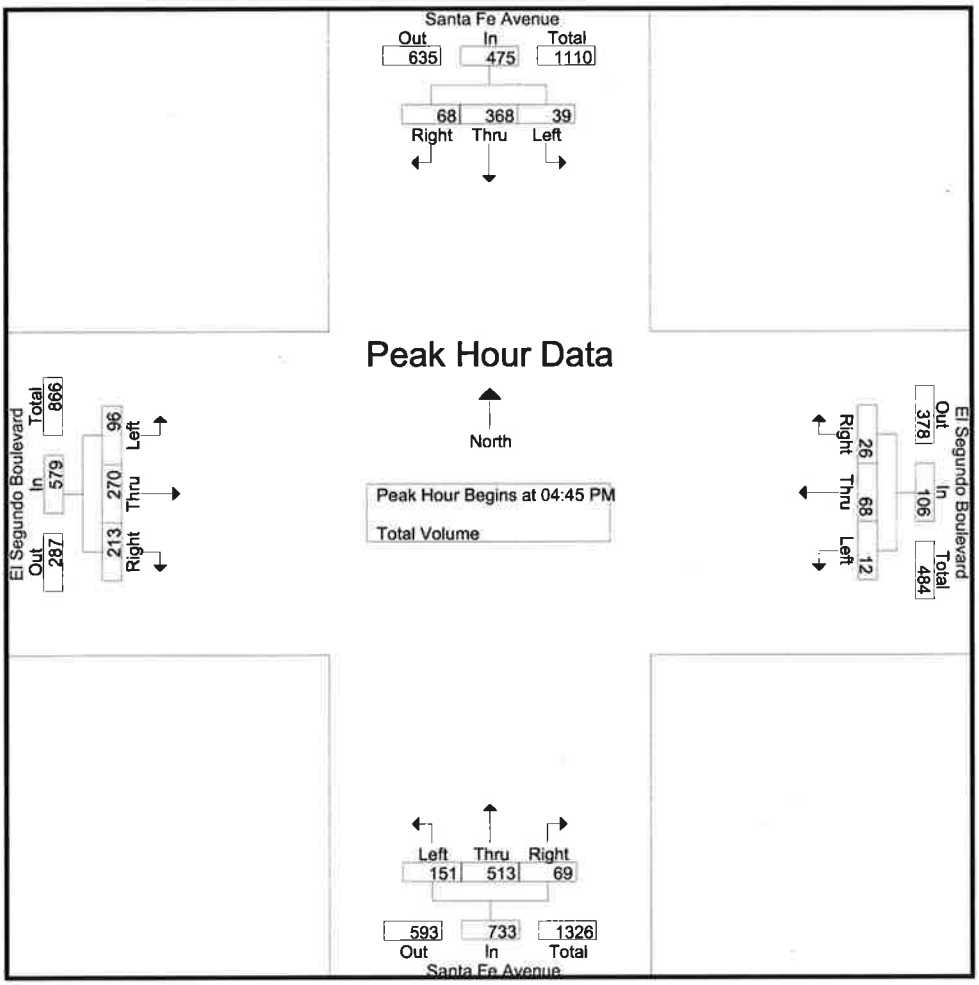
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	4	**138**	15	**157**	**17**	26	7	50	37	76	5	118	18	**33**	31	82
+15 mins.	3	113	**20**	136	11	25	5	41	29	**104**	7	**140**	**23**	26	46	**95**
+30 mins.	3	107	15	125	6	28	8	42	**41**	87	**8**	136	14	33	**47**	94
+45 mins.	**6**	93	14	113	12	**35**	**13**	**60**	36	89	7	132	7	23	39	69
Total Volume	16	451	64	531	46	114	33	193	143	356	27	526	62	115	163	340
% App. Total	3	84.9	12.1		23.8	59.1	17.1		27.2	67.7	5.1		18.2	33.8	47.9	
PHF	.667	.817	.800	.846	.676	.814	.635	.804	.872	.856	.844	.939	.674	.871	.867	.895

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City of Compton
N/S: Santa Fe Avenue
E/W: El Segundo Boulevard
Weather: Clear

File Name : CPTSAELPM
Site Code : 12816682
Start Date : 12/7/2016
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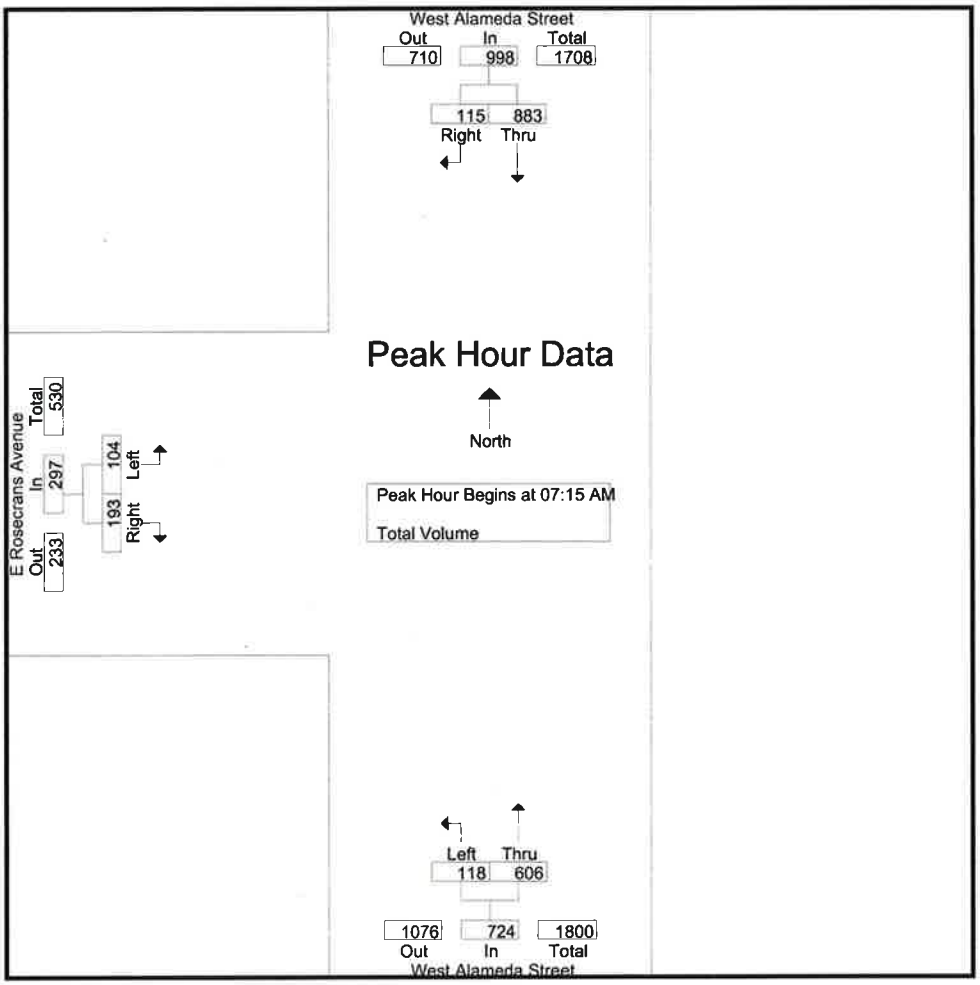
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				04:45 PM				04:45 PM			
+0 mins.	**9**	99	20	128	3	22	7	32	32	**140**	**20**	192	22	**74**	56	**152**
+15 mins.	4	96	**21**	121	**6**	18	**8**	32	32	120	17	169	**25**	66	54	145
+30 mins.	9	84	19	112	2	11	7	20	**49**	139	16	**204**	25	70	43	138
+45 mins.	9	**105**	21	**135**	6	**27**	8	**41**	38	114	16	168	24	60	**60**	144
Total Volume	31	384	81	496	17	78	30	125	151	513	69	733	96	270	213	579
% App. Total	6.2	77.4	16.3		13.6	62.4	24		20.6	70	9.4		16.6	46.6	36.8	
PHF	.861	.914	.964	.919	.708	.722	.938	.762	.770	.916	.863	.898	.960	.912	.888	.952

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City of Compton
N/S: West Alameda Street
E/W: E Rosecrans Avenue
Weather: Clear

File Name : CPTAL1ROAM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



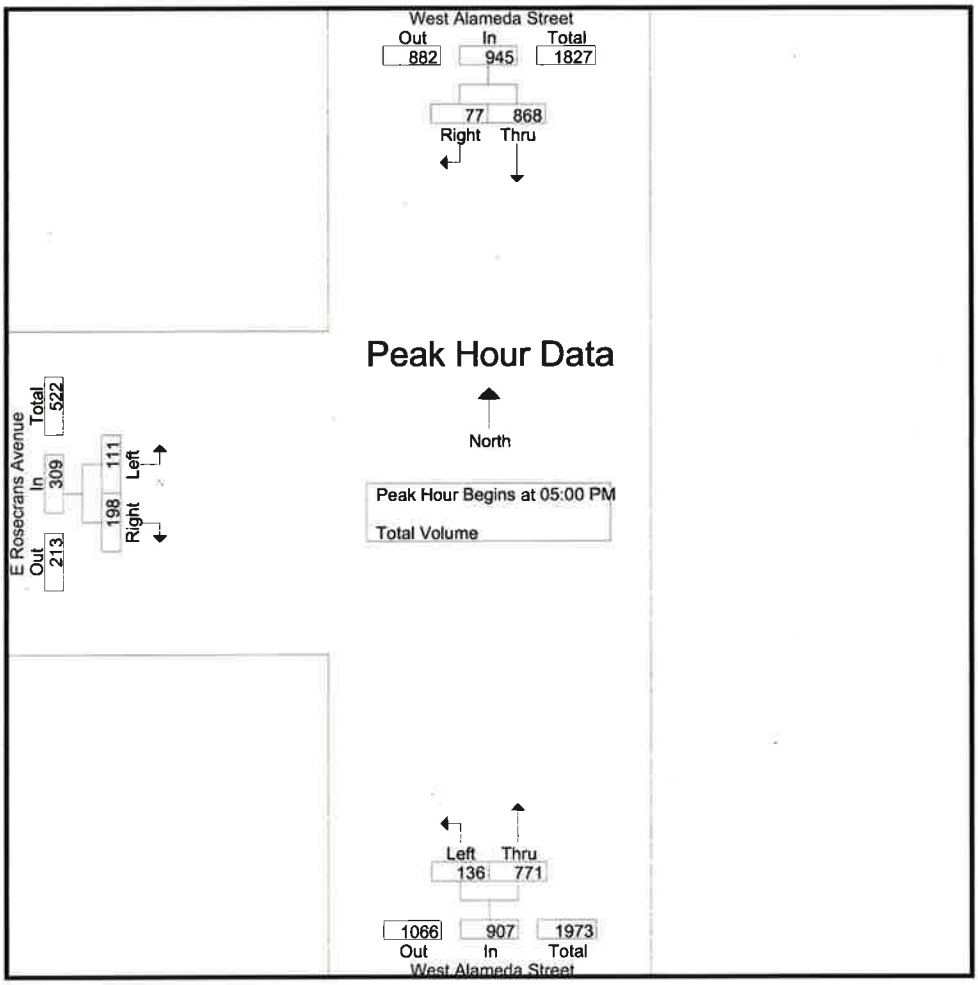
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:00 AM			07:30 AM		
+0 mins.	192	15	207	12	154	166	**33**	45	78
+15 mins.	**256**	**36**	**292**	20	**175**	**195**	31	**56**	**87**
+30 mins.	248	34	282	19	165	184	20	53	73
+45 mins.	187	30	217	**45**	137	182	23	45	68
Total Volume	883	115	998	96	631	727	107	199	306
% App. Total	88.5	11.5		13.2	86.8		35	65	
PHF	.862	.799	.854	.533	.901	.932	.811	.888	.879

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City of Compton
N/S: West Alameda Street
E/W: E Rosecrans Avenue
Weather: Clear

File Name : CPTAL1ROPM
Site Code : 12816682
Start Date : 12/7/2016
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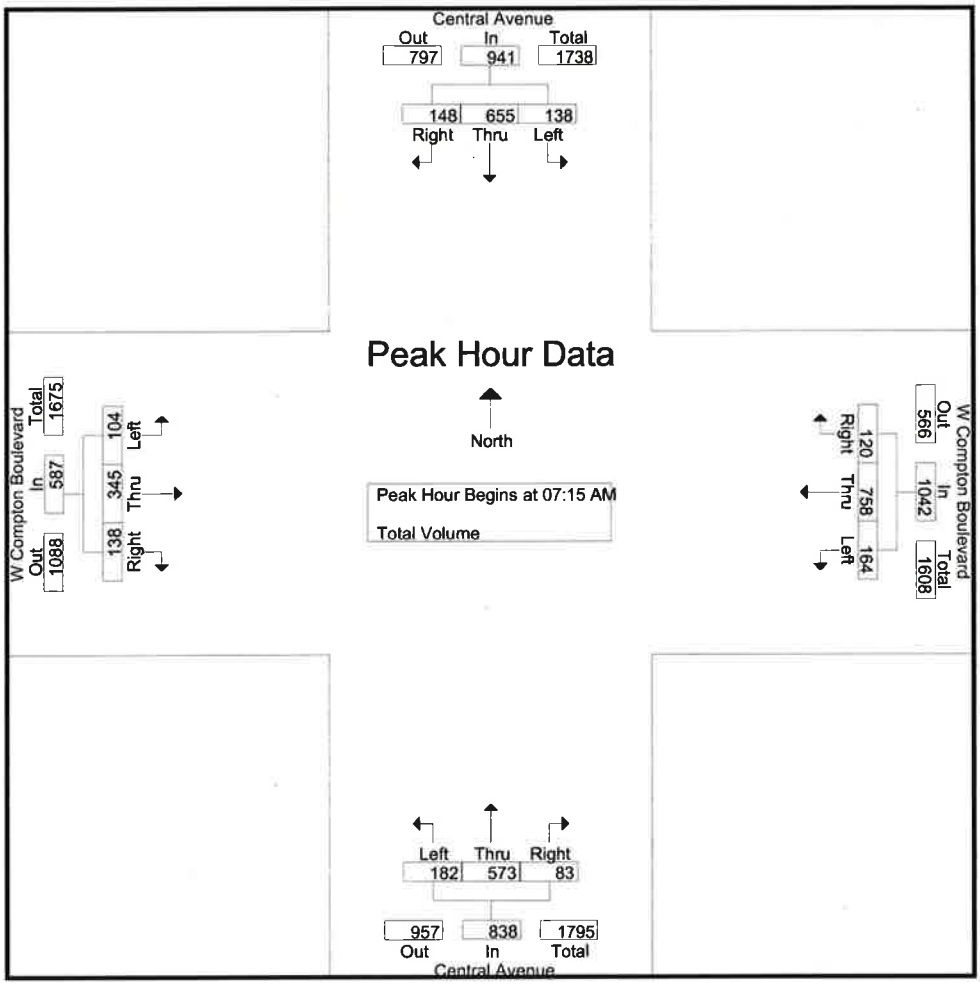
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:15 PM			05:00 PM		
+0 mins.	205	21	226	**40**	189	229	27	46	73
+15 mins.	**238**	18	**256**	38	**210**	**248**	**33**	41	74
+30 mins.	235	15	250	32	174	206	25	50	75
+45 mins.	190	**23**	213	33	203	236	26	**61**	**87**
Total Volume	868	77	945	143	776	919	111	198	309
% App. Total	91.9	8.1		15.6	84.4		35.9	64.1	
PHF	.912	.837	.923	.894	.924	.926	.841	.811	.888

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City of Compton
N/S: Central Avenue
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Weather: Clear

File Name : CPTCEWCAM
Site Code : 12816682
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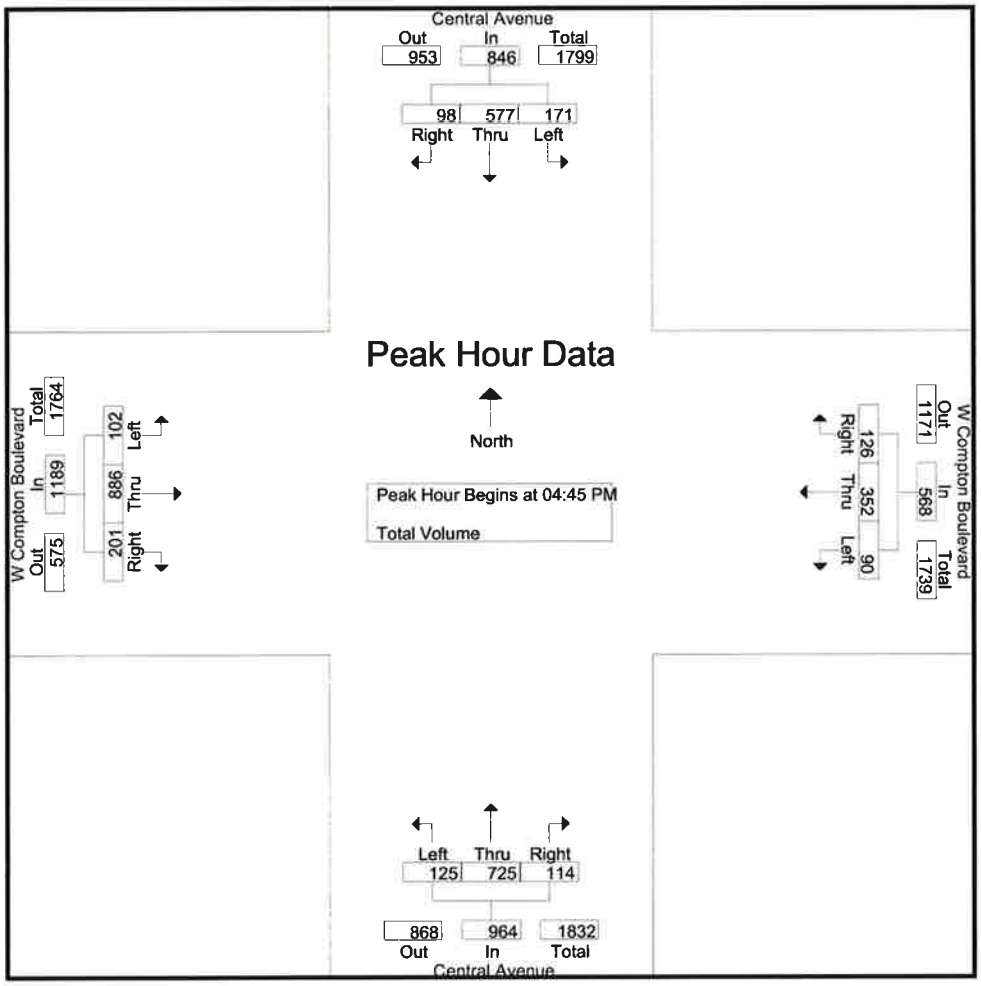
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:30 AM			
+0 mins.	29	131	30	190	21	200	21	242	38	126	12	176	25	72	39	136
+15 mins.	35	179	**51**	265	43	195	26	264	46	148	20	214	**34**	**117**	**46**	**197**
+30 mins.	**37**	**210**	39	**286**	**59**	**219**	31	**309**	**53**	**151**	23	**227**	25	107	29	161
+45 mins.	37	135	28	200	41	144	**42**	227	45	148	**28**	221	24	77	30	131
Total Volume	138	655	148	941	164	758	120	1042	182	573	83	838	108	373	144	625
% App. Total	14.7	69.6	15.7		15.7	72.7	11.5		21.7	68.4	9.9		17.3	59.7	23	
PHF	.932	.780	.725	.823	.695	.865	.714	.843	.858	.949	.741	.923	.794	.797	.783	.793

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City of Compton
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File Name : CPTCEWCPM
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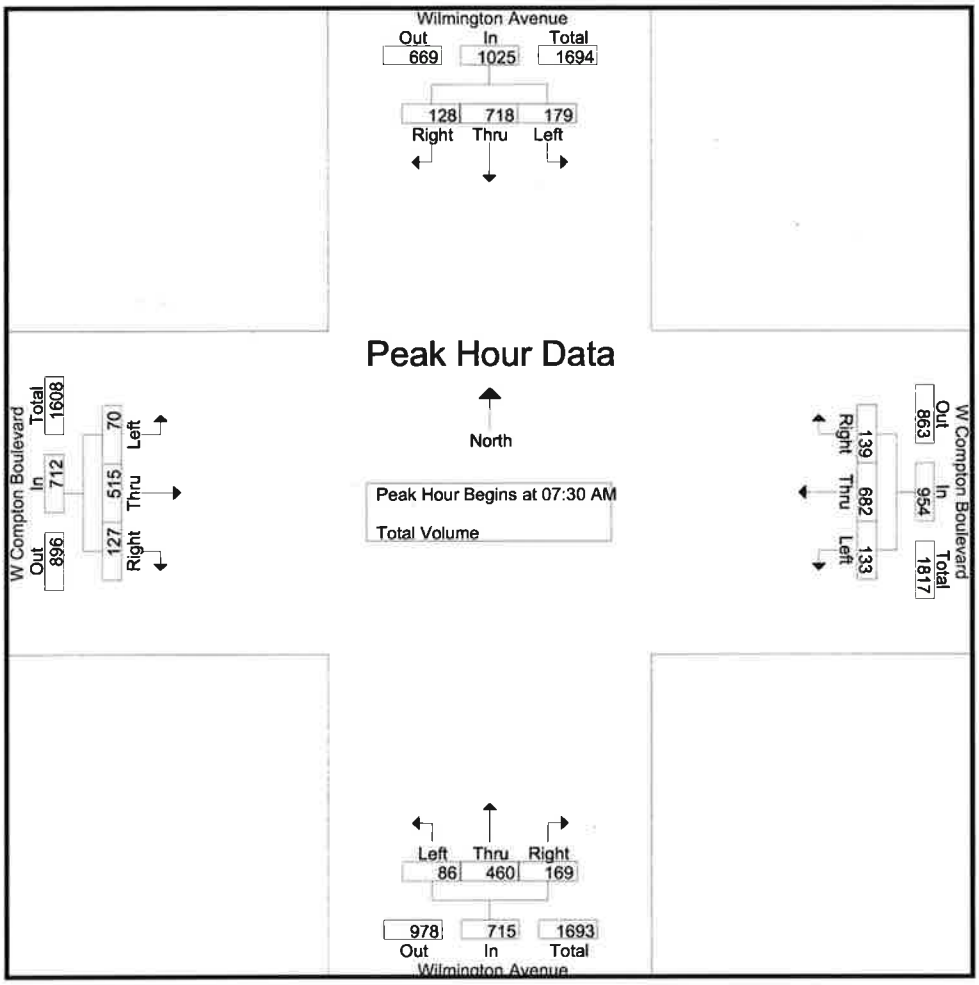
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				04:45 PM				04:45 PM			
+0 mins.	44	118	23	185	30	96	**49**	**175**	35	156	**33**	224	**27**	220	52	299
+15 mins.	40	155	**25**	220	**34**	88	28	150	25	184	21	230	25	210	**63**	298
+30 mins.	41	**175**	22	**238**	14	72	36	122	**39**	188	32	**259**	23	224	44	291
+45 mins.	**48**	148	23	219	32	**97**	22	151	26	**197**	28	251	27	**232**	42	**301**
Total Volume	173	596	93	862	110	353	135	598	125	725	114	964	102	886	201	1189
% App. Total	20.1	69.1	10.8		18.4	59	22.6		13	75.2	11.8		8.6	74.5	16.9	
PHF	.901	.851	.930	.905	.809	.910	.689	.854	.801	.920	.864	.931	.944	.955	.798	.988

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City of Compton
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Weather: Clear

File Name : CPTWICOAM
Site Code : 12816682
Start Date : 12/7/2016
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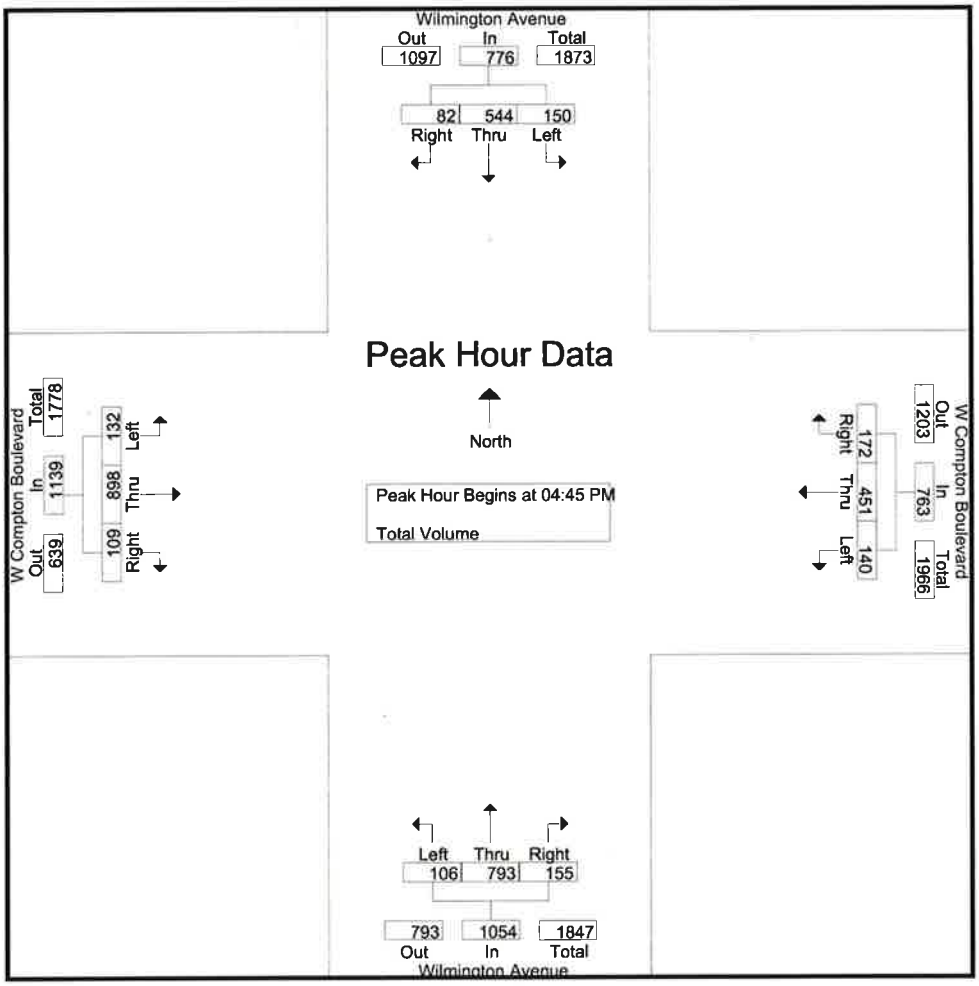
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	46	190	35	271	34	174	29	237	20	118	38	176	20	113	36	169
+15 mins.	40	**205**	**43**	**288**	**36**	**211**	**39**	**286**	**23**	118	**49**	190	**21**	131	**41**	193
+30 mins.	46	180	29	255	35	153	33	221	23	**126**	48	**197**	15	**153**	27	**195**
+45 mins.	**47**	143	21	211	28	144	38	210	20	98	34	152	14	118	23	155
Total Volume	179	718	128	1025	133	682	139	954	86	460	169	715	70	515	127	712
% App. Total	17.5	70	12.5		13.9	71.5	14.6		12	64.3	23.6		9.8	72.3	17.8	
PHF	.952	.876	.744	.890	.924	.808	.891	.834	.935	.913	.862	.907	.833	.842	.774	.913

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Weather: Clear

File Name : CPTWICOPM
Site Code : 12816682
Start Date : 12/7/2016
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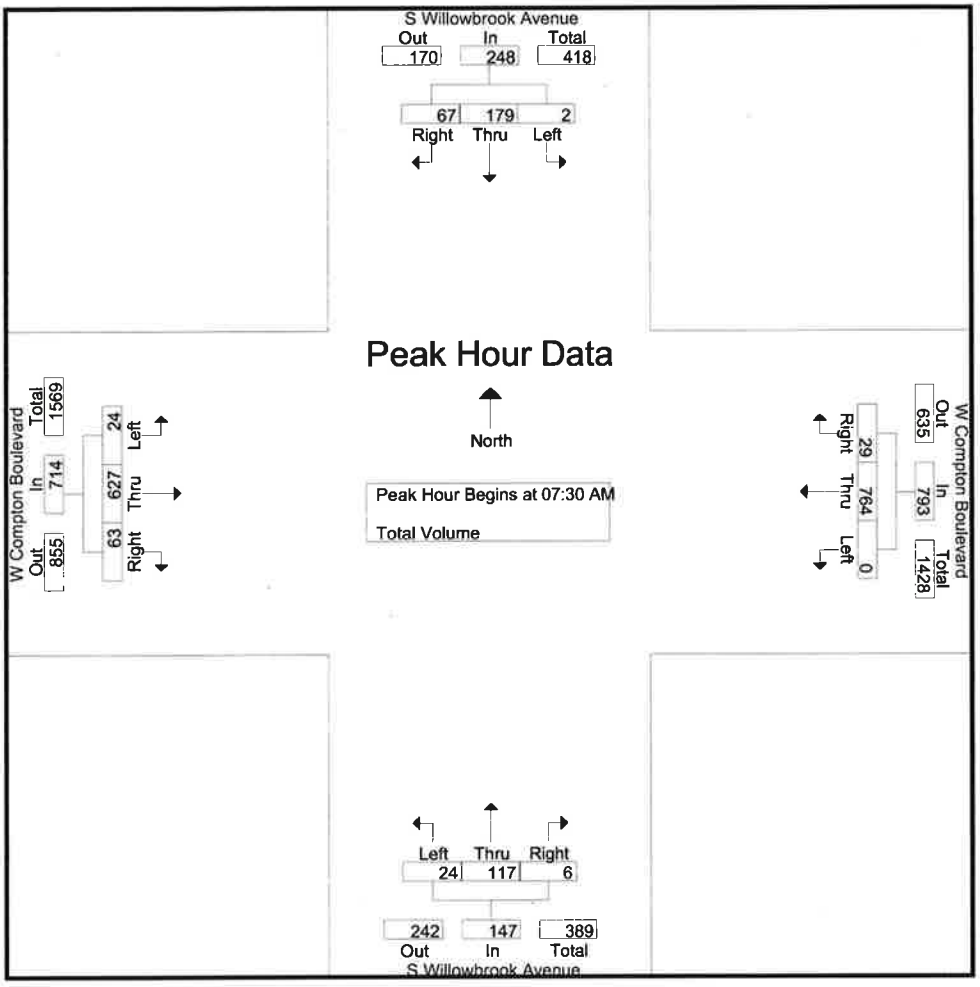
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				04:45 PM				04:45 PM			
+0 mins.	33	**154**	**26**	**213**	**44**	143	41	228	29	185	24	238	35	**226**	**32**	**293**
+15 mins.	**49**	125	24	198	36	127	45	208	18	**212**	**46**	**276**	34	225	25	284
+30 mins.	32	153	19	204	31	85	38	154	**34**	193	44	271	21	222	26	269
+45 mins.	35	108	26	169	37	**144**	**55**	**236**	25	203	41	269	**42**	225	26	293
Total Volume	149	540	95	784	148	499	179	826	106	793	155	1054	132	898	109	1139
% App. Total	19	68.9	12.1		17.9	60.4	21.7		10.1	75.2	14.7		11.6	78.8	9.6	
PHF	.760	.877	.913	.920	.841	.866	.814	.875	.779	.935	.842	.955	.786	.993	.852	.972

Counts Unlimited
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City of Compton
N/S: S Willowbrook Avenue
E/W: W Compton Boulevard
Weather: Clear

File Name : CPTWB1COAM
Site Code : 12816682
Start Date : 12/7/2016
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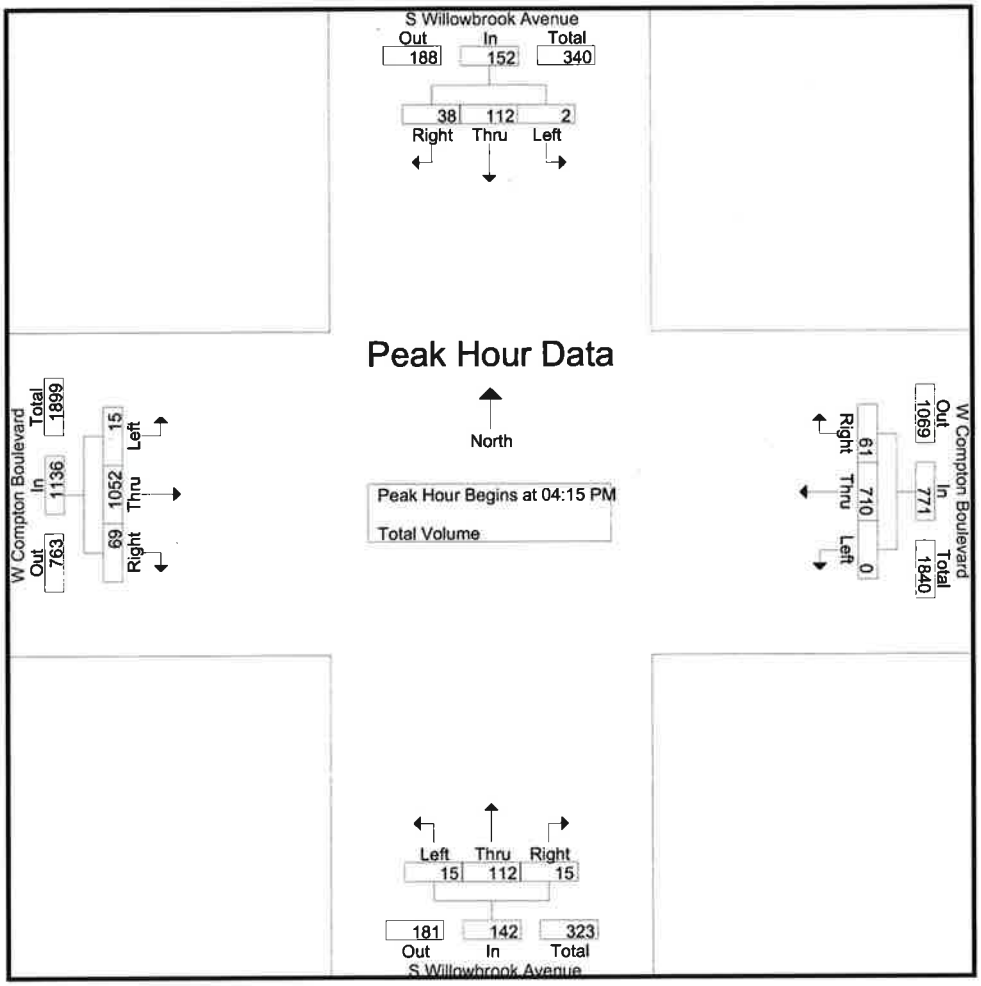
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				07:30 AM			
+0 mins.	0	39	13	52	0	189	5	194	3	13	0	16	3	145	13	161
+15 mins.	**1**	**52**	15	68	0	189	5	194	3	**45**	1	**49**	**13**	153	**17**	183
+30 mins.	0	52	20	**72**	0	198	5	203	7	34	**4**	45	4	**171**	17	**192**
+45 mins.	1	45	**23**	69	0	**203**	**11**	**214**	**11**	25	1	37	4	158	16	178
Total Volume	2	188	71	261	0	779	26	805	24	117	6	147	24	627	63	714
% App. Total	0.8	72	27.2		0	96.8	3.2		16.3	79.6	4.1		3.4	87.8	8.8	
PHF	.500	.904	.772	.906	.000	.959	.591	.940	.545	.650	.375	.750	.462	.917	.926	.930

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City of Compton
N/S: S Willowbrook Avenue
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Weather: Clear

File Name : CPTWB1COPM
Site Code : 12816682
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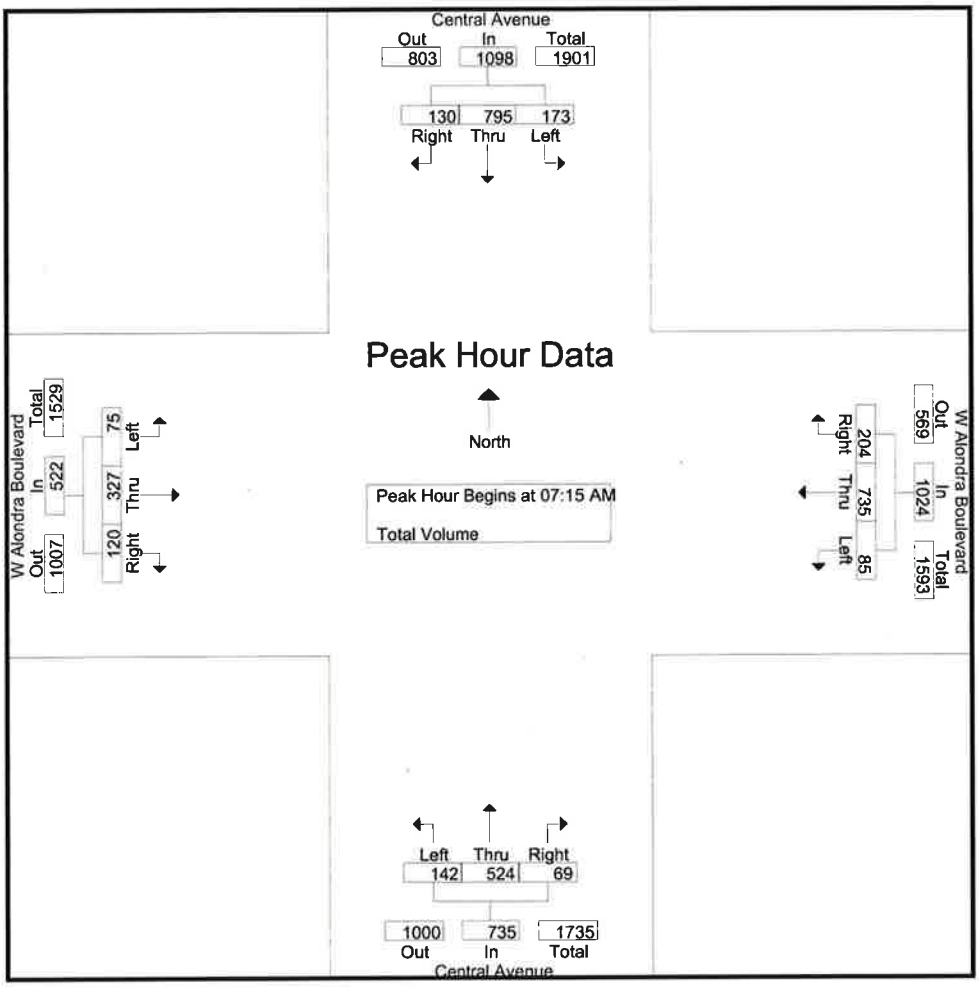
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				05:00 PM				04:15 PM			
+0 mins.	0	26	8	34	0	183	14	197	5	30	0	35	4	**283**	**22**	**309**
+15 mins.	0	27	**12**	39	0	183	16	199	6	29	2	37	2	250	19	271
+30 mins.	0	**38**	8	**46**	0	153	14	167	7	31	1	39	**5**	260	15	280
+45 mins.	**2**	24	8	34	0	**191**	**17**	**208**	**8**	**34**	**4**	**46**	4	259	13	276
Total Volume	2	115	36	153	0	710	61	771	26	124	7	157	15	1052	69	1136
% App. Total	1.3	75.2	23.5		0	92.1	7.9		16.6	79	4.5		1.3	92.6	6.1	
PHF	.250	.757	.750	.832	.000	.929	.897	.927	.813	.912	.438	.853	.750	.929	.784	.919

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City of Compton
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Weather: Clear

File Name : CPTCEALAM
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

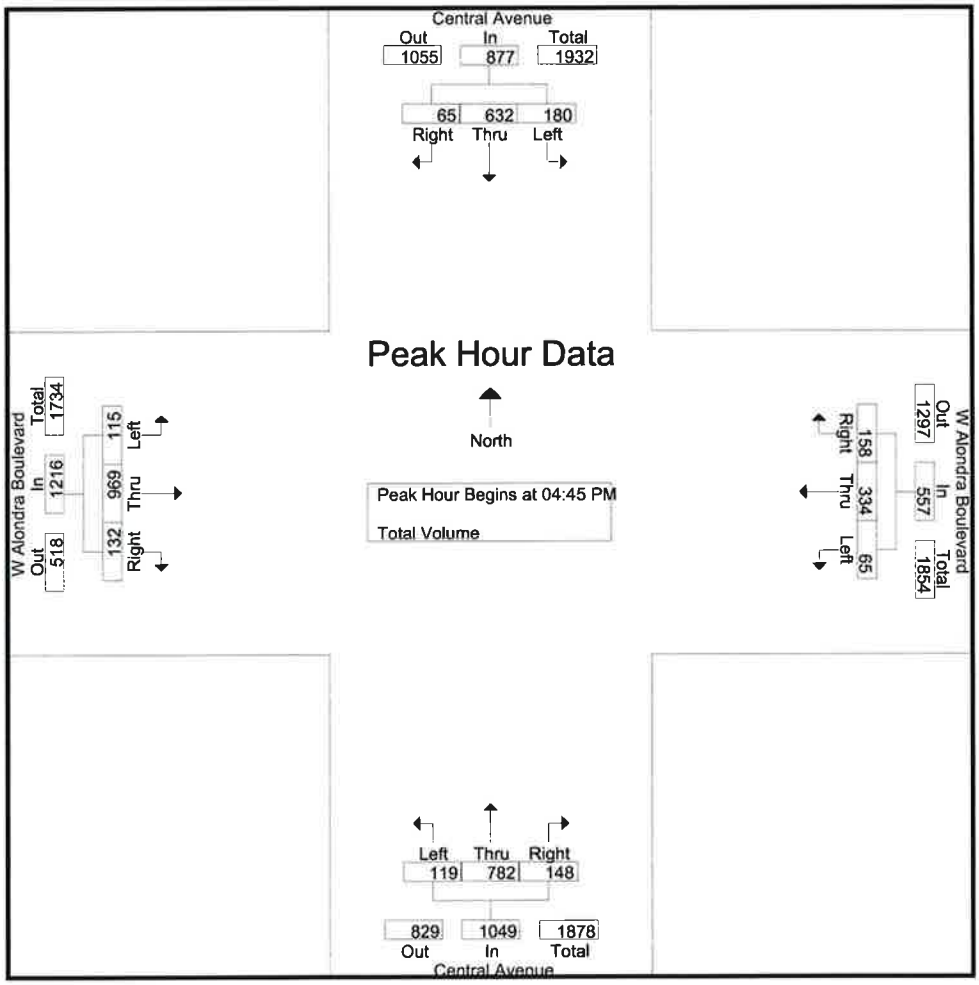
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:30 AM			
+0 mins.	33	154	20	207	16	146	40	202	33	112	11	156	20	69	25	114
+15 mins.	46	187	38	271	19	**228**	51	**298**	**41**	131	**20**	192	19	94	**44**	**157**
+30 mins.	**52**	**275**	**39**	**366**	**26**	180	**61**	267	29	**151**	20	**200**	**21**	**96**	32	149
+45 mins.	42	179	33	254	24	181	52	257	39	130	18	187	18	85	31	134
Total Volume	173	795	130	1098	85	735	204	1024	142	524	69	735	78	344	132	554
% App. Total	15.8	72.4	11.8		8.3	71.8	19.9		19.3	71.3	9.4		14.1	62.1	23.8	
PHF	.832	.723	.833	.750	.817	.806	.836	.859	.866	.868	.863	.919	.929	.896	.750	.882

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City of Compton
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Weather: Clear

File Name : CPTCEALPM
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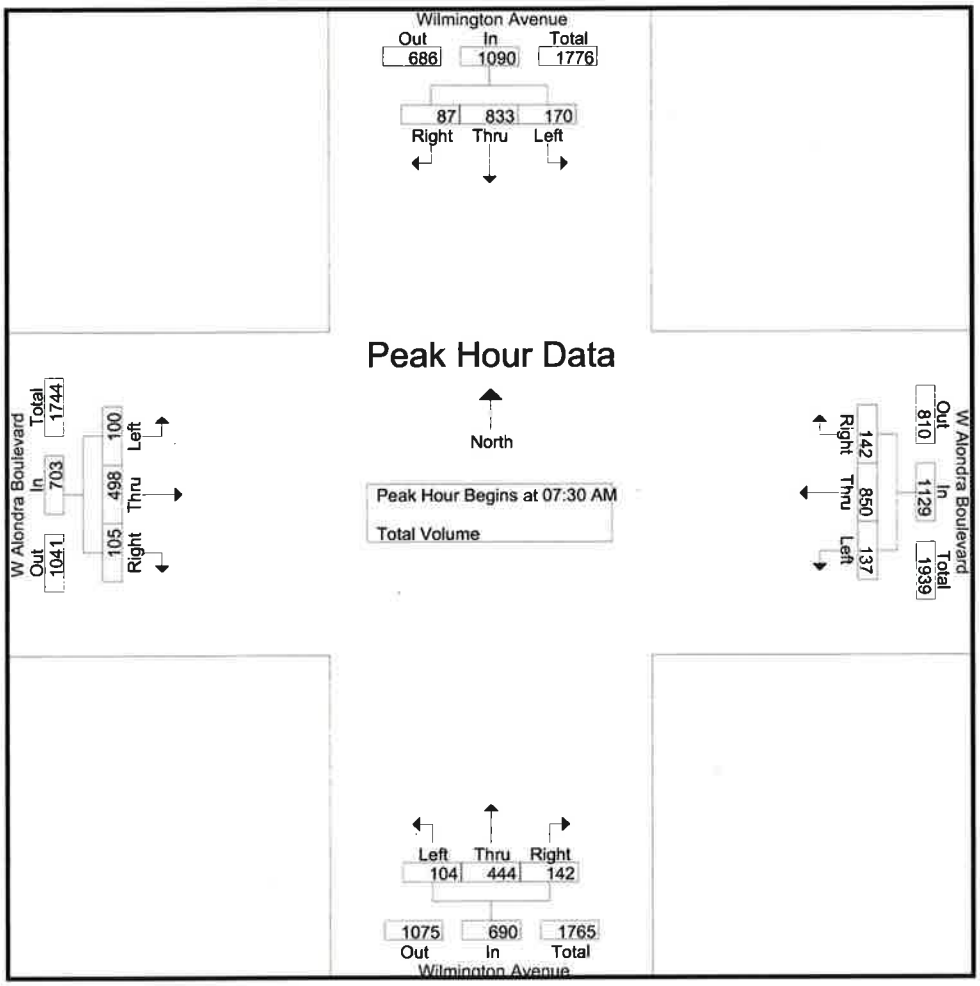
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	43	149	15	207	**17**	**96**	31	144	23	188	**47**	258	25	**265**	25	315
+15 mins.	48	**178**	13	**239**	16	91	40	**147**	32	**224**	32	**288**	26	222	28	276
+30 mins.	**50**	160	**18**	228	17	71	37	125	28	208	30	266	**34**	244	**48**	**326**
+45 mins.	41	163	18	222	15	76	**50**	141	**36**	162	39	237	30	238	31	299
Total Volume	182	650	64	896	65	334	158	557	119	782	148	1049	115	969	132	1216
% App. Total	20.3	72.5	7.1		11.7	60	28.4		11.3	74.5	14.1		9.5	79.7	10.9	
PHF	.910	.913	.889	.937	.956	.870	.790	.947	.826	.873	.787	.911	.846	.914	.688	.933

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City of Compton
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E/W: W Alondra Boulevard
Weather: Clear

File Name : CPTWIALAM
Site Code : 12816682
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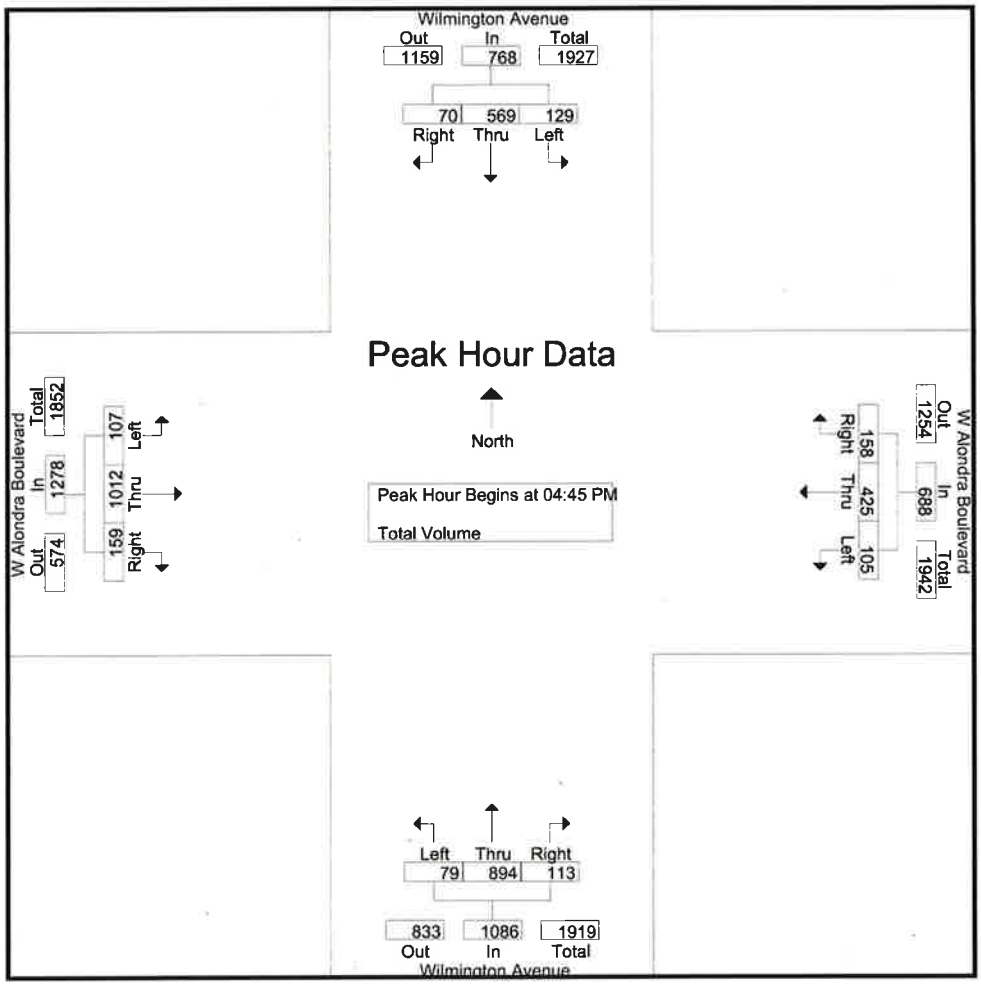
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				07:30 AM			
+0 mins.	19	211	20	250	25	154	25	204	25	114	27	166	22	119	25	166
+15 mins.	29	216	23	268	31	**251**	31	313	20	93	32	145	22	**158**	**34**	**214**
+30 mins.	**54**	**260**	**26**	**340**	37	249	**48**	**334**	27	**128**	**42**	**197**	**33**	134	20	187
+45 mins.	52	196	25	273	**38**	214	43	295	**32**	109	41	182	23	87	26	136
Total Volume	154	883	94	1131	131	868	147	1146	104	444	142	690	100	498	105	703
% App. Total	13.6	78.1	8.3		11.4	75.7	12.8		15.1	64.3	20.6		14.2	70.8	14.9	
PHF	.713	.849	.904	.832	.862	.865	.766	.858	.813	.867	.845	.876	.758	.788	.772	.821

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Start Date : 12/7/2016
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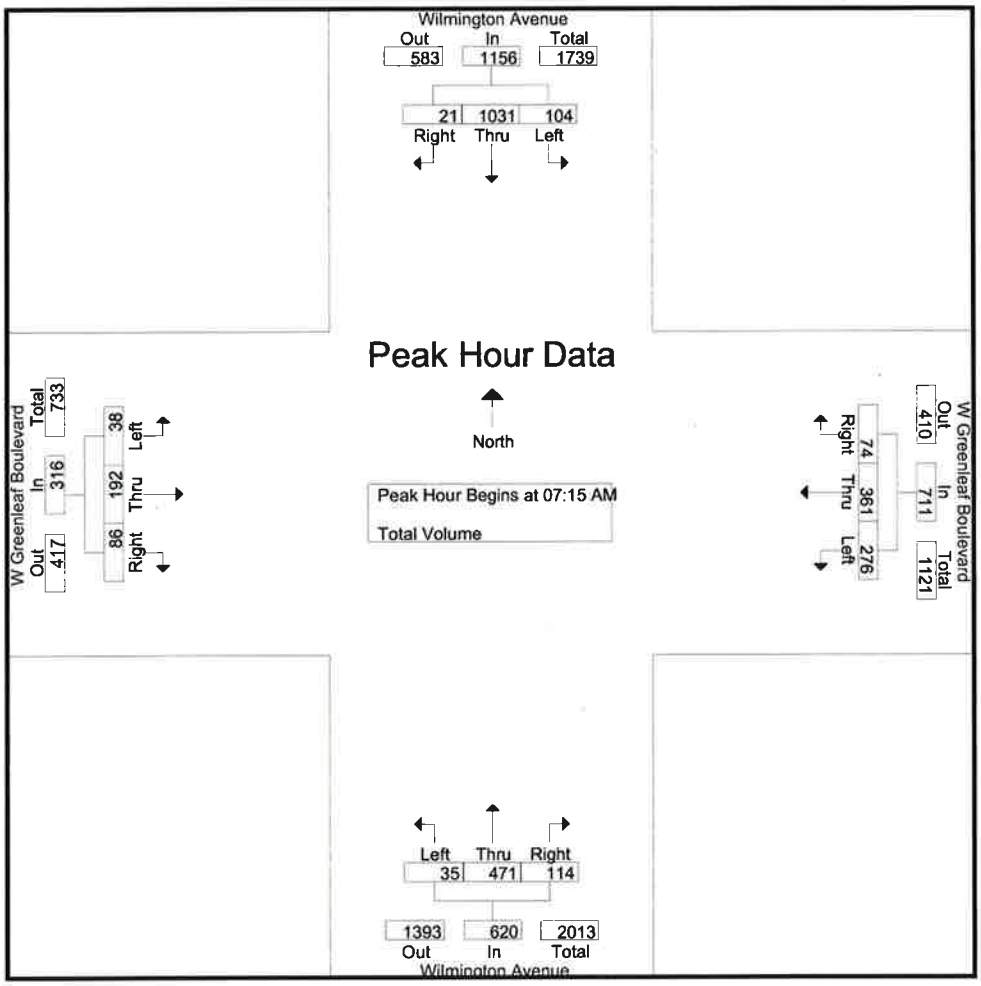
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:45 PM				04:30 PM				04:45 PM			
+0 mins.	43	135	19	197	26	98	28	152	19	210	**37**	266	24	**281**	28	**333**
+15 mins.	**46**	141	18	**205**	**32**	112	41	185	17	231	26	274	**34**	239	40	313
+30 mins.	30	131	**22**	183	17	96	**51**	164	**29**	219	31	279	16	249	45	310
+45 mins.	33	**150**	20	203	30	**119**	38	**187**	14	**246**	25	**285**	33	243	**46**	322
Total Volume	152	557	79	788	105	425	158	688	79	906	119	1104	107	1012	159	1278
% App. Total	19.3	70.7	10		15.3	61.8	23		7.2	82.1	10.8		8.4	79.2	12.4	
PHF	.826	.928	.898	.961	.820	.893	.775	.920	.681	.921	.804	.968	.787	.900	.864	.959

Counts Unlimited
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City of Compton
N/S: Wilmington Avenue
E/W: W Greenleaf Boulevard
Weather: Clear

File Name : CPTWIGRAM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



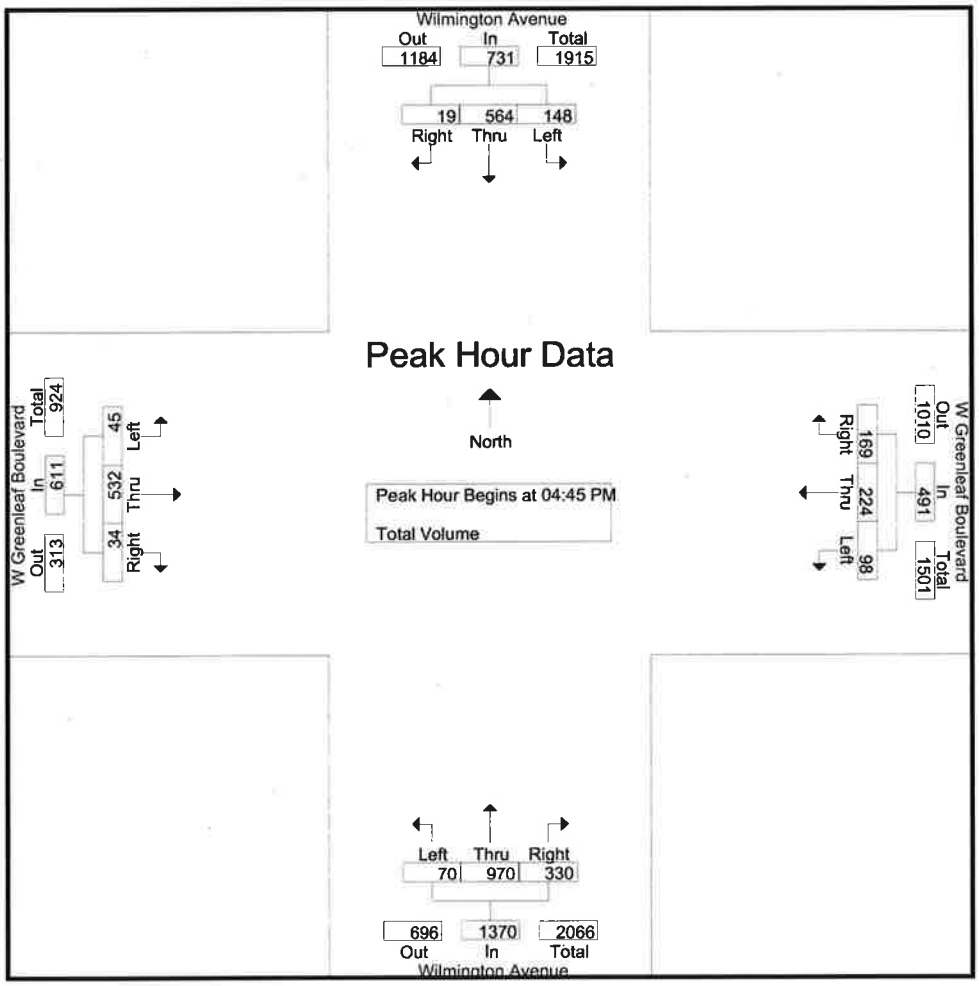
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				07:15 AM			
+0 mins.	19	236	**7**	262	60	65	11	136	**17**	127	**34**	**178**	5	29	19	53
+15 mins.	18	287	6	311	70	103	17	190	8	115	29	152	9	45	26	80
+30 mins.	**35**	**302**	4	**341**	**78**	**109**	22	**209**	7	**128**	30	165	**16**	**64**	**27**	**107**
+45 mins.	32	206	4	242	68	84	**24**	176	8	124	28	160	8	54	14	76
Total Volume	104	1031	21	1156	276	361	74	711	40	494	121	655	38	192	86	316
% App. Total	9	89.2	1.8		38.8	50.8	10.4		6.1	75.4	18.5		12	60.8	27.2	
PHF	.743	.853	.750	.848	.885	.828	.771	.850	.588	.965	.890	.920	.594	.750	.796	.738

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Weather: Clear

File Name : CPTWIGRPM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



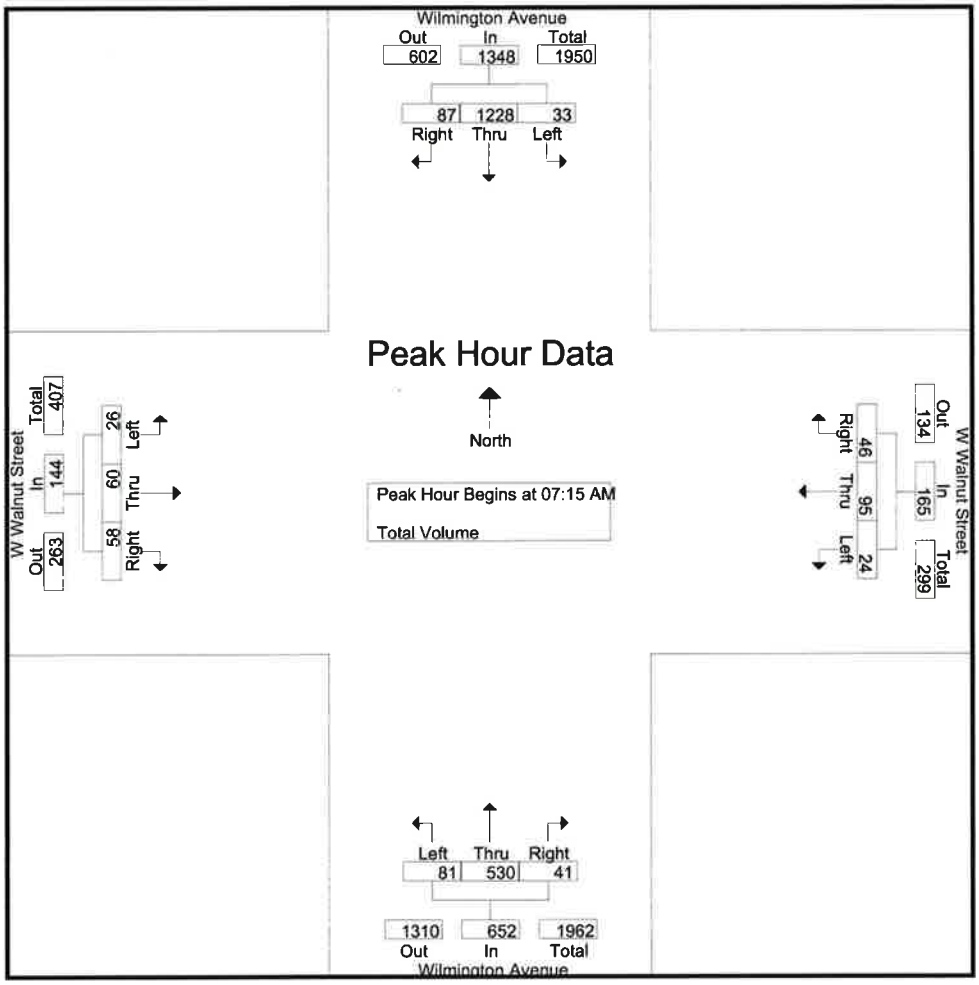
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				05:00 PM			
+0 mins.	39	135	6	180	**31**	**60**	**43**	**134**	20	**263**	70	353	**13**	134	9	156
+15 mins.	33	141	**7**	181	20	51	42	113	19	248	**117**	**384**	11	**141**	7	**159**
+30 mins.	36	**146**	2	184	19	59	41	119	**21**	246	77	344	13	132	8	153
+45 mins.	**40**	142	4	**186**	28	54	43	125	10	213	66	289	10	132	**15**	157
Total Volume	148	564	19	731	98	224	169	491	70	970	330	1370	47	539	39	625
% App. Total	20.2	77.2	2.6		20	45.6	34.4		5.1	70.8	24.1		7.5	86.2	6.2	
PHF	.925	.966	.679	.983	.790	.933	.983	.916	.833	.922	.705	.892	.904	.956	.650	.983

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City of Compton
N/S: Wilmington Avenue
E/W: W Walnut Street
Weather: Clear

File Name : CPTWIWAAM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



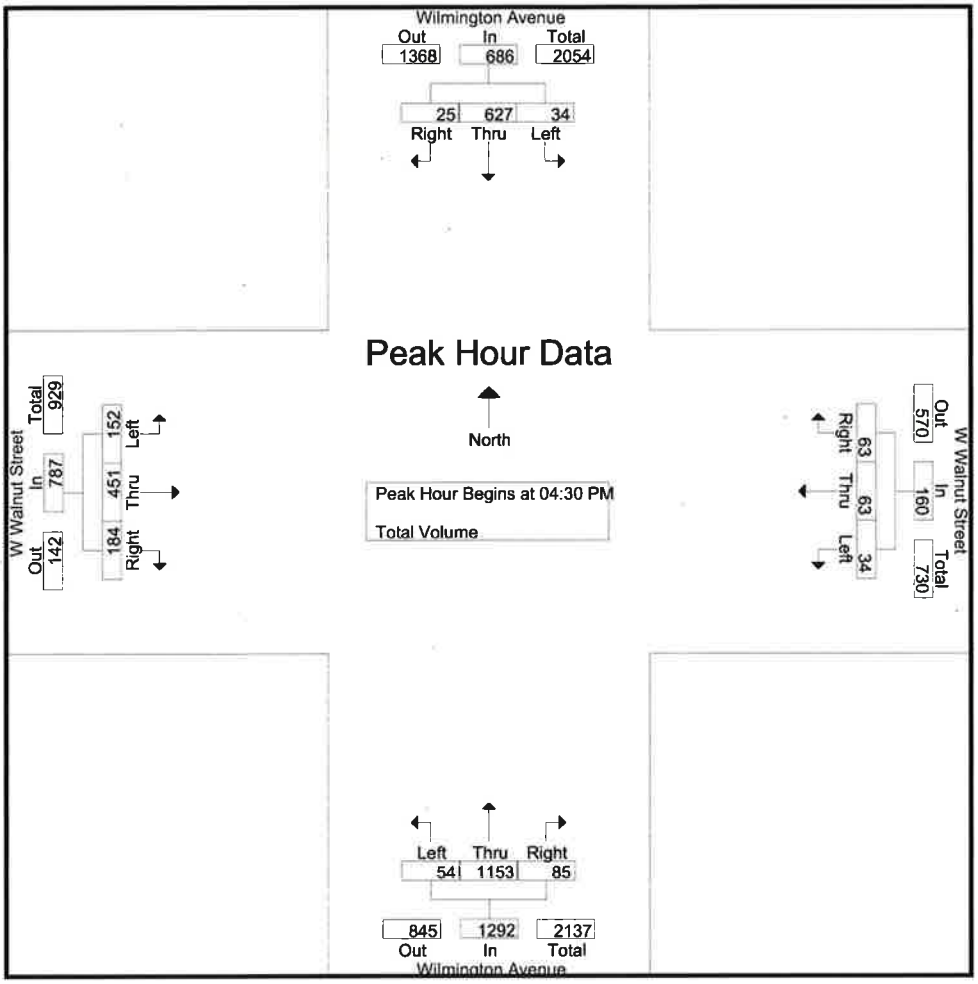
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				07:30 AM			
+0 mins.	**10**	268	9	287	4	22	10	36	17	**156**	9	**182**	7	14	13	34
+15 mins.	5	**360**	18	**383**	**11**	17	13	41	**31**	131	**12**	174	**11**	**20**	**22**	**53**
+30 mins.	10	330	**41**	381	8	**38**	6	**52**	25	130	9	164	6	17	17	40
+45 mins.	8	270	19	297	1	18	**17**	36	17	141	8	166	8	15	19	42
Total Volume	33	1228	87	1348	24	95	46	165	90	558	38	686	32	66	71	169
% App. Total	2.4	91.1	6.5		14.5	57.6	27.9		13.1	81.3	5.5		18.9	39.1	42	
PHF	.825	.853	.530	.880	.545	.625	.676	.793	.726	.894	.792	.942	.727	.825	.807	.797

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City of Compton
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E/W: W Walnut Street
Weather: Clear

File Name : CPTWIWAPM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



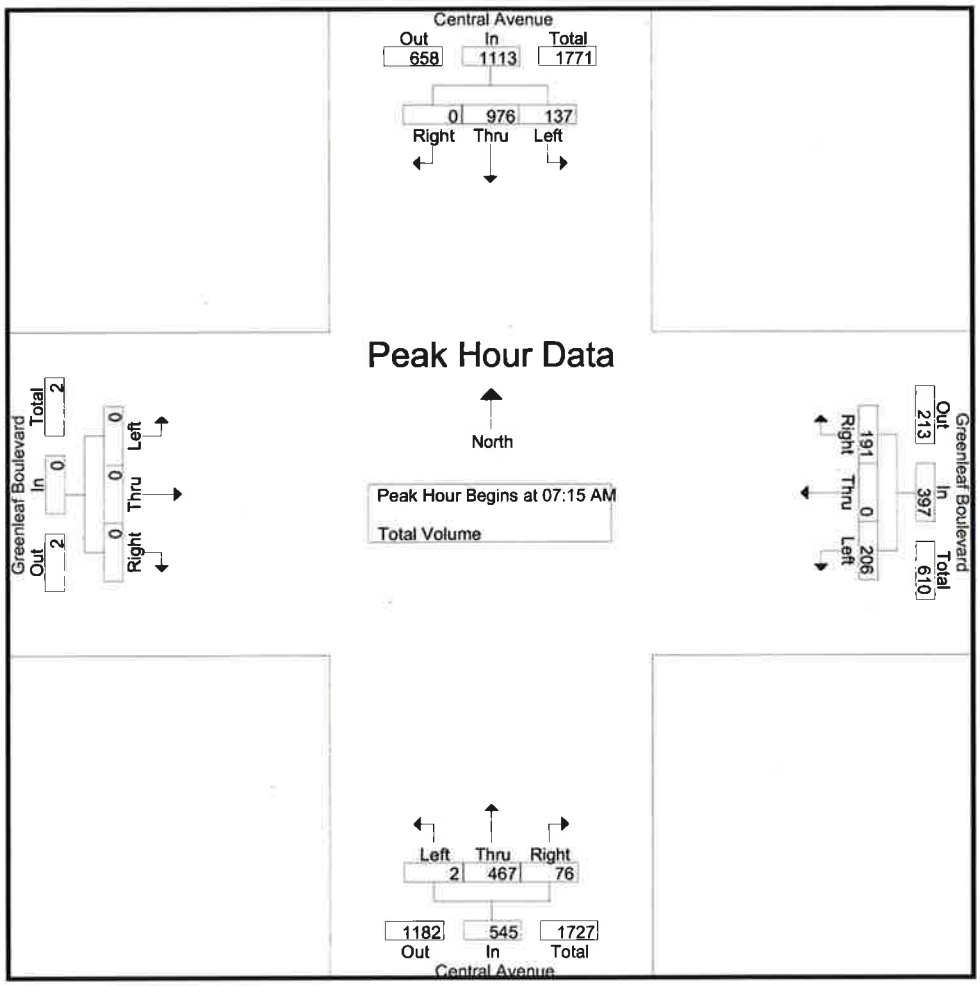
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	9	162	6	177	9	12	**24**	45	**15**	263	14	292	39	108	52	199
+15 mins.	6	**175**	4	**185**	6	14	6	26	13	288	21	322	25	117	34	176
+30 mins.	9	161	6	176	7	15	20	42	11	**319**	**28**	**358**	**53**	108	**57**	**218**
+45 mins.	**13**	159	**8**	180	**12**	**22**	13	**47**	15	283	22	320	35	**118**	41	194
Total Volume	37	657	24	718	34	63	63	160	54	1153	85	1292	152	451	184	787
% App. Total	5.2	91.5	3.3		21.2	39.4	39.4		4.2	89.2	6.6		19.3	57.3	23.4	
PHF	.712	.939	.750	.970	.708	.716	.656	.851	.900	.904	.759	.902	.717	.956	.807	.903

Counts Unlimited
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City of Compton
N/S: Central Avenue
E/W: Greenleaf Boulevard
Weather: Clear

File Name : CPTCEGRAM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



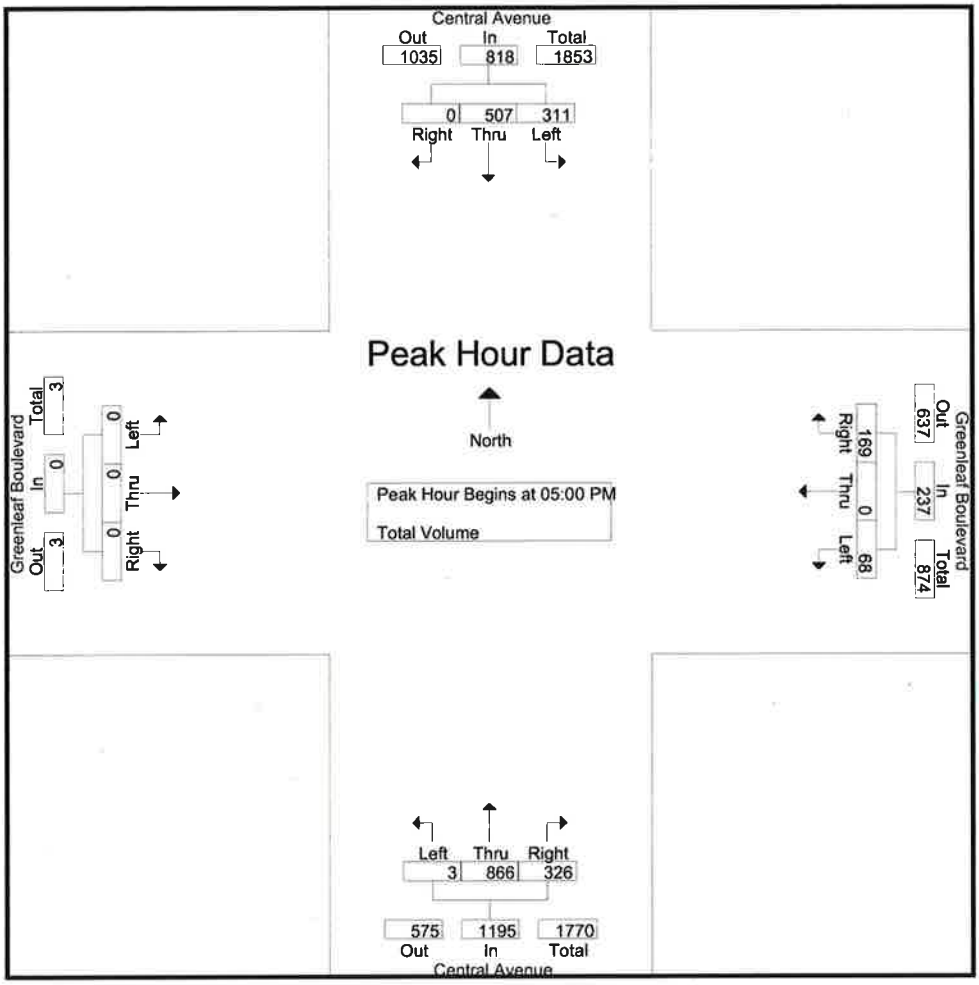
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:45 AM				07:00 AM			
+0 mins.	22	210	0	232	42	0	40	82	0	106	**30**	136	0	0	0	0
+15 mins.	27	237	0	264	**65**	0	50	**115**	2	125	13	140	0	0	0	0
+30 mins.	**47**	**306**	0	**353**	55	0	**53**	108	0	96	27	123	0	0	0	0
+45 mins.	41	223	0	264	44	0	48	92	**4**	**131**	19	**154**	0	0	0	0
Total Volume	137	976	0	1113	206	0	191	397	6	458	89	553	0	0	0	0
% App. Total	12.3	87.7	0		51.9	0	48.1		1.1	82.8	16.1		0	0	0	
PHF	.729	.797	.000	.788	.792	.000	.901	.863	.375	.874	.742	.898	.000	.000	.000	.000

Counts Unlimited
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Corona, CA 92878
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City of Compton
N/S: Central Avenue
E/W: Greenleaf Boulevard
Weather: Clear

File Name : CPTCEGRPM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



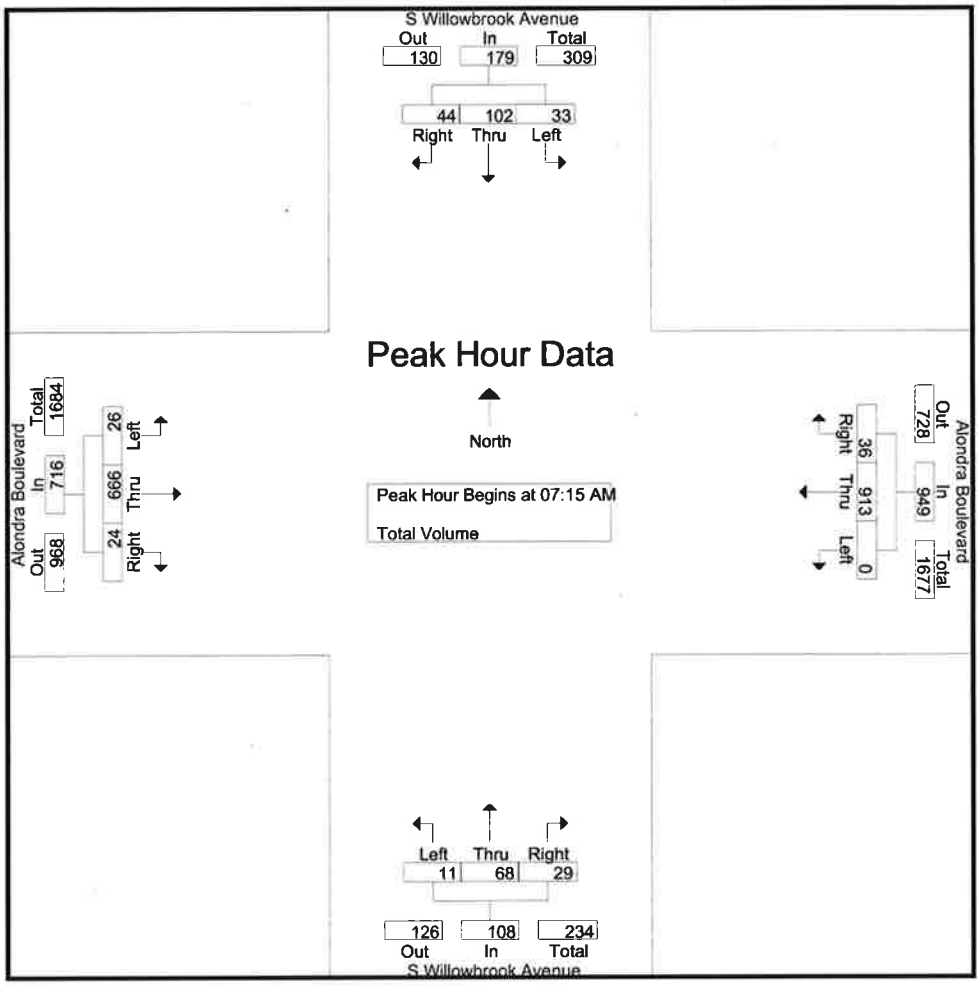
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				05:00 PM				04:00 PM			
+0 mins.	80	111	0	191	**29**	0	42	**71**	0	216	**94**	**310**	0	0	0	0
+15 mins.	**87**	128	0	**215**	21	0	44	65	**2**	**219**	76	297	0	0	0	0
+30 mins.	81	128	0	209	18	0	**48**	66	0	213	75	288	0	0	0	0
+45 mins.	63	**140**	0	203	22	0	44	66	1	218	81	300	0	0	0	0
Total Volume	311	507	0	818	90	0	178	268	3	866	326	1195	0	0	0	0
% App. Total	38	62	0		33.6	0	66.4		0.3	72.5	27.3		0	0	0	
PHF	.894	.905	.000	.951	.776	.000	.927	.944	.375	.989	.867	.964	.000	.000	.000	.000

Counts Unlimited
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City of Compton
N/S: S Willowbrook Avenue
E/W: Alondra Boulevard
Weather: Clear

File Name : CPTWB1ALAM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



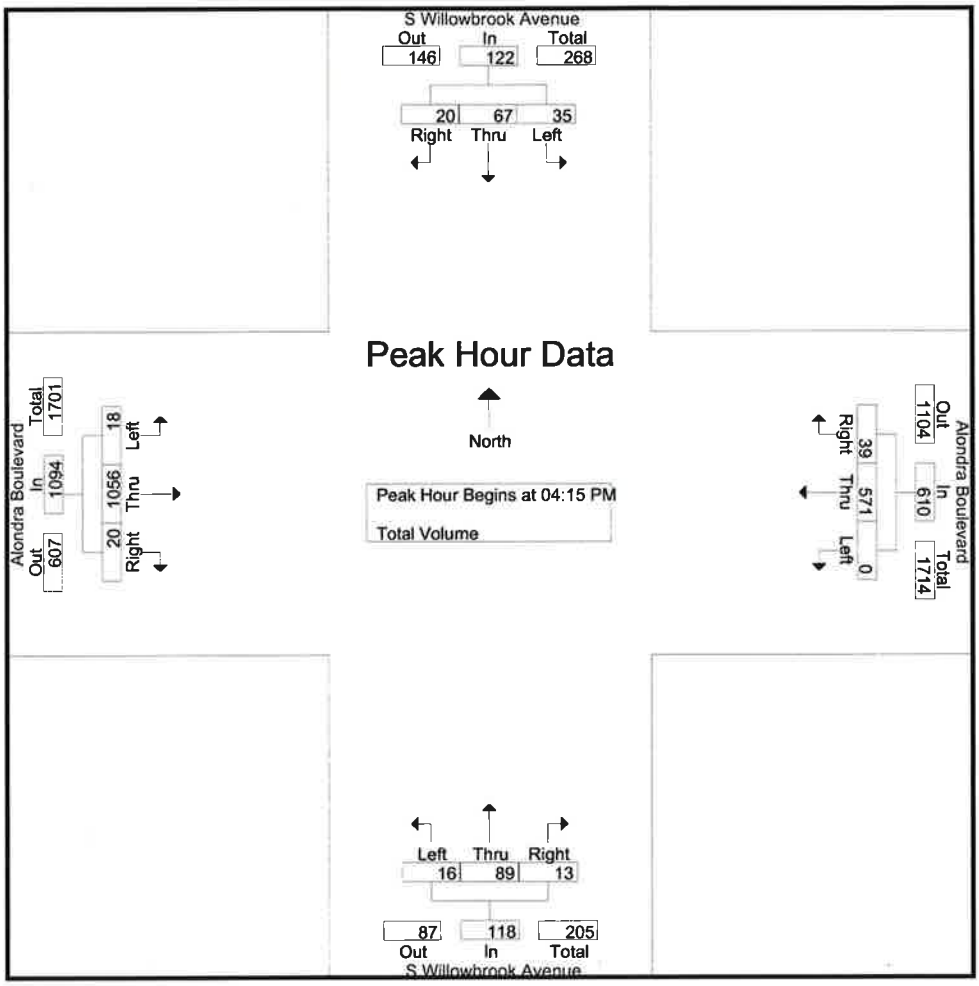
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				07:30 AM			
+0 mins.	5	21	11	37	0	200	6	206	**4**	15	**9**	28	7	154	4	165
+15 mins.	**13**	26	4	43	0	242	7	249	2	19	8	29	8	**212**	7	**227**
+30 mins.	3	23	14	40	0	**279**	**12**	**291**	3	22	2	27	8	175	**9**	192
+45 mins.	12	**32**	**15**	**59**	0	192	11	203	3	**23**	4	**30**	**9**	134	4	147
Total Volume	33	102	44	179	0	913	36	949	12	79	23	114	32	675	24	731
% App. Total	18.4	57	24.6		0	96.2	3.8		10.5	69.3	20.2		4.4	92.3	3.3	
PHF	.635	.797	.733	.758	.000	.818	.750	.815	.750	.859	.639	.950	.889	.796	.667	.805

Counts Unlimited
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City of Compton
N/S: S Willowbrook Avenue
E/W: Alondra Boulevard
Weather: Clear

File Name : CPTWB1ALPM
Site Code : 12816682
Start Date : 12/7/2016
Page No : 2



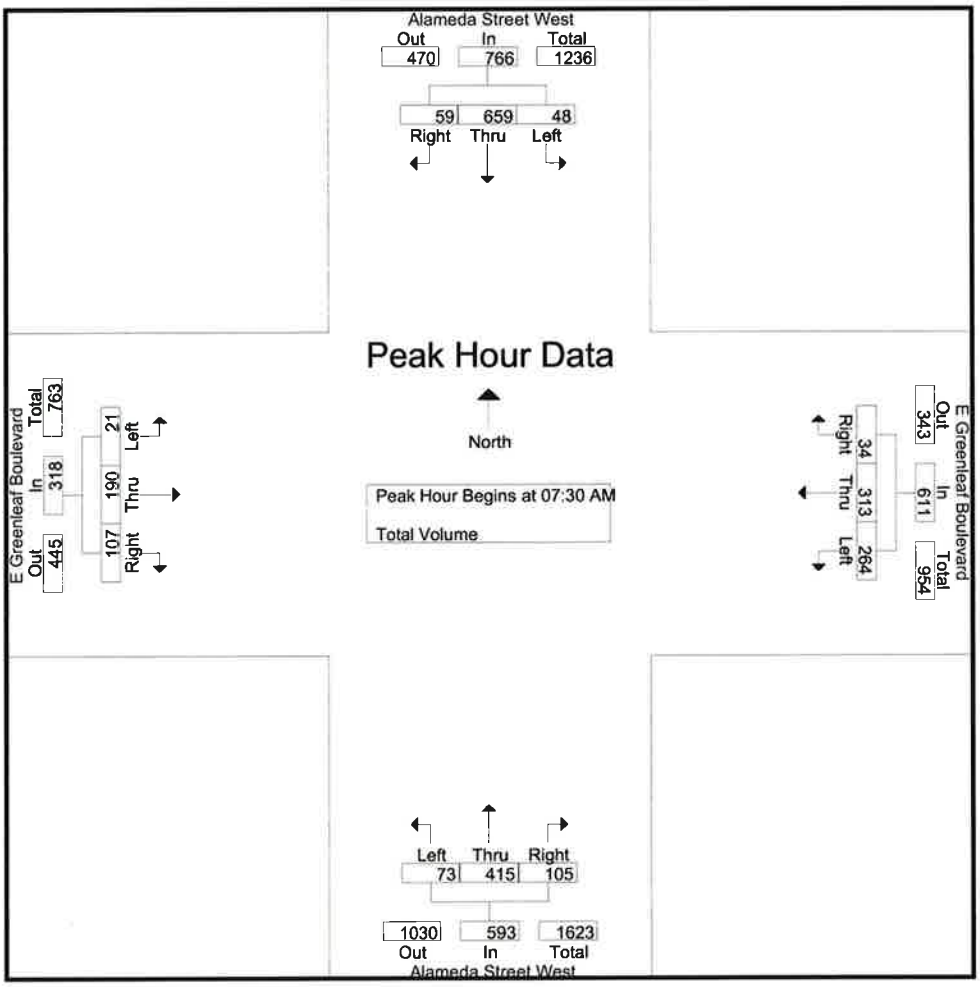
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				05:00 PM				04:45 PM			
+0 mins.	12	19	**9**	**40**	0	144	**17**	**161**	2	22	2	26	5	266	**6**	277
+15 mins.	11	20	3	34	0	146	10	156	3	15	3	21	6	287	4	297
+30 mins.	5	**25**	6	36	0	131	12	143	3	29	**6**	38	**9**	183	5	197
+45 mins.	**14**	10	5	29	0	**149**	11	160	**4**	**40**	3	**47**	1	**337**	3	**341**
Total Volume	42	74	23	139	0	570	50	620	12	106	14	132	21	1073	18	1112
% App. Total	30.2	53.2	16.5		0	91.9	8.1		9.1	80.3	10.6		1.9	96.5	1.6	
PHF	.750	.740	.639	.869	.000	.956	.735	.963	.750	.663	.583	.702	.583	.796	.750	.815

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City of Compton
N/S: Alameda Street West
E/W: E Greenleaf Boulevard
Weather: Clear

File Name : CPTWALGRAM
Site Code : 12817055
Start Date : 2/2/2017
Page No : 2



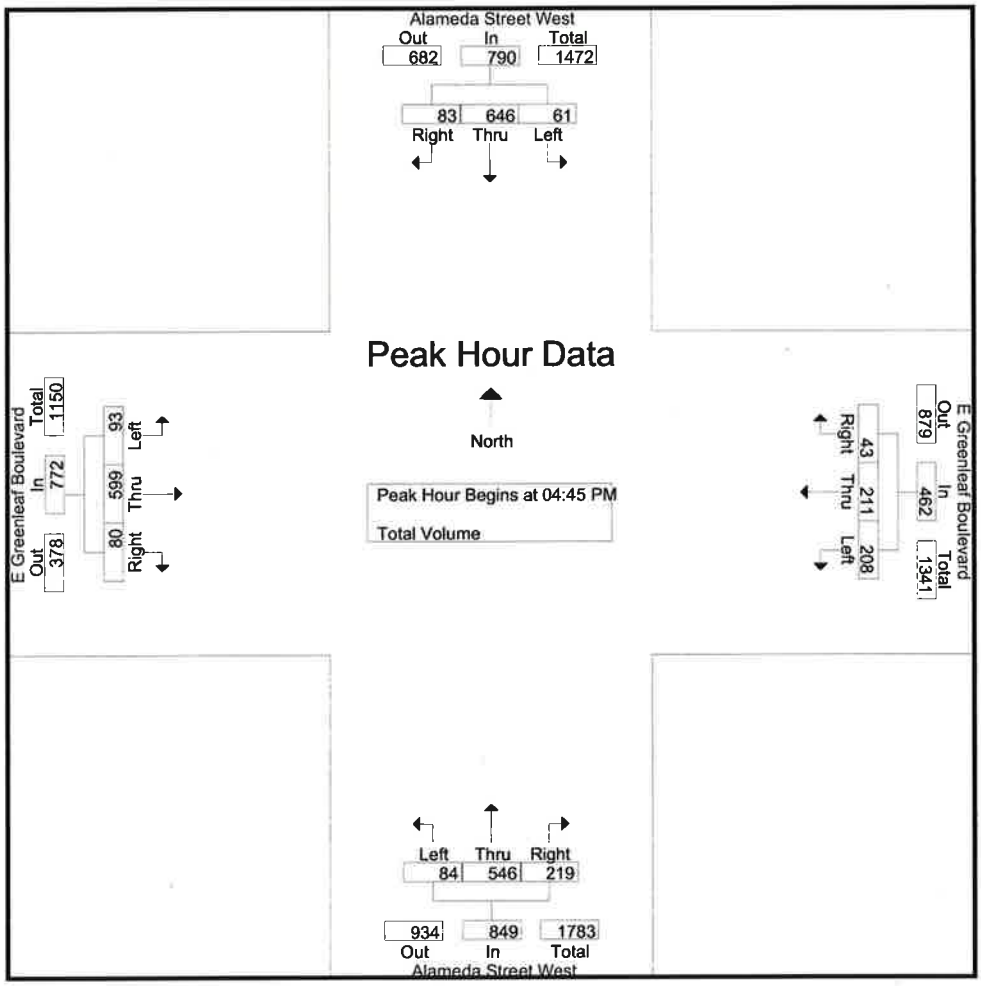
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:45 AM				07:15 AM			
+0 mins.	**18**	165	11	194	72	86	4	162	19	107	**33**	159	3	38	**36**	77
+15 mins.	15	**186**	**22**	**223**	**76**	**91**	10	**177**	12	104	19	135	**6**	46	28	80
+30 mins.	7	159	10	176	64	72	7	143	**27**	**115**	29	**171**	3	50	36	**89**
+45 mins.	8	149	16	173	52	64	**13**	129	19	99	19	137	6	**57**	25	88
Total Volume	48	659	59	766	264	313	34	611	77	425	100	602	18	191	125	334
% App. Total	6.3	86	7.7		43.2	51.2	5.6		12.8	70.6	16.6		5.4	57.2	37.4	
PHF	.667	.886	.670	.859	.868	.860	.654	.863	.713	.924	.758	.880	.750	.838	.868	.938

Counts Unlimited
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City of Compton
N/S: Alameda Street West
E/W: E Greenleaf Boulevard
Weather: Clear

File Name : CPTWALGRPM
Site Code : 12817055
Start Date : 2/2/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				05:00 PM				04:45 PM			
+0 mins.	19	158	**23**	200	56	43	**13**	112	21	122	63	206	24	145	**28**	197
+15 mins.	**20**	149	22	191	51	**56**	10	117	17	145	**68**	**230**	23	138	14	175
+30 mins.	9	165	19	193	**61**	56	13	**130**	**23**	**159**	45	227	**26**	**166**	19	**211**
+45 mins.	13	**174**	19	**206**	46	52	12	110	16	141	49	206	20	150	19	189
Total Volume	61	646	83	790	214	207	48	469	77	567	225	869	93	599	80	772
% App. Total	7.7	81.8	10.5		45.6	44.1	10.2		8.9	65.2	25.9		12	77.6	10.4	
PHF	.763	.928	.902	.959	.877	.924	.923	.902	.837	.892	.827	.945	.894	.902	.714	.915

Appendix D

Intersection Level of Service Analysis

Intersection LOS Analysis Sheets

County of Los Angeles
City of Compton
City of Lynwood

Intersections LOS Analysis Sheets

Existing Conditions

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Avalon Blvd & El Segundo

Cycle (sec):	100	Critical Vol./Cap.(X):	0.726
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	76	514	93	81	556	113	165	383	69	110	997	252
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	77	519	94	82	562	114	167	387	70	111	1007	255
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	77	519	94	82	562	114	167	387	70	111	1007	255
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	519	94	82	562	114	167	387	70	111	1007	255
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	519	94	82	562	114	167	387	70	111	1007	255
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.69	0.31	1.00	1.66	0.34	1.00	2.54	0.46	1.00	2.39	0.61
Final Sat.:	1600	2710	490	1600	2659	541	1600	4067	733	1600	3832	968
Capacity Analysis Module:												
Vol/Sat:	0.05	0.19	0.19	0.05	0.21	0.21	0.10	0.10	0.10	0.07	0.26	0.26
Crit Moves:	****				****		****				****	

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Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Avalon Blvd & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.652
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	103	470	58	160	470	99	48	392	63	113	1049	159
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	104	475	59	162	475	100	48	396	64	114	1059	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	475	59	162	475	100	48	396	64	114	1059	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	475	59	162	475	100	48	396	64	114	1059	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	475	59	162	475	100	48	396	64	114	1059	161
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.78	0.22	1.00	1.65	0.35	1.00	2.58	0.42	1.00	2.61	0.39
Final Sat.:	1600	2848	352	1600	2643	557	1600	4135	665	1600	4168	632
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.17	0.10	0.18	0.18	0.03	0.10	0.10	0.07	0.25	0.25
Crit Moves:		****		****			****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Central Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.899
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	204	659	194	125	687	209	89	400	76	170	965	85
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	206	666	196	126	694	211	90	404	77	172	975	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	206	666	196	126	694	211	90	404	77	172	975	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	206	666	196	126	694	211	90	404	77	172	975	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	206	666	196	126	694	211	90	404	77	172	975	86
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.55	0.45	1.00	1.53	0.47	1.00	2.00	1.00	1.00	1.84	0.16
Final Sat.:	1600	2472	728	1600	2454	746	1600	3200	1600	1600	2941	259
Capacity Analysis Module:												
Vol/Sat:	0.13	0.27	0.27	0.08	0.28	0.28	0.06	0.13	0.05	0.11	0.33	0.33
Crit Moves:	****				****		****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Central Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.822
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	1	0 2	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	135	571	71	95	644	207	121	346	125	117	979	153
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	136	577	72	96	650	209	122	349	126	118	989	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	136	577	72	96	650	209	122	349	126	118	989	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	136	577	72	96	650	209	122	349	126	118	989	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	136	577	72	96	650	209	122	349	126	118	989	155
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.20	0.80	1.00	1.73	0.27
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3526	1274	1600	2767	433
Capacity Analysis Module:												
Vol/Sat:	0.09	0.18	0.04	0.06	0.20	0.13	0.08	0.10	0.10	0.07	0.36	0.36
Crit Moves:	****				****		****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #12 Slater Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.501
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	42	41	66	46	37	45	43	757	35	44	730	18
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	42	41	67	46	37	45	43	765	35	44	737	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	41	67	46	37	45	43	765	35	44	737	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	41	67	46	37	45	43	765	35	44	737	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	41	67	46	37	45	43	765	35	44	737	18
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.28	0.44	0.36	0.29	0.35	1.00	1.91	0.09	1.00	1.95	0.05
Final Sat.:	451	440	709	575	463	563	1600	3059	141	1600	3123	77
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.09	0.03	0.08	0.08	0.03	0.25	0.25	0.03	0.24	0.24
Crit Moves:		****		****				****		****		

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Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #17 Compton Ave & Imperial Hwy

****

Cycle (sec):	100	Critical Vol./Cap.(X):	1.007	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	180	Level Of Service:	F	

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	114	332	167	113	289	134	75	660	171	190	1489	161
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	115	335	169	114	292	135	76	667	173	192	1504	163
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	115	335	169	114	292	135	76	667	173	192	1504	163
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	115	335	169	114	292	135	76	667	173	192	1504	163
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	115	335	169	114	292	135	76	667	173	192	1504	163
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.68	0.32	1.00	2.38	0.62	1.00	1.80	0.20
Final Sat.:	1600	1600	1600	1600	1093	507	1600	3812	988	1600	2888	312
Capacity Analysis Module:												
Vol/Sat:	0.07	0.21	0.11	0.07	0.27	0.27	0.05	0.17	0.17	0.12	0.52	0.52
Crit Moves:	****				****		****				****	

****

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Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #18 Compton Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.438
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	9	479	86	56	539	5	39	58	36	60	17	49
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	9	484	87	57	544	5	39	59	36	61	17	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	9	484	87	57	544	5	39	59	36	61	17	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	484	87	57	544	5	39	59	36	61	17	49
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	484	87	57	544	5	39	59	36	61	17	49
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.03	1.67	0.30	0.19	1.79	0.02	0.29	0.44	0.27	0.48	0.13	0.39
Final Sat.:	50	2670	479	299	2875	27	469	698	433	762	216	622
Capacity Analysis Module:												
Vol/Sat:	0.01	0.18	0.18	0.04	0.19	0.19	0.02	0.08	0.08	0.04	0.08	0.08
Crit Moves:		****		****				****		****		

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Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #19 Compton Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.574
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	106	296	85	129	308	115	122	465	88	88	460	160
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	107	299	86	130	311	116	123	470	89	89	465	162
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	299	86	130	311	116	123	470	89	89	465	162
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	299	86	130	311	116	123	470	89	89	465	162
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	299	86	130	311	116	123	470	89	89	465	162
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.55	0.45	1.00	1.46	0.54	1.00	1.68	0.32	1.00	1.48	0.52
Final Sat.:	1600	2486	714	1600	2330	870	1600	2691	509	1600	2374	826
Capacity Analysis Module:												
Vol/Sat:	0.07	0.12	0.12	0.08	0.13	0.13	0.08	0.17	0.17	0.06	0.20	0.20
Crit Moves:		****			****			****			****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #20 Compton Ave & 124th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.378
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	1	360	25	59	426	7	5	12	3	36	40	108
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	1	364	25	60	430	7	5	12	3	36	40	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	364	25	60	430	7	5	12	3	36	40	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	364	25	60	430	7	5	12	3	36	40	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	364	25	60	430	7	5	12	3	36	40	109
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.01	1.86	0.13	0.24	1.73	0.03	0.25	0.60	0.15	0.19	0.22	0.59
Final Sat.:	8	2984	207	384	2771	46	400	960	240	313	348	939
Capacity Analysis Module:												
Vol/Sat:	0.00	0.12	0.12	0.04	0.16	0.16	0.00	0.01	0.01	0.02	0.12	0.12
Crit Moves:		****		****			****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #26 Wilmington Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.657
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 1	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	175	422	51	31	835	143	142	23	218	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	177	426	52	31	843	144	143	23	220	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	177	426	52	31	843	144	143	23	220	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	177	426	52	31	843	144	143	23	220	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	177	426	52	31	843	144	143	23	220	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.78	0.22	1.00	1.71	0.29	1.00	1.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	2855	345	1600	2732	468	1600	1600	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.11	0.15	0.15	0.02	0.31	0.31	0.09	0.01	0.14	0.00	0.00	0.00
Crit Moves:	****				****				****			

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #27 Wilmington Ave & I-105 e/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.848
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	79	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	0	0 0	2 0	2	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	325	644	0	0	655	481	407	0	532	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	328	650	0	0	662	486	411	0	537	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	328	650	0	0	662	486	411	0	537	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	328	650	0	0	662	486	411	0	537	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	328	650	0	0	662	486	411	0	537	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.00	2.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	4800	0	0	3200	3200	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.21	0.14	0.00	0.00	0.21	0.15	0.26	0.00	0.34	0.00	0.00	0.00
Crit Moves:	****				****				****			

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #28 Wilmington Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.641
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	2 0	1	1 0	0 0	1!	0 0	0 1	0	0 1
Volume Module:												
Base Vol:	129	843	60	92	939	164	59	18	80	20	39	56
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	130	851	61	93	948	166	60	18	81	20	39	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	130	851	61	93	948	166	60	18	81	20	39	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	851	61	93	948	166	60	18	81	20	39	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	130	851	61	93	948	166	60	18	81	20	39	57
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.80	0.20	2.00	1.70	0.30	0.38	0.11	0.51	0.34	0.66	1.00
Final Sat.:	1600	4481	319	2880	2724	476	601	183	815	542	1058	1600
Capacity Analysis Module:												
Vol/Sat:	0.08	0.19	0.19	0.03	0.35	0.35	0.04	0.10	0.10	0.01	0.04	0.04
Crit Moves:	****				****			****			****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #29 Wilmington Ave & 120th St (West)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.840
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	77	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1	1 0	0 1	0
Volume Module:												
Base Vol:	35	713	141	111	619	314	143	148	109	65	308	184
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	35	720	142	112	625	317	144	149	110	66	311	186
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	720	142	112	625	317	144	149	110	66	311	186
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	720	142	112	625	317	144	149	110	66	311	186
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	720	142	112	625	317	144	149	110	66	311	186
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.67	0.33	1.00	1.33	0.67	1.00	1.00	1.00	1.00	0.63	0.37
Final Sat.:	1600	2672	528	1600	2123	1077	1600	1600	1600	1600	1002	598
Capacity Analysis Module:												
Vol/Sat:	0.02	0.27	0.27	0.07	0.29	0.29	0.09	0.09	0.07	0.04	0.31	0.31
Crit Moves:		****			****			****			****	

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Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #30 Wilmington Ave & 120th St (East)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.424
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 1	0	0 1	0 0	1! 0	0
Volume Module:												
Base Vol:	26	823	7	25	659	75	18	0	3	13	3	40
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	26	831	7	25	666	76	18	0	3	13	3	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	831	7	25	666	76	18	0	3	13	3	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	831	7	25	666	76	18	0	3	13	3	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	831	7	25	666	76	18	0	3	13	3	40
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.98	0.02	1.00	1.80	0.20	1.00	0.00	1.00	0.23	0.05	0.72
Final Sat.:	1600	3173	27	1600	2873	327	1600	0	1600	371	86	1143
Capacity Analysis Module:												
Vol/Sat:	0.02	0.26	0.26	0.02	0.23	0.23	0.01	0.00	0.00	0.01	0.04	0.04
Crit Moves:		****			****			****			****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #31 Wilmington Ave & 124th St

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.557
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	49	757	40	48	670	13	20	47	41	84	99	74
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	49	765	40	48	677	13	20	47	41	85	100	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	765	40	48	677	13	20	47	41	85	100	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	765	40	48	677	13	20	47	41	85	100	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	765	40	48	677	13	20	47	41	85	100	75
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.90	0.10	1.00	1.96	0.04	0.18	0.44	0.38	0.33	0.38	0.29
Final Sat.:	1600	3039	161	1600	3139	61	296	696	607	523	616	461
Capacity Analysis Module:												
Vol/Sat:	0.03	0.25	0.25	0.03	0.22	0.22	0.01	0.07	0.07	0.05	0.16	0.16
Crit Moves:		****		****			****				****	

****

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Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #32 Wilmington Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.716
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	173	744	54	123	640	135	92	393	258	56	557	89
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	175	751	55	124	646	136	93	397	261	57	563	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	175	751	55	124	646	136	93	397	261	57	563	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	175	751	55	124	646	136	93	397	261	57	563	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	175	751	55	124	646	136	93	397	261	57	563	90
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.86	0.14	1.00	1.65	0.35	1.00	1.21	0.79	1.00	1.72	0.28
Final Sat.:	1600	2983	217	1600	2643	557	1600	1932	1268	1600	2759	441
Capacity Analysis Module:												
Vol/Sat:	0.11	0.25	0.25	0.08	0.24	0.24	0.06	0.21	0.21	0.04	0.20	0.20
Crit Moves:	****				****		****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #34 Willowbrook Ave W & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.447
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	0 1	0	0 1	1 0	0	0 0	1 0	0	1 0	0 0
Volume Module:												
Base Vol:	164	0	24	0	12	41	0	228	58	11	334	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	166	0	24	0	12	41	0	230	59	11	337	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	166	0	24	0	12	41	0	230	59	11	337	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	166	0	24	0	12	41	0	230	59	11	337	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	166	0	24	0	12	41	0	230	59	11	337	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.80	0.20	0.03	0.97	0.00
Final Sat.:	1600	0	1600	0	1600	1600	0	1276	324	51	1549	0
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.02	0.00	0.01	0.03	0.00	0.18	0.18	0.01	0.22	0.00
Crit Moves:	****					****	****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #35 Willowbrook Ave E & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.375
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	91	43	37	3	44	66	38	112	97	23	172	4
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	92	43	37	3	44	67	38	113	98	23	174	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	92	43	37	3	44	67	38	113	98	23	174	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	43	37	3	44	67	38	113	98	23	174	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	43	37	3	44	67	38	113	98	23	174	4
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.53	0.25	0.22	0.03	0.39	0.58	1.00	0.54	0.46	1.00	0.98	0.02
Final Sat.:	851	402	346	42	623	935	1600	857	743	1600	1564	36
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.11	0.00	0.07	0.07	0.02	0.13	0.13	0.01	0.11	0.11
Crit Moves:	****				****			****			****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #36 Imperial Hwy & I-105 w/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.775
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	62	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0	0 1!	0 0	1	0 3	1 1	2	0 2	1 0
Volume Module:												
Base Vol:	534	11	136	7	34	67	50	1002	222	735	1333	13
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	539	11	137	7	34	68	51	1012	224	742	1346	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	539	11	137	7	34	68	51	1012	224	742	1346	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	539	11	137	7	34	68	51	1012	224	742	1346	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	539	11	137	7	34	68	51	1012	224	742	1346	13
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.96	0.04	1.00	0.06	0.31	0.63	1.00	4.00	1.00	2.00	2.97	0.03
Final Sat.:	2822	58	1600	104	504	993	1600	6400	1600	2880	4754	46
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.09	0.07	0.07	0.07	0.03	0.16	0.14	0.26	0.28	0.28
OvlAdjV/S:									0.00			
Crit Moves:		****			****				****		****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #37 Willowbrook Ave W & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.416
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 0 1	0	1	0 2 0 1	0	0	2 0 1
Volume Module:												
Base Vol:	64	166	7	0	9	6	45	444	60	0	565	37
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	65	168	7	0	9	6	45	448	61	0	571	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	168	7	0	9	6	45	448	61	0	571	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	168	7	0	9	6	45	448	61	0	571	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	168	7	0	9	6	45	448	61	0	571	37
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.96	0.04	1.00	0.60	0.40	1.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	1600	1535	65	1600	960	640	1600	3200	1600	0	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.11	0.11	0.00	0.01	0.01	0.03	0.14	0.04	0.00	0.18	0.02
Crit Moves:		****			****			****			****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #38 Willowbrook Ave E & El Segundo Blvd

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.447
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0	0 1	0	0 2	0 1	1	0 1
Volume Module:												
Base Vol:	42	96	38	75	166	43	0	432	19	43	532	65
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	42	97	38	76	168	43	0	436	19	43	537	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	97	38	76	168	43	0	436	19	43	537	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	97	38	76	168	43	0	436	19	43	537	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	97	38	76	168	43	0	436	19	43	537	66
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.72	0.28	1.00	0.79	0.21	0.00	2.00	1.00	1.00	1.78	0.22
Final Sat.:	1600	1146	454	1600	1271	329	0	3200	1600	1600	2852	348
Capacity Analysis Module:												
Vol/Sat:	0.03	0.08	0.08	0.05	0.13	0.13	0.00	0.14	0.01	0.03	0.19	0.19
Crit Moves:	****			****			****				****	

****

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Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #39 Mona Blvd & Imperial Hwy

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.730
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	54	Level Of Service:	C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1 0	2 1	0	1 0	2 1 0
Volume Module:												
Base Vol:	139	49	155	27	102	92	37	928	176	189	1782	21
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	140	49	157	27	103	93	37	937	178	191	1800	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	49	157	27	103	93	37	937	178	191	1800	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	49	157	27	103	93	37	937	178	191	1800	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	49	157	27	103	93	37	937	178	191	1800	21
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.74	0.26	1.00	0.12	0.46	0.42	1.00	2.52	0.48	1.00	2.97	0.03
Final Sat.:	1183	417	1600	195	738	666	1600	4035	765	1600	4744	56
Capacity Analysis Module:												
Vol/Sat:	0.09	0.12	0.10	0.02	0.14	0.14	0.02	0.23	0.23	0.12	0.38	0.38
Crit Moves:	****				****			****				****

****



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	85	41	41	191	210	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.956				0.943	
Flt Protected	0.968			0.991		
Satd. Flow (prot)	1724	0	0	3507	3337	0
Flt Permitted	0.968			0.991		
Satd. Flow (perm)	1724	0	0	3507	3337	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	266			283	255	
Travel Time (s)	6.0			6.4	5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	45	45	208	228	139
Shared Lane Traffic (%)						
Lane Group Flow (vph)	137	0	0	253	367	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	85	41	41	191	210	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	45	45	208	228	139

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	491	184	367	0	-	0
Stage 1	298	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	507	827	1188	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	485	827	1188	-	-	-
Mov Cap-2 Maneuver	485	-	-	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1188	-	560	-	-
HCM Lane V/C Ratio	0.038	-	0.245	-	-
HCM Control Delay (s)	8.1	0.1	13.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1	-	-

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #41 Mona Blvd & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.512
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 1	0 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	39	109	71	89	130	48	55	497	33	48	538	41
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	39	110	72	90	131	48	56	502	33	48	543	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	110	72	90	131	48	56	502	33	48	543	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	110	72	90	131	48	56	502	33	48	543	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	110	72	90	131	48	56	502	33	48	543	41
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.18	0.50	0.32	0.41	0.59	1.00	1.00	1.88	0.12	1.00	1.86	0.14
Final Sat.:	285	796	519	650	950	1600	1600	3001	199	1600	2973	227
Capacity Analysis Module:												
Vol/Sat:	0.02	0.14	0.14	0.06	0.14	0.03	0.03	0.17	0.17	0.03	0.18	0.18
Crit Moves:		****		****			****				****	

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Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #43 Alameda St & 103rd St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.790
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	178	809	0	0	948	191	194	0	152	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	180	817	0	0	957	193	196	0	154	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	180	817	0	0	957	193	196	0	154	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	817	0	0	957	193	196	0	154	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	180	817	0	0	957	193	196	0	154	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.66	0.34	0.56	0.01	0.43	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2663	537	897	0	703	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.11	0.26	0.00	0.00	0.36	0.36	0.12	0.00	0.22	0.00	0.00	0.00
Crit Moves:	****				****				****			

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #45 Alameda St & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.772
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 1	0	1 0	2 0	1	2 0	2 1	0	1 0	3 0	1
Volume Module:												
Base Vol:	209	643	82	74	641	540	357	536	169	85	1226	36
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	211	649	83	75	647	545	361	541	171	86	1238	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	211	649	83	75	647	545	361	541	171	86	1238	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	211	649	83	75	647	545	361	541	171	86	1238	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	211	649	83	75	647	545	361	541	171	86	1238	36
OvlAdjVol:						345						
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.77	0.23	1.00	2.00	1.00	2.00	2.28	0.72	1.00	3.00	1.00
Final Sat.:	2880	2838	362	1600	3200	1600	2880	3649	1151	1600	4800	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.23	0.23	0.05	0.20	0.34	0.13	0.15	0.15	0.05	0.26	0.02
OvlAdjV/S:						0.22						
Crit Moves:	****					****	****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #46 Alameda St & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.765
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	153	632	50	78	759	109	105	417	153	40	361	103
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	155	638	51	79	767	110	106	421	155	40	365	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	638	51	79	767	110	106	421	155	40	365	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	638	51	79	767	110	106	421	155	40	365	104
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	638	51	79	767	110	106	421	155	40	365	104
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.75	0.25	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2965	235	1600	2798	402	1600	3200	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.10	0.22	0.22	0.05	0.27	0.27	0.07	0.13	0.10	0.03	0.23	0.07
Crit Moves:	****				****		****				****	

Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #52 El Segundo Blvd & San Pedro St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.589
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	77	232	34	95	245	153	96	518	41	49	1186	46
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	77	232	34	95	245	153	96	518	41	49	1186	46
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	77	232	34	95	245	153	96	518	41	49	1186	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	232	34	95	245	153	96	518	41	49	1186	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	232	34	95	245	153	96	518	41	49	1186	46
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	1.23	0.77	1.00	2.78	0.22	1.00	2.89	0.11
Final Sat.:	1600	2791	409	1600	1970	1230	1600	4448	352	1600	4621	179
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.08	0.06	0.12	0.12	0.06	0.12	0.12	0.03	0.26	0.26
Crit Moves:	****				****		****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #13 Slater Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.687
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0	0 0	1 0	0	0 1	1 0	2	0 0	0 0	1	1 0
Volume Module:												
Base Vol:	0	0	0	34	0	177	62	869	0	0	1370	11
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	0	0	34	0	179	63	878	0	0	1384	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	34	0	179	63	878	0	0	1384	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	34	0	179	63	878	0	0	1384	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	34	0	179	63	878	0	0	1384	11
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	1.98	0.02
Final Sat.:	0	0	0	1600	0	1600	1600	3200	0	0	3175	25
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.11	0.04	0.27	0.00	0.00	0.44	0.44
Crit Moves:						****	****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

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Intersection #21 Compton Ave & El Segundo Blvd

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.804
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	68	Level Of Service:	D

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	172	102	27	136	69	276	148	594	93	12	927	111
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	174	103	27	137	70	279	149	600	94	12	936	112
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	174	103	27	137	70	279	149	600	94	12	936	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	174	103	27	137	70	279	149	600	94	12	936	112
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	174	103	27	137	70	279	149	600	94	12	936	112
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.58	0.42	1.00	1.00	1.00	1.00	1.73	0.27	1.00	1.79	0.21
Final Sat.:	1600	2530	670	1600	1600	1600	1600	2767	433	1600	2858	342
Capacity Analysis Module:												
Vol/Sat:	0.11	0.04	0.04	0.09	0.04	0.17	0.09	0.22	0.22	0.01	0.33	0.33
Crit Moves:	****					****	****				****	

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Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #33 Wilmington Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.854
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	81	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	95	614	119	138	813	189	99	462	103	124	900	98
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	96	620	120	139	821	191	100	467	104	125	909	99
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	620	120	139	821	191	100	467	104	125	909	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	620	120	139	821	191	100	467	104	125	909	99
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	620	120	139	821	191	100	467	104	125	909	99
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.68	0.32	1.00	1.62	0.38	1.00	2.00	1.00	1.00	1.80	0.20
Final Sat.:	1600	2680	520	1600	2596	604	1600	3200	1600	1600	2886	314
Capacity Analysis Module:												
Vol/Sat:	0.06	0.23	0.23	0.09	0.32	0.32	0.06	0.15	0.07	0.08	0.31	0.31
Crit Moves:	****				****		****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

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Intersection #42 Willowbrook Ave & Rosecrans Ave

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.693	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	49	Level Of Service:	B	

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	18	98	19	145	83	35	6	906	29	35	1157	148
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	18	99	19	146	84	35	6	915	29	35	1169	149
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	99	19	146	84	35	6	915	29	35	1169	149
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	99	19	146	84	35	6	915	29	35	1169	149
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	99	19	146	84	35	6	915	29	35	1169	149
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.13	0.73	0.14	0.55	0.32	0.13	1.00	1.94	0.06	1.00	1.77	0.23
Final Sat.:	213	1161	225	882	505	213	1600	3101	99	1600	2837	363
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.09	0.09	0.17	0.17	0.00	0.30	0.30	0.02	0.41	0.41
Crit Moves:	****			****			****			****		

****

Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #55 El Segundo Blvd & Santa Fe Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.592
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	143	356	27	16	451	64	62	115	163	46	114	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	143	356	27	16	451	64	62	115	163	46	114	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	143	356	27	16	451	64	62	115	163	46	114	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	356	27	16	451	64	62	115	163	46	114	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	143	356	27	16	451	64	62	115	163	46	114	33
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.86	0.14	1.00	1.75	0.25	0.18	0.34	0.48	0.24	0.59	0.17
Final Sat.:	1600	2974	226	1600	2802	398	292	541	767	381	945	274
Capacity Analysis Module:												
Vol/Sat:	0.09	0.12	0.12	0.01	0.16	0.16	0.04	0.21	0.21	0.03	0.12	0.12
Crit Moves:	****				****			****			****	

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Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

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Intersection #56 Alameda St & Rosecrans Ave

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.606	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	41	Level Of Service:	B	

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	118	606	0	0	883	115	104	0	193	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	118	606	0	0	883	115	104	0	193	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	118	606	0	0	883	115	104	0	193	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	118	606	0	0	883	115	104	0	193	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	118	606	0	0	883	115	104	0	193	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.77	0.23	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2831	369	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.19	0.00	0.00	0.31	0.31	0.07	0.00	0.12	0.00	0.00	0.00
Crit Moves:	****				****				****			

****

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Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #57 Central Ave & W Compton Bvld

Cycle (sec):	100	Critical Vol./Cap.(X):	0.758
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 2	0 1	1	0 2	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	182	573	83	138	655	148	104	345	138	164	758	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	182	573	83	138	655	148	104	345	138	164	758	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	182	573	83	138	655	148	104	345	138	164	758	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	182	573	83	138	655	148	104	345	138	164	758	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	182	573	83	138	655	148	104	345	138	164	758	120
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.75	0.25	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.73	0.27
Final Sat.:	1600	2795	405	1600	3200	1600	1600	3200	1600	1600	2763	437
Capacity Analysis Module:												
Vol/Sat:	0.11	0.21	0.20	0.09	0.20	0.09	0.07	0.11	0.09	0.10	0.27	0.27
Crit Moves:	****				****			****				****

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Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #58 Wilmington Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.702
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	86	460	169	179	718	128	70	515	127	133	682	139
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	460	169	179	718	128	70	515	127	133	682	139
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	460	169	179	718	128	70	515	127	133	682	139
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	460	169	179	718	128	70	515	127	133	682	139
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	460	169	179	718	128	70	515	127	133	682	139
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.70	0.30	1.00	1.60	0.40	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	2716	484	1600	2567	633	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.14	0.11	0.11	0.26	0.26	0.04	0.20	0.20	0.08	0.21	0.09
Crit Moves:	****				****			****			****	

Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #59 Willowbrook Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.532
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	0	1	0	1	0	2	1 0
Volume Module:												
Base Vol:	24	117	6	0	179	67	24	627	63	0	764	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	117	6	0	179	67	24	627	63	0	764	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	117	6	0	179	67	24	627	63	0	764	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	117	6	0	179	67	24	627	63	0	764	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	117	6	0	179	67	24	627	63	0	764	29
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.16	0.80	0.04	0.00	0.73	0.27	1.00	2.73	0.27	0.00	1.93	0.07
Final Sat.:	261	1273	65	0	1164	436	1600	4362	438	0	3083	117
Capacity Analysis Module:												
Vol/Sat:	0.02	0.09	0.09	0.00	0.15	0.15	0.02	0.14	0.14	0.00	0.25	0.25
Crit Moves:	****				****		****				****	

Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #60 Central Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.754
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	142	524	69	173	795	130	75	327	120	85	735	204
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	142	524	69	173	795	130	75	327	120	85	735	204
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	142	524	69	173	795	130	75	327	120	85	735	204
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	142	524	69	173	795	130	75	327	120	85	735	204
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	142	524	69	173	795	130	75	327	120	85	735	204
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.77	0.23	1.00	1.72	0.28	1.00	1.46	0.54	1.00	2.00	1.00
Final Sat.:	1600	2828	372	1600	2750	450	1600	2341	859	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.19	0.19	0.11	0.29	0.29	0.05	0.14	0.14	0.05	0.23	0.13
Crit Moves:	****				****		****				****	

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Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #61 Wilmington Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.825
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	73	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	104	444	142	170	833	87	100	498	105	137	850	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	444	142	170	833	87	100	498	105	137	850	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	444	142	170	833	87	100	498	105	137	850	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	444	142	170	833	87	100	498	105	137	850	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	444	142	170	833	87	100	498	105	137	850	142
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.52	0.48	1.00	1.81	0.19	1.00	2.00	1.00	1.00	1.71	0.29
Final Sat.:	1600	2425	775	1600	2897	303	1600	3200	1600	1600	2742	458
Capacity Analysis Module:												
Vol/Sat:	0.07	0.18	0.18	0.11	0.29	0.29	0.06	0.16	0.07	0.09	0.31	0.31
Crit Moves:	****				****		****				****	

Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #62 Wilmington Ave & Greenleaf Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.797
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	1	0 0	1 0	1	0 0	1 0
Volume Module:												
Base Vol:	35	471	114	104	1031	21	38	192	86	276	361	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	471	114	104	1031	21	38	192	86	276	361	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	471	114	104	1031	21	38	192	86	276	361	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	471	114	104	1031	21	38	192	86	276	361	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	471	114	104	1031	21	38	192	86	276	361	74
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.96	0.04	1.00	0.69	0.31	1.00	0.83	0.17
Final Sat.:	1600	3200	1600	1600	3136	64	1600	1105	495	1600	1328	272
Capacity Analysis Module:												
Vol/Sat:	0.02	0.15	0.07	0.07	0.33	0.33	0.02	0.17	0.17	0.17	0.27	0.27
Crit Moves:	****				****			****			****	

Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #63 Wilmington Ave & Walnut St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.595
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	1	0 1	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	81	530	41	33	1228	87	26	60	58	24	95	46
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	530	41	33	1228	87	26	60	58	24	95	46
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	530	41	33	1228	87	26	60	58	24	95	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	530	41	33	1228	87	26	60	58	24	95	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	530	41	33	1228	87	26	60	58	24	95	46
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.35	0.65
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	1600	1600	1600	2156	1044
Capacity Analysis Module:												
Vol/Sat:	0.05	0.17	0.03	0.02	0.38	0.05	0.02	0.04	0.04	0.02	0.04	0.04
Crit Moves:	****				****		****				****	

Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #64 Central Ave & Greenleaf Blvd

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.534	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	48	Level Of Service:	A	

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2	0 1	1 0	2	0 0	0 0	0	0 0	1 0	0	0 1
Volume Module:												
Base Vol:	0	467	76	137	976	0	0	0	0	206	0	191
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	467	76	137	976	0	0	0	0	206	0	191
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	467	76	137	976	0	0	0	0	206	0	191
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	467	76	137	976	0	0	0	0	206	0	191
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	467	76	137	976	0	0	0	0	206	0	191
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3200	1600	1600	3200	0	0	0	0	1600	0	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.15	0.05	0.09	0.31	0.00	0.00	0.00	0.00	0.13	0.00	0.12
Crit Moves:					****					****		

****

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Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #65 Willowbrook Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.532
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 2	0	0	1 1 0
Volume Module:												
Base Vol:	11	68	29	33	102	44	26	666	24	0	913	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	68	29	33	102	44	26	666	24	0	913	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	68	29	33	102	44	26	666	24	0	913	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	68	29	33	102	44	26	666	24	0	913	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	68	29	33	102	44	26	666	24	0	913	36
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.10	0.63	0.27	0.18	0.57	0.25	1.00	2.00	1.00	0.00	1.92	0.08
Final Sat.:	163	1007	430	295	912	393	1600	3200	1600	0	3079	121
Capacity Analysis Module:												
Vol/Sat:	0.01	0.07	0.07	0.02	0.11	0.11	0.02	0.21	0.02	0.00	0.30	0.30
Crit Moves:	****				****		****				****	

Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #66 Alameda St. West & Greenleaf Blvd.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.628
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0	1	0 1	0 1
Volume Module:												
Base Vol:	73	415	105	48	659	59	21	190	107	264	313	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	415	105	48	659	59	21	190	107	264	313	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	415	105	48	659	59	21	190	107	264	313	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	415	105	48	659	59	21	190	107	264	313	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	415	105	48	659	59	21	190	107	264	313	34
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.60	0.40	1.00	1.84	0.16	1.00	1.28	0.72	1.00	1.00	1.00
Final Sat.:	1600	2554	646	1600	2937	263	1600	2047	1153	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.16	0.16	0.03	0.22	0.22	0.01	0.09	0.09	0.17	0.20	0.02
Crit Moves:	****				****			****			****	

Wilowbrook TOD Specific Plan
Run 3- Existing AM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #44 Alameda St & Abbott Rd

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.660
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	1 0	1 0	1	1 0	0 0	1! 0	0	1 1	0	0 1
Volume Module:												
Base Vol:	0	745	218	149	931	1	2	2	2	465	1	251
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	752	220	150	940	1	2	2	2	470	1	254
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	752	220	150	940	1	2	2	2	470	1	254
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	752	220	150	940	1	2	2	2	470	1	254
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	752	220	150	940	1	2	2	2	470	1	254
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.55	0.45	1.00	1.99	0.01	0.34	0.33	0.33	1.99	0.01	1.00
Final Sat.:	0	2476	724	1600	3197	3	533	533	533	3193	7	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.30	0.09	0.29	0.29	0.00	0.00	0.00	0.15	0.15	0.16
Crit Moves:		****		****				****				****

****

Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #53 Imperial Hway & Fernwood Ave

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.732
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	54	Level Of Service:	C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0 1
Volume Module:												
Base Vol:	60	40	3	159	45	17	23	665	45	2	1289	124
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	40	3	159	45	17	23	665	45	2	1289	124
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	60	40	3	159	45	17	23	665	45	2	1289	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	40	3	159	45	17	23	665	45	2	1289	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	40	3	159	45	17	23	665	45	2	1289	124
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.58	0.39	0.03	0.72	0.20	0.08	1.00	1.87	0.13	1.00	1.82	0.18
Final Sat.:	932	621	47	1151	326	123	1600	2997	203	1600	2919	281
Capacity Analysis Module:												
Vol/Sat:	0.04	0.06	0.06	0.10	0.14	0.14	0.01	0.22	0.22	0.00	0.44	0.44
Crit Moves:	****				****		****				****	

****

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Wilowbrook TOD Specific Plan
Existing AM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #54 Imperial Hwy & State St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.738
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	15	240	134	106	367	271	98	736	3	114	1141	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	240	134	106	367	271	98	736	3	114	1141	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	240	134	106	367	271	98	736	3	114	1141	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	240	134	106	367	271	98	736	3	114	1141	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	240	134	106	367	271	98	736	3	114	1141	37
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.28	0.72	1.00	1.15	0.85	1.00	1.99	0.01	1.00	1.94	0.06
Final Sat.:	1600	2053	1147	1600	1841	1359	1600	3187	13	1600	3099	101
Capacity Analysis Module:												
Vol/Sat:	0.01	0.12	0.12	0.07	0.20	0.20	0.06	0.23	0.23	0.07	0.37	0.37
Crit Moves:	****				****		****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Avalon Blvd & El Segundo

Cycle (sec):	100	Critical Vol./Cap.(X):	0.844
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	78	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	121	704	170	148	531	93	134	1370	104	102	461	112
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	122	711	172	149	536	94	135	1384	105	103	466	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	122	711	172	149	536	94	135	1384	105	103	466	113
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	122	711	172	149	536	94	135	1384	105	103	466	113
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	122	711	172	149	536	94	135	1384	105	103	466	113
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.70	0.30	1.00	2.79	0.21	1.00	2.41	0.59
Final Sat.:	1600	2578	622	1600	2723	477	1600	4461	339	1600	3862	938
Capacity Analysis Module:												
Vol/Sat:	0.08	0.28	0.28	0.09	0.20	0.20	0.08	0.31	0.31	0.06	0.12	0.12
Crit Moves:		****		****				****		****		

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Avalon Blvd & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.804
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	132	625	158	217	484	59	124	1148	112	86	469	119
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	133	631	160	219	489	60	125	1159	113	87	474	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	133	631	160	219	489	60	125	1159	113	87	474	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	133	631	160	219	489	60	125	1159	113	87	474	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	133	631	160	219	489	60	125	1159	113	87	474	120
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.60	0.40	1.00	1.78	0.22	1.00	2.73	0.27	1.00	2.39	0.61
Final Sat.:	1600	2554	646	1600	2852	348	1600	4373	427	1600	3829	971
Capacity Analysis Module:												
Vol/Sat:	0.08	0.25	0.25	0.14	0.17	0.17	0.08	0.27	0.27	0.05	0.12	0.12
Crit Moves:		****		****				****		****		

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Central Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.925
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	114	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	82	634	213	178	655	153	195	1238	145	86	483	79
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	83	640	215	180	662	155	197	1250	146	87	488	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	83	640	215	180	662	155	197	1250	146	87	488	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	640	215	180	662	155	197	1250	146	87	488	80
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	83	640	215	180	662	155	197	1250	146	87	488	80
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.50	0.50	1.00	1.62	0.38	1.00	2.00	1.00	1.00	1.72	0.28
Final Sat.:	1600	2395	805	1600	2594	606	1600	3200	1600	1600	2750	450
Capacity Analysis Module:												
Vol/Sat:	0.05	0.27	0.27	0.11	0.26	0.26	0.12	0.39	0.09	0.05	0.18	0.18
Crit Moves:		****		****				****		****		

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

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Intersection #11 Central Ave & Rosecrans Ave

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.761
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	2	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	138	567	111	181	706	107	148	1164	177	109	466	114
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	139	573	112	183	713	108	149	1176	179	110	471	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	139	573	112	183	713	108	149	1176	179	110	471	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	573	112	183	713	108	149	1176	179	110	471	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	573	112	183	713	108	149	1176	179	110	471	115
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.60	0.40	1.00	1.61	0.39
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	4166	634	1600	2571	629
Capacity Analysis Module:												
Vol/Sat:	0.09	0.18	0.07	0.11	0.22	0.07	0.09	0.28	0.28	0.07	0.18	0.18
Crit Moves:	****				****			****			****	

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #12 Slater Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.367
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	15	7	31	12	6	16	9	397	21	23	680	19
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	15	7	31	12	6	16	9	401	21	23	687	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	7	31	12	6	16	9	401	21	23	687	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	7	31	12	6	16	9	401	21	23	687	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	7	31	12	6	16	9	401	21	23	687	19
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.13	0.59	0.35	0.18	0.47	1.00	1.90	0.10	1.00	1.95	0.05
Final Sat.:	453	211	936	565	282	753	1600	3039	161	1600	3113	87
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.01	0.02	0.02	0.01	0.13	0.13	0.01	0.22	0.22
Crit Moves:		****			****			****			****	

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #17 Compton Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.781
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 0	1 0	1	0 2	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	98	304	167	214	257	101	78	1434	86	63	735	232
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	99	307	169	216	260	102	79	1448	87	64	742	234
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	307	169	216	260	102	79	1448	87	64	742	234
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	307	169	216	260	102	79	1448	87	64	742	234
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	307	169	216	260	102	79	1448	87	64	742	234
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.72	0.28	1.00	2.83	0.17	1.00	1.52	0.48
Final Sat.:	1600	1600	1600	1600	1149	451	1600	4528	272	1600	2432	768
Capacity Analysis Module:												
Vol/Sat:	0.06	0.19	0.11	0.14	0.23	0.23	0.05	0.32	0.32	0.04	0.31	0.31
Crit Moves:		****		****			****				****	

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #18 Compton Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.367
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	7	477	49	44	311	7	9	13	7	44	14	46
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	7	482	49	44	314	7	9	13	7	44	14	46
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	482	49	44	314	7	9	13	7	44	14	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	482	49	44	314	7	9	13	7	44	14	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	482	49	44	314	7	9	13	7	44	14	46
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.03	1.79	0.18	0.24	1.72	0.04	0.31	0.45	0.24	0.42	0.13	0.45
Final Sat.:	42	2864	294	389	2749	62	497	717	386	677	215	708
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.17	0.03	0.11	0.11	0.01	0.02	0.02	0.03	0.07	0.07
Crit Moves:		****			****			****			****	

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #19 Compton Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.448
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	65	241	70	78	281	69	45	273	89	136	416	111
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	66	243	71	79	284	70	45	276	90	137	420	112
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	66	243	71	79	284	70	45	276	90	137	420	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	66	243	71	79	284	70	45	276	90	137	420	112
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	66	243	71	79	284	70	45	276	90	137	420	112
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.55	0.45	1.00	1.61	0.39	1.00	1.51	0.49	1.00	1.58	0.42
Final Sat.:	1600	2480	720	1600	2569	631	1600	2413	787	1600	2526	674
Capacity Analysis Module:												
Vol/Sat:	0.04	0.10	0.10	0.05	0.11	0.11	0.03	0.11	0.11	0.09	0.17	0.17
Crit Moves:		****		****				****		****		

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

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Intersection #20 Compton Ave & 124th St

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.287
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

****

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	1	0	1 0	0	1	0	1 0	0	0	1!	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	349	25		46	302	4		1	4	3		17	3	42	
Growth Adj:	1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01	
Initial Bse:	0	352	25		46	305	4		1	4	3		17	3	42	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	352	25		46	305	4		1	4	3		17	3	42	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	352	25		46	305	4		1	4	3		17	3	42	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	352	25		46	305	4		1	4	3		17	3	42	
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	1.87	0.13		0.26	1.72	0.02		0.12	0.50	0.38		0.27	0.05	0.68	
Final Sat.:	0	2986	214		418	2745	36		200	800	600		439	77	1084	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.12	0.12		0.03	0.11	0.11		0.00	0.01	0.01		0.01	0.04	0.04	
Crit Moves:		****				****				****				****		

****

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #26 Wilmington Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.654
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 1	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	159	451	47	30	618	70	137	15	375	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	161	456	47	30	624	71	138	15	379	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	161	456	47	30	624	71	138	15	379	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	161	456	47	30	624	71	138	15	379	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	161	456	47	30	624	71	138	15	379	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.80	0.20	1.00	1.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	2898	302	1600	2874	326	1600	1600	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.10	0.16	0.16	0.02	0.22	0.22	0.09	0.01	0.24	0.00	0.00	0.00
Crit Moves:	****				****				****			

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #27 Wilmington Ave & I-105 e/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.680
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	0	0 0	2 0	2	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	326	902	0	0	529	421	328	0	179	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	329	911	0	0	534	425	331	0	181	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	329	911	0	0	534	425	331	0	181	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	329	911	0	0	534	425	331	0	181	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	329	911	0	0	534	425	331	0	181	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.00	2.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	4800	0	0	3200	3200	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.21	0.19	0.00	0.00	0.17	0.13	0.21	0.00	0.11	0.00	0.00	0.00
Crit Moves:	****				****		****					

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #28 Wilmington Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.527
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	2 0	1	1 0	0 0	1!	0 0	0 1	0	0 1
Volume Module:												
Base Vol:	28	992	84	132	547	32	108	50	50	37	44	137
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	28	1002	85	133	552	32	109	51	51	37	44	138
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	1002	85	133	552	32	109	51	51	37	44	138
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	1002	85	133	552	32	109	51	51	37	44	138
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	1002	85	133	552	32	109	51	51	37	44	138
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.77	0.23	2.00	1.89	0.11	0.52	0.24	0.24	0.46	0.54	1.00
Final Sat.:	1600	4425	375	2880	3023	177	831	385	385	731	869	1600
Capacity Analysis Module:												
Vol/Sat:	0.02	0.23	0.23	0.05	0.18	0.18	0.07	0.13	0.13	0.02	0.05	0.09
Crit Moves:		****		****			****					****

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #29 Wilmington Ave & 120th St (West)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.766
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1	1 0	0 1	0
Volume Module:												
Base Vol:	74	718	80	79	485	45	295	298	184	91	146	136
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	75	725	81	80	490	45	298	301	186	92	147	137
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	725	81	80	490	45	298	301	186	92	147	137
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	725	81	80	490	45	298	301	186	92	147	137
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	725	81	80	490	45	298	301	186	92	147	137
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.83	0.17	1.00	1.00	1.00	1.00	0.52	0.48
Final Sat.:	1600	2879	321	1600	2928	272	1600	1600	1600	1600	828	772
Capacity Analysis Module:												
Vol/Sat:	0.05	0.25	0.25	0.05	0.17	0.17	0.19	0.19	0.12	0.06	0.18	0.18
Crit Moves:		****		****			****				****	

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #30 Wilmington Ave & 120th St (East)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.426
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	8	807	17	35	707	16	53	2	14	2	0	15
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	8	815	17	35	714	16	54	2	14	2	0	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	815	17	35	714	16	54	2	14	2	0	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	815	17	35	714	16	54	2	14	2	0	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	815	17	35	714	16	54	2	14	2	0	15
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.96	0.04	1.00	1.96	0.04	0.96	0.04	1.00	0.12	0.00	0.88
Final Sat.:	1600	3134	66	1600	3129	71	1542	58	1600	188	0	1412
Capacity Analysis Module:												
Vol/Sat:	0.01	0.26	0.26	0.02	0.23	0.23	0.03	0.03	0.01	0.00	0.00	0.01
Crit Moves:		****		****			****					****

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #31 Wilmington Ave & 124th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.485
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	21	757	46	64	615	18	13	43	20	35	47	49
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	21	765	46	65	621	18	13	43	20	35	47	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	21	765	46	65	621	18	13	43	20	35	47	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	765	46	65	621	18	13	43	20	35	47	49
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	765	46	65	621	18	13	43	20	35	47	49
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.89	0.11	1.00	1.94	0.06	0.17	0.57	0.26	0.27	0.36	0.37
Final Sat.:	1600	3017	183	1600	3109	91	274	905	421	427	574	598
Capacity Analysis Module:												
Vol/Sat:	0.01	0.25	0.25	0.04	0.20	0.20	0.01	0.05	0.05	0.02	0.08	0.08
Crit Moves:		****		****			****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

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Intersection #32 Wilmington Ave & El Segundo Blvd

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.793
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	144	579	83	101	480	86	182	927	326	44	296	68
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	145	585	84	102	485	87	184	936	329	44	299	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	145	585	84	102	485	87	184	936	329	44	299	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	145	585	84	102	485	87	184	936	329	44	299	69
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	145	585	84	102	485	87	184	936	329	44	299	69
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.75	0.25	1.00	1.70	0.30	1.00	1.48	0.52	1.00	1.63	0.37
Final Sat.:	1600	2799	401	1600	2714	486	1600	2367	833	1600	2602	598
Capacity Analysis Module:												
Vol/Sat:	0.09	0.21	0.21	0.06	0.18	0.18	0.11	0.40	0.40	0.03	0.11	0.11
Crit Moves:	****			****			****			****		

****

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #34 Willowbrook Ave W & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.436
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	0 1	0	0 1	1 0	0	0	0 1	0 1	0	0 0
Volume Module:												
Base Vol:	50	0	17	0	28	56	0	323	93	11	163	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	51	0	17	0	28	57	0	326	94	11	165	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	0	17	0	28	57	0	326	94	11	165	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	0	17	0	28	57	0	326	94	11	165	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	0	17	0	28	57	0	326	94	11	165	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.78	0.22	0.06	0.94	0.00
Final Sat.:	1600	0	1600	0	1600	1600	0	1242	358	101	1499	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.01	0.00	0.02	0.04	0.00	0.26	0.26	0.01	0.11	0.00
Crit Moves:	****					****		****		****		

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #35 Willowbrook Ave E & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.359
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 0	1	0	0 1 0
Volume Module:												
Base Vol:	50	14	27	7	12	42	70	201	90	9	85	5
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	51	14	27	7	12	42	71	203	91	9	86	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	14	27	7	12	42	71	203	91	9	86	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	14	27	7	12	42	71	203	91	9	86	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	14	27	7	12	42	71	203	91	9	86	5
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.55	0.15	0.30	0.11	0.20	0.69	1.00	0.69	0.31	1.00	0.94	0.06
Final Sat.:	879	246	475	184	315	1102	1600	1105	495	1600	1511	89
Capacity Analysis Module:												
Vol/Sat:	0.03	0.06	0.06	0.00	0.04	0.04	0.04	0.18	0.18	0.01	0.06	0.06
Crit Moves:	****				****			****			****	

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #36 Imperial Hwy & I-105 w/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.792
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0	0	1! 0	0	1 0	3 1	1	2 0	2 1 0
Volume Module:												
Base Vol:	544	8	271	9	22	25	47	1612	339	596	812	1
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	549	8	274	9	22	25	47	1628	342	602	820	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	549	8	274	9	22	25	47	1628	342	602	820	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	549	8	274	9	22	25	47	1628	342	602	820	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	549	8	274	9	22	25	47	1628	342	602	820	1
OvlAdjVol:									33			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.97	0.03	1.00	0.16	0.39	0.45	1.00	4.00	1.00	2.00	2.99	0.01
Final Sat.:	2838	42	1600	257	629	714	1600	6400	1600	2880	4794	6
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.17	0.04	0.04	0.04	0.03	0.25	0.21	0.21	0.17	0.17
OvlAdjV/S:									0.02			
Crit Moves:	****					****		****		****		

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #37 Willowbrook Ave W & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.508
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	2	0 1	0 0	2	0 1
Volume Module:												
Base Vol:	24	100	9	34	113	16	14	986	68	0	358	34
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	24	101	9	34	114	16	14	996	69	0	362	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	101	9	34	114	16	14	996	69	0	362	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	101	9	34	114	16	14	996	69	0	362	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	101	9	34	114	16	14	996	69	0	362	34
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.92	0.08	1.00	0.88	0.12	1.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	1600	1468	132	1600	1402	198	1600	3200	1600	0	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.02	0.07	0.07	0.02	0.08	0.08	0.01	0.31	0.04	0.00	0.11	0.02
Crit Moves:	****			****			****			****		

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #38 Willowbrook Ave E & El Segundo Blvd

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.507
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	A

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	0 1	0	0 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	12	55	33	32	80	14	0	981	44	34	372	39
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	12	56	33	32	81	14	0	991	44	34	376	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	56	33	32	81	14	0	991	44	34	376	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	56	33	32	81	14	0	991	44	34	376	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	56	33	32	81	14	0	991	44	34	376	39
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.62	0.38	1.00	0.85	0.15	0.00	2.00	1.00	1.00	1.81	0.19
Final Sat.:	1600	1000	600	1600	1362	238	0	3200	1600	1600	2896	304
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.02	0.06	0.06	0.00	0.31	0.03	0.02	0.13	0.13
Crit Moves:		****		****				****		****		

****

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #39 Mona Blvd & Imperial Hwy

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.825
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	73	Level Of Service:	D

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 2 1	0	1	0 2 1 0
Volume Module:												
Base Vol:	184	67	247	54	68	72	94	1615	240	152	1110	43
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	186	68	249	55	69	73	95	1631	242	154	1121	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	186	68	249	55	69	73	95	1631	242	154	1121	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	186	68	249	55	69	73	95	1631	242	154	1121	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	186	68	249	55	69	73	95	1631	242	154	1121	43
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.73	0.27	1.00	0.28	0.35	0.37	1.00	2.61	0.39	1.00	2.89	0.11
Final Sat.:	1173	427	1600	445	561	594	1600	4179	621	1600	4621	179
Capacity Analysis Module:												
Vol/Sat:	0.12	0.16	0.16	0.03	0.12	0.12	0.06	0.39	0.39	0.10	0.24	0.24
Crit Moves:	****			****			****			****		

****



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	142	74	27	210	314	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.954				0.974	
Flt Protected	0.968			0.994		
Satd. Flow (prot)	1720	0	0	3518	3447	0
Flt Permitted	0.968			0.994		
Satd. Flow (perm)	1720	0	0	3518	3447	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	266			283	255	
Travel Time (s)	6.0			6.4	5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	80	29	228	341	70
Shared Lane Traffic (%)						
Lane Group Flow (vph)	234	0	0	257	411	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	142	74	27	210	314	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	154	80	29	228	341	70

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	549	205	411	0	-	0
Stage 1	376	-	-	-	-	-
Stage 2	173	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	466	802	1144	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	840	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	452	802	1144	-	-	-
Mov Cap-2 Maneuver	452	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	816	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1144	-	531	-	-
HCM Lane V/C Ratio	0.026	-	0.442	-	-
HCM Control Delay (s)	8.2	0.1	17	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	2.2	-	-

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #41 Mona Blvd & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.609
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	1	1	0	1	0
Volume Module:												
Base Vol:	82	112	62	18	88	40	38	351	54	47	957	32
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	83	113	63	18	89	40	38	355	55	47	967	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	83	113	63	18	89	40	38	355	55	47	967	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	113	63	18	89	40	38	355	55	47	967	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	83	113	63	18	89	40	38	355	55	47	967	32
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.32	0.44	0.24	0.17	0.83	1.00	1.00	1.73	0.27	1.00	1.94	0.06
Final Sat.:	513	700	388	272	1328	1600	1600	2773	427	1600	3096	104
Capacity Analysis Module:												
Vol/Sat:	0.05	0.16	0.16	0.01	0.07	0.03	0.02	0.13	0.13	0.03	0.31	0.31
Crit Moves:		****		****			****				****	

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #43 Alameda St & 103rd St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.852
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	81	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	115	736	0	0	1222	235	190	0	158	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	116	743	0	0	1234	237	192	0	160	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	116	743	0	0	1234	237	192	0	160	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	743	0	0	1234	237	192	0	160	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	743	0	0	1234	237	192	0	160	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.68	0.32	0.55	0.00	0.45	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2684	516	874	0	726	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.23	0.00	0.00	0.46	0.46	0.12	0.00	0.22	0.00	0.00	0.00
Crit Moves:	****				****				****			

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #45 Alameda St & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.799
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	1 0	1 0	3	0 1
Volume Module:												
Base Vol:	214	682	138	101	693	449	409	1282	199	102	653	65
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	216	689	139	102	700	453	413	1295	201	103	660	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	216	689	139	102	700	453	413	1295	201	103	660	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	216	689	139	102	700	453	413	1295	201	103	660	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	216	689	139	102	700	453	413	1295	201	103	660	66
OvlAdjVol:						224						
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.66	0.34	1.00	2.00	1.00	2.00	2.60	0.40	1.00	3.00	1.00
Final Sat.:	2880	2661	539	1600	3200	1600	2880	4155	645	1600	4800	1600
Capacity Analysis Module:												
Vol/Sat:	0.08	0.26	0.26	0.06	0.22	0.28	0.14	0.31	0.31	0.06	0.14	0.04
OvlAdjV/S:						0.14						
Crit Moves:		****			****				****		****	

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #46 Alameda St & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.898
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	99	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	0 1
Volume Module:												
Base Vol:	102	717	98	107	699	43	50	258	95	182	699	190
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	103	724	99	108	706	43	51	261	96	184	706	192
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	103	724	99	108	706	43	51	261	96	184	706	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	724	99	108	706	43	51	261	96	184	706	192
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	724	99	108	706	43	51	261	96	184	706	192
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.76	0.24	1.00	1.88	0.12	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2815	385	1600	3015	185	1600	3200	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.06	0.26	0.26	0.07	0.23	0.23	0.03	0.08	0.06	0.11	0.44	0.12
Crit Moves:		****			****			****			****	

Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #52 El Segundo Blvd & San Pedro St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.601
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	101	322	51	86	228	85	146	1415	72	33	568	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	322	51	86	228	85	146	1415	72	33	568	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	322	51	86	228	85	146	1415	72	33	568	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	322	51	86	228	85	146	1415	72	33	568	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	322	51	86	228	85	146	1415	72	33	568	85
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.73	0.27	1.00	1.46	0.54	1.00	2.85	0.15	1.00	2.61	0.39
Final Sat.:	1600	2762	438	1600	2331	869	1600	4568	232	1600	4175	625
Capacity Analysis Module:												
Vol/Sat:	0.06	0.12	0.12	0.05	0.10	0.10	0.09	0.31	0.31	0.02	0.14	0.14
Crit Moves:		****		****				****		****		

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #13 Slater Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.649
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0	0 0	1 0	0	0 1	1 0	2	0 0	0 0	1	1 0
Volume Module:												
Base Vol:	0	0	0	10	0	48	46	1643	0	0	692	16
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	0	0	10	0	48	46	1659	0	0	699	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	10	0	48	46	1659	0	0	699	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	10	0	48	46	1659	0	0	699	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	10	0	48	46	1659	0	0	699	16
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	1.95	0.05
Final Sat.:	0	0	0	1600	0	1600	1600	3200	0	0	3128	72
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.03	0.03	0.52	0.00	0.00	0.22	0.22
Crit Moves:						****		****		****		

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #21 Compton Ave & El Segundo Blvd

****

Cycle (sec):	100					Critical Vol./Cap.(X):				0.706						
Loss Time (sec):	10					Average Delay (sec/veh):				xxxxxx						
Optimal Cycle:	51					Level Of Service:				C						

****

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Permitted						Permitted						Permitted						Permitted					
Rights:	Include						Include						Include						Include					
Min. Green:	0	0	0				0	0	0				0	0	0				0	0	0			
Y+R:	4.0	4.0	4.0				4.0	4.0	4.0				4.0	4.0	4.0				4.0	4.0	4.0			
Lanes:	1	0	1	1	0		1	0	1	1	0		1	0	1	1	0		1	0	1	1	0	
Volume Module:																								
Base Vol:	67	31	16				111	64	152				235	1347	103				16	449	74			
Growth Adj:	1.01	1.01	1.01				1.01	1.01	1.01				1.01	1.01	1.01				1.01	1.01	1.01			
Initial Bse:	68	31	16				112	65	154				237	1360	104				16	453	75			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Volume:	68	31	16				112	65	154				237	1360	104				16	453	75			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Reduced Vol:	68	31	16				112	65	154				237	1360	104				16	453	75			
PCE Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
FinalVolume:	68	31	16				112	65	154				237	1360	104				16	453	75			
Saturation Flow Module:																								
Sat/Lane:	1600	1600	1600				1600	1600	1600				1600	1600	1600				1600	1600	1600			
Adjustment:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Lanes:	1.00	1.32	0.68				1.00	1.00	1.00				1.00	1.86	0.14				1.00	1.72	0.28			
Final Sat.:	1600	2111	1089				1600	1600	1600				1600	2973	227				1600	2747	453			
Capacity Analysis Module:																								
Vol/Sat:	0.04	0.01	0.01				0.07	0.04	0.10				0.15	0.46	0.46				0.01	0.17	0.17			
Crit Moves:	****								****					****					****					

****

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #33 Wilmington Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.847
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	79	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	153	674	153	147	475	135	114	1059	163	93	468	114
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	155	681	155	148	480	136	115	1070	165	94	473	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	681	155	148	480	136	115	1070	165	94	473	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	681	155	148	480	136	115	1070	165	94	473	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	681	155	148	480	136	115	1070	165	94	473	115
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.56	0.44	1.00	2.00	1.00	1.00	1.61	0.39
Final Sat.:	1600	2608	592	1600	2492	708	1600	3200	1600	1600	2573	627
Capacity Analysis Module:												
Vol/Sat:	0.10	0.26	0.26	0.09	0.19	0.19	0.07	0.33	0.10	0.06	0.18	0.18
Crit Moves:		****		****				****		****		

Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #42 Willowbrook Ave & Rosecrans Ave

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.719	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	52	Level Of Service:	C	

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0	1	0	1
Volume Module:												
Base Vol:	30	107	16	132	79	27	15	1314	19	29	796	123
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	30	108	16	133	80	27	15	1327	19	29	804	124
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	108	16	133	80	27	15	1327	19	29	804	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	108	16	133	80	27	15	1327	19	29	804	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	30	108	16	133	80	27	15	1327	19	29	804	124
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.20	0.70	0.10	0.56	0.33	0.11	1.00	1.97	0.03	1.00	1.73	0.27
Final Sat.:	314	1119	167	887	531	182	1600	3154	46	1600	2772	428
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.08	0.15	0.15	0.01	0.42	0.42	0.02	0.29	0.29
Crit Moves:		****		****				****		****		

****

Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

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Intersection #55 El Segundo Blvd & Santa Fe Ave

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.700
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	151	513	69	39	368	68	96	270	213	12	68	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	151	513	69	39	368	68	96	270	213	12	68	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	151	513	69	39	368	68	96	270	213	12	68	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	151	513	69	39	368	68	96	270	213	12	68	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	151	513	69	39	368	68	96	270	213	12	68	26
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.76	0.24	1.00	1.69	0.31	0.16	0.47	0.37	0.11	0.64	0.25
Final Sat.:	1600	2821	379	1600	2701	499	265	746	589	181	1026	392
Capacity Analysis Module:												
Vol/Sat:	0.09	0.18	0.18	0.02	0.14	0.14	0.06	0.36	0.36	0.01	0.07	0.07
Crit Moves:	****				****			****			****	

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Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #56 Alameda St & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.604
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	136	771	0	0	868	77	111	0	198	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	136	771	0	0	868	77	111	0	198	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	136	771	0	0	868	77	111	0	198	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	136	771	0	0	868	77	111	0	198	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	136	771	0	0	868	77	111	0	198	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.84	0.16	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2939	261	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.09	0.24	0.00	0.00	0.30	0.30	0.07	0.00	0.12	0.00	0.00	0.00
Crit Moves:	****				****				****			

Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

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Intersection #57 Central Ave & W Compton Bvld

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.802
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 2	0 1	1	0 2	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	125	725	114	171	577	98	102	886	201	90	352	126
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	125	725	114	171	577	98	102	886	201	90	352	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	125	725	114	171	577	98	102	886	201	90	352	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	125	725	114	171	577	98	102	886	201	90	352	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	125	725	114	171	577	98	102	886	201	90	352	126
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.73	0.27	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.47	0.53
Final Sat.:	1600	2765	435	1600	3200	1600	1600	3200	1600	1600	2356	844
Capacity Analysis Module:												
Vol/Sat:	0.08	0.26	0.26	0.11	0.18	0.06	0.06	0.28	0.13	0.06	0.15	0.15
Crit Moves:		****		****				****		****		

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Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #58 Wilmington Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.844
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	78	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	106	793	155	150	544	82	132	898	109	140	451	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	793	155	150	544	82	132	898	109	140	451	172
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	106	793	155	150	544	82	132	898	109	140	451	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	793	155	150	544	82	132	898	109	140	451	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	793	155	150	544	82	132	898	109	140	451	172
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.74	0.26	1.00	1.78	0.22	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	2781	419	1600	2854	346	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.25	0.10	0.09	0.20	0.20	0.08	0.31	0.31	0.09	0.14	0.11
Crit Moves:		****		****				****		****		

Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #59 Willowbrook Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.453
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	0	1	0	1	0	2	1 0
Volume Module:												
Base Vol:	15	112	15	0	112	38	15	1052	69	0	710	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	112	15	0	112	38	15	1052	69	0	710	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	112	15	0	112	38	15	1052	69	0	710	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	112	15	0	112	38	15	1052	69	0	710	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	112	15	0	112	38	15	1052	69	0	710	61
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.10	0.79	0.11	0.00	0.75	0.25	1.00	2.82	0.18	0.00	1.84	0.16
Final Sat.:	169	1262	169	0	1195	405	1600	4505	295	0	2947	253
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.09	0.00	0.09	0.09	0.01	0.23	0.23	0.00	0.24	0.24
Crit Moves:	****				****		****				****	

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Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #60 Central Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.888
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	94	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	119	782	148	180	632	65	115	969	132	65	334	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	119	782	148	180	632	65	115	969	132	65	334	158
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	119	782	148	180	632	65	115	969	132	65	334	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	119	782	148	180	632	65	115	969	132	65	334	158
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	119	782	148	180	632	65	115	969	132	65	334	158
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.68	0.32	1.00	1.81	0.19	1.00	1.76	0.24	1.00	2.00	1.00
Final Sat.:	1600	2691	509	1600	2902	298	1600	2816	384	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.29	0.29	0.11	0.22	0.22	0.07	0.34	0.34	0.04	0.10	0.10
Crit Moves:		****		****				****		****		

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Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

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Intersection #61 Wilmington Ave & Alondra Blvd

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.877	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	90	Level Of Service:	D	

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	79	894	113	129	569	70	107	1012	159	105	425	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	894	113	129	569	70	107	1012	159	105	425	158
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	894	113	129	569	70	107	1012	159	105	425	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	894	113	129	569	70	107	1012	159	105	425	158
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	894	113	129	569	70	107	1012	159	105	425	158
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.78	0.22	1.00	1.78	0.22	1.00	2.00	1.00	1.00	1.46	0.54
Final Sat.:	1600	2841	359	1600	2849	351	1600	3200	1600	1600	2333	867
Capacity Analysis Module:												
Vol/Sat:	0.05	0.31	0.31	0.08	0.20	0.20	0.07	0.32	0.10	0.07	0.18	0.18
Crit Moves:		****		****				****		****		

****

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Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #62 Wilmington Ave & Greenleaf Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.911
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	106	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	1	0 0	1 0	1	0 0	1 0
Volume Module:												
Base Vol:	70	970	330	148	564	19	45	532	34	98	224	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	970	330	148	564	19	45	532	34	98	224	169
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	970	330	148	564	19	45	532	34	98	224	169
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	970	330	148	564	19	45	532	34	98	224	169
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	970	330	148	564	19	45	532	34	98	224	169
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	1.00	0.94	0.06	1.00	0.57	0.43
Final Sat.:	1600	3200	1600	1600	3096	104	1600	1504	96	1600	912	688
Capacity Analysis Module:												
Vol/Sat:	0.04	0.30	0.21	0.09	0.18	0.18	0.03	0.35	0.35	0.06	0.25	0.25
Crit Moves:		****		****				****		****		

Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #63 Wilmington Ave & Walnut St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.785
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	1	0 1	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	54	1153	85	34	627	25	152	451	184	34	63	63
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	1153	85	34	627	25	152	451	184	34	63	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	1153	85	34	627	25	152	451	184	34	63	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	1153	85	34	627	25	152	451	184	34	63	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	1153	85	34	627	25	152	451	184	34	63	63
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	1600	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.03	0.36	0.05	0.02	0.20	0.02	0.10	0.28	0.12	0.02	0.04	0.04
Crit Moves:		****		****				****		****		

Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

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Intersection #64 Central Ave & Greenleaf Blvd

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.671	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	47	Level Of Service:	B	

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 0	1	1 0	2 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	866	326	311	507	0	0	0	0	68	0	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	866	326	311	507	0	0	0	0	68	0	169
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	866	326	311	507	0	0	0	0	68	0	169
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	866	326	311	507	0	0	0	0	68	0	169
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	866	326	311	507	0	0	0	0	68	0	169
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3200	1600	1600	3200	0	0	0	0	1600	0	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.20	0.19	0.16	0.00	0.00	0.00	0.00	0.04	0.00	0.11
Crit Moves:		****		****								****

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Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #65 Willowbrook Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.526
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	1	0	2 0	1	0	0 1 1 0
Volume Module:												
Base Vol:	16	89	13	35	67	20	18	1056	20	0	571	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	89	13	35	67	20	18	1056	20	0	571	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	89	13	35	67	20	18	1056	20	0	571	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	89	13	35	67	20	18	1056	20	0	571	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	89	13	35	67	20	18	1056	20	0	571	39
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.14	0.75	0.11	0.29	0.55	0.16	1.00	2.00	1.00	0.00	1.87	0.13
Final Sat.:	217	1207	176	459	879	262	1600	3200	1600	0	2995	205
Capacity Analysis Module:												
Vol/Sat:	0.01	0.07	0.07	0.02	0.08	0.08	0.01	0.33	0.01	0.00	0.19	0.19
Crit Moves:		****		****				****				

Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #66 Alameda St. West & Greenleaf Blvd.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.723
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1
Volume Module:												
Base Vol:	84	546	219	61	646	83	93	599	80	208	211	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	546	219	61	646	83	93	599	80	208	211	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	84	546	219	61	646	83	93	599	80	208	211	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	546	219	61	646	83	93	599	80	208	211	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	84	546	219	61	646	83	93	599	80	208	211	43
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.43	0.57	1.00	1.77	0.23	1.00	1.76	0.24	1.00	1.00	1.00
Final Sat.:	1600	2284	916	1600	2836	364	1600	2823	377	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.24	0.24	0.04	0.23	0.23	0.06	0.21	0.21	0.13	0.13	0.03
Crit Moves:	****				****			****			****	

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Wilowbrook TOD Specific Plan
Run 3- Existing PM - 9-29-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #44 Alameda St & Abbott Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.624
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	1	0 1	1 0	0	0 1!	0 0	1	1 0	0 1
Volume Module:												
Base Vol:	0	687	236	201	1116	0	6	24	2	229	1	136
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	694	238	203	1127	0	6	24	2	231	1	137
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	694	238	203	1127	0	6	24	2	231	1	137
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	694	238	203	1127	0	6	24	2	231	1	137
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	694	238	203	1127	0	6	24	2	231	1	137
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.49	0.51	1.00	2.00	0.00	0.19	0.75	0.06	1.99	0.01	1.00
Final Sat.:	0	2382	818	1600	3200	0	300	1200	100	3186	14	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.29	0.13	0.35	0.00	0.02	0.02	0.02	0.07	0.07	0.09
Crit Moves:		****		****				****				****

Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

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Intersection #53 Imperial Hway & Fernwood Ave

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.755
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	95	70	7	104	90	9	44	1264	221	7	789	143
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	95	70	7	104	90	9	44	1264	221	7	789	143
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	70	7	104	90	9	44	1264	221	7	789	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	70	7	104	90	9	44	1264	221	7	789	143
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	70	7	104	90	9	44	1264	221	7	789	143
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.55	0.41	0.04	0.52	0.44	0.04	1.00	1.70	0.30	1.00	1.69	0.31
Final Sat.:	884	651	65	820	709	71	1600	2724	476	1600	2709	491
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.11	0.07	0.13	0.13	0.03	0.46	0.46	0.00	0.29	0.29
Crit Moves:	****				****			****			****	

****

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Wilowbrook TOD Specific Plan
Existing PM - 2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

****

Intersection #54 Imperial Hwy & State St

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.785
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	51	454	123	72	326	124	339	1047	30	116	718	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	51	454	123	72	326	124	339	1047	30	116	718	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	454	123	72	326	124	339	1047	30	116	718	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	454	123	72	326	124	339	1047	30	116	718	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	454	123	72	326	124	339	1047	30	116	718	76
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.57	0.43	1.00	1.45	0.55	1.00	1.94	0.06	1.00	1.81	0.19
Final Sat.:	1600	2518	682	1600	2318	882	1600	3111	89	1600	2894	306
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.18	0.05	0.14	0.14	0.21	0.34	0.34	0.07	0.25	0.25
Crit Moves:		****		****			****				****	

****

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Intersections LOS Analysis Sheets

Existing + Project Conditions

Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Avalon Blvd & El Segundo

Cycle (sec):	100	Critical Vol./Cap.(X):	0.739
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	76	514	93	81	556	113	165	383	69	110	997	252
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	77	519	94	82	562	114	167	387	70	111	1007	255
Added Vol:	0	9	18	0	6	0	0	48	0	11	33	0
PasserByVol:	0	13	0	0	5	0	0	32	0	0	13	0
Initial Fut:	77	541	112	82	573	114	167	467	70	122	1053	255
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	77	541	112	82	573	114	167	467	70	122	1053	255
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	541	112	82	573	114	167	467	70	122	1053	255
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	541	112	82	573	114	167	467	70	122	1053	255
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.66	0.34	1.00	1.67	0.33	1.00	2.61	0.39	1.00	2.42	0.58
Final Sat.:	1600	2652	548	1600	2668	532	1600	4177	623	1600	3866	934
Capacity Analysis Module:												
Vol/Sat:	0.05	0.20	0.20	0.05	0.21	0.21	0.10	0.11	0.11	0.08	0.27	0.27
Crit Moves:	****			****			****			****		

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Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Blvd & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.667
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	103	470	58	160	470	99	48	392	63	113	1049	159
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	104	475	59	162	475	100	48	396	64	114	1059	161
Added Vol:	0	22	0	0	15	2	4	18	0	0	13	0
PasserByVol:	0	8	0	0	4	0	0	8	0	0	3	0
Initial Fut:	104	505	59	162	494	102	52	422	64	114	1075	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	505	59	162	494	102	52	422	64	114	1075	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	505	59	162	494	102	52	422	64	114	1075	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	505	59	162	494	102	52	422	64	114	1075	161
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.79	0.21	1.00	1.66	0.34	1.00	2.61	0.39	1.00	2.61	0.39
Final Sat.:	1600	2867	333	1600	2652	548	1600	4171	629	1600	4176	624
Capacity Analysis Module:												
Vol/Sat:	0.07	0.18	0.18	0.10	0.19	0.19	0.03	0.10	0.10	0.07	0.26	0.26
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Central Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.933
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	120	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	204	659	194	125	687	209	89	400	76	170	965	85
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	206	666	196	126	694	211	90	404	77	172	975	86
Added Vol:	0	10	34	0	7	0	0	66	0	21	45	0
PasserByVol:	0	29	0	0	12	3	16	15	0	0	10	0
Initial Fut:	206	705	230	126	713	214	106	485	77	193	1030	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	206	705	230	126	713	214	106	485	77	193	1030	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	206	705	230	126	713	214	106	485	77	193	1030	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	206	705	230	126	713	214	106	485	77	193	1030	86
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.51	0.49	1.00	1.54	0.46	1.00	2.00	1.00	1.00	1.85	0.15
Final Sat.:	1600	2413	787	1600	2461	739	1600	3200	1600	1600	2954	246
Capacity Analysis Module:												
Vol/Sat:	0.13	0.29	0.29	0.08	0.29	0.29	0.07	0.15	0.05	0.12	0.35	0.35
Crit Moves:	****				****		****				****	

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Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Central Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.844
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	78	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	135	571	71	95	644	207	121	346	125	117	979	153
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	136	577	72	96	650	209	122	349	126	118	989	155
Added Vol:	0	33	0	0	22	6	10	7	0	0	7	0
PasserByVol:	0	20	0	0	8	2	5	5	0	0	2	0
Initial Fut:	136	630	72	96	680	217	137	361	126	118	998	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	136	630	72	96	680	217	137	361	126	118	998	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	136	630	72	96	680	217	137	361	126	118	998	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	136	630	72	96	680	217	137	361	126	118	998	155
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.22	0.78	1.00	1.73	0.27
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3557	1243	1600	2771	429
Capacity Analysis Module:												
Vol/Sat:	0.09	0.20	0.04	0.06	0.21	0.14	0.09	0.10	0.10	0.07	0.36	0.36
Crit Moves:	****				****		****				****	

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Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Slater Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.604
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	1	0	1 1 0	1	0	1 1 0
Volume Module:												
Base Vol:	42	41	66	46	37	45	43	757	35	44	730	18
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	42	41	67	46	37	45	43	765	35	44	737	18
Added Vol:	0	0	0	0	0	0	0	52	0	0	43	0
PasserByVol:	0	0	18	9	0	0	0	209	0	8	83	4
Initial Fut:	42	41	85	55	37	45	43	1026	35	52	863	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	41	85	55	37	45	43	1026	35	52	863	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	41	85	55	37	45	43	1026	35	52	863	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	41	85	55	37	45	43	1026	35	52	863	22
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.25	0.50	0.40	0.27	0.33	1.00	1.93	0.07	1.00	1.95	0.05
Final Sat.:	403	393	804	642	432	526	1600	3093	107	1600	3120	80
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.11	0.03	0.09	0.09	0.03	0.33	0.33	0.03	0.28	0.28
Crit Moves:		****		****				****		****		

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Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

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Intersection #17 Compton Ave & Imperial Hwy

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Cycle (sec):	100	Critical Vol./Cap.(X):	1.120	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	180	Level Of Service:	F	

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 0	1 0	1	0 2	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	114	332	167	113	289	134	75	660	171	190	1489	161
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	115	335	169	114	292	135	76	667	173	192	1504	163
Added Vol:	92	25	37	5	39	0	0	40	166	86	19	1
PasserByVol:	2	14	0	0	34	0	0	17	3	0	7	0
Initial Fut:	209	374	206	119	365	135	76	724	342	278	1530	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	209	374	206	119	365	135	76	724	342	278	1530	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	374	206	119	365	135	76	724	342	278	1530	164
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	374	206	119	365	135	76	724	342	278	1530	164
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.73	0.27	1.00	2.04	0.96	1.00	1.81	0.19
Final Sat.:	1600	1600	1600	1600	1167	433	1600	3260	1540	1600	2891	309
Capacity Analysis Module:												
Vol/Sat:	0.13	0.23	0.13	0.07	0.31	0.31	0.05	0.22	0.22	0.17	0.53	0.53
Crit Moves:	****				****		****				****	

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Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Compton Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.561
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	9	479	86	56	539	5	39	58	36	60	17	49
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	9	484	87	57	544	5	39	59	36	61	17	49
Added Vol:	0	52	86	53	29	0	0	0	0	56	0	25
PasserByVol:	4	16	0	0	37	0	0	0	9	0	0	0
Initial Fut:	13	552	173	110	610	5	39	59	45	117	17	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	552	173	110	610	5	39	59	45	117	17	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	552	173	110	610	5	39	59	45	117	17	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	552	173	110	610	5	39	59	45	117	17	74
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.03	1.50	0.47	0.30	1.69	0.01	0.27	0.41	0.32	0.56	0.08	0.36
Final Sat.:	57	2393	750	484	2694	22	440	654	506	896	132	572
Capacity Analysis Module:												
Vol/Sat:	0.01	0.23	0.23	0.07	0.23	0.23	0.02	0.09	0.09	0.07	0.13	0.13
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 Compton Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.919
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	110	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1	1 0	1	0 1
Volume Module:												
Base Vol:	106	296	85	129	308	115	122	465	88	88	460	160
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	107	299	86	130	311	116	123	470	89	89	465	162
Added Vol:	0	115	10	4	68	13	22	30	0	3	30	2
PasserByVol:	0	0	34	48	0	0	0	247	0	17	98	20
Initial Fut:	107	414	130	182	379	129	145	747	89	109	593	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	414	130	182	379	129	145	747	89	109	593	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	414	130	182	379	129	145	747	89	109	593	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	414	130	182	379	129	145	747	89	109	593	184
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.52	0.48	1.00	1.49	0.51	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2436	764	1600	2387	813	1600	1600	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.17	0.11	0.16	0.16	0.09	0.47	0.06	0.07	0.37	0.11
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Compton Ave & 124th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.428
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	1	360	25	59	426	7	5	12	3	36	40	108
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	1	364	25	60	430	7	5	12	3	36	40	109
Added Vol:	0	126	0	0	71	0	0	0	0	0	0	0
PasserByVol:	0	33	0	0	17	0	0	0	0	0	0	0
Initial Fut:	1	523	25	60	518	7	5	12	3	36	40	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	523	25	60	518	7	5	12	3	36	40	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	523	25	60	518	7	5	12	3	36	40	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	523	25	60	518	7	5	12	3	36	40	109
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.01	1.90	0.09	0.20	1.78	0.02	0.25	0.60	0.15	0.19	0.22	0.59
Final Sat.:	6	3047	147	326	2835	39	400	960	240	313	348	939
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.17	0.04	0.18	0.18	0.00	0.01	0.01	0.02	0.12	0.12
Crit Moves:		****			****			****				****

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Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Wilmington Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.820
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	71	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	175	422	51	31	835	143	142	23	218	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	177	426	52	31	843	144	143	23	220	0	0	0
Added Vol:	13	24	0	0	183	4	10	0	29	0	0	0
PasserByVol:	7	16	0	0	203	0	0	0	17	0	0	0
Initial Fut:	197	466	52	31	1229	148	153	23	266	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	197	466	52	31	1229	148	153	23	266	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	197	466	52	31	1229	148	153	23	266	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	197	466	52	31	1229	148	153	23	266	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.78	0.22	1.00	1.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	2882	318	1600	2855	345	1600	1600	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.12	0.16	0.16	0.02	0.43	0.43	0.10	0.01	0.17	0.00	0.00	0.00
Crit Moves:	****				****				****			

Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

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Intersection #27 Wilmington Ave & I-105 e/b Ramps

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Cycle (sec):	100	Critical Vol./Cap.(X):	1.196	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	180	Level Of Service:	F	

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	0	0 0	2 0	2	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	325	644	0	0	655	481	407	0	532	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	328	650	0	0	662	486	411	0	537	0	0	0
Added Vol:	98	180	0	0	185	27	4	0	125	0	0	0
PasserByVol:	53	73	0	0	219	0	0	0	79	0	0	0
Initial Fut:	479	903	0	0	1066	513	415	0	741	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	479	903	0	0	1066	513	415	0	741	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	479	903	0	0	1066	513	415	0	741	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	479	903	0	0	1066	513	415	0	741	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.00	2.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	4800	0	0	3200	3200	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.30	0.19	0.00	0.00	0.33	0.16	0.26	0.00	0.46	0.00	0.00	0.00
Crit Moves:	****				****				****			

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Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Wilmington Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	1.161
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	2 0	1	1 0	0 0	1! 0	0	0 1	0	0 1
Volume Module:												
Base Vol:	129	843	60	92	939	164	59	18	80	20	39	56
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	130	851	61	93	948	166	60	18	81	20	39	57
Added Vol:	185	31	8	17	10	283	199	1	129	22	2	49
PasserByVol:	0	125	0	0	298	0	0	0	0	0	0	0
Initial Fut:	315	1007	69	110	1256	449	259	19	210	42	41	106
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	315	1007	69	110	1256	449	259	19	210	42	41	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	1007	69	110	1256	449	259	19	210	42	41	106
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	315	1007	69	110	1256	449	259	19	210	42	41	106
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.81	0.19	2.00	1.47	0.53	0.53	0.04	0.43	0.50	0.50	1.00
Final Sat.:	1600	4494	306	2880	2358	842	849	63	688	808	792	1600
Capacity Analysis Module:												
Vol/Sat:	0.20	0.22	0.22	0.04	0.53	0.53	0.16	0.30	0.30	0.03	0.05	0.07
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

****

Intersection #29 Wilmington Ave & 120th St (West)

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.907
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	103	Level Of Service:	E

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1	1 0	1	0 1
Volume Module:												
Base Vol:	35	713	141	111	619	314	143	148	109	65	308	184
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	35	720	142	112	625	317	144	149	110	66	311	186
Added Vol:	19	212	1	1	151	9	10	6	6	3	16	2
PasserByVol:	0	95	0	0	140	171	33	6	0	11	15	0
Initial Fut:	54	1027	143	113	916	497	187	161	116	80	342	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	1027	143	113	916	497	187	161	116	80	342	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	1027	143	113	916	497	187	161	116	80	342	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	1027	143	113	916	497	187	161	116	80	342	188
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.75	0.25	1.00	1.30	0.70	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2808	392	1600	2074	1126	1600	1600	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.03	0.37	0.37	0.07	0.44	0.44	0.12	0.10	0.07	0.05	0.21	0.12
Crit Moves:	****				****		****				****	

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Willowbrook
Existing+Project Conditions - AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #30 Wilmington Ave & 120th St (East)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.681
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	26	823	7	25	659	75	18	0	3	13	3	40
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	26	831	7	25	666	76	18	0	3	13	3	40
Added Vol:	0	227	1	5	155	0	0	0	0	1	0	4
PasserByVol:	170	0	0	0	0	151	95	14	72	0	35	0
Initial Fut:	196	1058	8	30	821	227	113	14	75	14	38	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	196	1058	8	30	821	227	113	14	75	14	38	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	196	1058	8	30	821	227	113	14	75	14	38	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	196	1058	8	30	821	227	113	14	75	14	38	44
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.98	0.02	1.00	1.57	0.43	0.89	0.11	1.00	0.15	0.39	0.46
Final Sat.:	1600	3176	24	1600	2507	693	1424	176	1600	234	630	736
Capacity Analysis Module:												
Vol/Sat:	0.12	0.33	0.33	0.02	0.33	0.33	0.07	0.08	0.05	0.01	0.06	0.06
Crit Moves:	****				****		****				****	

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Willowbrook
Existing+Project Conditions - AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

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Intersection #31 Wilmington Ave & 124th St

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.697
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	49	757	40	48	670	13	20	47	41	84	99	74
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	49	765	40	48	677	13	20	47	41	85	100	75
Added Vol:	0	229	0	0	156	0	0	0	0	0	0	0
PasserByVol:	0	133	0	13	55	0	0	0	0	0	0	31
Initial Fut:	49	1127	40	61	888	13	20	47	41	85	100	106
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	1127	40	61	888	13	20	47	41	85	100	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	1127	40	61	888	13	20	47	41	85	100	106
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	1127	40	61	888	13	20	47	41	85	100	106
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.93	0.07	1.00	1.97	0.03	0.18	0.44	0.38	0.29	0.34	0.37
Final Sat.:	1600	3089	111	1600	3153	47	296	696	607	467	551	582
Capacity Analysis Module:												
Vol/Sat:	0.03	0.36	0.36	0.04	0.28	0.28	0.01	0.07	0.07	0.05	0.18	0.18
Crit Moves:		****		****			****				****	

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Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Wilmington Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.834
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	75	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	173	744	54	123	640	135	92	393	258	56	557	89
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	175	751	55	124	646	136	93	397	261	57	563	90
Added Vol:	26	172	0	32	113	11	6	3	15	0	8	51
PasserByVol:	0	102	0	11	42	0	0	0	0	0	0	26
Initial Fut:	201	1025	55	167	801	147	99	400	276	57	571	167
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	201	1025	55	167	801	147	99	400	276	57	571	167
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	201	1025	55	167	801	147	99	400	276	57	571	167
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	201	1025	55	167	801	147	99	400	276	57	571	167
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.90	0.10	1.00	1.69	0.31	1.00	1.18	0.82	1.00	1.55	0.45
Final Sat.:	1600	3038	162	1600	2703	497	1600	1895	1305	1600	2476	724
Capacity Analysis Module:												
Vol/Sat:	0.13	0.34	0.34	0.10	0.30	0.30	0.06	0.21	0.21	0.04	0.23	0.23
Crit Moves:		****		****			****				****	

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Willowbrook Ave W & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.478
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	0 1	0	0 0	1 0	0	0 0	1 0	0	1 0	0 0
Volume Module:												
Base Vol:	164	0	24	0	12	41	0	228	58	11	334	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	166	0	24	0	12	41	0	230	59	11	337	0
Added Vol:	3	0	0	0	0	0	0	7	9	0	8	0
PasserByVol:	0	0	0	0	0	0	0	6	0	0	26	0
Initial Fut:	169	0	24	0	12	41	0	243	68	11	371	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	169	0	24	0	12	41	0	243	68	11	371	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	169	0	24	0	12	41	0	243	68	11	371	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	169	0	24	0	12	41	0	243	68	11	371	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.23	0.77	0.00	0.78	0.22	0.03	0.97	0.00
Final Sat.:	1600	0	1600	0	362	1238	0	1252	348	46	1554	0
Capacity Analysis Module:												
Vol/Sat:	0.11	0.00	0.02	0.00	0.03	0.03	0.00	0.19	0.19	0.01	0.24	0.00
Crit Moves:	****				****		****				****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Willowbrook Ave E & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.388
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	91	43	37	3	44	66	38	112	97	23	172	4
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	92	43	37	3	44	67	38	113	98	23	174	4
Added Vol:	0	0	0	0	1	4	2	5	0	0	5	0
PasserByVol:	0	0	0	0	0	0	0	6	0	0	26	0
Initial Fut:	92	43	37	3	45	71	40	124	98	23	205	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	92	43	37	3	45	71	40	124	98	23	205	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	43	37	3	45	71	40	124	98	23	205	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	43	37	3	45	71	40	124	98	23	205	4
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.53	0.25	0.22	0.03	0.38	0.59	1.00	0.56	0.44	1.00	0.98	0.02
Final Sat.:	851	402	346	41	610	949	1600	894	706	1600	1569	31
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.11	0.00	0.07	0.07	0.03	0.14	0.14	0.01	0.13	0.13
Crit Moves:	****				****		****				****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #36 Imperial Hwy & I-105 w/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.906
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	103	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0	0	1! 0	0	1 0	3 1	1	2 0	2 1 0
Volume Module:												
Base Vol:	534	11	136	7	34	67	50	1002	222	735	1333	13
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	539	11	137	7	34	68	51	1012	224	742	1346	13
Added Vol:	178	9	1	0	0	0	7	70	107	2	100	4
PasserByVol:	116	0	11	0	0	0	0	19	32	0	42	0
Initial Fut:	833	20	149	7	34	68	58	1101	363	744	1488	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	833	20	149	7	34	68	58	1101	363	744	1488	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	833	20	149	7	34	68	58	1101	363	744	1488	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	833	20	149	7	34	68	58	1101	363	744	1488	17
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.95	0.05	1.00	0.06	0.31	0.63	1.00	3.76	1.24	2.00	2.97	0.03
Final Sat.:	2812	68	1600	104	504	993	1600	6016	1984	2880	4745	55
Capacity Analysis Module:												
Vol/Sat:	0.30	0.30	0.09	0.07	0.07	0.07	0.04	0.18	0.18	0.26	0.31	0.31
OvlAdjV/S:									0.00			
Crit Moves:		****		****				****		****		

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #37 Willowbrook Ave W & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.448
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	2	0 1	0 0	2	0 1
Volume Module:												
Base Vol:	64	166	7	0	9	6	45	444	60	0	565	37
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	65	168	7	0	9	6	45	448	61	0	571	37
Added Vol:	0	2	0	5	4	0	0	35	0	0	59	2
PasserByVol:	0	6	0	0	2	0	0	7	0	0	17	0
Initial Fut:	65	176	7	5	15	6	45	490	61	0	647	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	176	7	5	15	6	45	490	61	0	647	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	176	7	5	15	6	45	490	61	0	647	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	176	7	5	15	6	45	490	61	0	647	39
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.96	0.04	1.00	0.71	0.29	1.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	1600	1538	62	1600	1142	458	1600	3200	1600	0	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.11	0.11	0.00	0.01	0.01	0.03	0.15	0.04	0.00	0.20	0.02
Crit Moves:		****			****			****			****	

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Willowbrook
Existing+Project Conditions - AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #38 Willowbrook Ave E & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.473
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	0 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	42	96	38	75	166	43	0	432	19	43	532	65
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	42	97	38	76	168	43	0	436	19	43	537	66
Added Vol:	0	0	0	0	0	1	0	40	0	0	60	0
PasserByVol:	0	5	0	0	2	0	0	7	0	0	17	0
Initial Fut:	42	102	38	76	170	44	0	483	19	43	614	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	102	38	76	170	44	0	483	19	43	614	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	102	38	76	170	44	0	483	19	43	614	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	102	38	76	170	44	0	483	19	43	614	66
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.73	0.27	1.00	0.79	0.21	0.00	2.00	1.00	1.00	1.81	0.19
Final Sat.:	1600	1162	438	1600	1268	332	0	3200	1600	1600	2891	309
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.09	0.05	0.13	0.13	0.00	0.15	0.01	0.03	0.21	0.21
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project Conditions - AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #39 Mona Blvd & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.766
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1 0	2 1	0	1 0	2 1 0
Volume Module:												
Base Vol:	139	49	155	27	102	92	37	928	176	189	1782	21
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	140	49	157	27	103	93	37	937	178	191	1800	21
Added Vol:	4	0	5	0	0	0	0	65	6	2	102	0
PasserByVol:	0	2	0	0	5	0	0	19	11	0	42	0
Initial Fut:	144	51	162	27	108	93	37	1021	195	193	1944	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	144	51	162	27	108	93	37	1021	195	193	1944	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	144	51	162	27	108	93	37	1021	195	193	1944	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	144	51	162	27	108	93	37	1021	195	193	1944	21
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.74	0.26	1.00	0.12	0.47	0.41	1.00	2.52	0.48	1.00	2.97	0.03
Final Sat.:	1179	421	1600	191	757	651	1600	4031	769	1600	4748	52
Capacity Analysis Module:												
Vol/Sat:	0.09	0.12	0.10	0.02	0.14	0.14	0.02	0.25	0.25	0.12	0.41	0.41
Crit Moves:	****				****		****				****	

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Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	90	41	50	195	218	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.958				0.946	
Flt Protected	0.967		0.950			
Satd. Flow (prot)	1726	0	1770	1863	1762	0
Flt Permitted	0.967		0.950			
Satd. Flow (perm)	1726	0	1770	1863	1762	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	266			283	255	
Travel Time (s)	6.0			6.4	5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	45	54	212	237	157
Shared Lane Traffic (%)						
Lane Group Flow (vph)	143	0	54	212	394	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	90	41	50	195	218	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	45	54	212	237	157

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	636	315	393	0	-	0
Stage 1	315	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	442	725	1166	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	422	725	1166	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	701	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	1.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1166	-	486	-	-
HCM Lane V/C Ratio	0.047	-	0.293	-	-
HCM Control Delay (s)	8.2	-	15.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #41 Mona Blvd & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.544
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 1	0 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	39	109	71	89	130	48	55	497	33	48	538	41
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	39	110	72	90	131	48	56	502	33	48	543	41
Added Vol:	0	0	0	1	1	1	0	40	0	0	60	2
PasserByVol:	0	11	0	0	5	0	0	7	0	0	17	0
Initial Fut:	39	121	72	91	137	49	56	549	33	48	620	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	121	72	91	137	49	56	549	33	48	620	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	121	72	91	137	49	56	549	33	48	620	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	121	72	91	137	49	56	549	33	48	620	43
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.17	0.52	0.31	0.40	0.60	1.00	1.00	1.89	0.11	1.00	1.87	0.13
Final Sat.:	271	834	494	637	963	1600	1600	3017	183	1600	2991	209
Capacity Analysis Module:												
Vol/Sat:	0.02	0.15	0.15	0.06	0.14	0.03	0.03	0.18	0.18	0.03	0.21	0.21
Crit Moves:		****			****			****			****	

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Willowbrook
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11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #43 Alameda St & 103rd St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.812
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	69	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	178	809	0	0	948	191	194	0	152	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	180	817	0	0	957	193	196	0	154	0	0	0
Added Vol:	0	30	0	0	44	0	0	0	0	0	0	0
PasserByVol:	0	5	0	0	6	14	3	0	0	0	0	0
Initial Fut:	180	852	0	0	1007	207	199	0	154	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	180	852	0	0	1007	207	199	0	154	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	852	0	0	1007	207	199	0	154	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	180	852	0	0	1007	207	199	0	154	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.66	0.34	0.56	0.01	0.43	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2655	545	903	0	697	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.11	0.27	0.00	0.00	0.38	0.38	0.12	0.00	0.22	0.00	0.00	0.00
Crit Moves:	****				****				****			

Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #45 Alameda St & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.829
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	74	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	1 0	1 0	3	0 1
Volume Module:												
Base Vol:	209	643	82	74	641	540	357	536	169	85	1226	36
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	211	649	83	75	647	545	361	541	171	86	1238	36
Added Vol:	6	0	0	0	0	44	30	37	4	0	55	0
PasserByVol:	0	0	0	0	0	18	12	8	0	0	23	0
Initial Fut:	217	649	83	75	647	607	403	586	175	86	1316	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	217	649	83	75	647	607	403	586	175	86	1316	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	649	83	75	647	607	403	586	175	86	1316	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	649	83	75	647	607	403	586	175	86	1316	36
OvlAdjVol:						384						
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.77	0.23	1.00	2.00	1.00	2.00	2.31	0.69	1.00	3.00	1.00
Final Sat.:	2880	2838	362	1600	3200	1600	2880	3698	1102	1600	4800	1600
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.23	0.05	0.20	0.38	0.14	0.16	0.16	0.05	0.27	0.02
OvlAdjV/S:						0.24						
Crit Moves:	****					****	****				****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #46 Alameda St & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.815
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	0 1
Volume Module:												
Base Vol:	153	632	50	78	759	109	105	417	153	40	361	103
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	155	638	51	79	767	110	106	421	155	40	365	104
Added Vol:	41	6	0	0	4	0	0	14	28	0	20	0
PasserByVol:	12	0	0	0	0	0	0	2	5	0	5	0
Initial Fut:	208	644	51	79	771	110	106	437	188	40	390	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	208	644	51	79	771	110	106	437	188	40	390	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	208	644	51	79	771	110	106	437	188	40	390	104
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	208	644	51	79	771	110	106	437	188	40	390	104
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.75	0.25	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2967	233	1600	2800	400	1600	3200	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.22	0.05	0.28	0.28	0.07	0.14	0.12	0.03	0.24	0.07
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #52 El Segundo Blvd & San Pedro St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.598
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	77	232	34	95	245	153	96	518	41	49	1186	46
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	77	232	34	95	245	153	96	518	41	49	1186	46
Added Vol:	0	0	0	0	0	0	0	48	0	0	33	0
PasserByVol:	0	0	0	0	0	0	0	26	0	0	11	0
Initial Fut:	77	232	34	95	245	153	96	592	41	49	1230	46
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	77	232	34	95	245	153	96	592	41	49	1230	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	232	34	95	245	153	96	592	41	49	1230	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	232	34	95	245	153	96	592	41	49	1230	46
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	1.23	0.77	1.00	2.81	0.19	1.00	2.89	0.11
Final Sat.:	1600	2791	409	1600	1970	1230	1600	4489	311	1600	4627	173
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.08	0.06	0.12	0.12	0.06	0.13	0.13	0.03	0.27	0.27
Crit Moves:	****				****		****				****	

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Willowbrook
Existing+Project Conditions - AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Slater Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.710
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	1	0	0	1	0	2	0	0	0	0	1	1	0
Volume Module:												
Base Vol:	0	0	0	34	0	177	62	869	0	0	1370	11
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	0	0	34	0	179	63	878	0	0	1384	11
Added Vol:	0	0	0	0	0	0	0	99	0	0	66	0
PasserByVol:	0	0	0	0	0	0	0	15	0	0	10	0
Initial Fut:	0	0	0	34	0	179	63	992	0	0	1460	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	34	0	179	63	992	0	0	1460	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	34	0	179	63	992	0	0	1460	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	34	0	179	63	992	0	0	1460	11
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	1.98	0.02
Final Sat.:	0	0	0	1600	0	1600	1600	3200	0	0	3176	24
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.11	0.04	0.31	0.00	0.00	0.46	0.46
Crit Moves:						****	****				****	

Willowbrook
Existing+Project Conditions - AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Compton Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.925
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	114	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	172	102	27	136	69	276	148	594	93	12	927	111
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	174	103	27	137	70	279	149	600	94	12	936	112
Added Vol:	0	0	0	18	0	53	93	6	0	0	13	32
PasserByVol:	0	18	0	0	8	10	15	0	0	0	0	0
Initial Fut:	174	121	27	155	78	342	257	606	94	12	949	144
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	174	121	27	155	78	342	257	606	94	12	949	144
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	174	121	27	155	78	342	257	606	94	12	949	144
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	174	121	27	155	78	342	257	606	94	12	949	144
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.00	1.00	1.00	1.73	0.27	1.00	1.74	0.26
Final Sat.:	1600	2612	588	1600	1600	1600	1600	2771	429	1600	2778	422
Capacity Analysis Module:												
Vol/Sat:	0.11	0.05	0.05	0.10	0.05	0.21	0.16	0.22	0.22	0.01	0.34	0.34
Crit Moves:	****					****	****				****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Wilmington Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.927
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	116	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	95	614	119	138	813	189	99	462	103	124	900	98
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	96	620	120	139	821	191	100	467	104	125	909	99
Added Vol:	0	141	0	30	92	6	7	0	0	0	0	50
PasserByVol:	0	61	0	9	26	5	11	0	0	0	0	21
Initial Fut:	96	822	120	178	939	202	118	467	104	125	909	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	822	120	178	939	202	118	467	104	125	909	170
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	822	120	178	939	202	118	467	104	125	909	170
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	822	120	178	939	202	118	467	104	125	909	170
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	1.65	0.35	1.00	2.00	1.00	1.00	1.68	0.32
Final Sat.:	1600	2792	408	1600	2634	566	1600	3200	1600	1600	2696	504
Capacity Analysis Module:												
Vol/Sat:	0.06	0.29	0.29	0.11	0.36	0.36	0.07	0.15	0.07	0.08	0.34	0.34
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project Conditions - AM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #42 Willowbrook Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.721
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	1	0	1 1 0	1	0	1 1 0
Volume Module:												
Base Vol:	18	98	19	145	83	35	6	906	29	35	1157	148
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	18	99	19	146	84	35	6	915	29	35	1169	149
Added Vol:	0	0	0	4	0	0	0	30	0	0	50	2
PasserByVol:	0	2	0	2	1	0	0	7	0	0	17	5
Initial Fut:	18	101	19	152	85	35	6	952	29	35	1236	156
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	101	19	152	85	35	6	952	29	35	1236	156
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	101	19	152	85	35	6	952	29	35	1236	156
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	101	19	152	85	35	6	952	29	35	1236	156
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.13	0.73	0.14	0.56	0.31	0.13	1.00	1.94	0.06	1.00	1.78	0.22
Final Sat.:	210	1168	222	895	498	207	1600	3104	96	1600	2840	360
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.09	0.10	0.17	0.17	0.00	0.31	0.31	0.02	0.44	0.44
Crit Moves:		****		****			****				****	

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Willowbrook
Existing+Project Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #55 El Segundo Blvd & Santa Fe Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.602
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	143	356	27	16	451	64	62	115	163	46	114	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	143	356	27	16	451	64	62	115	163	46	114	33
Added Vol:	0	0	0	0	0	0	0	14	0	0	20	0
PasserByVol:	0	0	0	0	0	0	0	2	0	0	5	0
Initial Fut:	143	356	27	16	451	64	62	131	163	46	139	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	143	356	27	16	451	64	62	131	163	46	139	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	356	27	16	451	64	62	131	163	46	139	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	143	356	27	16	451	64	62	131	163	46	139	33
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.86	0.14	1.00	1.75	0.25	0.17	0.37	0.46	0.21	0.64	0.15
Final Sat.:	1600	2974	226	1600	2802	398	279	589	733	338	1020	242
Capacity Analysis Module:												
Vol/Sat:	0.09	0.12	0.12	0.01	0.16	0.16	0.04	0.22	0.22	0.03	0.14	0.14
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #56 Alameda St & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.634
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	118	606	0	0	883	115	104	0	193	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	118	606	0	0	883	115	104	0	193	0	0	0
Added Vol:	0	44	0	0	30	0	0	0	0	0	0	0
PasserByVol:	12	12	0	0	5	0	0	0	15	0	0	0
Initial Fut:	130	662	0	0	918	115	104	0	208	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	130	662	0	0	918	115	104	0	208	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	662	0	0	918	115	104	0	208	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	130	662	0	0	918	115	104	0	208	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.78	0.22	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2844	356	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.00	0.00	0.32	0.32	0.07	0.00	0.13	0.00	0.00	0.00
Crit Moves:	****				****				****			

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #57 Central Ave & W Compton Bvld

Cycle (sec):	100	Critical Vol./Cap.(X):	0.767
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	182	573	83	138	655	148	104	345	138	164	758	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	182	573	83	138	655	148	104	345	138	164	758	120
Added Vol:	0	33	0	0	22	0	0	0	0	0	0	0
PasserByVol:	0	12	0	0	5	0	1	1	0	0	0	0
Initial Fut:	182	618	83	138	682	148	105	346	138	164	758	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	182	618	83	138	682	148	105	346	138	164	758	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	182	618	83	138	682	148	105	346	138	164	758	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	182	618	83	138	682	148	105	346	138	164	758	120
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.76	0.24	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.73	0.27
Final Sat.:	1600	2821	379	1600	3200	1600	1600	3200	1600	1600	2763	437
Capacity Analysis Module:												
Vol/Sat:	0.11	0.22	0.22	0.09	0.21	0.09	0.07	0.11	0.09	0.10	0.27	0.27
Crit Moves:	****				****		****				****	

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #58 Wilmington Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.737
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	86	460	169	179	718	128	70	515	127	133	682	139
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	460	169	179	718	128	70	515	127	133	682	139
Added Vol:	0	141	0	0	92	0	0	0	0	0	0	0
PasserByVol:	0	48	0	3	20	0	1	0	0	0	0	7
Initial Fut:	86	649	169	182	830	128	71	515	127	133	682	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	649	169	182	830	128	71	515	127	133	682	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	649	169	182	830	128	71	515	127	133	682	146
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	649	169	182	830	128	71	515	127	133	682	146
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.73	0.27	1.00	1.60	0.40	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	2772	428	1600	2567	633	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.20	0.11	0.11	0.30	0.30	0.04	0.20	0.20	0.08	0.21	0.09
Crit Moves:	****				****			****			****	

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #59 Willowbrook Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.536
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	0 1	0	1 0	2 1	0	0 0	1 1	0
Volume Module:												
Base Vol:	24	117	6	0	179	67	24	627	63	0	764	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	117	6	0	179	67	24	627	63	0	764	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	5	2	0	0	1	0	0	1	2	0	2	0
Initial Fut:	29	119	6	0	180	67	24	628	65	0	766	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	119	6	0	180	67	24	628	65	0	766	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	119	6	0	180	67	24	628	65	0	766	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	119	6	0	180	67	24	628	65	0	766	29
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.19	0.77	0.04	0.00	0.73	0.27	1.00	2.72	0.28	0.00	1.93	0.07
Final Sat.:	301	1236	62	0	1166	434	1600	4350	450	0	3083	117
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.00	0.15	0.15	0.02	0.14	0.14	0.00	0.25	0.25
Crit Moves:	****				****		****				****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #60 Central Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.762
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	142	524	69	173	795	130	75	327	120	85	735	204
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	142	524	69	173	795	130	75	327	120	85	735	204
Added Vol:	0	33	0	0	22	0	0	0	0	0	0	0
PasserByVol:	0	5	0	0	2	0	1	1	0	0	0	0
Initial Fut:	142	562	69	173	819	130	76	328	120	85	735	204
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	142	562	69	173	819	130	76	328	120	85	735	204
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	142	562	69	173	819	130	76	328	120	85	735	204
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	142	562	69	173	819	130	76	328	120	85	735	204
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.78	0.22	1.00	1.73	0.27	1.00	1.46	0.54	1.00	2.00	1.00
Final Sat.:	1600	2850	350	1600	2762	438	1600	2343	857	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.20	0.20	0.11	0.30	0.30	0.05	0.14	0.14	0.05	0.23	0.13
Crit Moves:	****				****		****				****	

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #61 Wilmington Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.861
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	84	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	104	444	142	170	833	87	100	498	105	137	850	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	444	142	170	833	87	100	498	105	137	850	142
Added Vol:	0	141	0	0	92	0	0	0	0	0	0	0
PasserByVol:	0	38	0	2	15	0	1	0	0	0	0	5
Initial Fut:	104	623	142	172	940	87	101	498	105	137	850	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	623	142	172	940	87	101	498	105	137	850	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	623	142	172	940	87	101	498	105	137	850	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	623	142	172	940	87	101	498	105	137	850	147
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.83	0.17	1.00	2.00	1.00	1.00	1.71	0.29
Final Sat.:	1600	2606	594	1600	2929	271	1600	3200	1600	1600	2728	472
Capacity Analysis Module:												
Vol/Sat:	0.07	0.24	0.24	0.11	0.32	0.32	0.06	0.16	0.07	0.09	0.31	0.31
Crit Moves:	****				****		****				****	

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #62 Wilmington Ave & Greenleaf Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.829
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	74	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	35	471	114	104	1031	21	38	192	86	276	361	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	471	114	104	1031	21	38	192	86	276	361	74
Added Vol:	0	141	0	0	92	0	0	0	0	0	0	0
PasserByVol:	0	30	0	1	12	0	0	0	0	0	0	2
Initial Fut:	35	642	114	105	1135	21	38	192	86	276	361	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	642	114	105	1135	21	38	192	86	276	361	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	642	114	105	1135	21	38	192	86	276	361	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	642	114	105	1135	21	38	192	86	276	361	76
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.96	0.04	1.00	0.69	0.31	1.00	0.83	0.17
Final Sat.:	1600	3200	1600	1600	3142	58	1600	1105	495	1600	1322	278
Capacity Analysis Module:												
Vol/Sat:	0.02	0.20	0.07	0.07	0.36	0.36	0.02	0.17	0.17	0.17	0.27	0.27
Crit Moves:	****				****			****			****	

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #63 Wilmington Ave & Walnut St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.627
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	1	0 1	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	81	530	41	33	1228	87	26	60	58	24	95	46
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	530	41	33	1228	87	26	60	58	24	95	46
Added Vol:	0	141	0	0	92	0	0	0	0	0	0	0
PasserByVol:	0	30	0	0	12	0	0	0	0	0	0	0
Initial Fut:	81	701	41	33	1332	87	26	60	58	24	95	46
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	701	41	33	1332	87	26	60	58	24	95	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	701	41	33	1332	87	26	60	58	24	95	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	701	41	33	1332	87	26	60	58	24	95	46
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.35	0.65
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	1600	1600	1600	2156	1044
Capacity Analysis Module:												
Vol/Sat:	0.05	0.22	0.03	0.02	0.42	0.05	0.02	0.04	0.04	0.02	0.04	0.04
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project Conditions - AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #64 Central Ave & Greenleaf Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.541
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 0	1	1 0	2 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	467	76	137	976	0	0	0	0	206	0	191
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	467	76	137	976	0	0	0	0	206	0	191
Added Vol:	0	33	0	0	22	0	0	0	0	0	0	0
PasserByVol:	0	5	0	0	2	0	0	0	0	0	0	0
Initial Fut:	0	505	76	137	1000	0	0	0	0	206	0	191
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	505	76	137	1000	0	0	0	0	206	0	191
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	505	76	137	1000	0	0	0	0	206	0	191
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	505	76	137	1000	0	0	0	0	206	0	191
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3200	1600	1600	3200	0	0	0	0	1600	0	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.05	0.09	0.31	0.00	0.00	0.00	0.00	0.13	0.00	0.12
Crit Moves:					****					****		

Willowbrook
Existing+Project Conditions - AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #65 Willowbrook Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.535
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	2 0	1	0 0	1 1	0
Volume Module:												
Base Vol:	11	68	29	33	102	44	26	666	24	0	913	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	68	29	33	102	44	26	666	24	0	913	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	7	0	0	3	0	0	3	0	0	5	0
Initial Fut:	11	75	29	33	105	44	26	669	24	0	918	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	75	29	33	105	44	26	669	24	0	918	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	75	29	33	105	44	26	669	24	0	918	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	75	29	33	105	44	26	669	24	0	918	36
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.10	0.65	0.25	0.18	0.58	0.24	1.00	2.00	1.00	0.00	1.92	0.08
Final Sat.:	153	1043	403	290	923	387	1600	3200	1600	0	3079	121
Capacity Analysis Module:												
Vol/Sat:	0.01	0.07	0.07	0.02	0.11	0.11	0.02	0.21	0.02	0.00	0.30	0.30
Crit Moves:	****				****		****				****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #66 Alameda St. West & Greenleaf Blvd.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.641
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1
Volume Module:												
Base Vol:	73	415	105	48	659	59	21	190	107	264	313	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	415	105	48	659	59	21	190	107	264	313	34
Added Vol:	0	44	0	0	30	0	0	0	0	0	0	0
PasserByVol:	0	24	0	0	10	0	0	1	0	0	2	0
Initial Fut:	73	483	105	48	699	59	21	191	107	264	315	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	483	105	48	699	59	21	191	107	264	315	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	483	105	48	699	59	21	191	107	264	315	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	483	105	48	699	59	21	191	107	264	315	34
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.64	0.36	1.00	1.84	0.16	1.00	1.28	0.72	1.00	1.00	1.00
Final Sat.:	1600	2629	571	1600	2951	249	1600	2051	1149	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.18	0.18	0.03	0.24	0.24	0.01	0.09	0.09	0.17	0.20	0.02
Crit Moves:	****				****			****			****	

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #44 Alameda St & Abbott Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.673
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	1 0	1	0 1	1 0	0	0	1! 0	1	1 0	0 1
Volume Module:												
Base Vol:	0	745	218	149	931	1	2	2	2	465	1	251
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	752	220	150	940	1	2	2	2	470	1	254
Added Vol:	0	30	0	0	44	0	0	0	0	0	0	0
PasserByVol:	0	5	7	0	6	0	0	0	0	13	0	0
Initial Fut:	0	787	227	150	990	1	2	2	2	483	1	254
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	787	227	150	990	1	2	2	2	483	1	254
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	787	227	150	990	1	2	2	2	483	1	254
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	787	227	150	990	1	2	2	2	483	1	254
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.55	0.45	1.00	1.99	0.01	0.34	0.33	0.33	1.99	0.01	1.00
Final Sat.:	0	2484	716	1600	3197	3	533	533	533	3193	7	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.32	0.09	0.31	0.31	0.00	0.00	0.00	0.15	0.15	0.16
Crit Moves:		****		****				****				****

Willowbrook
Existing+Project Conditions - AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #53 Imperial Hway & Fernwood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.756
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	60	40	3	159	45	17	23	665	45	2	1289	124
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	40	3	159	45	17	23	665	45	2	1289	124
Added Vol:	0	0	0	0	0	0	0	37	0	0	55	0
PasserByVol:	0	0	0	0	0	0	0	8	0	0	23	0
Initial Fut:	60	40	3	159	45	17	23	710	45	2	1367	124
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	60	40	3	159	45	17	23	710	45	2	1367	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	40	3	159	45	17	23	710	45	2	1367	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	40	3	159	45	17	23	710	45	2	1367	124
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.58	0.39	0.03	0.72	0.20	0.08	1.00	1.88	0.12	1.00	1.83	0.17
Final Sat.:	932	621	47	1151	326	123	1600	3009	191	1600	2934	266
Capacity Analysis Module:												
Vol/Sat:	0.04	0.06	0.06	0.10	0.14	0.14	0.01	0.24	0.24	0.00	0.47	0.47
Crit Moves:	****				****		****				****	

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Willowbrook
Existing+Project Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #54 Imperial Hwy & State St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.764
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	15	240	134	106	367	271	98	736	3	114	1141	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	240	134	106	367	271	98	736	3	114	1141	37
Added Vol:	0	0	0	0	0	0	0	37	0	0	55	0
PasserByVol:	0	0	0	0	0	2	3	0	5	0	21	0
Initial Fut:	15	240	134	106	367	273	101	773	8	114	1217	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	240	134	106	367	273	101	773	8	114	1217	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	240	134	106	367	273	101	773	8	114	1217	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	240	134	106	367	273	101	773	8	114	1217	37
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.28	0.72	1.00	1.15	0.85	1.00	1.98	0.02	1.00	1.94	0.06
Final Sat.:	1600	2053	1147	1600	1835	1365	1600	3167	33	1600	3106	94
Capacity Analysis Module:												
Vol/Sat:	0.01	0.12	0.12	0.07	0.20	0.20	0.06	0.24	0.24	0.07	0.39	0.39
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project Conditions - PM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Avalon Blvd & El Segundo

Cycle (sec):	100	Critical Vol./Cap.(X):	0.877
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	90	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	121	704	170	148	531	93	134	1370	104	102	461	112
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	122	711	172	149	536	94	135	1384	105	103	466	113
Added Vol:	0	8	13	0	10	0	0	40	0	19	54	0
PasserByVol:	0	8	0	0	16	0	0	20	0	0	38	0
Initial Fut:	122	727	185	149	562	94	135	1444	105	122	558	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	122	727	185	149	562	94	135	1444	105	122	558	113
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	122	727	185	149	562	94	135	1444	105	122	558	113
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	122	727	185	149	562	94	135	1444	105	122	558	113
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.59	0.41	1.00	1.71	0.29	1.00	2.80	0.20	1.00	2.49	0.51
Final Sat.:	1600	2552	648	1600	2742	458	1600	4474	326	1600	3990	810
Capacity Analysis Module:												
Vol/Sat:	0.08	0.28	0.28	0.09	0.21	0.21	0.08	0.32	0.32	0.08	0.14	0.14
Crit Moves:		****		****				****		****		

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Blvd & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.815
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	132	625	158	217	484	59	124	1148	112	86	469	119
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	133	631	160	219	489	60	125	1159	113	87	474	120
Added Vol:	0	18	0	0	25	4	3	16	0	0	20	0
PasserByVol:	0	5	0	0	9	0	0	5	0	0	11	0
Initial Fut:	133	654	160	219	523	64	128	1180	113	87	505	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	133	654	160	219	523	64	128	1180	113	87	505	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	133	654	160	219	523	64	128	1180	113	87	505	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	133	654	160	219	523	64	128	1180	113	87	505	120
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.78	0.22	1.00	2.74	0.26	1.00	2.42	0.58
Final Sat.:	1600	2573	627	1600	2853	347	1600	4380	420	1600	3877	923
Capacity Analysis Module:												
Vol/Sat:	0.08	0.25	0.25	0.14	0.18	0.18	0.08	0.27	0.27	0.05	0.13	0.13
Crit Moves:		****		****				****		****		

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Central Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.983
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	172	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	82	634	213	178	655	153	195	1238	145	86	483	79
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	83	640	215	180	662	155	197	1250	146	87	488	80
Added Vol:	0	9	25	0	12	0	0	53	0	36	73	0
PasserByVol:	0	19	0	0	36	11	11	10	0	0	29	0
Initial Fut:	83	668	240	180	710	166	208	1313	146	123	590	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	83	668	240	180	710	166	208	1313	146	123	590	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	668	240	180	710	166	208	1313	146	123	590	80
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	83	668	240	180	710	166	208	1313	146	123	590	80
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.47	0.53	1.00	1.62	0.38	1.00	2.00	1.00	1.00	1.76	0.24
Final Sat.:	1600	2354	846	1600	2595	605	1600	3200	1600	1600	2819	381
Capacity Analysis Module:												
Vol/Sat:	0.05	0.28	0.28	0.11	0.27	0.27	0.13	0.41	0.09	0.08	0.21	0.21
Crit Moves:		****		****				****		****		

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Central Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.782
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	138	567	111	181	706	107	148	1164	177	109	466	114
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	139	573	112	183	713	108	149	1176	179	110	471	115
Added Vol:	0	27	0	0	37	11	7	9	0	0	10	0
PasserByVol:	0	13	0	0	24	5	3	3	0	0	5	0
Initial Fut:	139	613	112	183	774	124	159	1188	179	110	486	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	139	613	112	183	774	124	159	1188	179	110	486	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	613	112	183	774	124	159	1188	179	110	486	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	613	112	183	774	124	159	1188	179	110	486	115
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.61	0.39	1.00	1.62	0.38
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	4172	628	1600	2587	613
Capacity Analysis Module:												
Vol/Sat:	0.09	0.19	0.07	0.11	0.24	0.08	0.10	0.28	0.28	0.07	0.19	0.19
Crit Moves:	****			****			****			****		

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Slater Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.480
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	1	0	1 1 0	1	0	1 1 0
Volume Module:												
Base Vol:	15	7	31	12	6	16	9	397	21	23	680	19
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	15	7	31	12	6	16	9	401	21	23	687	19
Added Vol:	0	0	0	0	0	0	0	54	0	0	66	0
PasserByVol:	0	0	12	6	0	0	0	134	0	23	249	11
Initial Fut:	15	7	43	18	6	16	9	589	21	46	1002	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	7	43	18	6	16	9	589	21	46	1002	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	7	43	18	6	16	9	589	21	46	1002	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	7	43	18	6	16	9	589	21	46	1002	30
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.23	0.11	0.66	0.45	0.15	0.40	1.00	1.93	0.07	1.00	1.94	0.06
Final Sat.:	370	173	1057	719	240	641	1600	3089	111	1600	3106	94
Capacity Analysis Module:												
Vol/Sat:	0.01	0.04	0.04	0.01	0.03	0.03	0.01	0.19	0.19	0.03	0.32	0.32
Crit Moves:		****			****			****			****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Compton Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.954
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	137	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	98	304	167	214	257	101	78	1434	86	63	735	232
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	99	307	169	216	260	102	79	1448	87	64	742	234
Added Vol:	169	42	69	4	30	0	0	40	103	51	39	3
PasserByVol:	5	42	0	0	23	0	0	11	2	0	21	0
Initial Fut:	273	391	238	220	313	102	79	1499	192	115	802	237
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	273	391	238	220	313	102	79	1499	192	115	802	237
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	273	391	238	220	313	102	79	1499	192	115	802	237
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	273	391	238	220	313	102	79	1499	192	115	802	237
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.75	0.25	1.00	2.66	0.34	1.00	1.54	0.46
Final Sat.:	1600	1600	1600	1600	1206	394	1600	4255	545	1600	2470	730
Capacity Analysis Module:												
Vol/Sat:	0.17	0.24	0.15	0.14	0.26	0.26	0.05	0.35	0.35	0.07	0.32	0.32
Crit Moves:	****				****			****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Compton Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.522
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	7	477	49	44	311	7	9	13	7	44	14	46
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	7	482	49	44	314	7	9	13	7	44	14	46
Added Vol:	0	33	66	38	54	0	0	0	0	95	0	36
PasserByVol:	11	46	0	0	24	0	0	0	6	0	0	0
Initial Fut:	18	561	115	82	392	7	9	13	13	139	14	82
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	561	115	82	392	7	9	13	13	139	14	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	561	115	82	392	7	9	13	13	139	14	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	561	115	82	392	7	9	13	13	139	14	82
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.05	1.62	0.33	0.34	1.63	0.03	0.26	0.37	0.37	0.59	0.06	0.35
Final Sat.:	83	2584	532	548	2605	47	412	595	593	945	96	559
Capacity Analysis Module:												
Vol/Sat:	0.01	0.22	0.22	0.05	0.15	0.15	0.01	0.02	0.02	0.09	0.15	0.15
Crit Moves:		****			****			****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 Compton Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.817
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	71	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1	1 0	1	0 1
Volume Module:												
Base Vol:	65	241	70	78	281	69	45	273	89	136	416	111
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	66	243	71	79	284	70	45	276	90	137	420	112
Added Vol:	0	78	5	3	122	25	17	37	0	9	41	4
PasserByVol:	0	0	23	32	0	0	0	160	0	54	299	61
Initial Fut:	66	321	99	114	406	95	62	473	90	200	760	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	66	321	99	114	406	95	62	473	90	200	760	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	66	321	99	114	406	95	62	473	90	200	760	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	66	321	99	114	406	95	62	473	90	200	760	177
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.53	0.47	1.00	1.62	0.38	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2448	752	1600	2595	605	1600	1600	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.13	0.13	0.07	0.16	0.16	0.04	0.30	0.06	0.13	0.48	0.11
Crit Moves:		****			****			****			****	

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Willowbrook
Existing+Project Conditions - PM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Compton Ave & 124th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.319
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	349	25	46	302	4	1	4	3	17	3	42
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	352	25	46	305	4	1	4	3	17	3	42
Added Vol:	0	82	0	0	131	0	0	0	0	0	0	0
PasserByVol:	0	22	0	0	51	0	0	0	0	0	0	0
Initial Fut:	0	456	25	46	487	4	1	4	3	17	3	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	456	25	46	487	4	1	4	3	17	3	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	456	25	46	487	4	1	4	3	17	3	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	456	25	46	487	4	1	4	3	17	3	42
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.90	0.10	0.17	1.81	0.02	0.12	0.50	0.38	0.27	0.05	0.68
Final Sat.:	0	3032	168	277	2899	24	200	800	600	439	77	1084
Capacity Analysis Module:												
Vol/Sat:	0.00	0.15	0.15	0.03	0.17	0.17	0.00	0.01	0.01	0.01	0.04	0.04
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project Conditions - PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

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Intersection #26 Wilmington Ave & Imperial Hwy

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.820
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	71	Level Of Service:	D

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	159	451	47	30	618	70	137	15	375	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	161	456	47	30	624	71	138	15	379	0	0	0
Added Vol:	12	24	0	0	178	4	10	0	67	0	0	0
PasserByVol:	21	47	0	0	127	0	0	0	11	0	0	0
Initial Fut:	194	527	47	30	929	75	148	15	457	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	194	527	47	30	929	75	148	15	457	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	527	47	30	929	75	148	15	457	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	194	527	47	30	929	75	148	15	457	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.83	0.17	1.00	1.85	0.15	1.00	1.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	2935	265	1600	2962	238	1600	1600	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.12	0.18	0.18	0.02	0.31	0.31	0.09	0.01	0.29	0.00	0.00	0.00
Crit Moves:	****				****				****			

****

Willowbrook
Existing+Project Conditions - PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Wilmington Ave & I-105 e/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.988
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	179	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	0	0 0	2 0	2	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	326	902	0	0	529	421	328	0	179	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	329	911	0	0	534	425	331	0	181	0	0	0
Added Vol:	150	247	0	0	185	60	3	0	125	0	0	0
PasserByVol:	160	219	0	0	137	0	0	0	48	0	0	0
Initial Fut:	639	1377	0	0	856	485	334	0	354	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	639	1377	0	0	856	485	334	0	354	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	639	1377	0	0	856	485	334	0	354	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	639	1377	0	0	856	485	334	0	354	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.00	2.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	4800	0	0	3200	3200	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.40	0.29	0.00	0.00	0.27	0.15	0.21	0.00	0.22	0.00	0.00	0.00
Crit Moves:	****				****				****			

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Wilmington Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	1.019
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	2 0	1	1 0	0 0	1! 0	0	0 1	0 0	1
Volume Module:												
Base Vol:	28	992	84	132	547	32	108	50	50	37	44	137
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	28	1002	85	133	552	32	109	51	51	37	44	138
Added Vol:	147	39	29	64	17	230	315	2	203	19	2	44
PasserByVol:	0	379	0	0	186	0	0	0	0	0	0	0
Initial Fut:	175	1420	114	197	755	262	424	53	254	56	46	182
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	175	1420	114	197	755	262	424	53	254	56	46	182
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	175	1420	114	197	755	262	424	53	254	56	46	182
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	175	1420	114	197	755	262	424	53	254	56	46	182
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.78	0.22	2.00	1.48	0.52	0.58	0.07	0.35	0.55	0.45	1.00
Final Sat.:	1600	4444	356	2880	2375	825	929	115	556	877	723	1600
Capacity Analysis Module:												
Vol/Sat:	0.11	0.32	0.32	0.07	0.32	0.32	0.27	0.46	0.46	0.04	0.06	0.11
Crit Moves:	****				****			****			****	

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Willowbrook
Existing+Project Conditions - PM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

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Intersection #29 Wilmington Ave & 120th St (West)

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.934
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	121	Level Of Service:	E

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1	1 0	1	0 1
Volume Module:												
Base Vol:	74	718	80	79	485	45	295	298	184	91	146	136
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	75	725	81	80	490	45	298	301	186	92	147	137
Added Vol:	8	185	2	3	230	5	27	20	17	5	18	2
PasserByVol:	0	289	0	0	93	103	110	20	0	7	11	0
Initial Fut:	83	1199	83	83	813	153	435	341	203	104	176	139
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	83	1199	83	83	813	153	435	341	203	104	176	139
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	1199	83	83	813	153	435	341	203	104	176	139
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	83	1199	83	83	813	153	435	341	203	104	176	139
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.87	0.13	1.00	1.68	0.32	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2993	207	1600	2692	508	1600	1600	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.40	0.40	0.05	0.30	0.30	0.27	0.21	0.13	0.06	0.11	0.09
Crit Moves:		****			****			****			****	

****

Willowbrook
Existing+Project Conditions - PM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

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Intersection #30 Wilmington Ave & 120th St (East)

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.756
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	8	807	17	35	707	16	53	2	14	2	0	15
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	8	815	17	35	714	16	54	2	14	2	0	15
Added Vol:	0	190	2	6	246	0	0	0	0	1	0	5
PasserByVol:	113	0	0	0	0	100	289	47	215	0	24	0
Initial Fut:	121	1005	19	41	960	116	343	49	229	3	24	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	121	1005	19	41	960	116	343	49	229	3	24	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	1005	19	41	960	116	343	49	229	3	24	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	121	1005	19	41	960	116	343	49	229	3	24	20
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.96	0.04	1.00	1.78	0.22	0.87	0.13	1.00	0.06	0.51	0.43
Final Sat.:	1600	3140	60	1600	2855	345	1400	200	1600	102	814	683
Capacity Analysis Module:												
Vol/Sat:	0.08	0.32	0.32	0.03	0.34	0.34	0.21	0.24	0.14	0.00	0.03	0.03
Crit Moves:	****				****		****				****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Wilmington Ave & 124th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.608
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	0	0 1!	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	21	757	46	64	615	18	13	43	20	35	47	49
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	21	765	46	65	621	18	13	43	20	35	47	49
Added Vol:	0	192	0	0	248	0	0	0	0	0	0	0
PasserByVol:	0	86	0	38	165	0	0	0	0	0	0	20
Initial Fut:	21	1043	46	103	1034	18	13	43	20	35	47	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	21	1043	46	103	1034	18	13	43	20	35	47	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	1043	46	103	1034	18	13	43	20	35	47	69
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	1043	46	103	1034	18	13	43	20	35	47	69
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.91	0.09	1.00	1.97	0.03	0.17	0.57	0.26	0.23	0.31	0.46
Final Sat.:	1600	3063	137	1600	3145	55	274	905	421	371	499	730
Capacity Analysis Module:												
Vol/Sat:	0.01	0.34	0.34	0.06	0.33	0.33	0.01	0.05	0.05	0.02	0.10	0.10
Crit Moves:		****			****			****			****	

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Willowbrook
Existing+Project Conditions - PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Wilmington Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.923
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	113	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	144	579	83	101	480	86	182	927	326	44	296	68
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	145	585	84	102	485	87	184	936	329	44	299	69
Added Vol:	16	139	0	52	187	8	14	7	27	0	6	39
PasserByVol:	0	66	0	32	127	0	0	0	0	0	0	16
Initial Fut:	161	790	84	186	799	95	198	943	356	44	305	124
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	161	790	84	186	799	95	198	943	356	44	305	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	161	790	84	186	799	95	198	943	356	44	305	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	161	790	84	186	799	95	198	943	356	44	305	124
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.79	0.21	1.00	1.45	0.55	1.00	1.42	0.58
Final Sat.:	1600	2893	307	1600	2860	340	1600	2323	877	1600	2277	923
Capacity Analysis Module:												
Vol/Sat:	0.10	0.27	0.27	0.12	0.28	0.28	0.12	0.41	0.41	0.03	0.13	0.13
Crit Moves:		****			****			****			****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Willowbrook Ave W & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.486
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	0 1	0	0 0	1 0	0	0 0	1 0	0	1 0	0 0
Volume Module:												
Base Vol:	50	0	17	0	28	56	0	323	93	11	163	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	51	0	17	0	28	57	0	326	94	11	165	0
Added Vol:	12	0	0	0	0	0	0	11	9	0	17	0
PasserByVol:	0	0	0	0	0	0	0	19	0	0	17	0
Initial Fut:	63	0	17	0	28	57	0	356	103	11	199	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	0	17	0	28	57	0	356	103	11	199	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	0	17	0	28	57	0	356	103	11	199	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	0	17	0	28	57	0	356	103	11	199	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.33	0.67	0.00	0.78	0.22	0.05	0.95	0.00
Final Sat.:	1600	0	1600	0	533	1067	0	1241	359	85	1515	0
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.01	0.00	0.05	0.05	0.00	0.29	0.29	0.01	0.13	0.00
Crit Moves:	****				****			****			****	

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Willowbrook Ave E & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.377
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 1! 0	0	0	0 1! 0	0	1	0 0 1	0	1	0 0 1	0
Volume Module:												
Base Vol:	50	14	27	7	12	42	70	201	90	9	85	5
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	51	14	27	7	12	42	71	203	91	9	86	5
Added Vol:	0	1	0	0	1	3	6	5	0	0	14	0
PasserByVol:	0	0	0	0	0	0	0	19	0	0	17	0
Initial Fut:	51	15	27	7	13	45	77	227	91	9	117	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	15	27	7	13	45	77	227	91	9	117	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	15	27	7	13	45	77	227	91	9	117	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	15	27	7	13	45	77	227	91	9	117	5
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.55	0.16	0.29	0.11	0.20	0.69	1.00	0.71	0.29	1.00	0.96	0.04
Final Sat.:	870	261	470	172	320	1108	1600	1143	457	1600	1534	66
Capacity Analysis Module:												
Vol/Sat:	0.03	0.06	0.06	0.00	0.04	0.04	0.05	0.20	0.20	0.01	0.08	0.08
Crit Moves:	****				****			****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #36 Imperial Hwy & I-105 w/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.918
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	110	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0	0	1! 0	0	1 0	3 1	1	2 0	2 1 0
Volume Module:												
Base Vol:	544	8	271	9	22	25	47	1612	339	596	812	1
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	549	8	274	9	22	25	47	1628	342	602	820	1
Added Vol:	146	7	3	0	0	0	18	130	158	2	77	3
PasserByVol:	71	0	7	0	0	0	0	56	95	0	26	0
Initial Fut:	766	15	284	9	22	25	65	1814	595	604	923	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	766	15	284	9	22	25	65	1814	595	604	923	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	766	15	284	9	22	25	65	1814	595	604	923	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	766	15	284	9	22	25	65	1814	595	604	923	4
OvlAdjVol:									59			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.96	0.04	1.00	0.16	0.39	0.45	1.00	3.76	1.24	2.00	2.99	0.01
Final Sat.:	2824	56	1600	257	629	714	1600	6023	1977	2880	4779	21
Capacity Analysis Module:												
Vol/Sat:	0.27	0.27	0.18	0.04	0.04	0.04	0.04	0.30	0.30	0.21	0.19	0.19
OvlAdjV/S:									0.03			
Crit Moves:	****					****		****		****		

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #37 Willowbrook Ave W & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.540
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	2 0	1	0 0	2 0	1
Volume Module:												
Base Vol:	24	100	9	34	113	16	14	986	68	0	358	34
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	24	101	9	34	114	16	14	996	69	0	362	34
Added Vol:	0	6	0	5	4	0	0	60	0	0	45	7
PasserByVol:	0	5	0	0	7	0	0	20	0	0	11	0
Initial Fut:	24	112	9	39	125	16	14	1076	69	0	418	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	112	9	39	125	16	14	1076	69	0	418	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	112	9	39	125	16	14	1076	69	0	418	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	112	9	39	125	16	14	1076	69	0	418	41
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.92	0.08	1.00	0.89	0.11	1.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	1600	1480	120	1600	1417	183	1600	3200	1600	0	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.08	0.02	0.09	0.09	0.01	0.34	0.04	0.00	0.13	0.03
Crit Moves:	****				****			****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #38 Willowbrook Ave E & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.535
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0	0 1	1	0 1	1	0	1 1 0
Volume Module:												
Base Vol:	12	55	33	32	80	14	0	981	44	34	372	39
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	12	56	33	32	81	14	0	991	44	34	376	39
Added Vol:	0	0	0	0	0	1	1	64	0	0	51	0
PasserByVol:	0	3	0	0	6	0	0	20	0	0	11	0
Initial Fut:	12	59	33	32	87	15	1	1075	44	34	438	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	59	33	32	87	15	1	1075	44	34	438	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	59	33	32	87	15	1	1075	44	34	438	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	59	33	32	87	15	1	1075	44	34	438	39
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.64	0.36	1.00	0.85	0.15	0.01	1.99	1.00	1.00	1.83	0.17
Final Sat.:	1600	1020	580	1600	1362	238	3	3197	1600	1600	2936	264
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.02	0.06	0.06	0.00	0.34	0.03	0.02	0.15	0.15
Crit Moves:		****			****				****		****	

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #39 Mona Blvd & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.875
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	89	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 2 1	0	1	0 2 1 0
Volume Module:												
Base Vol:	184	67	247	54	68	72	94	1615	240	152	1110	43
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	186	68	249	55	69	73	95	1631	242	154	1121	43
Added Vol:	3	0	5	0	0	0	0	116	17	8	79	0
PasserByVol:	0	7	0	0	4	0	0	56	7	0	26	0
Initial Fut:	189	75	254	55	73	73	95	1803	266	162	1226	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	189	75	254	55	73	73	95	1803	266	162	1226	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	75	254	55	73	73	95	1803	266	162	1226	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	75	254	55	73	73	95	1803	266	162	1226	43
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.72	0.28	1.00	0.27	0.37	0.36	1.00	2.61	0.39	1.00	2.90	0.10
Final Sat.:	1147	453	1600	436	582	582	1600	4182	618	1600	4636	164
Capacity Analysis Module:												
Vol/Sat:	0.12	0.16	0.16	0.03	0.12	0.12	0.06	0.43	0.43	0.10	0.26	0.26
Crit Moves:	****				****			****			****	

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Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	147	74	27	220	331	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.955				0.974	
Flt Protected	0.968		0.950			
Satd. Flow (prot)	1722	0	1770	1863	1814	0
Flt Permitted	0.968		0.950			
Satd. Flow (perm)	1722	0	1770	1863	1814	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	266			283	255	
Travel Time (s)	6.0			6.4	5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	160	80	29	239	360	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	240	0	29	239	447	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	147	74	27	220	331	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	80	29	239	360	87

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	701	403	447	0	-	0
Stage 1	403	-	-	-	-	-
Stage 2	298	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	405	647	1113	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	394	647	1113	-	-	-
Mov Cap-2 Maneuver	394	-	-	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	733	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.6	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1113	-	453	-	-
HCM Lane V/C Ratio	0.026	-	0.53	-	-
HCM Control Delay (s)	8.3	-	21.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	3	-	-

Willowbrook
Existing+Project Conditions - PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #41 Mona Blvd & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.635
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	1	0	0	1	0
Volume Module:												
Base Vol:	82	112	62	18	88	40	38	351	54	47	957	32
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	83	113	63	18	89	40	38	355	55	47	967	32
Added Vol:	0	1	0	3	1	2	0	64	0	0	49	2
PasserByVol:	0	7	0	0	13	0	0	20	0	0	11	0
Initial Fut:	83	121	63	21	103	42	38	439	55	47	1027	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	83	121	63	21	103	42	38	439	55	47	1027	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	121	63	21	103	42	38	439	55	47	1027	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	83	121	63	21	103	42	38	439	55	47	1027	34
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.31	0.46	0.23	0.17	0.83	1.00	1.00	1.78	0.22	1.00	1.94	0.06
Final Sat.:	497	727	376	273	1327	1600	1600	2846	354	1600	3096	104
Capacity Analysis Module:												
Vol/Sat:	0.05	0.17	0.17	0.01	0.08	0.03	0.02	0.15	0.15	0.03	0.33	0.33
Crit Moves:		****		****			****				****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #43 Alameda St & 103rd St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.872
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	88	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1	1 0	0 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	115	736	0	0	1222	235	190	0	158	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	116	743	0	0	1234	237	192	0	160	0	0	0
Added Vol:	0	49	0	0	36	0	0	0	0	0	0	0
PasserByVol:	0	16	0	0	4	9	8	0	0	0	0	0
Initial Fut:	116	808	0	0	1274	246	200	0	160	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	116	808	0	0	1274	246	200	0	160	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	808	0	0	1274	246	200	0	160	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	808	0	0	1274	246	200	0	160	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.68	0.32	0.56	0.00	0.44	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2682	518	890	0	710	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.25	0.00	0.00	0.48	0.48	0.12	0.00	0.22	0.00	0.00	0.00
Crit Moves:	****				****				****			

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #45 Alameda St & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.818
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	71	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	1 0	1 0	3	0 1
Volume Module:												
Base Vol:	214	682	138	101	693	449	409	1282	199	102	653	65
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	216	689	139	102	700	453	413	1295	201	103	660	66
Added Vol:	5	0	0	0	0	36	49	61	11	0	45	0
PasserByVol:	0	0	0	0	0	12	37	23	0	0	15	0
Initial Fut:	221	689	139	102	700	501	499	1379	212	103	720	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	221	689	139	102	700	501	499	1379	212	103	720	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	689	139	102	700	501	499	1379	212	103	720	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	221	689	139	102	700	501	499	1379	212	103	720	66
OvlAdjVol:						224						
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.66	0.34	1.00	2.00	1.00	2.00	2.60	0.40	1.00	3.00	1.00
Final Sat.:	2880	2661	539	1600	3200	1600	2880	4160	640	1600	4800	1600
Capacity Analysis Module:												
Vol/Sat:	0.08	0.26	0.26	0.06	0.22	0.31	0.17	0.33	0.33	0.06	0.15	0.04
OvlAdjV/S:						0.14						
Crit Moves:		****			****				****		****	

Willowbrook
Existing+Project Conditions - PM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #46 Alameda St & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.912
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	106	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	102	717	98	107	699	43	50	258	95	182	699	190
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	103	724	99	108	706	43	51	261	96	184	706	192
Added Vol:	34	5	0	0	11	0	0	22	44	0	17	0
PasserByVol:	8	0	0	0	0	0	0	5	15	0	3	0
Initial Fut:	145	729	99	108	717	43	51	288	155	184	726	192
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	145	729	99	108	717	43	51	288	155	184	726	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	145	729	99	108	717	43	51	288	155	184	726	192
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	145	729	99	108	717	43	51	288	155	184	726	192
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.76	0.24	1.00	1.89	0.11	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2818	382	1600	3017	183	1600	3200	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.26	0.26	0.07	0.24	0.24	0.03	0.09	0.10	0.11	0.45	0.12
Crit Moves:		****		****			****				****	

Willowbrook
Existing+Project Conditions - PM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #52 El Segundo Blvd & San Pedro St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.612
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	101	322	51	86	228	85	146	1415	72	33	568	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	322	51	86	228	85	146	1415	72	33	568	85
Added Vol:	0	0	0	0	0	0	0	40	0	0	54	0
PasserByVol:	0	0	0	0	0	0	0	16	0	0	31	0
Initial Fut:	101	322	51	86	228	85	146	1471	72	33	653	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	322	51	86	228	85	146	1471	72	33	653	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	322	51	86	228	85	146	1471	72	33	653	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	322	51	86	228	85	146	1471	72	33	653	85
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.73	0.27	1.00	1.46	0.54	1.00	2.86	0.14	1.00	2.65	0.35
Final Sat.:	1600	2762	438	1600	2331	869	1600	4576	224	1600	4247	553
Capacity Analysis Module:												
Vol/Sat:	0.06	0.12	0.12	0.05	0.10	0.10	0.09	0.32	0.32	0.02	0.15	0.15
Crit Moves:		****		****				****		****		

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Willowbrook
Existing+Project Conditions - PM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Slater Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.676
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	1 0	0 0	1	1 0	2 0	0	0 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	10	0	48	46	1643	0	0	692	16
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	0	0	10	0	48	46	1659	0	0	699	16
Added Vol:	0	0	0	0	0	0	0	78	0	0	108	0
PasserByVol:	0	0	0	0	0	0	0	10	0	0	29	0
Initial Fut:	0	0	0	10	0	48	46	1747	0	0	836	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	10	0	48	46	1747	0	0	836	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	10	0	48	46	1747	0	0	836	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	10	0	48	46	1747	0	0	836	16
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	1.96	0.04
Final Sat.:	0	0	0	1600	0	1600	1600	3200	0	0	3139	61
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.03	0.03	0.55	0.00	0.00	0.27	0.27
Crit Moves:						****		****		****		

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Willowbrook
Existing+Project Conditions - PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Compton Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.790
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	67	31	16	111	64	152	235	1347	103	16	449	74
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	68	31	16	112	65	154	237	1360	104	16	453	75
Added Vol:	0	0	0	33	0	98	63	15	0	0	11	19
PasserByVol:	0	12	0	0	23	29	10	0	0	0	0	0
Initial Fut:	68	43	16	145	88	281	310	1375	104	16	464	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	43	16	145	88	281	310	1375	104	16	464	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	43	16	145	88	281	310	1375	104	16	464	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	43	16	145	88	281	310	1375	104	16	464	94
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.46	0.54	1.00	1.00	1.00	1.00	1.86	0.14	1.00	1.66	0.34
Final Sat.:	1600	2330	870	1600	1600	1600	1600	2975	225	1600	2663	537
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.02	0.09	0.05	0.18	0.19	0.46	0.46	0.01	0.17	0.17
Crit Moves:	****					****		****		****		

Willowbrook
Existing+Project Conditions - PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Wilmington Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.941
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	126	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	153	674	153	147	475	135	114	1059	163	93	468	114
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	155	681	155	148	480	136	115	1070	165	94	473	115
Added Vol:	0	111	0	50	155	9	9	0	0	0	1	36
PasserByVol:	0	39	0	26	75	14	8	0	0	0	0	14
Initial Fut:	155	831	155	224	710	159	132	1070	165	94	474	165
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	831	155	224	710	159	132	1070	165	94	474	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	831	155	224	710	159	132	1070	165	94	474	165
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	831	155	224	710	159	132	1070	165	94	474	165
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.69	0.31	1.00	1.63	0.37	1.00	2.00	1.00	1.00	1.48	0.52
Final Sat.:	1600	2698	502	1600	2613	587	1600	3200	1600	1600	2373	827
Capacity Analysis Module:												
Vol/Sat:	0.10	0.31	0.31	0.14	0.27	0.27	0.08	0.33	0.10	0.06	0.20	0.20
Crit Moves:		****		****				****		****		

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #42 Willowbrook Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.748
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	30	107	16	132	79	27	15	1314	19	29	796	123
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	30	108	16	133	80	27	15	1327	19	29	804	124
Added Vol:	0	0	0	4	0	0	0	50	0	0	37	6
PasserByVol:	0	1	0	6	2	0	0	20	0	0	11	3
Initial Fut:	30	109	16	143	82	27	15	1397	19	29	852	133
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	109	16	143	82	27	15	1397	19	29	852	133
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	109	16	143	82	27	15	1397	19	29	852	133
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	30	109	16	143	82	27	15	1397	19	29	852	133
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.19	0.71	0.10	0.57	0.32	0.11	1.00	1.97	0.03	1.00	1.73	0.27
Final Sat.:	312	1122	166	909	519	173	1600	3157	43	1600	2767	433
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.09	0.16	0.16	0.01	0.44	0.44	0.02	0.31	0.31
Crit Moves:		****		****				****		****		

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #55 El Segundo Blvd & Santa Fe Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.717
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	151	513	69	39	368	68	96	270	213	12	68	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	151	513	69	39	368	68	96	270	213	12	68	26
Added Vol:	0	0	0	0	0	0	0	22	0	0	17	0
PasserByVol:	0	0	0	0	0	0	0	5	0	0	3	0
Initial Fut:	151	513	69	39	368	68	96	297	213	12	88	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	151	513	69	39	368	68	96	297	213	12	88	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	151	513	69	39	368	68	96	297	213	12	88	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	151	513	69	39	368	68	96	297	213	12	88	26
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.76	0.24	1.00	1.69	0.31	0.16	0.49	0.35	0.09	0.70	0.21
Final Sat.:	1600	2821	379	1600	2701	499	253	784	562	152	1117	330
Capacity Analysis Module:												
Vol/Sat:	0.09	0.18	0.18	0.02	0.14	0.14	0.06	0.38	0.38	0.01	0.08	0.08
Crit Moves:	****				****			****			****	

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Willowbrook
Existing+Project Conditions - PM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #56 Alameda St & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.638
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	136	771	0	0	868	77	111	0	198	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	136	771	0	0	868	77	111	0	198	0	0	0
Added Vol:	0	36	0	0	49	0	0	0	0	0	0	0
PasserByVol:	7	8	0	0	15	0	0	0	15	0	0	0
Initial Fut:	143	815	0	0	932	77	111	0	213	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	143	815	0	0	932	77	111	0	213	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	815	0	0	932	77	111	0	213	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	143	815	0	0	932	77	111	0	213	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.85	0.15	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2956	244	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.09	0.25	0.00	0.00	0.32	0.32	0.07	0.00	0.13	0.00	0.00	0.00
Crit Moves:	****				****				****			

Willowbrook
Existing+Project Conditions - PM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #57 Central Ave & W Compton Bvld

Cycle (sec):	100	Critical Vol./Cap.(X):	0.813
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	125	725	114	171	577	98	102	886	201	90	352	126
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	125	725	114	171	577	98	102	886	201	90	352	126
Added Vol:	0	27	0	0	37	0	0	0	0	0	0	0
PasserByVol:	0	8	0	0	14	1	1	1	0	0	1	0
Initial Fut:	125	760	114	171	628	99	103	887	201	90	353	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	125	760	114	171	628	99	103	887	201	90	353	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	125	760	114	171	628	99	103	887	201	90	353	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	125	760	114	171	628	99	103	887	201	90	353	126
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.47	0.53
Final Sat.:	1600	2783	417	1600	3200	1600	1600	3200	1600	1600	2358	842
Capacity Analysis Module:												
Vol/Sat:	0.08	0.27	0.27	0.11	0.20	0.06	0.06	0.28	0.13	0.06	0.15	0.15
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project Conditions - PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #58 Wilmington Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.893
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	97	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	106	793	155	150	544	82	132	898	109	140	451	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	793	155	150	544	82	132	898	109	140	451	172
Added Vol:	0	111	0	0	155	0	0	0	0	0	0	0
PasserByVol:	0	31	0	8	60	1	1	0	0	0	0	5
Initial Fut:	106	935	155	158	759	83	133	898	109	140	451	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	106	935	155	158	759	83	133	898	109	140	451	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	935	155	158	759	83	133	898	109	140	451	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	935	155	158	759	83	133	898	109	140	451	177
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.80	0.20	1.00	1.78	0.22	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	2885	315	1600	2854	346	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.29	0.10	0.10	0.26	0.26	0.08	0.31	0.31	0.09	0.14	0.11
Crit Moves:		****		****				****		****		

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #59 Willowbrook Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.456
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	0 1	0	1 0	2 1	0	0 0	1 1	0
Volume Module:												
Base Vol:	15	112	15	0	112	38	15	1052	69	0	710	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	112	15	0	112	38	15	1052	69	0	710	61
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	2	1	0	0	2	0	0	2	6	0	1	0
Initial Fut:	17	113	15	0	114	38	15	1054	75	0	711	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	17	113	15	0	114	38	15	1054	75	0	711	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	113	15	0	114	38	15	1054	75	0	711	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	17	113	15	0	114	38	15	1054	75	0	711	61
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.12	0.78	0.10	0.00	0.75	0.25	1.00	2.80	0.20	0.00	1.84	0.16
Final Sat.:	188	1247	166	0	1200	400	1600	4481	319	0	2947	253
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.09	0.00	0.10	0.10	0.01	0.24	0.24	0.00	0.24	0.24
Crit Moves:	****				****		****				****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #60 Central Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.898
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	99	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	119	782	148	180	632	65	115	969	132	65	334	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	119	782	148	180	632	65	115	969	132	65	334	158
Added Vol:	0	27	0	0	37	0	0	0	0	0	0	0
PasserByVol:	0	3	0	0	5	1	1	1	0	0	1	0
Initial Fut:	119	812	148	180	674	66	116	970	132	65	335	158
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	119	812	148	180	674	66	116	970	132	65	335	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	119	812	148	180	674	66	116	970	132	65	335	158
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	119	812	148	180	674	66	116	970	132	65	335	158
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.69	0.31	1.00	1.82	0.18	1.00	1.76	0.24	1.00	2.00	1.00
Final Sat.:	1600	2707	493	1600	2915	285	1600	2817	383	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.30	0.30	0.11	0.23	0.23	0.07	0.34	0.34	0.04	0.10	0.10
Crit Moves:		****		****				****		****		

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #61 Wilmington Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.924
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	114	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	79	894	113	129	569	70	107	1012	159	105	425	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	894	113	129	569	70	107	1012	159	105	425	158
Added Vol:	0	111	0	0	155	0	0	0	0	0	0	0
PasserByVol:	0	24	0	8	47	1	1	0	0	0	0	3
Initial Fut:	79	1029	113	137	771	71	108	1012	159	105	425	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	1029	113	137	771	71	108	1012	159	105	425	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	1029	113	137	771	71	108	1012	159	105	425	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	1029	113	137	771	71	108	1012	159	105	425	161
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.83	0.17	1.00	2.00	1.00	1.00	1.45	0.55
Final Sat.:	1600	2883	317	1600	2930	270	1600	3200	1600	1600	2321	879
Capacity Analysis Module:												
Vol/Sat:	0.05	0.36	0.36	0.09	0.26	0.26	0.07	0.32	0.10	0.07	0.18	0.18
Crit Moves:		****		****				****		****		

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #62 Wilmington Ave & Greenleaf Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.952
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	135	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	70	970	330	148	564	19	45	532	34	98	224	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	970	330	148	564	19	45	532	34	98	224	169
Added Vol:	0	111	0	0	155	0	0	0	0	0	0	0
PasserByVol:	0	18	0	2	36	0	0	0	0	0	0	1
Initial Fut:	70	1099	330	150	755	19	45	532	34	98	224	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	1099	330	150	755	19	45	532	34	98	224	170
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	1099	330	150	755	19	45	532	34	98	224	170
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	1099	330	150	755	19	45	532	34	98	224	170
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.95	0.05	1.00	0.94	0.06	1.00	0.57	0.43
Final Sat.:	1600	3200	1600	1600	3121	79	1600	1504	96	1600	910	690
Capacity Analysis Module:												
Vol/Sat:	0.04	0.34	0.21	0.09	0.24	0.24	0.03	0.35	0.35	0.06	0.25	0.25
Crit Moves:		****		****				****		****		

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #63 Wilmington Ave & Walnut St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.825
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	73	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	1	0 1	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	54	1153	85	34	627	25	152	451	184	34	63	63
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	1153	85	34	627	25	152	451	184	34	63	63
Added Vol:	0	111	0	0	155	0	0	0	0	0	0	0
PasserByVol:	0	19	0	0	37	0	0	0	0	0	0	0
Initial Fut:	54	1283	85	34	819	25	152	451	184	34	63	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	1283	85	34	819	25	152	451	184	34	63	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	1283	85	34	819	25	152	451	184	34	63	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	1283	85	34	819	25	152	451	184	34	63	63
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	1600	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.03	0.40	0.05	0.02	0.26	0.02	0.10	0.28	0.12	0.02	0.04	0.04
Crit Moves:		****		****				****		****		

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #64 Central Ave & Greenleaf Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.680
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 0	1	1 0	2 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	866	326	311	507	0	0	0	0	68	0	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	866	326	311	507	0	0	0	0	68	0	169
Added Vol:	0	27	0	0	37	0	0	0	0	0	0	0
PasserByVol:	0	3	0	0	5	0	0	0	0	0	0	0
Initial Fut:	0	896	326	311	549	0	0	0	0	68	0	169
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	896	326	311	549	0	0	0	0	68	0	169
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	896	326	311	549	0	0	0	0	68	0	169
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	896	326	311	549	0	0	0	0	68	0	169
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3200	1600	1600	3200	0	0	0	0	1600	0	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.20	0.19	0.17	0.00	0.00	0.00	0.00	0.04	0.00	0.11
Crit Moves:		****		****								****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #65 Willowbrook Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.530
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	2 0	1	0 0	1 1	0
Volume Module:												
Base Vol:	16	89	13	35	67	20	18	1056	20	0	571	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	89	13	35	67	20	18	1056	20	0	571	39
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	3	0	0	8	0	0	9	0	0	3	0
Initial Fut:	16	92	13	35	75	20	18	1065	20	0	574	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	92	13	35	75	20	18	1065	20	0	574	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	92	13	35	75	20	18	1065	20	0	574	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	92	13	35	75	20	18	1065	20	0	574	39
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.13	0.76	0.11	0.27	0.58	0.15	1.00	2.00	1.00	0.00	1.87	0.13
Final Sat.:	212	1217	172	431	923	246	1600	3200	1600	0	2996	204
Capacity Analysis Module:												
Vol/Sat:	0.01	0.08	0.08	0.02	0.08	0.08	0.01	0.33	0.01	0.00	0.19	0.19
Crit Moves:		****			****			****				

Willowbrook
Existing+Project Conditions - PM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #66 Alameda St. West & Greenleaf Blvd.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.748
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1
Volume Module:												
Base Vol:	84	546	219	61	646	83	93	599	80	208	211	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	546	219	61	646	83	93	599	80	208	211	43
Added Vol:	0	36	0	0	49	0	0	0	0	0	0	0
PasserByVol:	0	15	0	0	30	0	0	2	0	0	1	0
Initial Fut:	84	597	219	61	725	83	93	601	80	208	212	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	84	597	219	61	725	83	93	601	80	208	212	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	597	219	61	725	83	93	601	80	208	212	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	84	597	219	61	725	83	93	601	80	208	212	43
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.46	0.54	1.00	1.79	0.21	1.00	1.77	0.23	1.00	1.00	1.00
Final Sat.:	1600	2341	859	1600	2871	329	1600	2824	376	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.26	0.25	0.04	0.25	0.25	0.06	0.21	0.21	0.13	0.13	0.03
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project Conditions - PM Peak
11-1-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #44 Alameda St & Abbott Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.651
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	1 0	1 0	1	1 0	0 0	1! 0	0	1 1	0	0 1
Volume Module:												
Base Vol:	0	687	236	201	1116	0	6	24	2	229	1	136
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	694	238	203	1127	0	6	24	2	231	1	137
Added Vol:	0	49	0	0	36	0	0	0	0	0	0	0
PasserByVol:	0	16	21	0	4	0	0	0	0	8	0	0
Initial Fut:	0	759	259	203	1167	0	6	24	2	239	1	137
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	759	259	203	1167	0	6	24	2	239	1	137
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	759	259	203	1167	0	6	24	2	239	1	137
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	759	259	203	1167	0	6	24	2	239	1	137
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.49	0.51	1.00	2.00	0.00	0.19	0.75	0.06	1.99	0.01	1.00
Final Sat.:	0	2385	815	1600	3200	0	300	1200	100	3187	13	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.32	0.13	0.36	0.00	0.02	0.02	0.02	0.08	0.08	0.09
Crit Moves:		****		****				****				****

Willowbrook
Existing+Project Conditions - PM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #53 Imperial Hway & Fernwood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.781
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	1	0	1 1	0	1	0 1 0
Volume Module:												
Base Vol:	95	70	7	104	90	9	44	1264	221	7	789	143
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	95	70	7	104	90	9	44	1264	221	7	789	143
Added Vol:	0	0	0	0	0	0	0	61	0	0	45	0
PasserByVol:	0	0	0	0	0	0	0	23	0	0	15	0
Initial Fut:	95	70	7	104	90	9	44	1348	221	7	849	143
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	70	7	104	90	9	44	1348	221	7	849	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	70	7	104	90	9	44	1348	221	7	849	143
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	70	7	104	90	9	44	1348	221	7	849	143
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.55	0.41	0.04	0.52	0.44	0.04	1.00	1.72	0.28	1.00	1.71	0.29
Final Sat.:	884	651	65	820	709	71	1600	2749	451	1600	2739	461
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.11	0.07	0.13	0.13	0.03	0.49	0.49	0.00	0.31	0.31
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project Conditions - PM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #54 Imperial Hwy & State St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.809
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	69	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	51	454	123	72	326	124	339	1047	30	116	718	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	51	454	123	72	326	124	339	1047	30	116	718	76
Added Vol:	0	0	0	0	0	0	0	61	0	0	45	0
PasserByVol:	0	0	0	0	0	1	9	0	14	0	14	0
Initial Fut:	51	454	123	72	326	125	348	1108	44	116	777	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	454	123	72	326	125	348	1108	44	116	777	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	454	123	72	326	125	348	1108	44	116	777	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	454	123	72	326	125	348	1108	44	116	777	76
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.57	0.43	1.00	1.45	0.55	1.00	1.92	0.08	1.00	1.82	0.18
Final Sat.:	1600	2518	682	1600	2313	887	1600	3078	122	1600	2915	285
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.18	0.05	0.14	0.14	0.22	0.36	0.36	0.07	0.27	0.27
Crit Moves:		****		****			****				****	

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Intersections LOS Analysis Sheets

Existing + Project + Cumulative Conditions

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Avalon Blvd & El Segundo

Cycle (sec):	100	Critical Vol./Cap.(X):	0.757
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	0	1 0	1	0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	76	514	93	81	556	113	165	383	69	110	997	252
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	77	519	94	82	562	114	167	387	70	111	1007	255
Added Vol:	7	19	38	2	17	0	0	109	2	25	75	6
PasserByVol:	0	13	0	0	5	0	0	32	0	0	13	0
Initial Fut:	84	551	132	84	584	114	167	528	72	136	1095	261
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	84	551	132	84	584	114	167	528	72	136	1095	261
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	551	132	84	584	114	167	528	72	136	1095	261
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	84	551	132	84	584	114	167	528	72	136	1095	261
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.67	0.33	1.00	2.64	0.36	1.00	2.42	0.58
Final Sat.:	1600	2582	618	1600	2677	523	1600	4226	574	1600	3877	923
Capacity Analysis Module:												
Vol/Sat:	0.05	0.21	0.21	0.05	0.22	0.22	0.10	0.12	0.12	0.09	0.28	0.28
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Blvd & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.684
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	103	470	58	160	470	99	48	392	63	113	1049	159
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	104	475	59	162	475	100	48	396	64	114	1059	161
Added Vol:	0	47	5	8	35	4	5	47	0	1	20	2
PasserByVol:	0	8	0	0	4	0	0	8	0	0	3	0
Initial Fut:	104	530	64	170	514	104	53	451	64	115	1082	163
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	530	64	170	514	104	53	451	64	115	1082	163
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	530	64	170	514	104	53	451	64	115	1082	163
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	530	64	170	514	104	53	451	64	115	1082	163
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.79	0.21	1.00	1.66	0.34	1.00	2.63	0.37	1.00	2.61	0.39
Final Sat.:	1600	2857	343	1600	2661	539	1600	4206	594	1600	4173	627
Capacity Analysis Module:												
Vol/Sat:	0.07	0.19	0.19	0.11	0.19	0.19	0.03	0.11	0.11	0.07	0.26	0.26
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Central Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.971
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	155	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	204	659	194	125	687	209	89	400	76	170	965	85
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	206	666	196	126	694	211	90	404	77	172	975	86
Added Vol:	18	23	34	0	30	13	15	87	15	22	65	0
PasserByVol:	0	29	0	0	12	3	16	15	0	0	10	0
Initial Fut:	224	718	230	126	736	227	121	506	92	194	1050	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	224	718	230	126	736	227	121	506	92	194	1050	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	224	718	230	126	736	227	121	506	92	194	1050	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	224	718	230	126	736	227	121	506	92	194	1050	86
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.51	0.49	1.00	1.53	0.47	1.00	2.00	1.00	1.00	1.85	0.15
Final Sat.:	1600	2423	777	1600	2445	755	1600	3200	1600	1600	2958	242
Capacity Analysis Module:												
Vol/Sat:	0.14	0.30	0.30	0.08	0.30	0.30	0.08	0.16	0.06	0.12	0.35	0.35
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Central Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.870
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	87	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	135	571	71	95	644	207	121	346	125	117	979	153
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	136	577	72	96	650	209	122	349	126	118	989	155
Added Vol:	16	66	0	4	40	17	22	12	3	0	14	3
PasserByVol:	0	20	0	0	8	2	5	5	0	0	2	0
Initial Fut:	152	663	72	100	698	228	149	366	129	118	1005	158
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	152	663	72	100	698	228	149	366	129	118	1005	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	663	72	100	698	228	149	366	129	118	1005	158
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	152	663	72	100	698	228	149	366	129	118	1005	158
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.22	0.78	1.00	1.73	0.27
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3548	1252	1600	2766	434
Capacity Analysis Module:												
Vol/Sat:	0.10	0.21	0.04	0.06	0.22	0.14	0.09	0.10	0.10	0.07	0.36	0.36
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Slater Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.609
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	42	41	66	46	37	45	43	757	35	44	730	18
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	42	41	67	46	37	45	43	765	35	44	737	18
Added Vol:	0	0	0	0	0	0	0	67	0	0	56	0
PasserByVol:	0	0	18	9	0	0	0	209	0	8	83	4
Initial Fut:	42	41	85	55	37	45	43	1041	35	52	876	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	41	85	55	37	45	43	1041	35	52	876	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	41	85	55	37	45	43	1041	35	52	876	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	41	85	55	37	45	43	1041	35	52	876	22
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.25	0.50	0.40	0.27	0.33	1.00	1.93	0.07	1.00	1.95	0.05
Final Sat.:	403	393	804	642	432	526	1600	3095	105	1600	3121	79
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.11	0.03	0.09	0.09	0.03	0.34	0.34	0.03	0.28	0.28
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Compton Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.127
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	114	332	167	113	289	134	75	660	171	190	1489	161
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	115	335	169	114	292	135	76	667	173	192	1504	163
Added Vol:	95	26	40	5	42	0	1	49	172	87	26	3
PasserByVol:	2	14	0	0	34	0	0	17	3	0	7	0
Initial Fut:	212	375	209	119	368	135	77	733	348	279	1537	166
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	212	375	209	119	368	135	77	733	348	279	1537	166
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	212	375	209	119	368	135	77	733	348	279	1537	166
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	212	375	209	119	368	135	77	733	348	279	1537	166
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.73	0.27	1.00	2.03	0.97	1.00	1.81	0.19
Final Sat.:	1600	1600	1600	1600	1170	430	1600	3255	1545	1600	2889	311
Capacity Analysis Module:												
Vol/Sat:	0.13	0.23	0.13	0.07	0.31	0.31	0.05	0.23	0.23	0.17	0.53	0.53
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Compton Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.579
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	9	479	86	56	539	5	39	58	36	60	17	49
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	9	484	87	57	544	5	39	59	36	61	17	49
Added Vol:	0	56	105	62	31	0	0	0	0	63	0	29
PasserByVol:	4	16	0	0	37	0	0	0	9	0	0	0
Initial Fut:	13	556	192	119	612	5	39	59	45	124	17	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	556	192	119	612	5	39	59	45	124	17	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	556	192	119	612	5	39	59	45	124	17	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	556	192	119	612	5	39	59	45	124	17	78
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.03	1.47	0.50	0.32	1.67	0.01	0.27	0.41	0.32	0.56	0.08	0.36
Final Sat.:	55	2338	807	515	2663	22	440	654	506	902	125	573
Capacity Analysis Module:												
Vol/Sat:	0.01	0.24	0.24	0.07	0.23	0.23	0.02	0.09	0.09	0.08	0.14	0.14
Crit Moves:		****		****				****		****		

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Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 Compton Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.926
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	115	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	106	296	85	129	308	115	122	465	88	88	460	160
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	107	299	86	130	311	116	123	470	89	89	465	162
Added Vol:	0	128	10	4	74	15	31	36	0	3	41	2
PasserByVol:	0	0	34	48	0	0	0	247	0	17	98	20
Initial Fut:	107	427	130	182	385	131	154	753	89	109	604	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	427	130	182	385	131	154	753	89	109	604	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	427	130	182	385	131	154	753	89	109	604	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	427	130	182	385	131	154	753	89	109	604	184
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.53	0.47	1.00	1.49	0.51	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2454	746	1600	2387	813	1600	1600	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.17	0.11	0.16	0.16	0.10	0.47	0.06	0.07	0.38	0.11
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Compton Ave & 124th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.432
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	1	360	25	59	426	7	5	12	3	36	40	108
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	1	364	25	60	430	7	5	12	3	36	40	109
Added Vol:	0	139	0	0	77	0	0	0	0	0	0	0
PasserByVol:	0	33	0	0	17	0	0	0	0	0	0	0
Initial Fut:	1	536	25	60	524	7	5	12	3	36	40	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	536	25	60	524	7	5	12	3	36	40	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	536	25	60	524	7	5	12	3	36	40	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	536	25	60	524	7	5	12	3	36	40	109
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.01	1.90	0.09	0.20	1.78	0.02	0.25	0.60	0.15	0.19	0.22	0.59
Final Sat.:	6	3050	144	323	2839	38	400	960	240	313	348	939
Capacity Analysis Module:												
Vol/Sat:	0.00	0.18	0.18	0.04	0.18	0.18	0.00	0.01	0.01	0.02	0.12	0.12
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

****

Intersection #26 Wilmington Ave & Imperial Hwy

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.832	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	75	Level Of Service:	D	

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 1	1	0	1 0 1	1	0	1 0 1	0	1	0 0 0	0	0
Volume Module:												
Base Vol:	175	422	51	31	835	143	142	23	218	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	177	426	52	31	843	144	143	23	220	0	0	0
Added Vol:	14	31	0	0	214	4	10	0	32	0	0	0
PasserByVol:	7	16	0	0	203	0	0	0	17	0	0	0
Initial Fut:	198	473	52	31	1260	148	153	23	269	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	198	473	52	31	1260	148	153	23	269	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	473	52	31	1260	148	153	23	269	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	198	473	52	31	1260	148	153	23	269	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.79	0.21	1.00	1.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	2886	314	1600	2863	337	1600	1600	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.12	0.16	0.16	0.02	0.44	0.44	0.10	0.01	0.17	0.00	0.00	0.00
Crit Moves:	****				****				****			

****

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

****

Intersection #27 Wilmington Ave & I-105 e/b Ramps

****

Cycle (sec):	100	Critical Vol./Cap.(X):	1.218
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 3	0 0		0 0 2	0 2		1 0 0	0 1		0 0 0	0 0	
Volume Module:												
Base Vol:	325	644	0	0	655	481	407	0	532	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	328	650	0	0	662	486	411	0	537	0	0	0
Added Vol:	98	201	0	0	219	28	4	0	144	0	0	0
PasserByVol:	53	73	0	0	219	0	0	0	79	0	0	0
Initial Fut:	479	924	0	0	1100	514	415	0	760	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	479	924	0	0	1100	514	415	0	760	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	479	924	0	0	1100	514	415	0	760	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	479	924	0	0	1100	514	415	0	760	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.00	2.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	4800	0	0	3200	3200	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.30	0.19	0.00	0.00	0.34	0.16	0.26	0.00	0.48	0.00	0.00	0.00
Crit Moves:	****				****				****			

****

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Wilmington Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	1.208
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	2 0	1	1 0	0 0	1! 0	0	0	1 0	0 1
Volume Module:												
Base Vol:	129	843	60	92	939	164	59	18	80	20	39	56
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	130	851	61	93	948	166	60	18	81	20	39	57
Added Vol:	209	36	8	17	19	326	214	1	139	22	2	49
PasserByVol:	0	125	0	0	298	0	0	0	0	0	0	0
Initial Fut:	339	1012	69	110	1265	492	274	19	220	42	41	106
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	339	1012	69	110	1265	492	274	19	220	42	41	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	339	1012	69	110	1265	492	274	19	220	42	41	106
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	339	1012	69	110	1265	492	274	19	220	42	41	106
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.81	0.19	2.00	1.44	0.56	0.53	0.04	0.43	0.50	0.50	1.00
Final Sat.:	1600	4495	305	2880	2305	895	854	60	686	808	792	1600
Capacity Analysis Module:												
Vol/Sat:	0.21	0.23	0.23	0.04	0.55	0.55	0.17	0.32	0.32	0.03	0.05	0.07
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #29 Wilmington Ave & 120th St (West)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.916
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	108	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1	1 0	1	0 1
Volume Module:												
Base Vol:	35	713	141	111	619	314	143	148	109	65	308	184
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	35	720	142	112	625	317	144	149	110	66	311	186
Added Vol:	19	236	1	1	159	20	15	6	6	3	16	2
PasserByVol:	0	95	0	0	140	171	33	6	0	11	15	0
Initial Fut:	54	1051	143	113	924	508	192	161	116	80	342	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	1051	143	113	924	508	192	161	116	80	342	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	1051	143	113	924	508	192	161	116	80	342	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	1051	143	113	924	508	192	161	116	80	342	188
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.76	0.24	1.00	1.29	0.71	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2816	384	1600	2065	1135	1600	1600	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.03	0.37	0.37	0.07	0.45	0.45	0.12	0.10	0.07	0.05	0.21	0.12
Crit Moves:	****				****		****				****	

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Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #30 Wilmington Ave & 120th St (East)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.684
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	26	823	7	25	659	75	18	0	3	13	3	40
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	26	831	7	25	666	76	18	0	3	13	3	40
Added Vol:	0	251	1	5	163	0	0	0	0	1	0	4
PasserByVol:	170	0	0	0	0	151	95	14	72	0	35	0
Initial Fut:	196	1082	8	30	829	227	113	14	75	14	38	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	196	1082	8	30	829	227	113	14	75	14	38	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	196	1082	8	30	829	227	113	14	75	14	38	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	196	1082	8	30	829	227	113	14	75	14	38	44
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.99	0.01	1.00	1.57	0.43	0.89	0.11	1.00	0.15	0.39	0.46
Final Sat.:	1600	3176	24	1600	2512	688	1424	176	1600	234	630	736
Capacity Analysis Module:												
Vol/Sat:	0.12	0.34	0.34	0.02	0.33	0.33	0.07	0.08	0.05	0.01	0.06	0.06
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Wilmington Ave & 124th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.705
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	49	757	40	48	670	13	20	47	41	84	99	74
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	49	765	40	48	677	13	20	47	41	85	100	75
Added Vol:	0	252	0	0	164	0	0	0	0	0	0	0
PasserByVol:	0	133	0	13	55	0	0	0	0	0	0	31
Initial Fut:	49	1150	40	61	896	13	20	47	41	85	100	106
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	1150	40	61	896	13	20	47	41	85	100	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	1150	40	61	896	13	20	47	41	85	100	106
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	1150	40	61	896	13	20	47	41	85	100	106
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.93	0.07	1.00	1.97	0.03	0.18	0.44	0.38	0.29	0.34	0.37
Final Sat.:	1600	3091	109	1600	3154	46	296	696	607	467	551	582
Capacity Analysis Module:												
Vol/Sat:	0.03	0.37	0.37	0.04	0.28	0.28	0.01	0.07	0.07	0.05	0.18	0.18
Crit Moves:		****			****			****			****	

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Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Wilmington Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.847
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	79	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	173	744	54	123	640	135	92	393	258	56	557	89
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	175	751	55	124	646	136	93	397	261	57	563	90
Added Vol:	34	185	0	36	117	11	6	11	18	0	17	62
PasserByVol:	0	102	0	11	42	0	0	0	0	0	0	26
Initial Fut:	209	1038	55	171	805	147	99	408	279	57	580	178
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	209	1038	55	171	805	147	99	408	279	57	580	178
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	1038	55	171	805	147	99	408	279	57	580	178
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	1038	55	171	805	147	99	408	279	57	580	178
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.90	0.10	1.00	1.69	0.31	1.00	1.19	0.81	1.00	1.53	0.47
Final Sat.:	1600	3040	160	1600	2705	495	1600	1901	1299	1600	2448	752
Capacity Analysis Module:												
Vol/Sat:	0.13	0.34	0.34	0.11	0.30	0.30	0.06	0.21	0.21	0.04	0.24	0.24
Crit Moves:		****		****			****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Willowbrook Ave W & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.478
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 0	1	0 0	0 1	0	0 0	0 1	0	0 1	0 0	0
Volume Module:												
Base Vol:	164	0	24	0	12	41	0	228	58	11	334	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	166	0	24	0	12	41	0	230	59	11	337	0
Added Vol:	3	0	0	0	0	0	0	7	9	0	8	0
PasserByVol:	0	0	0	0	0	0	0	6	0	0	26	0
Initial Fut:	169	0	24	0	12	41	0	243	68	11	371	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	169	0	24	0	12	41	0	243	68	11	371	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	169	0	24	0	12	41	0	243	68	11	371	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	169	0	24	0	12	41	0	243	68	11	371	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.23	0.77	0.00	0.78	0.22	0.03	0.97	0.00
Final Sat.:	1600	0	1600	0	362	1238	0	1252	348	46	1554	0
Capacity Analysis Module:												
Vol/Sat:	0.11	0.00	0.02	0.00	0.03	0.03	0.00	0.19	0.19	0.01	0.24	0.00
Crit Moves:	****				****			****				****

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Willowbrook Ave E & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.388
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	91	43	37	3	44	66	38	112	97	23	172	4
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	92	43	37	3	44	67	38	113	98	23	174	4
Added Vol:	0	0	0	0	1	4	2	5	0	0	5	0
PasserByVol:	0	0	0	0	0	0	0	6	0	0	26	0
Initial Fut:	92	43	37	3	45	71	40	124	98	23	205	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	92	43	37	3	45	71	40	124	98	23	205	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	43	37	3	45	71	40	124	98	23	205	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	43	37	3	45	71	40	124	98	23	205	4
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.53	0.25	0.22	0.03	0.38	0.59	1.00	0.56	0.44	1.00	0.98	0.02
Final Sat.:	851	402	346	41	610	949	1600	894	706	1600	1569	31
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.11	0.00	0.07	0.07	0.03	0.14	0.14	0.01	0.13	0.13
Crit Moves:	****				****			****				****

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #36 Imperial Hwy & I-105 w/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.910
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	105	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0	0	1! 0	0	1 0	3 1 1	2	0	2 1 0
Volume Module:												
Base Vol:	534	11	136	7	34	67	50	1002	222	735	1333	13
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	539	11	137	7	34	68	51	1012	224	742	1346	13
Added Vol:	181	9	1	0	0	0	7	89	112	2	131	4
PasserByVol:	116	0	11	0	0	0	0	19	32	0	42	0
Initial Fut:	836	20	149	7	34	68	58	1120	368	744	1519	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	836	20	149	7	34	68	58	1120	368	744	1519	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	836	20	149	7	34	68	58	1120	368	744	1519	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	836	20	149	7	34	68	58	1120	368	744	1519	17
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.95	0.05	1.00	0.06	0.31	0.63	1.00	3.76	1.24	2.00	2.97	0.03
Final Sat.:	2812	68	1600	104	504	993	1600	6021	1979	2880	4746	54
Capacity Analysis Module:												
Vol/Sat:	0.30	0.30	0.09	0.07	0.07	0.07	0.04	0.19	0.19	0.26	0.32	0.32
OvlAdjV/S:									0.00			
Crit Moves:	****			****				****		****		

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #37 Willowbrook Ave W & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.454
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	2	0 1	0 0	2	0 1
Volume Module:												
Base Vol:	64	166	7	0	9	6	45	444	60	0	565	37
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	65	168	7	0	9	6	45	448	61	0	571	37
Added Vol:	0	2	0	5	4	0	0	46	0	0	78	2
PasserByVol:	0	6	0	0	2	0	0	7	0	0	17	0
Initial Fut:	65	176	7	5	15	6	45	501	61	0	666	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	176	7	5	15	6	45	501	61	0	666	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	176	7	5	15	6	45	501	61	0	666	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	176	7	5	15	6	45	501	61	0	666	39
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.96	0.04	1.00	0.71	0.29	1.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	1600	1538	62	1600	1142	458	1600	3200	1600	0	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.11	0.11	0.00	0.01	0.01	0.03	0.16	0.04	0.00	0.21	0.02
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #38 Willowbrook Ave E & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.479
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	0 1	0	0 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	42	96	38	75	166	43	0	432	19	43	532	65
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	42	97	38	76	168	43	0	436	19	43	537	66
Added Vol:	0	0	0	0	0	1	0	51	0	0	80	0
PasserByVol:	0	5	0	0	2	0	0	7	0	0	17	0
Initial Fut:	42	102	38	76	170	44	0	494	19	43	634	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	102	38	76	170	44	0	494	19	43	634	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	102	38	76	170	44	0	494	19	43	634	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	102	38	76	170	44	0	494	19	43	634	66
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.73	0.27	1.00	0.79	0.21	0.00	2.00	1.00	1.00	1.81	0.19
Final Sat.:	1600	1162	438	1600	1268	332	0	3200	1600	1600	2900	300
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.09	0.05	0.13	0.13	0.00	0.15	0.01	0.03	0.22	0.22
Crit Moves:	****			****			****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #39 Mona Blvd & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.772
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 2 1	0	1	0 2 1 0
Volume Module:												
Base Vol:	139	49	155	27	102	92	37	928	176	189	1782	21
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	140	49	157	27	103	93	37	937	178	191	1800	21
Added Vol:	4	0	5	0	0	0	0	84	6	2	133	0
PasserByVol:	0	2	0	0	5	0	0	19	11	0	42	0
Initial Fut:	144	51	162	27	108	93	37	1040	195	193	1975	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	144	51	162	27	108	93	37	1040	195	193	1975	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	144	51	162	27	108	93	37	1040	195	193	1975	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	144	51	162	27	108	93	37	1040	195	193	1975	21
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.74	0.26	1.00	0.12	0.47	0.41	1.00	2.53	0.47	1.00	2.97	0.03
Final Sat.:	1179	421	1600	191	757	651	1600	4043	757	1600	4749	51
Capacity Analysis Module:												
Vol/Sat:	0.09	0.12	0.10	0.02	0.14	0.14	0.02	0.26	0.26	0.12	0.42	0.42
Crit Moves:	****				****		****				****	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	90	41	50	195	218	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.958				0.946	
Flt Protected	0.967		0.950			
Satd. Flow (prot)	1726	0	1770	1863	1762	0
Flt Permitted	0.967		0.950			
Satd. Flow (perm)	1726	0	1770	1863	1762	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	266			283	255	
Travel Time (s)	6.0			6.4	5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	45	54	212	237	157
Shared Lane Traffic (%)						
Lane Group Flow (vph)	143	0	54	212	394	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	90	41	50	195	218	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	45	54	212	237	157

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	636	315	393	0	-	0
Stage 1	315	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	442	725	1166	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	422	725	1166	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	701	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	1.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1166	-	486	-	-
HCM Lane V/C Ratio	0.047	-	0.293	-	-
HCM Control Delay (s)	8.2	-	15.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #41 Mona Blvd & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.550
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	1	0	1	0	1
Volume Module:												
Base Vol:	39	109	71	89	130	48	55	497	33	48	538	41
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	39	110	72	90	131	48	56	502	33	48	543	41
Added Vol:	0	0	0	1	1	1	0	51	0	0	79	2
PasserByVol:	0	11	0	0	5	0	0	7	0	0	17	0
Initial Fut:	39	121	72	91	137	49	56	560	33	48	639	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	121	72	91	137	49	56	560	33	48	639	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	121	72	91	137	49	56	560	33	48	639	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	121	72	91	137	49	56	560	33	48	639	43
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.17	0.52	0.31	0.40	0.60	1.00	1.00	1.89	0.11	1.00	1.87	0.13
Final Sat.:	271	834	494	637	963	1600	1600	3020	180	1600	2997	203
Capacity Analysis Module:												
Vol/Sat:	0.02	0.15	0.15	0.06	0.14	0.03	0.03	0.19	0.19	0.03	0.21	0.21
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #43 Alameda St & 103rd St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.821
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	178	809	0	0	948	191	194	0	152	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	180	817	0	0	957	193	196	0	154	0	0	0
Added Vol:	5	31	0	0	48	4	1	0	4	0	0	0
PasserByVol:	0	5	0	0	6	14	3	0	0	0	0	0
Initial Fut:	185	853	0	0	1011	211	200	0	158	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	185	853	0	0	1011	211	200	0	158	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	185	853	0	0	1011	211	200	0	158	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	185	853	0	0	1011	211	200	0	158	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.65	0.35	0.55	0.01	0.44	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2648	552	895	0	705	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.12	0.27	0.00	0.00	0.38	0.38	0.12	0.00	0.22	0.00	0.00	0.00
Crit Moves:	****				****				****			

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #45 Alameda St & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.837
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	76	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0 1	1 0		1 0 2	0 1		2 0 2	1 0		1 0 3	0 1	
Volume Module:												
Base Vol:	209	643	82	74	641	540	357	536	169	85	1226	36
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	211	649	83	75	647	545	361	541	171	86	1238	36
Added Vol:	6	1	0	0	0	48	31	55	4	0	82	0
PasserByVol:	0	0	0	0	0	18	12	8	0	0	23	0
Initial Fut:	217	650	83	75	647	611	404	604	175	86	1343	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	217	650	83	75	647	611	404	604	175	86	1343	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	650	83	75	647	611	404	604	175	86	1343	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	650	83	75	647	611	404	604	175	86	1343	36
OvlAdjVol:						387						
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.77	0.23	1.00	2.00	1.00	2.00	2.33	0.67	1.00	3.00	1.00
Final Sat.:	2880	2839	361	1600	3200	1600	2880	3724	1076	1600	4800	1600
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.23	0.05	0.20	0.38	0.14	0.16	0.16	0.05	0.28	0.02
OvlAdjV/S:						0.24						
Crit Moves:	****					****	****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #46 Alameda St & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.827
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	73	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	0 1
Volume Module:												
Base Vol:	153	632	50	78	759	109	105	417	153	40	361	103
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	155	638	51	79	767	110	106	421	155	40	365	104
Added Vol:	47	7	0	0	4	0	0	23	29	0	34	0
PasserByVol:	12	0	0	0	0	0	0	2	5	0	5	0
Initial Fut:	214	645	51	79	771	110	106	446	189	40	404	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	214	645	51	79	771	110	106	446	189	40	404	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	214	645	51	79	771	110	106	446	189	40	404	104
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	214	645	51	79	771	110	106	446	189	40	404	104
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.75	0.25	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2968	232	1600	2800	400	1600	3200	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.22	0.05	0.28	0.28	0.07	0.14	0.12	0.03	0.25	0.07
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #52 El Segundo Blvd & San Pedro St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.611
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	77	232	34	95	245	153	96	518	41	49	1186	46
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	77	232	34	95	245	153	96	518	41	49	1186	46
Added Vol:	1	1	0	1	1	1	2	110	1	0	81	1
PasserByVol:	0	0	0	0	0	0	0	26	0	0	11	0
Initial Fut:	78	233	34	96	246	154	98	654	42	49	1278	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	78	233	34	96	246	154	98	654	42	49	1278	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	233	34	96	246	154	98	654	42	49	1278	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	78	233	34	96	246	154	98	654	42	49	1278	47
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.75	0.25	1.00	1.23	0.77	1.00	2.82	0.18	1.00	2.89	0.11
Final Sat.:	1600	2793	407	1600	1968	1232	1600	4510	290	1600	4630	170
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.08	0.06	0.13	0.13	0.06	0.14	0.15	0.03	0.28	0.28
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Slater Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.717
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	1 0	0 0	1	1 0	2 0	0	0 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	34	0	177	62	869	0	0	1370	11
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	0	0	34	0	179	63	878	0	0	1384	11
Added Vol:	0	0	0	0	0	0	0	121	0	0	87	0
PasserByVol:	0	0	0	0	0	0	0	15	0	0	10	0
Initial Fut:	0	0	0	34	0	179	63	1014	0	0	1481	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	34	0	179	63	1014	0	0	1481	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	34	0	179	63	1014	0	0	1481	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	34	0	179	63	1014	0	0	1481	11
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	1.99	0.01
Final Sat.:	0	0	0	1600	0	1600	1600	3200	0	0	3176	24
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.11	0.04	0.32	0.00	0.00	0.47	0.47
Crit Moves:						****	****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Compton Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.940
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	125	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	172	102	27	136	69	276	148	594	93	12	927	111
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	174	103	27	137	70	279	149	600	94	12	936	112
Added Vol:	0	1	0	18	2	58	105	16	0	0	29	32
PasserByVol:	0	18	0	0	8	10	15	0	0	0	0	0
Initial Fut:	174	122	27	155	80	347	269	616	94	12	965	144
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	174	122	27	155	80	347	269	616	94	12	965	144
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	174	122	27	155	80	347	269	616	94	12	965	144
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	174	122	27	155	80	347	269	616	94	12	965	144
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.00	1.00	1.00	1.74	0.26	1.00	1.74	0.26
Final Sat.:	1600	2615	585	1600	1600	1600	1600	2777	423	1600	2784	416
Capacity Analysis Module:												
Vol/Sat:	0.11	0.05	0.05	0.10	0.05	0.22	0.17	0.22	0.22	0.01	0.35	0.35
Crit Moves:	****					****	****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Wilmington Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.935
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	121	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	95	614	119	138	813	189	99	462	103	124	900	98
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	96	620	120	139	821	191	100	467	104	125	909	99
Added Vol:	0	152	0	34	96	6	7	9	0	0	10	60
PasserByVol:	0	61	0	9	26	5	11	0	0	0	0	21
Initial Fut:	96	833	120	182	943	202	118	476	104	125	919	180
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	833	120	182	943	202	118	476	104	125	919	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	833	120	182	943	202	118	476	104	125	919	180
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	833	120	182	943	202	118	476	104	125	919	180
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.75	0.25	1.00	1.65	0.35	1.00	2.00	1.00	1.00	1.67	0.33
Final Sat.:	1600	2797	403	1600	2636	564	1600	3200	1600	1600	2676	524
Capacity Analysis Module:												
Vol/Sat:	0.06	0.30	0.30	0.11	0.36	0.36	0.07	0.15	0.07	0.08	0.34	0.34
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #42 Willowbrook Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.727
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	54	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	18	98	19	145	83	35	6	906	29	35	1157	148
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	18	99	19	146	84	35	6	915	29	35	1169	149
Added Vol:	0	0	0	4	0	0	0	42	0	0	70	2
PasserByVol:	0	2	0	2	1	0	0	7	0	0	17	5
Initial Fut:	18	101	19	152	85	35	6	964	29	35	1256	156
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	101	19	152	85	35	6	964	29	35	1256	156
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	101	19	152	85	35	6	964	29	35	1256	156
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	101	19	152	85	35	6	964	29	35	1256	156
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.13	0.73	0.14	0.56	0.31	0.13	1.00	1.94	0.06	1.00	1.78	0.22
Final Sat.:	210	1168	222	895	498	207	1600	3106	94	1600	2845	355
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.09	0.10	0.17	0.17	0.00	0.31	0.31	0.02	0.44	0.44
Crit Moves:		****		****			****				****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #55 El Segundo Blvd & Santa Fe Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.607
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	143	356	27	16	451	64	62	115	163	46	114	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	143	356	27	16	451	64	62	115	163	46	114	33
Added Vol:	0	0	0	0	0	0	0	23	0	0	34	0
PasserByVol:	0	0	0	0	0	0	0	2	0	0	5	0
Initial Fut:	143	356	27	16	451	64	62	140	163	46	153	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	143	356	27	16	451	64	62	140	163	46	153	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	356	27	16	451	64	62	140	163	46	153	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	143	356	27	16	451	64	62	140	163	46	153	33
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.86	0.14	1.00	1.75	0.25	0.17	0.38	0.45	0.20	0.66	0.14
Final Sat.:	1600	2974	226	1600	2802	398	272	614	715	317	1055	228
Capacity Analysis Module:												
Vol/Sat:	0.09	0.12	0.12	0.01	0.16	0.16	0.04	0.23	0.23	0.03	0.15	0.14
Crit Moves:	****				****			****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #56 Alameda St & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.634
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	118	606	0	0	883	115	104	0	193	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	118	606	0	0	883	115	104	0	193	0	0	0
Added Vol:	0	50	0	0	31	0	0	0	0	0	0	0
PasserByVol:	12	12	0	0	5	0	0	0	15	0	0	0
Initial Fut:	130	668	0	0	919	115	104	0	208	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	130	668	0	0	919	115	104	0	208	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	668	0	0	919	115	104	0	208	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	130	668	0	0	919	115	104	0	208	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.78	0.22	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2844	356	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.00	0.00	0.32	0.32	0.07	0.00	0.13	0.00	0.00	0.00
Crit Moves:	****				****				****			

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #57 Central Ave & W Compton Bvld

Cycle (sec):	100	Critical Vol./Cap.(X):	0.774
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	182	573	83	138	655	148	104	345	138	164	758	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	182	573	83	138	655	148	104	345	138	164	758	120
Added Vol:	0	79	0	1	42	0	0	0	0	0	0	3
PasserByVol:	0	12	0	0	5	0	1	1	0	0	0	0
Initial Fut:	182	664	83	139	702	148	105	346	138	164	758	123
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	182	664	83	139	702	148	105	346	138	164	758	123
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	182	664	83	139	702	148	105	346	138	164	758	123
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	182	664	83	139	702	148	105	346	138	164	758	123
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.78	0.22	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.72	0.28
Final Sat.:	1600	2844	356	1600	3200	1600	1600	3200	1600	1600	2753	447
Capacity Analysis Module:												
Vol/Sat:	0.11	0.23	0.23	0.09	0.22	0.09	0.07	0.11	0.09	0.10	0.28	0.28
Crit Moves:	****				****		****				****	

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #58 Wilmington Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.738
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	86	460	169	179	718	128	70	515	127	133	682	139
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	460	169	179	718	128	70	515	127	133	682	139
Added Vol:	0	152	0	0	96	0	0	1	0	0	3	0
PasserByVol:	0	48	0	3	20	0	1	0	0	0	0	7
Initial Fut:	86	660	169	182	834	128	71	516	127	133	685	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	660	169	182	834	128	71	516	127	133	685	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	660	169	182	834	128	71	516	127	133	685	146
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	660	169	182	834	128	71	516	127	133	685	146
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.73	0.27	1.00	1.60	0.40	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	2774	426	1600	2568	632	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.21	0.11	0.11	0.30	0.30	0.04	0.20	0.20	0.08	0.21	0.09
Crit Moves:	****				****			****			****	

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #59 Willowbrook Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.537
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	1	0	2	1	0	0	0	1	1	0
Volume Module:																	
Base Vol:	24	117	6	0	179	67	24	627	63	0	764	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	117	6	0	179	67	24	627	63	0	764	29
Added Vol:	0	0	0	0	0	0	0	1	0	0	3	0
PasserByVol:	5	2	0	0	1	0	0	1	2	0	2	0
Initial Fut:	29	119	6	0	180	67	24	629	65	0	769	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	119	6	0	180	67	24	629	65	0	769	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	119	6	0	180	67	24	629	65	0	769	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	119	6	0	180	67	24	629	65	0	769	29
Saturation Flow Module:																	
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.19	0.77	0.04	0.00	0.73	0.27	1.00	2.72	0.28	0.00	1.93	0.07
Final Sat.:	301	1236	62	0	1166	434	1600	4350	450	0	3084	116
Capacity Analysis Module:																	
Vol/Sat:	0.02	0.10	0.10	0.00	0.15	0.15	0.02	0.14	0.14	0.00	0.25	0.25
Crit Moves:	****				****			****				****					

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #60 Central Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.769
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	142	524	69	173	795	130	75	327	120	85	735	204
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	142	524	69	173	795	130	75	327	120	85	735	204
Added Vol:	0	79	0	0	42	0	0	0	0	0	0	0
PasserByVol:	0	5	0	0	2	0	1	1	0	0	0	0
Initial Fut:	142	608	69	173	839	130	76	328	120	85	735	204
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	142	608	69	173	839	130	76	328	120	85	735	204
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	142	608	69	173	839	130	76	328	120	85	735	204
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	142	608	69	173	839	130	76	328	120	85	735	204
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.73	0.27	1.00	1.46	0.54	1.00	2.00	1.00
Final Sat.:	1600	2874	326	1600	2771	429	1600	2343	857	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.21	0.21	0.11	0.30	0.30	0.05	0.14	0.14	0.05	0.23	0.13
Crit Moves:	****				****		****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #61 Wilmington Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.862
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	84	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	104	444	142	170	833	87	100	498	105	137	850	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	444	142	170	833	87	100	498	105	137	850	142
Added Vol:	0	152	0	0	96	0	0	0	0	0	0	0
PasserByVol:	0	38	0	2	15	0	1	0	0	0	0	5
Initial Fut:	104	634	142	172	944	87	101	498	105	137	850	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	634	142	172	944	87	101	498	105	137	850	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	634	142	172	944	87	101	498	105	137	850	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	634	142	172	944	87	101	498	105	137	850	147
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.83	0.17	1.00	2.00	1.00	1.00	1.71	0.29
Final Sat.:	1600	2614	586	1600	2930	270	1600	3200	1600	1600	2728	472
Capacity Analysis Module:												
Vol/Sat:	0.07	0.24	0.24	0.11	0.32	0.32	0.06	0.16	0.07	0.09	0.31	0.31
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #62 Wilmington Ave & Greenleaf Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.831
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	74	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	35	471	114	104	1031	21	38	192	86	276	361	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	471	114	104	1031	21	38	192	86	276	361	74
Added Vol:	0	152	0	0	96	0	0	0	0	0	0	0
PasserByVol:	0	30	0	1	12	0	0	0	0	0	0	2
Initial Fut:	35	653	114	105	1139	21	38	192	86	276	361	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	653	114	105	1139	21	38	192	86	276	361	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	653	114	105	1139	21	38	192	86	276	361	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	653	114	105	1139	21	38	192	86	276	361	76
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.96	0.04	1.00	0.69	0.31	1.00	0.83	0.17
Final Sat.:	1600	3200	1600	1600	3142	58	1600	1105	495	1600	1322	278
Capacity Analysis Module:												
Vol/Sat:	0.02	0.20	0.07	0.07	0.36	0.36	0.02	0.17	0.17	0.17	0.27	0.27
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #63 Wilmington Ave & Walnut St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.628
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	81	530	41	33	1228	87	26	60	58	24	95	46
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	530	41	33	1228	87	26	60	58	24	95	46
Added Vol:	0	152	0	0	96	0	0	0	0	0	0	0
PasserByVol:	0	30	0	0	12	0	0	0	0	0	0	0
Initial Fut:	81	712	41	33	1336	87	26	60	58	24	95	46
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	712	41	33	1336	87	26	60	58	24	95	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	712	41	33	1336	87	26	60	58	24	95	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	712	41	33	1336	87	26	60	58	24	95	46
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.35	0.65
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	1600	1600	1600	2156	1044
Capacity Analysis Module:												
Vol/Sat:	0.05	0.22	0.03	0.02	0.42	0.05	0.02	0.04	0.04	0.02	0.04	0.04
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #64 Central Ave & Greenleaf Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.548
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 0	1	1 0	2 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	467	76	137	976	0	0	0	0	206	0	191
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	467	76	137	976	0	0	0	0	206	0	191
Added Vol:	0	79	0	0	42	0	0	0	0	0	0	0
PasserByVol:	0	5	0	0	2	0	0	0	0	0	0	0
Initial Fut:	0	551	76	137	1020	0	0	0	0	206	0	191
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	551	76	137	1020	0	0	0	0	206	0	191
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	551	76	137	1020	0	0	0	0	206	0	191
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	551	76	137	1020	0	0	0	0	206	0	191
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3200	1600	1600	3200	0	0	0	0	1600	0	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.05	0.09	0.32	0.00	0.00	0.00	0.00	0.13	0.00	0.12
Crit Moves:					****					****		

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #65 Willowbrook Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.535
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	2 0	1	0 0	1 1	0
Volume Module:												
Base Vol:	11	68	29	33	102	44	26	666	24	0	913	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	68	29	33	102	44	26	666	24	0	913	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	7	0	0	3	0	0	3	0	0	5	0
Initial Fut:	11	75	29	33	105	44	26	669	24	0	918	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	75	29	33	105	44	26	669	24	0	918	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	75	29	33	105	44	26	669	24	0	918	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	75	29	33	105	44	26	669	24	0	918	36
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.10	0.65	0.25	0.18	0.58	0.24	1.00	2.00	1.00	0.00	1.92	0.08
Final Sat.:	153	1043	403	290	923	387	1600	3200	1600	0	3079	121
Capacity Analysis Module:												
Vol/Sat:	0.01	0.07	0.07	0.02	0.11	0.11	0.02	0.21	0.02	0.00	0.30	0.30
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #66 Alameda St. West & Greenleaf Blvd.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.641
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1
Volume Module:												
Base Vol:	73	415	105	48	659	59	21	190	107	264	313	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	415	105	48	659	59	21	190	107	264	313	34
Added Vol:	0	50	0	0	31	0	0	0	0	0	0	0
PasserByVol:	0	24	0	0	10	0	0	1	0	0	2	0
Initial Fut:	73	489	105	48	700	59	21	191	107	264	315	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	489	105	48	700	59	21	191	107	264	315	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	489	105	48	700	59	21	191	107	264	315	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	489	105	48	700	59	21	191	107	264	315	34
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.65	0.35	1.00	1.84	0.16	1.00	1.28	0.72	1.00	1.00	1.00
Final Sat.:	1600	2634	566	1600	2951	249	1600	2051	1149	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.19	0.19	0.03	0.24	0.24	0.01	0.09	0.09	0.17	0.20	0.02
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #44 Alameda St & Abbott Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.679
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	1	0 1	1 0	0	0 1!	0 0	1	1 0	0 1
Volume Module:												
Base Vol:	0	745	218	149	931	1	2	2	2	465	1	251
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	752	220	150	940	1	2	2	2	470	1	254
Added Vol:	0	31	0	4	48	0	0	0	0	0	0	4
PasserByVol:	0	5	7	0	6	0	0	0	0	13	0	0
Initial Fut:	0	788	227	154	994	1	2	2	2	483	1	258
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	788	227	154	994	1	2	2	2	483	1	258
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	788	227	154	994	1	2	2	2	483	1	258
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	788	227	154	994	1	2	2	2	483	1	258
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.55	0.45	1.00	1.99	0.01	0.34	0.33	0.33	1.99	0.01	1.00
Final Sat.:	0	2484	716	1600	3197	3	533	533	533	3193	7	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.32	0.10	0.31	0.31	0.00	0.00	0.00	0.15	0.15	0.16
Crit Moves:		****		****				****				****

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #53 Imperial Hway & Fernwood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.764
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	60	40	3	159	45	17	23	665	45	2	1289	124
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	40	3	159	45	17	23	665	45	2	1289	124
Added Vol:	0	0	0	0	0	0	0	55	0	0	82	0
PasserByVol:	0	0	0	0	0	0	0	8	0	0	23	0
Initial Fut:	60	40	3	159	45	17	23	728	45	2	1394	124
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	60	40	3	159	45	17	23	728	45	2	1394	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	40	3	159	45	17	23	728	45	2	1394	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	40	3	159	45	17	23	728	45	2	1394	124
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.58	0.39	0.03	0.72	0.20	0.08	1.00	1.88	0.12	1.00	1.84	0.16
Final Sat.:	932	621	47	1151	326	123	1600	3014	186	1600	2939	261
Capacity Analysis Module:												
Vol/Sat:	0.04	0.06	0.06	0.10	0.14	0.14	0.01	0.24	0.24	0.00	0.47	0.47
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative Conditions - AM Peak
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #54 Imperial Hwy & State St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.773
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	15	240	134	106	367	271	98	736	3	114	1141	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	240	134	106	367	271	98	736	3	114	1141	37
Added Vol:	0	0	0	0	0	0	0	55	0	0	82	0
PasserByVol:	0	0	0	0	0	2	3	0	5	0	21	0
Initial Fut:	15	240	134	106	367	273	101	791	8	114	1244	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	240	134	106	367	273	101	791	8	114	1244	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	240	134	106	367	273	101	791	8	114	1244	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	240	134	106	367	273	101	791	8	114	1244	37
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.28	0.72	1.00	1.15	0.85	1.00	1.98	0.02	1.00	1.94	0.06
Final Sat.:	1600	2053	1147	1600	1835	1365	1600	3168	32	1600	3108	92
Capacity Analysis Module:												
Vol/Sat:	0.01	0.12	0.12	0.07	0.20	0.20	0.06	0.25	0.25	0.07	0.40	0.40
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Avalon Blvd & El Segundo

Cycle (sec):	100	Critical Vol./Cap.(X):	0.957
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	140	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	121	704	170	148	531	93	134	1370	104	102	461	112
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	122	711	172	149	536	94	135	1384	105	103	466	113
Added Vol:	4	18	65	7	19	0	0	184	7	59	174	4
PasserByVol:	0	8	0	0	16	0	0	20	0	0	38	0
Initial Fut:	126	737	237	156	571	94	135	1588	112	162	678	117
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	126	737	237	156	571	94	135	1588	112	162	678	117
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	737	237	156	571	94	135	1588	112	162	678	117
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	126	737	237	156	571	94	135	1588	112	162	678	117
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.51	0.49	1.00	1.72	0.28	1.00	2.80	0.20	1.00	2.56	0.44
Final Sat.:	1600	2422	778	1600	2748	452	1600	4484	316	1600	4093	707
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.30	0.10	0.21	0.21	0.08	0.35	0.35	0.10	0.17	0.17
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Avalon Blvd & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.842
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	77	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	132	625	158	217	484	59	124	1148	112	86	469	119
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	133	631	160	219	489	60	125	1159	113	87	474	120
Added Vol:	0	74	2	3	67	6	5	32	0	5	67	8
PasserByVol:	0	5	0	0	9	0	0	5	0	0	11	0
Initial Fut:	133	710	162	222	565	66	130	1196	113	92	552	128
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	133	710	162	222	565	66	130	1196	113	92	552	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	133	710	162	222	565	66	130	1196	113	92	552	128
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	133	710	162	222	565	66	130	1196	113	92	552	128
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.79	0.21	1.00	2.74	0.26	1.00	2.43	0.57
Final Sat.:	1600	2607	593	1600	2867	333	1600	4385	415	1600	3895	905
Capacity Analysis Module:												
Vol/Sat:	0.08	0.27	0.27	0.14	0.20	0.20	0.08	0.27	0.27	0.06	0.14	0.14
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Central Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.014
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	82	634	213	178	655	153	195	1238	145	86	483	79
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	83	640	215	180	662	155	197	1250	146	87	488	80
Added Vol:	53	57	27	0	36	36	25	96	37	38	133	0
PasserByVol:	0	19	0	0	36	11	11	10	0	0	29	0
Initial Fut:	136	716	242	180	734	202	233	1356	183	125	650	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	136	716	242	180	734	202	233	1356	183	125	650	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	136	716	242	180	734	202	233	1356	183	125	650	80
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	136	716	242	180	734	202	233	1356	183	125	650	80
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.49	0.51	1.00	1.57	0.43	1.00	2.00	1.00	1.00	1.78	0.22
Final Sat.:	1600	2392	808	1600	2510	690	1600	3200	1600	1600	2850	350
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.30	0.11	0.29	0.29	0.15	0.42	0.11	0.08	0.23	0.23
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Central Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.816
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	138	567	111	181	706	107	148	1164	177	109	466	114
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	139	573	112	183	713	108	149	1176	179	110	471	115
Added Vol:	8	86	0	13	116	41	24	15	12	0	16	6
PasserByVol:	0	13	0	0	24	5	3	3	0	0	5	0
Initial Fut:	147	672	112	196	853	154	176	1194	191	110	492	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	147	672	112	196	853	154	176	1194	191	110	492	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	672	112	196	853	154	176	1194	191	110	492	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	672	112	196	853	154	176	1194	191	110	492	121
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.59	0.41	1.00	1.60	0.40
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	4139	661	1600	2567	633
Capacity Analysis Module:												
Vol/Sat:	0.09	0.21	0.07	0.12	0.27	0.10	0.11	0.29	0.29	0.07	0.19	0.19
Crit Moves:	****			****			****			****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Slater Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.494
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	15	7	31	12	6	16	9	397	21	23	680	19
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	15	7	31	12	6	16	9	401	21	23	687	19
Added Vol:	0	0	0	0	0	0	0	83	0	0	108	0
PasserByVol:	0	0	12	6	0	0	0	134	0	23	249	11
Initial Fut:	15	7	43	18	6	16	9	618	21	46	1044	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	7	43	18	6	16	9	618	21	46	1044	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	7	43	18	6	16	9	618	21	46	1044	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	7	43	18	6	16	9	618	21	46	1044	30
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.23	0.11	0.66	0.45	0.15	0.40	1.00	1.93	0.07	1.00	1.94	0.06
Final Sat.:	370	173	1057	719	240	641	1600	3094	106	1600	3110	90
Capacity Analysis Module:												
Vol/Sat:	0.01	0.04	0.04	0.01	0.03	0.03	0.01	0.20	0.20	0.03	0.34	0.34
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Compton Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.967
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	151	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 1	0 1		1 0	0 1	0	1 0	2 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	98	304	167	214	257	101	78	1434	86	63	735	232
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	99	307	169	216	260	102	79	1448	87	64	742	234
Added Vol:	180	47	71	6	32	1	1	46	111	54	47	5
PasserByVol:	5	42	0	0	23	0	0	11	2	0	21	0
Initial Fut:	284	396	240	222	315	103	80	1505	200	118	810	239
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	284	396	240	222	315	103	80	1505	200	118	810	239
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	284	396	240	222	315	103	80	1505	200	118	810	239
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	284	396	240	222	315	103	80	1505	200	118	810	239
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.75	0.25	1.00	2.65	0.35	1.00	1.54	0.46
Final Sat.:	1600	1600	1600	1600	1205	395	1600	4237	563	1600	2470	730
Capacity Analysis Module:												
Vol/Sat:	0.18	0.25	0.15	0.14	0.26	0.26	0.05	0.36	0.36	0.07	0.33	0.33
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Compton Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.562
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	7	477	49	44	311	7	9	13	7	44	14	46
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	7	482	49	44	314	7	9	13	7	44	14	46
Added Vol:	0	35	82	48	58	0	0	0	0	125	0	52
PasserByVol:	11	46	0	0	24	0	0	0	6	0	0	0
Initial Fut:	18	563	131	92	396	7	9	13	13	169	14	98
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	563	131	92	396	7	9	13	13	169	14	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	563	131	92	396	7	9	13	13	169	14	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	563	131	92	396	7	9	13	13	169	14	98
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.05	1.58	0.37	0.37	1.60	0.03	0.26	0.37	0.37	0.60	0.05	0.35
Final Sat.:	81	2528	591	597	2558	46	412	595	593	961	80	559
Capacity Analysis Module:												
Vol/Sat:	0.01	0.22	0.22	0.06	0.15	0.15	0.01	0.02	0.02	0.11	0.18	0.18
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 Compton Ave & 120th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.843
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	78	Level Of Service:	D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	T	R	L	T	T	R	L	T	T	R	L	T	T	R
Control:	Permitted				Permitted				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	0	1	0	1
Volume Module:																
Base Vol:	65	241	70		78	281	69		45	273	89		136	416	111	
Growth Adj:	1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01	
Initial Bse:	66	243	71		79	284	70		45	276	90		137	420	112	
Added Vol:	0	92	5		3	143	37		22	62	0		9	71	4	
PasserByVol:	0	0	23		32	0	0		0	160	0		54	299	61	
Initial Fut:	66	335	99		114	427	107		67	498	90		200	790	177	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	66	335	99		114	427	107		67	498	90		200	790	177	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	66	335	99		114	427	107		67	498	90		200	790	177	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	66	335	99		114	427	107		67	498	90		200	790	177	
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.55	0.45		1.00	1.60	0.40		1.00	1.00	1.00		1.00	1.00	1.00	
Final Sat.:	1600	2472	728		1600	2560	640		1600	1600	1600		1600	1600	1600	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.14	0.14		0.07	0.17	0.17		0.04	0.31	0.06		0.13	0.49	0.11	
Crit Moves:		****				****				****				****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Compton Ave & 124th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.324
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	0 1	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	349	25	46	302	4	1	4	3	17	3	42
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	352	25	46	305	4	1	4	3	17	3	42
Added Vol:	0	96	0	0	153	0	0	0	0	0	0	0
PasserByVol:	0	22	0	0	51	0	0	0	0	0	0	0
Initial Fut:	0	470	25	46	509	4	1	4	3	17	3	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	470	25	46	509	4	1	4	3	17	3	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	470	25	46	509	4	1	4	3	17	3	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	470	25	46	509	4	1	4	3	17	3	42
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.90	0.10	0.17	1.82	0.01	0.12	0.50	0.38	0.27	0.05	0.68
Final Sat.:	0	3037	163	266	2911	23	200	800	600	439	77	1084
Capacity Analysis Module:												
Vol/Sat:	0.00	0.15	0.15	0.03	0.17	0.17	0.00	0.01	0.01	0.01	0.04	0.04
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Wilmington Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.840
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	77	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	159	451	47	30	618	70	137	15	375	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	161	456	47	30	624	71	138	15	379	0	0	0
Added Vol:	16	43	0	0	231	4	10	0	68	0	0	0
PasserByVol:	21	47	0	0	127	0	0	0	11	0	0	0
Initial Fut:	198	546	47	30	982	75	148	15	458	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	198	546	47	30	982	75	148	15	458	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	546	47	30	982	75	148	15	458	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	198	546	47	30	982	75	148	15	458	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.84	0.16	1.00	1.86	0.14	1.00	1.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	2944	256	1600	2974	226	1600	1600	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.12	0.19	0.19	0.02	0.33	0.33	0.09	0.01	0.29	0.00	0.00	0.00
Crit Moves:	****				****				****			

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Wilmington Ave & I-105 e/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	1.010
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	0	0 0	2 0	2	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	326	902	0	0	529	421	328	0	179	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	329	911	0	0	534	425	331	0	181	0	0	0
Added Vol:	150	334	0	0	236	64	3	0	135	0	0	0
PasserByVol:	160	219	0	0	137	0	0	0	48	0	0	0
Initial Fut:	639	1464	0	0	907	489	334	0	364	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	639	1464	0	0	907	489	334	0	364	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	639	1464	0	0	907	489	334	0	364	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	639	1464	0	0	907	489	334	0	364	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.00	2.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	4800	0	0	3200	3200	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.40	0.31	0.00	0.00	0.28	0.15	0.21	0.00	0.23	0.00	0.00	0.00
Crit Moves:	****				****				****			

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Wilmington Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	1.119
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	2 0	1	1 0	0 0	1!	0 0	0 1	0	0 1
Volume Module:												
Base Vol:	28	992	84	132	547	32	108	50	50	37	44	137
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	28	1002	85	133	552	32	109	51	51	37	44	138
Added Vol:	171	60	29	64	44	263	380	2	244	19	2	44
PasserByVol:	0	379	0	0	186	0	0	0	0	0	0	0
Initial Fut:	199	1441	114	197	782	295	489	53	295	56	46	182
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	199	1441	114	197	782	295	489	53	295	56	46	182
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	199	1441	114	197	782	295	489	53	295	56	46	182
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	199	1441	114	197	782	295	489	53	295	56	46	182
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.78	0.22	2.00	1.45	0.55	0.59	0.06	0.35	0.55	0.45	1.00
Final Sat.:	1600	4449	351	2880	2323	877	936	100	564	877	723	1600
Capacity Analysis Module:												
Vol/Sat:	0.12	0.32	0.32	0.07	0.34	0.34	0.31	0.52	0.52	0.04	0.06	0.11
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #29 Wilmington Ave & 120th St (West)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.956
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	139	Level Of Service:	E

Approach:	North Bound				South Bound				East Bound					West Bound				
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R		L	-	T	- R	
Control:	Permitted				Permitted				Permitted					Permitted				
Rights:	Include				Include				Include					Include				
Min. Green:	0	0	0		0	0	0		0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	1	0	1	1	0	1	0	1
Volume Module:																		
Base Vol:	74	718	80		79	485	45		295	298	184			91	146	136		
Growth Adj:	1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01			1.01	1.01	1.01		
Initial Bse:	75	725	81		80	490	45		298	301	186			92	147	137		
Added Vol:	8	207	2		3	268	35		51	20	17			5	18	2		
PasserByVol:	0	289	0		0	93	103		110	20	0			7	11	0		
Initial Fut:	83	1221	83		83	851	183		459	341	203			104	176	139		
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	83	1221	83		83	851	183		459	341	203			104	176	139		
Reduct Vol:	0	0	0		0	0	0		0	0	0			0	0	0		
Reduced Vol:	83	1221	83		83	851	183		459	341	203			104	176	139		
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	83	1221	83		83	851	183		459	341	203			104	176	139		
Saturation Flow Module:																		
Sat/Lane:	1600	1600	1600		1600	1600	1600		1600	1600	1600			1600	1600	1600		
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	1.00	1.87	0.13		1.00	1.65	0.35		1.00	1.00	1.00			1.00	1.00	1.00		
Final Sat.:	1600	2997	203		1600	2632	568		1600	1600	1600			1600	1600	1600		
Capacity Analysis Module:																		
Vol/Sat:	0.05	0.41	0.41		0.05	0.32	0.32		0.29	0.21	0.13			0.06	0.11	0.09		
Crit Moves:		****			****				****						****			

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #30 Wilmington Ave & 120th St (East)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.767
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 1	0	0 1	0 0	1! 0	0
Volume Module:												
Base Vol:	8	807	17	35	707	16	53	2	14	2	0	15
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	8	815	17	35	714	16	54	2	14	2	0	15
Added Vol:	0	212	2	6	284	0	0	0	0	1	0	5
PasserByVol:	113	0	0	0	0	100	289	47	215	0	24	0
Initial Fut:	121	1027	19	41	998	116	343	49	229	3	24	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	121	1027	19	41	998	116	343	49	229	3	24	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	1027	19	41	998	116	343	49	229	3	24	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	121	1027	19	41	998	116	343	49	229	3	24	20
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.96	0.04	1.00	1.79	0.21	0.87	0.13	1.00	0.06	0.51	0.43
Final Sat.:	1600	3141	59	1600	2866	334	1400	200	1600	102	814	683
Capacity Analysis Module:												
Vol/Sat:	0.08	0.33	0.33	0.03	0.35	0.35	0.21	0.24	0.14	0.00	0.03	0.03
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Wilmington Ave & 124th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.614
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	21	757	46	64	615	18	13	43	20	35	47	49
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	21	765	46	65	621	18	13	43	20	35	47	49
Added Vol:	0	213	0	0	285	0	0	0	0	0	0	0
PasserByVol:	0	86	0	38	165	0	0	0	0	0	0	20
Initial Fut:	21	1064	46	103	1071	18	13	43	20	35	47	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	21	1064	46	103	1071	18	13	43	20	35	47	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	1064	46	103	1071	18	13	43	20	35	47	69
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	1064	46	103	1071	18	13	43	20	35	47	69
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.92	0.08	1.00	1.97	0.03	0.17	0.57	0.26	0.23	0.31	0.46
Final Sat.:	1600	3066	134	1600	3147	53	274	905	421	371	499	730
Capacity Analysis Module:												
Vol/Sat:	0.01	0.35	0.35	0.06	0.34	0.34	0.01	0.05	0.05	0.02	0.10	0.10
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Wilmington Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.948
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	132	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	144	579	83	101	480	86	182	927	326	44	296	68
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	145	585	84	102	485	87	184	936	329	44	299	69
Added Vol:	36	152	0	69	209	8	14	26	42	0	31	48
PasserByVol:	0	66	0	32	127	0	0	0	0	0	0	16
Initial Fut:	181	803	84	203	821	95	198	962	371	44	330	133
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	181	803	84	203	821	95	198	962	371	44	330	133
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	181	803	84	203	821	95	198	962	371	44	330	133
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	181	803	84	203	821	95	198	962	371	44	330	133
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.79	0.21	1.00	1.44	0.56	1.00	1.43	0.57
Final Sat.:	1600	2897	303	1600	2868	332	1600	2309	891	1600	2282	918
Capacity Analysis Module:												
Vol/Sat:	0.11	0.28	0.28	0.13	0.29	0.29	0.12	0.42	0.42	0.03	0.14	0.14
Crit Moves:		****			****				****		****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Willowbrook Ave W & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.486
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	0 1	0	0 0	1 0	0	0 0	1 0	0	1 0	0 0
Volume Module:												
Base Vol:	50	0	17	0	28	56	0	323	93	11	163	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	51	0	17	0	28	57	0	326	94	11	165	0
Added Vol:	12	0	0	0	0	0	0	11	9	0	17	0
PasserByVol:	0	0	0	0	0	0	0	19	0	0	17	0
Initial Fut:	63	0	17	0	28	57	0	356	103	11	199	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	0	17	0	28	57	0	356	103	11	199	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	0	17	0	28	57	0	356	103	11	199	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	0	17	0	28	57	0	356	103	11	199	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.33	0.67	0.00	0.78	0.22	0.05	0.95	0.00
Final Sat.:	1600	0	1600	0	533	1067	0	1241	359	85	1515	0
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.01	0.00	0.05	0.05	0.00	0.29	0.29	0.01	0.13	0.00
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Willowbrook Ave E & 119th Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.377
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	50	14	27	7	12	42	70	201	90	9	85	5
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	51	14	27	7	12	42	71	203	91	9	86	5
Added Vol:	0	1	0	0	1	3	6	5	0	0	14	0
PasserByVol:	0	0	0	0	0	0	0	19	0	0	17	0
Initial Fut:	51	15	27	7	13	45	77	227	91	9	117	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	15	27	7	13	45	77	227	91	9	117	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	15	27	7	13	45	77	227	91	9	117	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	15	27	7	13	45	77	227	91	9	117	5
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.55	0.16	0.29	0.11	0.20	0.69	1.00	0.71	0.29	1.00	0.96	0.04
Final Sat.:	870	261	470	172	320	1108	1600	1143	457	1600	1534	66
Capacity Analysis Module:												
Vol/Sat:	0.03	0.06	0.06	0.00	0.04	0.04	0.05	0.20	0.20	0.01	0.08	0.08
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #36 Imperial Hwy & I-105 w/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.928
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	116	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0	0	1! 0	0	1 0	3 1	1	2 0	2 1 0
Volume Module:												
Base Vol:	544	8	271	9	22	25	47	1612	339	596	812	1
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	549	8	274	9	22	25	47	1628	342	602	820	1
Added Vol:	150	7	3	0	0	0	18	178	182	2	123	3
PasserByVol:	71	0	7	0	0	0	0	56	95	0	26	0
Initial Fut:	770	15	284	9	22	25	65	1862	619	604	969	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	770	15	284	9	22	25	65	1862	619	604	969	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	770	15	284	9	22	25	65	1862	619	604	969	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	770	15	284	9	22	25	65	1862	619	604	969	4
OvlAdjVol:									75			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.96	0.04	1.00	0.16	0.39	0.45	1.00	3.75	1.25	2.00	2.99	0.01
Final Sat.:	2825	55	1600	257	629	714	1600	6003	1997	2880	4780	20
Capacity Analysis Module:												
Vol/Sat:	0.27	0.27	0.18	0.04	0.04	0.04	0.04	0.31	0.31	0.21	0.20	0.20
OvlAdjV/S:									0.04			
Crit Moves:	****					****		****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #37 Willowbrook Ave W & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.551
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	2 0	1	0 0	2 0	1
Volume Module:												
Base Vol:	24	100	9	34	113	16	14	986	68	0	358	34
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	24	101	9	34	114	16	14	996	69	0	362	34
Added Vol:	0	6	0	5	4	0	0	95	0	0	79	7
PasserByVol:	0	5	0	0	7	0	0	20	0	0	11	0
Initial Fut:	24	112	9	39	125	16	14	1111	69	0	452	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	112	9	39	125	16	14	1111	69	0	452	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	112	9	39	125	16	14	1111	69	0	452	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	112	9	39	125	16	14	1111	69	0	452	41
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.92	0.08	1.00	0.89	0.11	1.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	1600	1480	120	1600	1417	183	1600	3200	1600	0	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.08	0.02	0.09	0.09	0.01	0.35	0.04	0.00	0.14	0.03
Crit Moves:	****			****			****			****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #38 Willowbrook Ave E & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.546
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	0 1	0	0 1	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	12	55	33	32	80	14	0	981	44	34	372	39
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	12	56	33	32	81	14	0	991	44	34	376	39
Added Vol:	0	0	0	0	0	1	1	99	0	0	85	0
PasserByVol:	0	3	0	0	6	0	0	20	0	0	11	0
Initial Fut:	12	59	33	32	87	15	1	1110	44	34	472	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	59	33	32	87	15	1	1110	44	34	472	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	59	33	32	87	15	1	1110	44	34	472	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	59	33	32	87	15	1	1110	44	34	472	39
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.64	0.36	1.00	0.85	0.15	0.01	1.99	1.00	1.00	1.85	0.15
Final Sat.:	1600	1020	580	1600	1362	238	3	3197	1600	1600	2953	247
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.02	0.06	0.06	0.00	0.35	0.03	0.02	0.16	0.16
Crit Moves:		****			****				****		****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #39 Mona Blvd & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.885
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	93	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1 0	2 1	0	1 0	2 1 0
Volume Module:												
Base Vol:	184	67	247	54	68	72	94	1615	240	152	1110	43
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	186	68	249	55	69	73	95	1631	242	154	1121	43
Added Vol:	3	0	5	0	0	0	0	164	17	8	124	0
PasserByVol:	0	7	0	0	4	0	0	56	7	0	26	0
Initial Fut:	189	75	254	55	73	73	95	1851	266	162	1271	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	189	75	254	55	73	73	95	1851	266	162	1271	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	75	254	55	73	73	95	1851	266	162	1271	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	75	254	55	73	73	95	1851	266	162	1271	43
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.72	0.28	1.00	0.27	0.37	0.36	1.00	2.62	0.38	1.00	2.90	0.10
Final Sat.:	1147	453	1600	436	582	582	1600	4196	604	1600	4641	159
Capacity Analysis Module:												
Vol/Sat:	0.12	0.16	0.16	0.03	0.12	0.12	0.06	0.44	0.44	0.10	0.27	0.27
Crit Moves:	****				****			****			****	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	147	74	27	220	331	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.955				0.974	
Flt Protected	0.968		0.950			
Satd. Flow (prot)	1722	0	1770	1863	1814	0
Flt Permitted	0.968		0.950			
Satd. Flow (perm)	1722	0	1770	1863	1814	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	266			283	255	
Travel Time (s)	6.0			6.4	5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	160	80	29	239	360	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	240	0	29	239	447	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	147	74	27	220	331	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	80	29	239	360	87

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	701	403	447	0	-	0
Stage 1	403	-	-	-	-	-
Stage 2	298	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	405	647	1113	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	394	647	1113	-	-	-
Mov Cap-2 Maneuver	394	-	-	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	733	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.6	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1113	-	453	-	-
HCM Lane V/C Ratio	0.026	-	0.53	-	-
HCM Control Delay (s)	8.3	-	21.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	3	-	-

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #41 Mona Blvd & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.646
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	1	0	1	1	0	1
Volume Module:												
Base Vol:	82	112	62	18	88	40	38	351	54	47	957	32
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	83	113	63	18	89	40	38	355	55	47	967	32
Added Vol:	0	1	0	3	1	2	0	99	0	0	83	2
PasserByVol:	0	7	0	0	13	0	0	20	0	0	11	0
Initial Fut:	83	121	63	21	103	42	38	474	55	47	1061	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	83	121	63	21	103	42	38	474	55	47	1061	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	121	63	21	103	42	38	474	55	47	1061	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	83	121	63	21	103	42	38	474	55	47	1061	34
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.31	0.46	0.23	0.17	0.83	1.00	1.00	1.79	0.21	1.00	1.94	0.06
Final Sat.:	497	727	376	273	1327	1600	1600	2869	331	1600	3100	100
Capacity Analysis Module:												
Vol/Sat:	0.05	0.17	0.17	0.01	0.08	0.03	0.02	0.17	0.17	0.03	0.34	0.34
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #43 Alameda St & 103rd St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.884
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	93	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	115	736	0	0	1222	235	190	0	158	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	116	743	0	0	1234	237	192	0	160	0	0	0
Added Vol:	4	54	0	0	38	6	7	0	4	0	0	0
PasserByVol:	0	16	0	0	4	9	8	0	0	0	0	0
Initial Fut:	120	813	0	0	1276	252	207	0	164	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	120	813	0	0	1276	252	207	0	164	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	120	813	0	0	1276	252	207	0	164	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	120	813	0	0	1276	252	207	0	164	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.67	0.33	0.56	0.00	0.44	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2672	528	894	0	706	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.08	0.25	0.00	0.00	0.48	0.48	0.13	0.00	0.23	0.00	0.00	0.00
Crit Moves:	****				****				****			

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #45 Alameda St & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.828
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	73	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	2	0 1	2 0	2	1 0	1 0	3	0 1
Volume Module:												
Base Vol:	214	682	138	101	693	449	409	1282	199	102	653	65
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	216	689	139	102	700	453	413	1295	201	103	660	66
Added Vol:	5	1	0	0	1	38	54	104	11	0	89	0
PasserByVol:	0	0	0	0	0	12	37	23	0	0	15	0
Initial Fut:	221	690	139	102	701	503	504	1422	212	103	764	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	221	690	139	102	701	503	504	1422	212	103	764	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	690	139	102	701	503	504	1422	212	103	764	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	221	690	139	102	701	503	504	1422	212	103	764	66
OvlAdjVol:						223						
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.66	0.34	1.00	2.00	1.00	2.00	2.61	0.39	1.00	3.00	1.00
Final Sat.:	2880	2662	538	1600	3200	1600	2880	4177	623	1600	4800	1600
Capacity Analysis Module:												
Vol/Sat:	0.08	0.26	0.26	0.06	0.22	0.31	0.18	0.34	0.34	0.06	0.16	0.04
OvlAdjV/S:						0.14						
Crit Moves:		****			****				****		****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #46 Alameda St & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.931
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	119	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	102	717	98	107	699	43	50	258	95	182	699	190
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	103	724	99	108	706	43	51	261	96	184	706	192
Added Vol:	37	6	0	0	12	0	0	51	52	0	48	0
PasserByVol:	8	0	0	0	0	0	0	5	15	0	3	0
Initial Fut:	148	730	99	108	718	43	51	317	163	184	757	192
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	148	730	99	108	718	43	51	317	163	184	757	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	148	730	99	108	718	43	51	317	163	184	757	192
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	148	730	99	108	718	43	51	317	163	184	757	192
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.76	0.24	1.00	1.89	0.11	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	2818	382	1600	3017	183	1600	3200	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.26	0.26	0.07	0.24	0.24	0.03	0.10	0.10	0.11	0.47	0.12
Crit Moves:		****			****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #52 El Segundo Blvd & San Pedro St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.646
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	101	322	51	86	228	85	146	1415	72	33	568	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	322	51	86	228	85	146	1415	72	33	568	85
Added Vol:	2	2	0	2	2	3	2	189	1	0	176	2
PasserByVol:	0	0	0	0	0	0	0	16	0	0	31	0
Initial Fut:	103	324	51	88	230	88	148	1620	73	33	775	87
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	103	324	51	88	230	88	148	1620	73	33	775	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	324	51	88	230	88	148	1620	73	33	775	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	324	51	88	230	88	148	1620	73	33	775	87
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.73	0.27	1.00	1.45	0.55	1.00	2.87	0.13	1.00	2.70	0.30
Final Sat.:	1600	2765	435	1600	2314	886	1600	4593	207	1600	4316	484
Capacity Analysis Module:												
Vol/Sat:	0.06	0.12	0.12	0.06	0.10	0.10	0.09	0.35	0.35	0.02	0.18	0.18
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Slater Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.690
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0	0 0	1 0	0	0 1	1 0	2	0 0	0 0	1	1 0
Volume Module:												
Base Vol:	0	0	0	10	0	48	46	1643	0	0	692	16
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	0	0	10	0	48	46	1659	0	0	699	16
Added Vol:	0	0	0	0	0	0	0	122	0	0	171	0
PasserByVol:	0	0	0	0	0	0	0	10	0	0	29	0
Initial Fut:	0	0	0	10	0	48	46	1791	0	0	899	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	10	0	48	46	1791	0	0	899	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	10	0	48	46	1791	0	0	899	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	10	0	48	46	1791	0	0	899	16
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	1.96	0.04
Final Sat.:	0	0	0	1600	0	1600	1600	3200	0	0	3143	57
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.03	0.03	0.56	0.00	0.00	0.29	0.29
Crit Moves:						****		****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Compton Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.812
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	69	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	67	31	16	111	64	152	235	1347	103	16	449	74
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	68	31	16	112	65	154	237	1360	104	16	453	75
Added Vol:	0	4	0	33	4	115	73	50	0	0	56	19
PasserByVol:	0	12	0	0	23	29	10	0	0	0	0	0
Initial Fut:	68	47	16	145	92	298	320	1410	104	16	509	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	47	16	145	92	298	320	1410	104	16	509	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	47	16	145	92	298	320	1410	104	16	509	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	47	16	145	92	298	320	1410	104	16	509	94
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.49	0.51	1.00	1.00	1.00	1.00	1.86	0.14	1.00	1.69	0.31
Final Sat.:	1600	2385	815	1600	1600	1600	1600	2980	220	1600	2703	497
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.02	0.09	0.06	0.19	0.20	0.47	0.47	0.01	0.19	0.19
Crit Moves:	****					****		****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Wilmington Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.962
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	145	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	153	674	153	147	475	135	114	1059	163	93	468	114
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	155	681	155	148	480	136	115	1070	165	94	473	115
Added Vol:	0	122	0	69	173	9	9	19	0	0	13	57
PasserByVol:	0	39	0	26	75	14	8	0	0	0	0	14
Initial Fut:	155	842	155	243	728	159	132	1089	165	94	486	186
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	842	155	243	728	159	132	1089	165	94	486	186
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	842	155	243	728	159	132	1089	165	94	486	186
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	842	155	243	728	159	132	1089	165	94	486	186
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.69	0.31	1.00	1.64	0.36	1.00	2.00	1.00	1.00	1.45	0.55
Final Sat.:	1600	2704	496	1600	2625	575	1600	3200	1600	1600	2313	887
Capacity Analysis Module:												
Vol/Sat:	0.10	0.31	0.31	0.15	0.28	0.28	0.08	0.34	0.10	0.06	0.21	0.21
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #42 Willowbrook Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.760
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	30	107	16	132	79	27	15	1314	19	29	796	123
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	30	108	16	133	80	27	15	1327	19	29	804	124
Added Vol:	0	0	0	4	0	0	0	88	0	0	70	6
PasserByVol:	0	1	0	6	2	0	0	20	0	0	11	3
Initial Fut:	30	109	16	143	82	27	15	1435	19	29	885	133
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	109	16	143	82	27	15	1435	19	29	885	133
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	109	16	143	82	27	15	1435	19	29	885	133
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	30	109	16	143	82	27	15	1435	19	29	885	133
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.19	0.71	0.10	0.57	0.32	0.11	1.00	1.97	0.03	1.00	1.74	0.26
Final Sat.:	312	1122	166	909	519	173	1600	3158	42	1600	2781	419
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.09	0.16	0.16	0.01	0.45	0.45	0.02	0.32	0.32
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #55 El Segundo Blvd & Santa Fe Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.735
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	151	513	69	39	368	68	96	270	213	12	68	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	151	513	69	39	368	68	96	270	213	12	68	26
Added Vol:	0	0	0	0	0	0	0	51	0	0	48	0
PasserByVol:	0	0	0	0	0	0	0	5	0	0	3	0
Initial Fut:	151	513	69	39	368	68	96	326	213	12	119	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	151	513	69	39	368	68	96	326	213	12	119	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	151	513	69	39	368	68	96	326	213	12	119	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	151	513	69	39	368	68	96	326	213	12	119	26
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.76	0.24	1.00	1.69	0.31	0.15	0.51	0.34	0.08	0.76	0.16
Final Sat.:	1600	2821	379	1600	2701	499	242	821	537	122	1213	265
Capacity Analysis Module:												
Vol/Sat:	0.09	0.18	0.18	0.02	0.14	0.14	0.06	0.40	0.40	0.01	0.10	0.10
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #56 Alameda St & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.641
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	136	771	0	0	868	77	111	0	198	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	136	771	0	0	868	77	111	0	198	0	0	0
Added Vol:	0	40	0	0	58	0	0	0	0	0	0	0
PasserByVol:	7	8	0	0	15	0	0	0	15	0	0	0
Initial Fut:	143	819	0	0	941	77	111	0	213	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	143	819	0	0	941	77	111	0	213	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	819	0	0	941	77	111	0	213	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	143	819	0	0	941	77	111	0	213	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.85	0.15	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2958	242	1600	0	1600	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.09	0.26	0.00	0.00	0.32	0.32	0.07	0.00	0.13	0.00	0.00	0.00
Crit Moves:	****				****				****			

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #57 Central Ave & W Compton Bvld

Cycle (sec):	100	Critical Vol./Cap.(X):	0.836
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	76	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	125	725	114	171	577	98	102	886	201	90	352	126
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	125	725	114	171	577	98	102	886	201	90	352	126
Added Vol:	0	93	0	3	125	0	0	0	0	0	0	1
PasserByVol:	0	8	0	0	14	1	1	1	0	0	1	0
Initial Fut:	125	826	114	174	716	99	103	887	201	90	353	127
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	125	826	114	174	716	99	103	887	201	90	353	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	125	826	114	174	716	99	103	887	201	90	353	127
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	125	826	114	174	716	99	103	887	201	90	353	127
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.76	0.24	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.47	0.53
Final Sat.:	1600	2812	388	1600	3200	1600	1600	3200	1600	1600	2353	847
Capacity Analysis Module:												
Vol/Sat:	0.08	0.29	0.29	0.11	0.22	0.06	0.06	0.28	0.13	0.06	0.15	0.15
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #58 Wilmington Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.897
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	99	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	106	793	155	150	544	82	132	898	109	140	451	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	793	155	150	544	82	132	898	109	140	451	172
Added Vol:	0	122	0	0	173	0	0	3	0	0	1	0
PasserByVol:	0	31	0	8	60	1	1	0	0	0	0	5
Initial Fut:	106	946	155	158	777	83	133	901	109	140	452	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	106	946	155	158	777	83	133	901	109	140	452	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	946	155	158	777	83	133	901	109	140	452	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	946	155	158	777	83	133	901	109	140	452	177
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.81	0.19	1.00	1.78	0.22	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	2891	309	1600	2855	345	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.30	0.10	0.10	0.27	0.27	0.08	0.32	0.32	0.09	0.14	0.11
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #59 Willowbrook Ave & W Compton Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.457
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	0	1 0	1 0	2	1 0	0 0	1	1 0
Volume Module:												
Base Vol:	15	112	15	0	112	38	15	1052	69	0	710	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	112	15	0	112	38	15	1052	69	0	710	61
Added Vol:	0	0	0	0	0	0	0	3	0	0	1	0
PasserByVol:	2	1	0	0	2	0	0	2	6	0	1	0
Initial Fut:	17	113	15	0	114	38	15	1057	75	0	712	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	17	113	15	0	114	38	15	1057	75	0	712	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	113	15	0	114	38	15	1057	75	0	712	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	17	113	15	0	114	38	15	1057	75	0	712	61
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.12	0.78	0.10	0.00	0.75	0.25	1.00	2.80	0.20	0.00	1.84	0.16
Final Sat.:	188	1247	166	0	1200	400	1600	4482	318	0	2947	253
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.09	0.00	0.10	0.10	0.01	0.24	0.24	0.00	0.24	0.24
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #60 Central Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.918
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	110	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	119	782	148	180	632	65	115	969	132	65	334	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	119	782	148	180	632	65	115	969	132	65	334	158
Added Vol:	0	93	0	0	125	0	0	0	0	0	0	0
PasserByVol:	0	3	0	0	5	1	1	1	0	0	1	0
Initial Fut:	119	878	148	180	762	66	116	970	132	65	335	158
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	119	878	148	180	762	66	116	970	132	65	335	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	119	878	148	180	762	66	116	970	132	65	335	158
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	119	878	148	180	762	66	116	970	132	65	335	158
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.71	0.29	1.00	1.84	0.16	1.00	1.76	0.24	1.00	2.00	1.00
Final Sat.:	1600	2738	462	1600	2945	255	1600	2817	383	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.32	0.32	0.11	0.26	0.26	0.07	0.34	0.34	0.04	0.10	0.10
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #61 Wilmington Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.928
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	116	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	79	894	113	129	569	70	107	1012	159	105	425	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	894	113	129	569	70	107	1012	159	105	425	158
Added Vol:	0	122	0	0	173	0	0	0	0	0	0	0
PasserByVol:	0	24	0	8	47	1	1	0	0	0	0	3
Initial Fut:	79	1040	113	137	789	71	108	1012	159	105	425	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	1040	113	137	789	71	108	1012	159	105	425	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	1040	113	137	789	71	108	1012	159	105	425	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	1040	113	137	789	71	108	1012	159	105	425	161
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.83	0.17	1.00	2.00	1.00	1.00	1.45	0.55
Final Sat.:	1600	2886	314	1600	2936	264	1600	3200	1600	1600	2321	879
Capacity Analysis Module:												
Vol/Sat:	0.05	0.36	0.36	0.09	0.27	0.27	0.07	0.32	0.10	0.07	0.18	0.18
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #62 Wilmington Ave & Greenleaf Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.956	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	139	Level Of Service:	E	

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	70	970	330	148	564	19	45	532	34	98	224	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	970	330	148	564	19	45	532	34	98	224	169
Added Vol:	0	122	0	0	173	0	0	0	0	0	0	0
PasserByVol:	0	18	0	2	36	0	0	0	0	0	0	1
Initial Fut:	70	1110	330	150	773	19	45	532	34	98	224	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	1110	330	150	773	19	45	532	34	98	224	170
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	1110	330	150	773	19	45	532	34	98	224	170
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	1110	330	150	773	19	45	532	34	98	224	170
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.95	0.05	1.00	0.94	0.06	1.00	0.57	0.43
Final Sat.:	1600	3200	1600	1600	3123	77	1600	1504	96	1600	910	690
Capacity Analysis Module:												
Vol/Sat:	0.04	0.35	0.21	0.09	0.25	0.25	0.03	0.35	0.35	0.06	0.25	0.25
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #63 Wilmington Ave & Walnut St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.829	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	74	Level Of Service:	D	

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	1 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	54	1153	85	34	627	25	152	451	184	34	63	63
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	1153	85	34	627	25	152	451	184	34	63	63
Added Vol:	0	122	0	0	173	0	0	0	0	0	0	0
PasserByVol:	0	19	0	0	37	0	0	0	0	0	0	0
Initial Fut:	54	1294	85	34	837	25	152	451	184	34	63	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	1294	85	34	837	25	152	451	184	34	63	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	1294	85	34	837	25	152	451	184	34	63	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	1294	85	34	837	25	152	451	184	34	63	63
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	1600	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.03	0.40	0.05	0.02	0.26	0.02	0.10	0.28	0.12	0.02	0.04	0.04
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #64 Central Ave & Greenleaf Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.701
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2	0 1	1 0	2	0 0	0 0	0	0 0	1 0	0	0 1
Volume Module:												
Base Vol:	0	866	326	311	507	0	0	0	0	68	0	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	866	326	311	507	0	0	0	0	68	0	169
Added Vol:	0	93	0	0	125	0	0	0	0	0	0	0
PasserByVol:	0	3	0	0	5	0	0	0	0	0	0	0
Initial Fut:	0	962	326	311	637	0	0	0	0	68	0	169
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	962	326	311	637	0	0	0	0	68	0	169
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	962	326	311	637	0	0	0	0	68	0	169
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	962	326	311	637	0	0	0	0	68	0	169
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3200	1600	1600	3200	0	0	0	0	1600	0	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.20	0.19	0.20	0.00	0.00	0.00	0.00	0.04	0.00	0.11
Crit Moves:		****		****								****

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #65 Willowbrook Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.530	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	53	Level Of Service:	A	

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	2 0	1	0 0	1 1	0
Volume Module:												
Base Vol:	16	89	13	35	67	20	18	1056	20	0	571	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	89	13	35	67	20	18	1056	20	0	571	39
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	3	0	0	8	0	0	9	0	0	3	0
Initial Fut:	16	92	13	35	75	20	18	1065	20	0	574	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	92	13	35	75	20	18	1065	20	0	574	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	92	13	35	75	20	18	1065	20	0	574	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	92	13	35	75	20	18	1065	20	0	574	39
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.13	0.76	0.11	0.27	0.58	0.15	1.00	2.00	1.00	0.00	1.87	0.13
Final Sat.:	212	1217	172	431	923	246	1600	3200	1600	0	2996	204
Capacity Analysis Module:												
Vol/Sat:	0.01	0.08	0.08	0.02	0.08	0.08	0.01	0.33	0.01	0.00	0.19	0.19
Crit Moves:		****		****				****				

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #66 Alameda St. West & Greenleaf Blvd.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.751
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 1	1 0	1	0 1	0 1
Volume Module:												
Base Vol:	84	546	219	61	646	83	93	599	80	208	211	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	546	219	61	646	83	93	599	80	208	211	43
Added Vol:	0	40	0	0	58	0	0	0	0	0	0	0
PasserByVol:	0	15	0	0	30	0	0	2	0	0	1	0
Initial Fut:	84	601	219	61	734	83	93	601	80	208	212	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	84	601	219	61	734	83	93	601	80	208	212	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	601	219	61	734	83	93	601	80	208	212	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	84	601	219	61	734	83	93	601	80	208	212	43
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.47	0.53	1.00	1.80	0.20	1.00	1.77	0.23	1.00	1.00	1.00
Final Sat.:	1600	2345	855	1600	2875	325	1600	2824	376	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.26	0.26	0.04	0.26	0.26	0.06	0.21	0.21	0.13	0.13	0.03
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
10-4-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #44 Alameda St & Abbott Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.657
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0 1	0	1	0 1	1 0	0	0 1!	0 0	1	1 0	0 1
Volume Module:												
Base Vol:	0	687	236	201	1116	0	6	24	2	229	1	136
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	0	694	238	203	1127	0	6	24	2	231	1	137
Added Vol:	0	55	0	3	40	0	0	0	0	0	0	3
PasserByVol:	0	16	21	0	4	0	0	0	0	8	0	0
Initial Fut:	0	765	259	206	1171	0	6	24	2	239	1	140
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	765	259	206	1171	0	6	24	2	239	1	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	765	259	206	1171	0	6	24	2	239	1	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	765	259	206	1171	0	6	24	2	239	1	140
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.49	0.51	1.00	2.00	0.00	0.19	0.75	0.06	1.99	0.01	1.00
Final Sat.:	0	2390	810	1600	3200	0	300	1200	100	3187	13	1600
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.32	0.13	0.37	0.00	0.02	0.02	0.02	0.08	0.08	0.09
Crit Moves:		****		****				****				****

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #53 Imperial Hway & Fernwood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.794
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	0	1	0 1	1	0	1 0 1
Volume Module:												
Base Vol:	95	70	7	104	90	9	44	1264	221	7	789	143
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	95	70	7	104	90	9	44	1264	221	7	789	143
Added Vol:	0	0	0	0	0	0	0	104	0	0	89	0
PasserByVol:	0	0	0	0	0	0	0	23	0	0	15	0
Initial Fut:	95	70	7	104	90	9	44	1391	221	7	893	143
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	70	7	104	90	9	44	1391	221	7	893	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	70	7	104	90	9	44	1391	221	7	893	143
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	70	7	104	90	9	44	1391	221	7	893	143
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.55	0.41	0.04	0.52	0.44	0.04	1.00	1.73	0.27	1.00	1.72	0.28
Final Sat.:	884	651	65	820	709	71	1600	2761	439	1600	2758	442
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.11	0.07	0.13	0.13	0.03	0.50	0.50	0.00	0.32	0.32
Crit Moves:	****			****			****			****		

Willowbrook
Existing+Project+Cumulative - PM Peak Hour
2-9-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #54 Imperial Hwy & State St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.823
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	51	454	123	72	326	124	339	1047	30	116	718	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	51	454	123	72	326	124	339	1047	30	116	718	76
Added Vol:	0	0	0	0	0	0	0	104	0	0	89	0
PasserByVol:	0	0	0	0	0	1	9	0	14	0	14	0
Initial Fut:	51	454	123	72	326	125	348	1151	44	116	821	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	454	123	72	326	125	348	1151	44	116	821	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	454	123	72	326	125	348	1151	44	116	821	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	454	123	72	326	125	348	1151	44	116	821	76
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.57	0.43	1.00	1.45	0.55	1.00	1.93	0.07	1.00	1.83	0.17
Final Sat.:	1600	2518	682	1600	2313	887	1600	3082	118	1600	2929	271
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.18	0.05	0.14	0.14	0.22	0.37	0.37	0.07	0.28	0.28
Crit Moves:		****		****			****				****	

Intersections LOS Analysis Sheets

Existing + Project + Mitigation

Willowbrook
Existing+Project+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Central Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.839
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	77	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	204	659	194	125	687	209	89	400	76	170	965	85
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	206	666	196	126	694	211	90	404	77	172	975	86
Added Vol:	0	10	34	0	7	0	0	66	0	21	45	0
PasserByVol:	0	29	0	0	12	3	16	15	0	0	10	0
Initial Fut:	206	705	230	126	713	214	106	485	77	193	1030	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	206	705	230	126	713	214	106	485	77	193	1030	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	206	705	230	126	713	214	106	485	77	193	1030	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	206	705	230	126	713	214	106	485	77	193	1030	86
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.14	0.08	0.22	0.13	0.07	0.15	0.05	0.12	0.32	0.05
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Central Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.795
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	135	571	71	95	644	207	121	346	125	117	979	153
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	136	577	72	96	650	209	122	349	126	118	989	155
Added Vol:	0	33	0	0	22	6	10	7	0	0	7	0
PasserByVol:	0	20	0	0	8	2	5	5	0	0	2	0
Initial Fut:	136	630	72	96	680	217	137	361	126	118	998	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	136	630	72	96	680	217	137	361	126	118	998	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	136	630	72	96	680	217	137	361	126	118	998	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	136	630	72	96	680	217	137	361	126	118	998	155
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.22	0.78	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3557	1243	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.20	0.04	0.06	0.21	0.14	0.09	0.10	0.10	0.07	0.31	0.10
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Compton Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.069
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	114	332	167	113	289	134	75	660	171	190	1489	161
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	115	335	169	114	292	135	76	667	173	192	1504	163
Added Vol:	92	25	37	5	39	0	0	40	166	86	19	1
PasserByVol:	2	14	0	0	34	0	0	17	3	0	7	0
Initial Fut:	209	374	206	119	365	135	76	724	342	278	1530	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	209	374	206	119	365	135	76	724	342	278	1530	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	374	206	119	365	135	76	724	342	278	1530	164
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	374	206	119	365	135	76	724	342	278	1530	164
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.73	0.27	1.00	2.04	0.96	1.00	2.00	1.00
Final Sat.:	1600	1600	1600	1600	1167	433	1600	3260	1540	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.23	0.13	0.07	0.31	0.31	0.05	0.22	0.22	0.17	0.48	0.10
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Wilmington Ave & I-105 e/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.824
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	0	0 0	2 0	2	1 0	1! 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	325	644	0	0	655	481	407	0	532	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	328	650	0	0	662	486	411	0	537	0	0	0
Added Vol:	98	180	0	0	185	27	4	0	125	0	0	0
PasserByVol:	53	73	0	0	219	0	0	0	79	0	0	0
Initial Fut:	479	903	0	0	1066	513	415	0	741	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	479	903	0	0	1066	513	415	0	741	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	479	903	0	0	1066	513	415	0	741	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	479	903	0	0	1066	513	415	0	741	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	0.00	0.00	2.00	2.00	1.07	0.01	1.92	0.00	0.00	0.00
Final Sat.:	3200	4800	0	0	3200	3200	1723	0	3077	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.15	0.19	0.00	0.00	0.33	0.16	0.24	0.00	0.24	0.00	0.00	0.00
Crit Moves:	****				****		****					

Willowbrook
Existing+Project+TMG Mitigation AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Wilmington Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	1.057
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	2	0 1	1 0	0	1 0	0 1	0	1 0	0 1
Volume Module:												
Base Vol:	129	843	60	92	939	164	59	18	80	20	39	56
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	130	851	61	93	948	166	60	18	81	20	39	57
Added Vol:	185	31	8	17	10	283	199	1	129	22	2	49
PasserByVol:	0	125	0	0	298	0	0	0	0	0	0	0
Initial Fut:	315	1007	69	110	1256	449	259	19	210	42	41	106
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	315	1007	69	110	1256	449	259	19	210	42	41	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	1007	69	110	1256	449	259	19	210	42	41	106
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	315	1007	69	110	1256	449	259	19	210	42	41	106
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.81	0.19	2.00	1.47	0.53	0.93	0.07	1.00	0.50	0.50	1.00
Final Sat.:	1600	4494	306	2880	2358	842	1490	110	1600	808	792	1600
Capacity Analysis Module:												
Vol/Sat:	0.20	0.22	0.22	0.04	0.53	0.53	0.16	0.17	0.13	0.03	0.05	0.07
Crit Moves:	****				****		****					****

Willowbrook
Existing+Project+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Wilmington Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.782
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	173	744	54	123	640	135	92	393	258	56	557	89
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	175	751	55	124	646	136	93	397	261	57	563	90
Added Vol:	26	172	0	32	113	11	6	3	15	0	8	51
PasserByVol:	0	102	0	11	42	0	0	0	0	0	0	26
Initial Fut:	201	1025	55	167	801	147	99	400	276	57	571	167
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	201	1025	55	167	801	147	99	400	276	57	571	167
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	201	1025	55	167	801	147	99	400	276	57	571	167
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	201	1025	55	167	801	147	99	400	276	57	571	167
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.90	0.10	1.00	1.69	0.31	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	3038	162	1600	2703	497	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.34	0.34	0.10	0.30	0.30	0.06	0.12	0.17	0.04	0.18	0.10
Crit Moves:		****		****			****				****	

Willowbrook
Existing+Project+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #36 Imperial Hwy & I-105 w/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.807
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	68	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 1	0	0 1	0	0	1! 0	0	1 0	3 1	1	2 0	2 1 0
Volume Module:												
Base Vol:	534	11	136	7	34	67	50	1002	222	735	1333	13
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	539	11	137	7	34	68	51	1012	224	742	1346	13
Added Vol:	178	9	1	0	0	0	7	70	107	2	100	4
PasserByVol:	116	0	11	0	0	0	0	19	32	0	42	0
Initial Fut:	833	20	149	7	34	68	58	1101	363	744	1488	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	833	20	149	7	34	68	58	1101	363	744	1488	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	833	20	149	7	34	68	58	1101	363	744	1488	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	833	20	149	7	34	68	58	1101	363	744	1488	17
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.93	0.07	1.00	0.06	0.31	0.63	1.00	3.76	1.24	2.00	2.97	0.03
Final Sat.:	4218	102	1600	104	504	993	1600	6016	1984	2880	4745	55
Capacity Analysis Module:												
Vol/Sat:	0.20	0.20	0.09	0.07	0.07	0.07	0.04	0.18	0.18	0.26	0.31	0.31
OvlAdjV/S:									0.00			
Crit Moves:	****			****				****		****		

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #45 Alameda St & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.792
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 1	0	1 0	2 0	2	2 0	2 1	0	1 0	3 0	1
Volume Module:												
Base Vol:	209	643	82	74	641	540	357	536	169	85	1226	36
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	211	649	83	75	647	545	361	541	171	86	1238	36
Added Vol:	6	0	0	0	0	44	30	37	4	0	55	0
PasserByVol:	0	0	0	0	0	18	12	8	0	0	23	0
Initial Fut:	217	649	83	75	647	607	403	586	175	86	1316	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	217	649	83	75	647	607	403	586	175	86	1316	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	649	83	75	647	607	403	586	175	86	1316	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	649	83	75	647	607	403	586	175	86	1316	36
OvlAdjVol:						160						
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.77	0.23	1.00	2.00	2.00	2.00	2.31	0.69	1.00	3.00	1.00
Final Sat.:	2880	2838	362	1600	3200	3200	2880	3698	1102	1600	4800	1600
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.23	0.05	0.20	0.19	0.14	0.16	0.16	0.05	0.27	0.02
OvlAdjV/S:						0.05						
Crit Moves:	****				****			****				****

Willowbrook
Existing+Project+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #46 Alameda St & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.780
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	153	632	50	78	759	109	105	417	153	40	361	103
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	155	638	51	79	767	110	106	421	155	40	365	104
Added Vol:	41	6	0	0	4	0	0	14	28	0	20	0
PasserByVol:	12	0	0	0	0	0	0	2	5	0	5	0
Initial Fut:	208	644	51	79	771	110	106	437	188	40	390	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	208	644	51	79	771	110	106	437	188	40	390	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	208	644	51	79	771	110	106	437	188	40	390	104
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	208	644	51	79	771	110	106	437	188	40	390	104
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.20	0.03	0.05	0.24	0.07	0.07	0.14	0.12	0.03	0.24	0.07
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Compton Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.880
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	91	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	172	102	27	136	69	276	148	594	93	12	927	111
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	174	103	27	137	70	279	149	600	94	12	936	112
Added Vol:	0	0	0	18	0	53	93	6	0	0	13	32
PasserByVol:	0	18	0	0	8	10	15	0	0	0	0	0
Initial Fut:	174	121	27	155	78	342	257	606	94	12	949	144
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	174	121	27	155	78	342	257	606	94	12	949	144
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	174	121	27	155	78	342	257	606	94	12	949	144
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	174	121	27	155	78	342	257	606	94	12	949	144
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	2612	588	1600	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.11	0.05	0.05	0.10	0.05	0.21	0.16	0.19	0.06	0.01	0.30	0.09
Crit Moves:	****					****	****				****	

Willowbrook
Existing+Project+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Wilmington Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.927
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	116	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	95	614	119	138	813	189	99	462	103	124	900	98
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	96	620	120	139	821	191	100	467	104	125	909	99
Added Vol:	0	141	0	30	92	6	7	0	0	0	0	50
PasserByVol:	0	61	0	9	26	5	11	0	0	0	0	21
Initial Fut:	96	822	120	178	939	202	118	467	104	125	909	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	822	120	178	939	202	118	467	104	125	909	170
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	822	120	178	939	202	118	467	104	125	909	170
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	822	120	178	939	202	118	467	104	125	909	170
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.65	0.35	1.00	2.00	1.00	1.00	1.68	0.32
Final Sat.:	1600	3200	1600	1600	2634	566	1600	3200	1600	1600	2696	504
Capacity Analysis Module:												
Vol/Sat:	0.06	0.26	0.08	0.11	0.36	0.36	0.07	0.15	0.07	0.08	0.34	0.34
Crit Moves:	****				****			****				****

Willowbrook
Existing+Project+Mitigation Conditions - AM Peak
1-30-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #61 Wilmington Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.815
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	104	444	142	170	833	87	100	498	105	137	850	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	444	142	170	833	87	100	498	105	137	850	142
Added Vol:	0	141	0	0	92	0	0	0	0	0	0	0
PasserByVol:	0	38	0	2	15	0	1	0	0	0	0	5
Initial Fut:	104	623	142	172	940	87	101	498	105	137	850	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	623	142	172	940	87	101	498	105	137	850	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	623	142	172	940	87	101	498	105	137	850	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	623	142	172	940	87	101	498	105	137	850	147
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.83	0.17	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	2606	594	1600	2929	271	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.24	0.24	0.11	0.32	0.32	0.06	0.16	0.07	0.09	0.27	0.09
Crit Moves:	****				****			****				****

Willowbrook
Existing+Project+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Avalon Blvd & El Segundo

Cycle (sec):	100	Critical Vol./Cap.(X):	0.820
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	71	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	121	704	170	148	531	93	134	1370	104	102	461	112
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	122	711	172	149	536	94	135	1384	105	103	466	113
Added Vol:	0	8	13	0	10	0	0	40	0	19	54	0
PasserByVol:	0	8	0	0	16	0	0	20	0	0	38	0
Initial Fut:	122	727	185	149	562	94	135	1444	105	122	558	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	122	727	185	149	562	94	135	1444	105	122	558	113
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	122	727	185	149	562	94	135	1444	105	122	558	113
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	122	727	185	149	562	94	135	1444	105	122	558	113
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.80	0.20	1.00	2.49	0.51
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	4474	326	1600	3990	810
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.12	0.09	0.18	0.06	0.08	0.32	0.32	0.08	0.14	0.14
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Central Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.908
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	104	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	82	634	213	178	655	153	195	1238	145	86	483	79
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	83	640	215	180	662	155	197	1250	146	87	488	80
Added Vol:	0	9	25	0	12	0	0	53	0	36	73	0
PasserByVol:	0	19	0	0	36	11	11	10	0	0	29	0
Initial Fut:	83	668	240	180	710	166	208	1313	146	123	590	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	83	668	240	180	710	166	208	1313	146	123	590	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	668	240	180	710	166	208	1313	146	123	590	80
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	83	668	240	180	710	166	208	1313	146	123	590	80
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.21	0.15	0.11	0.22	0.10	0.13	0.41	0.09	0.08	0.18	0.05
Crit Moves:		****		****				****		****		

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Willowbrook
Existing+Project+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Compton Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.954
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	137	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	98	304	167	214	257	101	78	1434	86	63	735	232
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	99	307	169	216	260	102	79	1448	87	64	742	234
Added Vol:	169	42	69	4	30	0	0	40	103	51	39	3
PasserByVol:	5	42	0	0	23	0	0	11	2	0	21	0
Initial Fut:	273	391	238	220	313	102	79	1499	192	115	802	237
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	273	391	238	220	313	102	79	1499	192	115	802	237
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	273	391	238	220	313	102	79	1499	192	115	802	237
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	273	391	238	220	313	102	79	1499	192	115	802	237
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.75	0.25	1.00	2.66	0.34	1.00	2.00	1.00
Final Sat.:	1600	1600	1600	1600	1206	394	1600	4255	545	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.17	0.24	0.15	0.14	0.26	0.26	0.05	0.35	0.35	0.07	0.25	0.15
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+TMG Mitigation PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Wilmington Ave & I-105 e/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.711
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	0	0 0	2 0	2	1 0	1! 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	326	902	0	0	529	421	328	0	179	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	329	911	0	0	534	425	331	0	181	0	0	0
Added Vol:	150	247	0	0	185	60	3	0	125	0	0	0
PasserByVol:	160	219	0	0	137	0	0	0	48	0	0	0
Initial Fut:	639	1377	0	0	856	485	334	0	354	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	639	1377	0	0	856	485	334	0	354	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	639	1377	0	0	856	485	334	0	354	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	639	1377	0	0	856	485	334	0	354	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	0.00	0.00	2.00	2.00	1.46	0.00	1.54	0.00	0.00	0.00
Final Sat.:	3200	4800	0	0	3200	3200	2332	0	2468	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.20	0.29	0.00	0.00	0.27	0.15	0.14	0.00	0.14	0.00	0.00	0.00
Crit Moves:	****				****		****					

Willowbrook
Existing+Project+TMG Mitigation PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Wilmington Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.907
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	103	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	2 0	1	1 0	0 1	0	0 1	0 1	0	0 1
Volume Module:												
Base Vol:	28	992	84	132	547	32	108	50	50	37	44	137
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	28	1002	85	133	552	32	109	51	51	37	44	138
Added Vol:	147	39	29	64	17	230	315	2	203	19	2	44
PasserByVol:	0	379	0	0	186	0	0	0	0	0	0	0
Initial Fut:	175	1420	114	197	755	262	424	53	254	56	46	182
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	175	1420	114	197	755	262	424	53	254	56	46	182
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	175	1420	114	197	755	262	424	53	254	56	46	182
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	175	1420	114	197	755	262	424	53	254	56	46	182
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.78	0.22	2.00	1.48	0.52	0.89	0.11	1.00	0.55	0.45	1.00
Final Sat.:	1600	4444	356	2880	2375	825	1424	176	1600	877	723	1600
Capacity Analysis Module:												
Vol/Sat:	0.11	0.32	0.32	0.07	0.32	0.32	0.27	0.30	0.16	0.04	0.06	0.11
Crit Moves:	****				****		****					****

Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #30 Wilmington Ave & 120th St (East)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.685
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	2 0	1	0 1	0 0	1! 0	0
Volume Module:												
Base Vol:	8	807	17	35	707	16	53	2	14	2	0	15
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	8	815	17	35	714	16	54	2	14	2	0	15
Added Vol:	0	190	2	6	246	0	0	0	0	1	0	5
PasserByVol:	113	0	0	0	0	100	289	47	215	0	24	0
Initial Fut:	121	1005	19	41	960	116	343	49	229	3	24	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	121	1005	19	41	960	116	343	49	229	3	24	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	1005	19	41	960	116	343	49	229	3	24	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	121	1005	19	41	960	116	343	49	229	3	24	20
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.96	0.04	1.00	1.78	0.22	2.00	1.00	1.00	0.06	0.51	0.43
Final Sat.:	1600	3140	60	1600	2855	345	2880	1600	1600	102	814	683
Capacity Analysis Module:												
Vol/Sat:	0.08	0.32	0.32	0.03	0.34	0.34	0.12	0.03	0.14	0.03	0.03	0.03
Crit Moves:	****				****				****		****	

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Willowbrook
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Wilmington Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.812
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	69	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	144	579	83	101	480	86	182	927	326	44	296	68
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	145	585	84	102	485	87	184	936	329	44	299	69
Added Vol:	16	139	0	52	187	8	14	7	27	0	6	39
PasserByVol:	0	66	0	32	127	0	0	0	0	0	0	16
Initial Fut:	161	790	84	186	799	95	198	943	356	44	305	124
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	161	790	84	186	799	95	198	943	356	44	305	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	161	790	84	186	799	95	198	943	356	44	305	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	161	790	84	186	799	95	198	943	356	44	305	124
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.79	0.21	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	2893	307	1600	2860	340	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.10	0.27	0.27	0.12	0.28	0.28	0.12	0.29	0.22	0.03	0.10	0.08
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+TMG Mitigation PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #36 Imperial Hwy & I-105 w/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.827
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	73	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 1	0	0 1	0	0	1! 0	0	1	0 3 1	1	2	0 2 1 0
Volume Module:												
Base Vol:	544	8	271	9	22	25	47	1612	339	596	812	1
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	549	8	274	9	22	25	47	1628	342	602	820	1
Added Vol:	146	7	3	0	0	0	18	130	158	2	77	3
PasserByVol:	71	0	7	0	0	0	0	56	95	0	26	0
Initial Fut:	766	15	284	9	22	25	65	1814	595	604	923	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	766	15	284	9	22	25	65	1814	595	604	923	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	766	15	284	9	22	25	65	1814	595	604	923	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	766	15	284	9	22	25	65	1814	595	604	923	4
OvlAdjVol:									238			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.94	0.06	1.00	0.16	0.39	0.45	1.00	3.76	1.24	2.00	2.99	0.01
Final Sat.:	4237	83	1600	257	629	714	1600	6023	1977	2880	4779	21
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.04	0.04	0.04	0.04	0.30	0.30	0.21	0.19	0.19
OvlAdjV/S:									0.12			
Crit Moves:	****					****		****		****		

Willowbrook
Existing+Project+TMG Mitigation PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #43 Alameda St & 103rd St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.760
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	1 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	115	736	0	0	1222	235	190	0	158	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	116	743	0	0	1234	237	192	0	160	0	0	0
Added Vol:	0	49	0	0	36	0	0	0	0	0	0	0
PasserByVol:	0	16	0	0	4	9	8	0	0	0	0	0
Initial Fut:	116	808	0	0	1274	246	200	0	160	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	116	808	0	0	1274	246	200	0	160	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	808	0	0	1274	246	200	0	160	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	808	0	0	1274	246	200	0	160	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.68	0.32	1.11	0.00	0.89	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2682	518	1779	0	1421	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.25	0.00	0.00	0.48	0.48	0.11	0.00	0.11	0.00	0.00	0.00
Crit Moves:	****				****		****					

Willowbrook
Existing+Project+TMG Mitigation PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Compton Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.758
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	67	31	16	111	64	152	235	1347	103	16	449	74
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	68	31	16	112	65	154	237	1360	104	16	453	75
Added Vol:	0	0	0	33	0	98	63	15	0	0	11	19
PasserByVol:	0	12	0	0	23	29	10	0	0	0	0	0
Initial Fut:	68	43	16	145	88	281	310	1375	104	16	464	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	43	16	145	88	281	310	1375	104	16	464	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	43	16	145	88	281	310	1375	104	16	464	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	43	16	145	88	281	310	1375	104	16	464	94
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.46	0.54	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	2330	870	1600	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.02	0.09	0.05	0.18	0.19	0.43	0.07	0.01	0.15	0.06
Crit Moves:	****					****		****		****		

Willowbrook
Existing+Project+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Wilmington Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.893
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	97	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	153	674	153	147	475	135	114	1059	163	93	468	114
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	155	681	155	148	480	136	115	1070	165	94	473	115
Added Vol:	0	111	0	50	155	9	9	0	0	0	1	36
PasserByVol:	0	39	0	26	75	14	8	0	0	0	0	14
Initial Fut:	155	831	155	224	710	159	132	1070	165	94	474	165
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	831	155	224	710	159	132	1070	165	94	474	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	831	155	224	710	159	132	1070	165	94	474	165
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	831	155	224	710	159	132	1070	165	94	474	165
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.63	0.37	1.00	2.00	1.00	1.00	1.48	0.52
Final Sat.:	1600	3200	1600	1600	2613	587	1600	3200	1600	1600	2373	827
Capacity Analysis Module:												
Vol/Sat:	0.10	0.26	0.10	0.14	0.27	0.27	0.08	0.33	0.10	0.06	0.20	0.20
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Mitigation Conditions - PM Peak
1-30-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #61 Wilmington Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.924
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	114	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	79	894	113	129	569	70	107	1012	159	105	425	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	894	113	129	569	70	107	1012	159	105	425	158
Added Vol:	0	111	0	0	155	0	0	0	0	0	0	0
PasserByVol:	0	24	0	8	47	1	1	0	0	0	0	3
Initial Fut:	79	1029	113	137	771	71	108	1012	159	105	425	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	1029	113	137	771	71	108	1012	159	105	425	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	1029	113	137	771	71	108	1012	159	105	425	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	1029	113	137	771	71	108	1012	159	105	425	161
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.83	0.17	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	2883	317	1600	2930	270	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.36	0.36	0.09	0.26	0.26	0.07	0.32	0.10	0.07	0.13	0.10
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Mitigation Conditions - PM Peak
1-30-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #63 Wilmington Ave & Walnut St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.742
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxx
Optimal Cycle:	56	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	54	1153	85	34	627	25	152	451	184	34	63	63
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	1153	85	34	627	25	152	451	184	34	63	63
Added Vol:	0	111	0	0	155	0	0	0	0	0	0	0
PasserByVol:	0	19	0	0	37	0	0	0	0	0	0	0
Initial Fut:	54	1283	85	34	819	25	152	451	184	34	63	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	1283	85	34	819	25	152	451	184	34	63	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	1283	85	34	819	25	152	451	184	34	63	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	1283	85	34	819	25	152	451	184	34	63	63
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.42	0.58	1.00	1.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	2273	927	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.03	0.40	0.05	0.02	0.26	0.02	0.10	0.20	0.20	0.02	0.04	0.04
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Mitigation Conditions - PM Peak
1-30-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #54 Imperial Hwy & State St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.771
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	51	454	123	72	326	124	339	1047	30	116	718	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	51	454	123	72	326	124	339	1047	30	116	718	76
Added Vol:	0	0	0	0	0	0	0	61	0	0	45	0
PasserByVol:	0	0	0	0	0	1	9	0	14	0	14	0
Initial Fut:	51	454	123	72	326	125	348	1108	44	116	777	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	454	123	72	326	125	348	1108	44	116	777	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	454	123	72	326	125	348	1108	44	116	777	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	454	123	72	326	125	348	1108	44	116	777	76
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.92	0.08	1.00	1.82	0.18
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3078	122	1600	2915	285
Capacity Analysis Module:												
Vol/Sat:	0.03	0.14	0.08	0.05	0.10	0.08	0.22	0.36	0.36	0.07	0.27	0.27
Crit Moves:		****			****			****			****	

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Intersections LOS Analysis Sheets

Existing + Project + Cumulative + Mitigation

Willowbrook
Existing+Project+Cumulative+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Central Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.874
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	88	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	204	659	194	125	687	209	89	400	76	170	965	85
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	206	666	196	126	694	211	90	404	77	172	975	86
Added Vol:	18	23	34	0	30	13	15	87	15	22	65	0
PasserByVol:	0	29	0	0	12	3	16	15	0	0	10	0
Initial Fut:	224	718	230	126	736	227	121	506	92	194	1050	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	224	718	230	126	736	227	121	506	92	194	1050	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	224	718	230	126	736	227	121	506	92	194	1050	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	224	718	230	126	736	227	121	506	92	194	1050	86
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.14	0.22	0.14	0.08	0.23	0.14	0.08	0.16	0.06	0.12	0.33	0.05
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Central Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.821
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 2	0	1	1	0 2	0	1	1	0 2	1	0	1	0 2	0	1
Volume Module:																
Base Vol:	135	571		71	95	644		207	121	346		125	117	979		153
Growth Adj:	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01		1.01
Initial Bse:	136	577		72	96	650		209	122	349		126	118	989		155
Added Vol:	16	66		0	4	40		17	22	12		3	0	14		3
PasserByVol:	0	20		0	0	8		2	5	5		0	0	2		0
Initial Fut:	152	663		72	100	698		228	149	366		129	118	1005		158
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	152	663		72	100	698		228	149	366		129	118	1005		158
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	152	663		72	100	698		228	149	366		129	118	1005		158
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	152	663		72	100	698		228	149	366		129	118	1005		158
Saturation Flow Module:																
Sat/Lane:	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600		1600
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Lanes:	1.00	2.00		1.00	1.00	2.00		1.00	1.00	2.22		0.78	1.00	2.00		1.00
Final Sat.:	1600	3200		1600	1600	3200		1600	1600	3548		1252	1600	3200		1600
Capacity Analysis Module:																
Vol/Sat:	0.10	0.21		0.04	0.06	0.22		0.14	0.09	0.10		0.10	0.07	0.31		0.10
Crit Moves:	****					****			****					****		

Willowbrook
Existing+Project+Cumulative+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Compton Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.075
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	114	332	167	113	289	134	75	660	171	190	1489	161
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	115	335	169	114	292	135	76	667	173	192	1504	163
Added Vol:	95	26	40	5	42	0	1	49	172	87	26	3
PasserByVol:	2	14	0	0	34	0	0	17	3	0	7	0
Initial Fut:	212	375	209	119	368	135	77	733	348	279	1537	166
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	212	375	209	119	368	135	77	733	348	279	1537	166
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	212	375	209	119	368	135	77	733	348	279	1537	166
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	212	375	209	119	368	135	77	733	348	279	1537	166
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.73	0.27	1.00	2.03	0.97	1.00	2.00	1.00
Final Sat.:	1600	1600	1600	1600	1170	430	1600	3255	1545	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.23	0.13	0.07	0.31	0.31	0.05	0.23	0.23	0.17	0.48	0.10
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Wilmington Ave & I-105 e/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.855
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	82	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	0	0 0	2 0	2	1 0	1! 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	325	644	0	0	655	481	407	0	532	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	328	650	0	0	662	486	411	0	537	0	0	0
Added Vol:	98	201	0	0	219	28	4	0	144	0	0	0
PasserByVol:	53	73	0	0	219	0	0	0	79	0	0	0
Initial Fut:	479	924	0	0	1100	514	415	0	760	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	479	924	0	0	1100	514	415	0	760	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	479	924	0	0	1100	514	415	0	760	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	479	924	0	0	1100	514	415	0	760	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	0.00	0.00	2.00	2.00	1.06	0.00	1.94	0.00	0.00	0.00
Final Sat.:	2880	4800	0	0	3200	3200	1695	0	3105	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.19	0.00	0.00	0.34	0.16	0.24	0.00	0.24	0.00	0.00	0.00
Crit Moves:	****				****		****					

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Willowbrook
Existing+Project+Cumulative+TMG Mitigation AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Wilmington Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	1.098
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	2 0	1	1 0	0 1	0	0 1	0 1	0	0 1
Volume Module:												
Base Vol:	129	843	60	92	939	164	59	18	80	20	39	56
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	130	851	61	93	948	166	60	18	81	20	39	57
Added Vol:	209	36	8	17	19	326	214	1	139	22	2	49
PasserByVol:	0	125	0	0	298	0	0	0	0	0	0	0
Initial Fut:	339	1012	69	110	1265	492	274	19	220	42	41	106
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	339	1012	69	110	1265	492	274	19	220	42	41	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	339	1012	69	110	1265	492	274	19	220	42	41	106
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	339	1012	69	110	1265	492	274	19	220	42	41	106
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.81	0.19	2.00	1.44	0.56	0.93	0.07	1.00	0.50	0.50	1.00
Final Sat.:	1600	4495	305	2880	2305	895	1495	105	1600	808	792	1600
Capacity Analysis Module:												
Vol/Sat:	0.21	0.23	0.23	0.04	0.55	0.55	0.17	0.18	0.14	0.03	0.05	0.07
Crit Moves:	****				****		****					****

Willowbrook
Existing+Project+Cumulative+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Wilmington Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.792
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	173	744	54	123	640	135	92	393	258	56	557	89
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	175	751	55	124	646	136	93	397	261	57	563	90
Added Vol:	34	185	0	36	117	11	6	11	18	0	17	62
PasserByVol:	0	102	0	11	42	0	0	0	0	0	0	26
Initial Fut:	209	1038	55	171	805	147	99	408	279	57	580	178
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	209	1038	55	171	805	147	99	408	279	57	580	178
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	1038	55	171	805	147	99	408	279	57	580	178
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	1038	55	171	805	147	99	408	279	57	580	178
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.90	0.10	1.00	1.69	0.31	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	3040	160	1600	2705	495	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.34	0.34	0.11	0.30	0.30	0.06	0.13	0.17	0.04	0.18	0.11
Crit Moves:		****		****			****				****	

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Willowbrook
Existing+Project+Cumulative+TMG Mitigation AM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #36 Imperial Hwy & I-105 w/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.811
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	69	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 1	0	0 1	0	0	1! 0	0	1 0	3 1	1	2 0	2 1 0
Volume Module:												
Base Vol:	534	11	136	7	34	67	50	1002	222	735	1333	13
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	539	11	137	7	34	68	51	1012	224	742	1346	13
Added Vol:	181	9	1	0	0	0	7	89	112	2	131	4
PasserByVol:	116	0	11	0	0	0	0	19	32	0	42	0
Initial Fut:	836	20	149	7	34	68	58	1120	368	744	1519	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	836	20	149	7	34	68	58	1120	368	744	1519	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	836	20	149	7	34	68	58	1120	368	744	1519	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	836	20	149	7	34	68	58	1120	368	744	1519	17
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.93	0.07	1.00	0.06	0.31	0.63	1.00	3.76	1.24	2.00	2.97	0.03
Final Sat.:	4219	101	1600	104	504	993	1600	6021	1979	2880	4746	54
Capacity Analysis Module:												
Vol/Sat:	0.20	0.20	0.09	0.07	0.07	0.07	0.04	0.19	0.19	0.26	0.32	0.32
OvlAdjV/S:									0.00			
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #45 Alameda St & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.798	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	66	Level Of Service:	C	

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	1 0	2	0 2	2 0	2	1 0	1 0	3	0 1
Volume Module:												
Base Vol:	209	643	82	74	641	540	357	536	169	85	1226	36
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	211	649	83	75	647	545	361	541	171	86	1238	36
Added Vol:	6	1	0	0	0	48	31	55	4	0	82	0
PasserByVol:	0	0	0	0	0	18	12	8	0	0	23	0
Initial Fut:	217	650	83	75	647	611	404	604	175	86	1343	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	217	650	83	75	647	611	404	604	175	86	1343	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	650	83	75	647	611	404	604	175	86	1343	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	650	83	75	647	611	404	604	175	86	1343	36
OvlAdjVol:						163						
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.77	0.23	1.00	2.00	2.00	2.00	2.33	0.67	1.00	3.00	1.00
Final Sat.:	2880	2839	361	1600	3200	3200	2880	3724	1076	1600	4800	1600
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.23	0.05	0.20	0.19	0.14	0.16	0.16	0.05	0.28	0.02
OvlAdjV/S:						0.05						
Crit Moves:	****				****			****				****

Willowbrook
Existing+Project+Cumulative+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #46 Alameda St & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.793
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	153	632	50	78	759	109	105	417	153	40	361	103
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	155	638	51	79	767	110	106	421	155	40	365	104
Added Vol:	47	7	0	0	4	0	0	23	29	0	34	0
PasserByVol:	12	0	0	0	0	0	0	2	5	0	5	0
Initial Fut:	214	645	51	79	771	110	106	446	189	40	404	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	214	645	51	79	771	110	106	446	189	40	404	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	214	645	51	79	771	110	106	446	189	40	404	104
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	214	645	51	79	771	110	106	446	189	40	404	104
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.13	0.20	0.03	0.05	0.24	0.07	0.07	0.14	0.12	0.03	0.25	0.07
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Compton Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.895
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	98	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	172	102	27	136	69	276	148	594	93	12	927	111
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	174	103	27	137	70	279	149	600	94	12	936	112
Added Vol:	0	1	0	18	2	58	105	16	0	0	29	32
PasserByVol:	0	18	0	0	8	10	15	0	0	0	0	0
Initial Fut:	174	122	27	155	80	347	269	616	94	12	965	144
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	174	122	27	155	80	347	269	616	94	12	965	144
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	174	122	27	155	80	347	269	616	94	12	965	144
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	174	122	27	155	80	347	269	616	94	12	965	144
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	2615	585	1600	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.11	0.05	0.05	0.10	0.05	0.22	0.17	0.19	0.06	0.01	0.30	0.09
Crit Moves:	****					****	****				****	

Willowbrook
Existing+Project+Cumulative+TMG Mitigation AM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Wilmington Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.935
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	121	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	95	614	119	138	813	189	99	462	103	124	900	98
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	96	620	120	139	821	191	100	467	104	125	909	99
Added Vol:	0	152	0	34	96	6	7	9	0	0	10	60
PasserByVol:	0	61	0	9	26	5	11	0	0	0	0	21
Initial Fut:	96	833	120	182	943	202	118	476	104	125	919	180
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	833	120	182	943	202	118	476	104	125	919	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	833	120	182	943	202	118	476	104	125	919	180
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	833	120	182	943	202	118	476	104	125	919	180
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.65	0.35	1.00	2.00	1.00	1.00	1.67	0.33
Final Sat.:	1600	3200	1600	1600	2636	564	1600	3200	1600	1600	2676	524
Capacity Analysis Module:												
Vol/Sat:	0.06	0.26	0.08	0.11	0.36	0.36	0.07	0.15	0.07	0.08	0.34	0.34
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative+Mitigation Conditions - AM Peak
1-24-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #61 Wilmington Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.816
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	104	444	142	170	833	87	100	498	105	137	850	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	444	142	170	833	87	100	498	105	137	850	142
Added Vol:	0	152	0	0	96	0	0	0	0	0	0	0
PasserByVol:	0	38	0	2	15	0	1	0	0	0	0	5
Initial Fut:	104	634	142	172	944	87	101	498	105	137	850	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	634	142	172	944	87	101	498	105	137	850	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	634	142	172	944	87	101	498	105	137	850	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	634	142	172	944	87	101	498	105	137	850	147
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.83	0.17	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	2614	586	1600	2930	270	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.24	0.24	0.11	0.32	0.32	0.06	0.16	0.07	0.09	0.27	0.09
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Avalon Blvd & El Segundo

Cycle (sec):	100	Critical Vol./Cap.(X):	0.884
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	92	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	121	704	170	148	531	93	134	1370	104	102	461	112
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	122	711	172	149	536	94	135	1384	105	103	466	113
Added Vol:	4	18	65	7	19	0	0	184	7	59	174	4
PasserByVol:	0	8	0	0	16	0	0	20	0	0	38	0
Initial Fut:	126	737	237	156	571	94	135	1588	112	162	678	117
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	126	737	237	156	571	94	135	1588	112	162	678	117
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	737	237	156	571	94	135	1588	112	162	678	117
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	126	737	237	156	571	94	135	1588	112	162	678	117
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.80	0.20	1.00	2.56	0.44
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	4484	316	1600	4093	707
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.15	0.10	0.18	0.06	0.08	0.35	0.35	0.10	0.17	0.17
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Central Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.938
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	124	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	82	634	213	178	655	153	195	1238	145	86	483	79
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	83	640	215	180	662	155	197	1250	146	87	488	80
Added Vol:	53	57	27	0	36	36	25	96	37	38	133	0
PasserByVol:	0	19	0	0	36	11	11	10	0	0	29	0
Initial Fut:	136	716	242	180	734	202	233	1356	183	125	650	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	136	716	242	180	734	202	233	1356	183	125	650	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	136	716	242	180	734	202	233	1356	183	125	650	80
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	136	716	242	180	734	202	233	1356	183	125	650	80
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.08	0.22	0.15	0.11	0.23	0.13	0.15	0.42	0.11	0.08	0.20	0.05
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Central Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.816	
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx	
Optimal Cycle:	70	Level Of Service:	D	

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	138	567	111	181	706	107	148	1164	177	109	466	114
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	139	573	112	183	713	108	149	1176	179	110	471	115
Added Vol:	8	86	0	13	116	41	24	15	12	0	16	6
PasserByVol:	0	13	0	0	24	5	3	3	0	0	5	0
Initial Fut:	147	672	112	196	853	154	176	1194	191	110	492	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	147	672	112	196	853	154	176	1194	191	110	492	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	672	112	196	853	154	176	1194	191	110	492	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	672	112	196	853	154	176	1194	191	110	492	121
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.59	0.41	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	4139	661	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.21	0.07	0.12	0.27	0.10	0.11	0.29	0.29	0.07	0.15	0.08
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Compton Ave & Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.967
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	151	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	98	304	167	214	257	101	78	1434	86	63	735	232
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	99	307	169	216	260	102	79	1448	87	64	742	234
Added Vol:	180	47	71	6	32	1	1	46	111	54	47	5
PasserByVol:	5	42	0	0	23	0	0	11	2	0	21	0
Initial Fut:	284	396	240	222	315	103	80	1505	200	118	810	239
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	284	396	240	222	315	103	80	1505	200	118	810	239
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	284	396	240	222	315	103	80	1505	200	118	810	239
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	284	396	240	222	315	103	80	1505	200	118	810	239
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.75	0.25	1.00	2.65	0.35	1.00	2.00	1.00
Final Sat.:	1600	1600	1600	1600	1205	395	1600	4237	563	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.18	0.25	0.15	0.14	0.26	0.26	0.05	0.36	0.36	0.07	0.25	0.15
Crit Moves:	****				****			****			****	

Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Wilmington Ave & I-105 e/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.751
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	0	0 0	2 0	2	1 0	1! 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	326	902	0	0	529	421	328	0	179	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	329	911	0	0	534	425	331	0	181	0	0	0
Added Vol:	150	334	0	0	236	64	3	0	135	0	0	0
PasserByVol:	160	219	0	0	137	0	0	0	48	0	0	0
Initial Fut:	639	1464	0	0	907	489	334	0	364	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	639	1464	0	0	907	489	334	0	364	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	639	1464	0	0	907	489	334	0	364	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	639	1464	0	0	907	489	334	0	364	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	0.00	0.00	2.00	2.00	1.44	xxxx	1.56	0.00	0.00	0.00
Final Sat.:	2880	4800	0	0	3200	3200	2299	0	2501	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.22	0.31	0.00	0.00	0.28	0.15	0.15	0.00	0.15	0.00	0.00	0.00
Crit Moves:	****				****		****					

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Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Wilmington Ave & 118th St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.981
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	168	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	2 0	1 1	0	0 1	0 0	1	0 1	0 0	1
Volume Module:												
Base Vol:	28	992	84	132	547	32	108	50	50	37	44	137
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	28	1002	85	133	552	32	109	51	51	37	44	138
Added Vol:	171	60	29	64	44	263	380	2	244	19	2	44
PasserByVol:	0	379	0	0	186	0	0	0	0	0	0	0
Initial Fut:	199	1441	114	197	782	295	489	53	295	56	46	182
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	199	1441	114	197	782	295	489	53	295	56	46	182
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	199	1441	114	197	782	295	489	53	295	56	46	182
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	199	1441	114	197	782	295	489	53	295	56	46	182
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.78	0.22	2.00	1.45	0.55	0.90	0.10	1.00	0.55	0.45	1.00
Final Sat.:	1600	4449	351	2880	2323	877	1445	155	1600	877	723	1600
Capacity Analysis Module:												
Vol/Sat:	0.12	0.32	0.32	0.07	0.34	0.34	0.31	0.34	0.18	0.04	0.06	0.11
Crit Moves:	****				****		****					****

Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #30 Wilmington Ave & 120th St (East)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.697
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	2 0	1	0 1	0 0	1! 0	0
Volume Module:												
Base Vol:	8	807	17	35	707	16	53	2	14	2	0	15
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	8	815	17	35	714	16	54	2	14	2	0	15
Added Vol:	0	212	2	6	284	0	0	0	0	1	0	5
PasserByVol:	113	0	0	0	0	100	289	47	215	0	24	0
Initial Fut:	121	1027	19	41	998	116	343	49	229	3	24	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	121	1027	19	41	998	116	343	49	229	3	24	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	1027	19	41	998	116	343	49	229	3	24	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	121	1027	19	41	998	116	343	49	229	3	24	20
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.96	0.04	1.00	1.79	0.21	2.00	1.00	1.00	0.06	0.51	0.43
Final Sat.:	1600	3141	59	1600	2866	334	2880	1600	1600	102	814	683
Capacity Analysis Module:												
Vol/Sat:	0.08	0.33	0.33	0.03	0.35	0.35	0.12	0.03	0.14	0.03	0.03	0.03
Crit Moves:	****				****				****		****	

Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Wilmington Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.832
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	75	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	144	579	83	101	480	86	182	927	326	44	296	68
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	145	585	84	102	485	87	184	936	329	44	299	69
Added Vol:	36	152	0	69	209	8	14	26	42	0	31	48
PasserByVol:	0	66	0	32	127	0	0	0	0	0	0	16
Initial Fut:	181	803	84	203	821	95	198	962	371	44	330	133
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	181	803	84	203	821	95	198	962	371	44	330	133
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	181	803	84	203	821	95	198	962	371	44	330	133
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	181	803	84	203	821	95	198	962	371	44	330	133
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.79	0.21	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	2897	303	1600	2868	332	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.11	0.28	0.28	0.13	0.29	0.29	0.12	0.30	0.23	0.03	0.10	0.08
Crit Moves:		****		****				****		****		

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Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #36 Imperial Hwy & I-105 w/b Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.837
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	76	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 1	0	0 1	0	0	1! 0	0	1	0 3	1 1	2 0	2 1 0
Volume Module:												
Base Vol:	544	8	271	9	22	25	47	1612	339	596	812	1
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	549	8	274	9	22	25	47	1628	342	602	820	1
Added Vol:	150	7	3	0	0	0	18	178	182	2	123	3
PasserByVol:	71	0	7	0	0	0	0	56	95	0	26	0
Initial Fut:	770	15	284	9	22	25	65	1862	619	604	969	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	770	15	284	9	22	25	65	1862	619	604	969	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	770	15	284	9	22	25	65	1862	619	604	969	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	770	15	284	9	22	25	65	1862	619	604	969	4
OvlAdjVol:									256			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.94	0.06	1.00	0.16	0.39	0.45	1.00	3.75	1.25	2.00	2.99	0.01
Final Sat.:	4237	83	1600	257	629	714	1600	6003	1997	2880	4780	20
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.04	0.04	0.04	0.04	0.31	0.31	0.21	0.20	0.20
OvlAdjV/S:									0.13			
Crit Moves:	****					****		****		****		

Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #43 Alameda St & 103rd St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.769
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	1 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	115	736	0	0	1222	235	190	0	158	0	0	0
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	116	743	0	0	1234	237	192	0	160	0	0	0
Added Vol:	4	54	0	0	38	6	7	0	4	0	0	0
PasserByVol:	0	16	0	0	4	9	8	0	0	0	0	0
Initial Fut:	120	813	0	0	1276	252	207	0	164	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	120	813	0	0	1276	252	207	0	164	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	120	813	0	0	1276	252	207	0	164	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	120	813	0	0	1276	252	207	0	164	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.67	0.33	1.12	0.00	0.88	0.00	0.00	0.00
Final Sat.:	1600	3200	0	0	2672	528	1787	0	1413	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.08	0.25	0.00	0.00	0.48	0.48	0.12	0.00	0.12	0.00	0.00	0.00
Crit Moves:	****				****		****					

Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #46 Alameda St & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.922
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	112	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	102	717	98	107	699	43	50	258	95	182	699	190
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	103	724	99	108	706	43	51	261	96	184	706	192
Added Vol:	37	6	0	0	12	0	0	51	52	0	48	0
PasserByVol:	8	0	0	0	0	0	0	5	15	0	3	0
Initial Fut:	148	730	99	108	718	43	51	317	163	184	757	192
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	148	730	99	108	718	43	51	317	163	184	757	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	148	730	99	108	718	43	51	317	163	184	757	192
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	148	730	99	108	718	43	51	317	163	184	757	192
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.23	0.06	0.07	0.22	0.03	0.03	0.10	0.10	0.11	0.47	0.12
Crit Moves:	****				****		****				****	

Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Compton Ave & El Segundo Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.779
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	62	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	67	31	16	111	64	152	235	1347	103	16	449	74
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	68	31	16	112	65	154	237	1360	104	16	453	75
Added Vol:	0	4	0	33	4	115	73	50	0	0	56	19
PasserByVol:	0	12	0	0	23	29	10	0	0	0	0	0
Initial Fut:	68	47	16	145	92	298	320	1410	104	16	509	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	47	16	145	92	298	320	1410	104	16	509	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	47	16	145	92	298	320	1410	104	16	509	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	47	16	145	92	298	320	1410	104	16	509	94
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.49	0.51	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	2385	815	1600	1600	1600	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.02	0.09	0.06	0.19	0.20	0.44	0.07	0.01	0.16	0.06
Crit Moves:	****					****		****			****	

Willowbrook
Existing+Project+Cumulative+TMG Mitigation PM Peak
11-8-2016

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Wilmington Ave & Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.914
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	108	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	153	674	153	147	475	135	114	1059	163	93	468	114
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	155	681	155	148	480	136	115	1070	165	94	473	115
Added Vol:	0	122	0	69	173	9	9	19	0	0	13	57
PasserByVol:	0	39	0	26	75	14	8	0	0	0	0	14
Initial Fut:	155	842	155	243	728	159	132	1089	165	94	486	186
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	842	155	243	728	159	132	1089	165	94	486	186
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	842	155	243	728	159	132	1089	165	94	486	186
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	842	155	243	728	159	132	1089	165	94	486	186
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.64	0.36	1.00	2.00	1.00	1.00	1.45	0.55
Final Sat.:	1600	3200	1600	1600	2625	575	1600	3200	1600	1600	2313	887
Capacity Analysis Module:												
Vol/Sat:	0.10	0.26	0.10	0.15	0.28	0.28	0.08	0.34	0.10	0.06	0.21	0.21
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative+Mitigation - PM Peak Hour
1-31-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #57 Central Ave & W Compton Bvld

Cycle (sec):	100	Critical Vol./Cap.(X):	0.800
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	125	725	114	171	577	98	102	886	201	90	352	126
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	125	725	114	171	577	98	102	886	201	90	352	126
Added Vol:	0	93	0	3	125	0	0	0	0	0	0	1
PasserByVol:	0	8	0	0	14	1	1	1	0	0	1	0
Initial Fut:	125	826	114	174	716	99	103	887	201	90	353	127
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	125	826	114	174	716	99	103	887	201	90	353	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	125	826	114	174	716	99	103	887	201	90	353	127
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	125	826	114	174	716	99	103	887	201	90	353	127
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.47	0.53
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3200	1600	1600	2353	847
Capacity Analysis Module:												
Vol/Sat:	0.08	0.26	0.07	0.11	0.22	0.06	0.06	0.28	0.13	0.06	0.15	0.15
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative+Mitigation - PM Peak Hour
1-24-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #60 Central Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.872
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	88	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	119	782	148	180	632	65	115	969	132	65	334	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	119	782	148	180	632	65	115	969	132	65	334	158
Added Vol:	0	93	0	0	125	0	0	0	0	0	0	0
PasserByVol:	0	3	0	0	5	1	1	1	0	0	1	0
Initial Fut:	119	878	148	180	762	66	116	970	132	65	335	158
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	119	878	148	180	762	66	116	970	132	65	335	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	119	878	148	180	762	66	116	970	132	65	335	158
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	119	878	148	180	762	66	116	970	132	65	335	158
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.76	0.24	1.00	2.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	2817	383	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.07	0.27	0.09	0.11	0.24	0.04	0.07	0.34	0.34	0.04	0.10	0.10
Crit Moves:		****		****				****		****		

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Willowbrook
Existing+Project+Cumulative+Mitigation - PM Peak Hour
1-31-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #61 Wilmington Ave & Alondra Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.928
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	116	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	79	894	113	129	569	70	107	1012	159	105	425	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	894	113	129	569	70	107	1012	159	105	425	158
Added Vol:	0	122	0	0	173	0	0	0	0	0	0	0
PasserByVol:	0	24	0	8	47	1	1	0	0	0	0	3
Initial Fut:	79	1040	113	137	789	71	108	1012	159	105	425	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	1040	113	137	789	71	108	1012	159	105	425	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	1040	113	137	789	71	108	1012	159	105	425	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	1040	113	137	789	71	108	1012	159	105	425	161
OvlAdjVol:									80			24
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.80	0.20	1.00	1.83	0.17	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1600	2886	314	1600	2936	264	1600	3200	1600	1600	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.36	0.36	0.09	0.27	0.27	0.07	0.32	0.10	0.07	0.13	0.10
OvlAdjV/S:									0.05			0.02
Crit Moves:		****			****				****		****	

Willowbrook
Existing+Project+Cumulative+Mitigation - PM Peak Hour
1-31-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #63 Wilmington Ave & Walnut St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.745
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	54	1153	85	34	627	25	152	451	184	34	63	63
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	1153	85	34	627	25	152	451	184	34	63	63
Added Vol:	0	122	0	0	173	0	0	0	0	0	0	0
PasserByVol:	0	19	0	0	37	0	0	0	0	0	0	0
Initial Fut:	54	1294	85	34	837	25	152	451	184	34	63	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	1294	85	34	837	25	152	451	184	34	63	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	1294	85	34	837	25	152	451	184	34	63	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	1294	85	34	837	25	152	451	184	34	63	63
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.42	0.58	1.00	1.00	1.00
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	2273	927	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.03	0.40	0.05	0.02	0.26	0.02	0.10	0.20	0.20	0.02	0.04	0.04
Crit Moves:		****		****				****		****		

Willowbrook
Existing+Project+Cumulative+Mitigation - PM Peak Hour
1-24-17

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #54 Imperial Hwy & State St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.785
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	51	454	123	72	326	124	339	1047	30	116	718	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	51	454	123	72	326	124	339	1047	30	116	718	76
Added Vol:	0	0	0	0	0	0	0	104	0	0	89	0
PasserByVol:	0	0	0	0	0	1	9	0	14	0	14	0
Initial Fut:	51	454	123	72	326	125	348	1151	44	116	821	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	454	123	72	326	125	348	1151	44	116	821	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	454	123	72	326	125	348	1151	44	116	821	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	454	123	72	326	125	348	1151	44	116	821	76
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.93	0.07	1.00	1.83	0.17
Final Sat.:	1600	3200	1600	1600	3200	1600	1600	3082	118	1600	2929	271
Capacity Analysis Module:												
Vol/Sat:	0.03	0.14	0.08	0.05	0.10	0.08	0.22	0.37	0.37	0.07	0.28	0.28
Crit Moves:		****			****			****			****	

Intersection LOS Analysis Sheets

City of Los Angeles

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Avalon Blvd	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
1	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
No. of Phases			4			4			4				4				4	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		0	
	EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
Override Capacity			0			0			0				0				0	
NORTHBOUND																		
Left	137	1	137	0	137	137	3	153	1	153	0	153	1	153		153	1	153
Left-Through		0							0				0				0	
Through	616	1	**360**	11	627	**369**	13	689	1	**406**	11	700	1	**415**		700	1	**415**
Through-Right		1							1				1				1	
Right	104	0	104	7	111	111	8	122	0	122	7	129	0	129		129	0	129
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	209	1	**209**	31	240	**240**	6	235	1	**235**	31	266	1	**266**		266	1	**266**
Left-Through		0							0				0				0	
Through	591	1	334	12	603	340	17	666	1	375	12	678	1	381		678	1	381
Through-Right		1							1				1				1	
Right	76	0	76	0	76	76	0	83	0	83	0	83	0	83		83	0	83
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	112	1	**112**	0	112	**112**	0	123	1	**123**	0	123	1	**123**		123	1	**123**
Left-Through		0							0				0				0	
Through	548	2	209	66	614	231	14	615	2	236	66	681	2	258		681	2	258
Through-Right		1							1				1				1	
Right	79	0	79	0	79	79	5	92	0	92	0	92	0	92		92	0	92
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	125	1	125	3	128	128	9	146	1	146	3	149	1	149		149	1	149
Left-Through		0							0				0				0	
Through	1096	2	**442**	42	1138	**462**	12	1215	2	**491**	42	1257	2	**511**		1257	2	**511**
Through-Right		1							1				1				1	
Right	231	0	231	16	247	247	6	259	0	259	16	275	0	275		275	0	275
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		569	*North-South:*		609	*North-South:*		641		*North-South:*		681		*North-South:*		681	
	East-West:		554	*East-West:*		574	*East-West:*		614		*East-West:*		634		*East-West:*		634	
	SUM:		1123	*SUM:*		1183	*SUM:*		1255		*SUM:*		1315		*SUM:*		1315	
VOLUME/CAPACITY *(V/C)* RATIO:			0.817			0.860			0.913				0.956				0.956	
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.747			0.790			0.813				0.856				0.856	
LEVEL OF SERVICE (LOS):			C			C			D				D				D	

PROJECT IMPACT

Change in *v/c* due to project: 0.043 — *Δv/c* after mitigation: 0.043

Significant impacted? YES — Fully mitigated? NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Avalon Blvd	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
2	East-West Street:	120th St	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			2			2			2				2				2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0		NB-- 0	SB--	0		NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
Override Capacity			0			0			0				0				0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	70	1	70	0	70	70	2	79	1	79	0	79	1	79		79	1	79
	Left-Through		0							0				0				0	
	Through	569	1	**368**	7	576	**379**	21	645	1	**416**	7	652	1	**427**		652	1	**427**
	Through-Right		1							1				1				1	
	Right	166	0	166	15	181	181	4	186	0	186	15	201	0	201		201	0	201
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	90	1	**90**	16	106	**106**	4	103	1	**103**	16	119	1	**119**		119	1	**119**
	Left-Through		0							0				0				0	
	Through	676	1	362	3	679	364	24	766	1	411	3	769	1	412		769	1	412
	Through-Right		1							1				1				1	
	Right	48	0	48	0	48	48	2	55	0	55	0	55	0	55		55	0	55
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	60	1	**60**	0	60	**60**	2	68	1	**68**	0	68	1	**68**		68	1	**68**
	Left-Through		0							0				0				0	
	Through	323	1	323	51	374	374	6	360	1	360	51	411	1	411		411	1	411
	Through-Right		0							0				0				0	
	Right	53	1	18	0	53	18	4	62	1	23	0	62	1	23		62	1	23
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	132	1	132	8	140	140	0	145	1	145	8	153	1	153		153	1	153
	Left-Through		0							0				0				0	
	Through	475	1	**475**	27	502	**502**	3	524	1	**524**	27	551	1	**551**		551	1	**551**
	Through-Right		0							0				0				0	
	Right	84	1	39	12	96	43	2	94	1	43	12	106	1	47		106	1	47
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*	458		*North-South:*	485		*North-South:*	519			*North-South:*	546			*North-South:*	546		
		East-West:	535		*East-West:*	562		*East-West:*	592			*East-West:*	619			*East-West:*	619		
		SUM:	993		*SUM:*	1047		*SUM:*	1111			*SUM:*	1165			*SUM:*	1165		
VOLUME/CAPACITY *(V/C)* RATIO:			0.662			0.698			0.741				0.777				0.777	
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.592			0.628			0.641				0.677				0.677	
LEVEL OF SERVICE (LOS):			A			B			B				B				B	

PROJECT IMPACT

Change in *v/c* due to project:	0.036	Δ*v/c* after mitigation:	0.036
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
5	East-West Street:	103rd St	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	
	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2			2			2			2	
Override Capacity			0			0			0			0			0			0	

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	43	1	**43**	0	43	**43**	0	47	1	**47**	0	47	1	**47**		47	1	**47**
	Left-Through		0							0				0				0	
	Through	1159	2	457	39	1198	470	19	1291	2	508	39	1330	2	521		1330	2	521
	Through-Right		1							1				1				1	
	Right	211	0	211	0	211	211	0	232	0	232	0	232	0	232		232	0	232
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	110	1	110	0	110	110	0	121	1	121	0	121	1	121		121	1	121
	Left-Through		0							0				0				0	
	Through	1155	2	**578**	60	1215	**608**	27	1294	2	**647**	60	1354	2	**677**		1354	2	**677**
	Through-Right		0							0				0				0	
	Right	18	1	0	0	18	0	0	20	1	0	0	20	1	0		20	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	44	1	**44**	0	44	**44**	0	48	1	**48**	0	48	1	**48**		48	1	**48**
	Left-Through		0							0				0				0	
	Through	192	1	192	2	194	194	4	215	1	215	2	217	1	217		217	1	217
	Through-Right		0							0				0				0	
	Right	49	1	28	0	49	28	0	54	1	31	0	54	1	31		54	1	31
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	188	1	188	0	188	188	0	206	1	206	0	206	1	206		206	1	206
	Left-Through		0							0				0				0	
	Through	216	0	**396**	1	217	**397**	4	241	0	**439**	1	242	0	**440**		242	0	**440**
	Through-Right		1							1				1				1	
	Right	180	0	0	0	180	0	0	198	0	0	0	198	0	0		198	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		621	*North-South:*		651	*North-South:*			694	*North-South:*			724	*North-South:*			724
		East-West:		440	*East-West:*		441	*East-West:*			487	*East-West:*			488	*East-West:*			488
		SUM:		1061	*SUM:*		1092	*SUM:*			1181	*SUM:*			1212	*SUM:*			1212
VOLUME/CAPACITY *(V/C)* RATIO:				0.707			0.728				0.787				0.808				0.808
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.637			0.658				0.687				0.708				0.708
LEVEL OF SERVICE (LOS):				B			B				B				C				C

PROJECT IMPACT

Change in *v/c* due to project:	0.021	Δ*v/c* after mitigation:	0.021
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
6	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	340	2	187	4	344	189	2	375	2	206	4	379	2	208		379	2	208
Left-Through		0							0				0				0	
Through	1074	2	**537**	16	1090	**545**	14	1193	2	**597**	16	1209	2	**605**		1209	2	**605**
Through-Right		0							0				0				0	
Right	284	1	197	63	347	244	0	312	1	216	63	375	1	263		375	1	263
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	74	2	**41**	51	125	**69**	6	87	2	**48**	51	138	2	**76**		138	2	**76**
Left-Through		0							0				0				0	
Through	518	2	259	18	536	268	20	588	2	294	18	606	2	303		606	2	303
Through-Right		0							0				0				0	
Right	262	1	198	0	262	198	2	289	1	218	0	289	1	218		289	1	218
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	234	2	**129**	0	234	**129**	2	259	2	**142**	0	259	2	**142**		259	2	**142**
Left-Through		0							0				0				0	
Through	1061	2	411	103	1164	448	10	1174	2	455	103	1277	2	492		1277	2	492
Through-Right		1							1				1				1	
Right	171	0	171	9	180	180	2	190	0	190	9	199	0	199		199	0	199
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	159	2	87	29	188	103	0	174	2	96	29	203	2	112		203	2	112
Left-Through		0							0				0				0	
Through	1141	2	**402**	61	1202	**431**	7	1259	2	**445**	61	1320	2	**474**		1320	2	**474**
Through-Right		1							1				1				1	
Right	66	0	66	26	92	92	3	75	0	75	26	101	0	101		101	0	101
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		578	*North-South:*		614	*North-South:*			645	*North-South:*			681	*North-South:*			681
	East-West:		531	*East-West:*		560	*East-West:*			587	*East-West:*			616	*East-West:*			616
	SUM:		1109	*SUM:*		1174	*SUM:*			1232	*SUM:*			1297	*SUM:*			1297
VOLUME/CAPACITY *(V/C)* RATIO:			0.807			0.854				0.896				0.943				0.943
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.737			0.784				0.796				0.843				0.843
LEVEL OF SERVICE (LOS):			C			C				C				D				D

Opposed Ø'ing: N/S-1, E/W-2 or Both-3?																		
	0			0			0				0				0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--	0	NB-- 3	SB--	0	NB-- 3	SB--	0		NB-- 3	SB--	0		NB-- 3	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
Override Capacity			0			0			0				0				0	

PROJECT IMPACT

Change in *v/c* due to project:	0.047	*Δv/c* after mitigation:	0.047
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
7	East-West Street:	I-105 w/b Ramps	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			3			3				3				3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0				0				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--			0	NB-- 0 SB--			0	NB-- 0 SB--			0
	EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--			0	EB-- 0 WB--			0	EB-- 0 WB--			0
ATSAC-1 or ATSAC+ATCS-2?			1			1				2				2				2
Override Capacity			0			0				0				0				0
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	301	2	**166**	29	330	**182**	5	335	2	**184**	29	364	2	**200**		364	2	**200**
Left-Through		0							0				0				0	
Through	1119	2	560	83	1202	601	16	1244	2	622	83	1327	2	664		1327	2	664
Through-Right		0							0				0				0	
Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
Left-Through		0							0				0				0	
Through	1086	2	543	30	1116	558	22	1214	2	607	30	1244	2	622		1244	2	622
Through-Right		0							0				0				0	
Right	734	1	**734**	26	760	**760**	1	806	1	**806**	26	832	1	**832**		832	1	**832**
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	0	0	**0**		0	**0**	0	0	0	**0**	0	0	0	**0**		0	0	**0**
Left-Through		0							0				0				0	
Through	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
Through-Right		0							0				0				0	
Right	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	116	1	60	0	116	60	24	151	1	78	0	151	1	78		151	1	78
Left-Through		1							1				1				1	
Through	4	0	60	0	4	60	0	4	0	78	0	4	0	78		4	0	78
Through-Right		0							0				0				0	
Right	372	1	**372**	0	372	**372**	0	408	1	**408**	0	408	1	**408**		408	1	**408**
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		900	*North-South:*		942	*North-South:*			990	*North-South:*			1032	*North-South:*			1032
	East-West:		372	*East-West:*		372	*East-West:*			408	*East-West:*			408	*East-West:*			408
	SUM:		1272	*SUM:*		1314	*SUM:*			1398	*SUM:*			1440	*SUM:*			1440
VOLUME/CAPACITY *(V/C)* RATIO:			0.893			0.922				0.981				1.011				1.011
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.823			0.852				0.881				0.911				0.911
LEVEL OF SERVICE (LOS):			D			D				D				E				E

PROJECT IMPACT

Change in *v/c* due to project:	0.030	Δ*v/c* after mitigation:	0.030
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
8	East-West Street:	I-105 e/b Ramps	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			3			3			3				3				3	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0		NB-- 0	SB--	0		NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
Override Capacity			0			0			0				0				0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through		0							0				0				0	
	Through	768	3	256	55	823	274	18	861	3	287	55	916	3	305		916	3	305
	Through-Right		0							0				0				0	
	Right	335	1	**335**	0	335	**335**	15	383	1	**383**	0	383	1	**383**		383	1	**383**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	567	2	**312**	0	567	**312**	0	622	2	**342**	0	622	2	**342**		622	2	**342**
	Left-Through		0							0				0				0	
	Through	669	2	335	30	699	350	46	780	2	390	30	810	2	405		810	2	405
	Through-Right		0							0				0				0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	664	1	405	56	720	449	3	732	1	449	56	788	1	494		788	1	494
	Left-Through		0							0				0				0	
	Through	13	0	**405**	0	13	**449**	0	14	0	**449**	0	14	0	**494**		14	0	**494**
	Through-Right		0							0				0				0	
	Right	538	1	0	77	615	0	12	602	1	0	77	679	1	0		679	1	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
WESTBOUND	Left	0	0	**0**		0	**0**	0	0	0	**0**	0	0	0	**0**		0	0	**0**
	Left-Through		0							0				0				0	
	Through	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
	Through-Right		0							0				0				0	
	Right	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*	647		*North-South:*	647		*North-South:*	725			*North-South:*	725			*North-South:*	725		
		East-West:	405		*East-West:*	449		*East-West:*	449			*East-West:*	494			*East-West:*	494		
		SUM:	1052		*SUM:*	1096		*SUM:*	1174			*SUM:*	1219			*SUM:*	1219		
VOLUME/CAPACITY *(V/C)* RATIO:			0.738			0.769			0.824				0.855				0.855		
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.668			0.699			0.724				0.755				0.755		
LEVEL OF SERVICE (LOS):			B			B			C				C				C		

PROJECT IMPACT

Change in *v/c* due to project: 0.031 — Δ*v/c* after mitigation: 0.031

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
9	East-West Street:	120th St	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
			2			2			2				2			2
			0			0			0				0			0
	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0		NB-- 0	SB--	0		NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
			1			1			2				2			2
			0			0			0				0			0

MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	67	1	67	0	67	67	0	74	1	74	0	74	1	74		74	1	74
	Left-Through		0							0				0				0	
	Through	686	1	**410**	7	693	**450**	20	773	1	**465**	7	780	1	**504**		780	1	**504**
	Through-Right		1							1				1				1	
	Right	134	0	134	72	206	206	9	156	0	156	72	228	0	228		228	0	228
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	176	1	**176**	112	288	**288**	0	193	1	**193**	112	305	1	**305**		305	1	**305**
	Left-Through		0							0				0				0	
	Through	856	1	477	3	859	479	26	965	1	553	3	968	1	555		968	1	555
	Through-Right		1							1				1				1	
	Right	98	0	98	0	98	98	33	141	0	141	0	141	0	141		141	0	141
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	119	1	**119**	0	119	**119**	13	144	1	**144**	0	144	1	**144**		144	1	**144**
	Left-Through		0							0				0				0	
	Through	464	1	255	91	555	300	6	515	1	282	91	606	1	328		606	1	328
	Through-Right		1							1				1				1	
	Right	45	0	45	0	45	45	0	49	0	49	0	49	0	49		49	0	49
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	126	1	126	24	150	150	10	148	1	148	24	172	1	172		172	1	172
	Left-Through		0							0				0				0	
	Through	530	1	**530**	50	580	**580**	3	585	1	**585**	50	635	1	**635**		635	1	**635**
	Through-Right		0							0				0				0	
	Right	212	1	124	53	265	121	0	233	1	137	53	286	1	134		286	1	134
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		586	*North-South:*		738	*North-South:*			658	*North-South:*			809	*North-South:*			809
		East-West:		649	*East-West:*		699	*East-West:*			729	*East-West:*			779	*East-West:*			779
		SUM:		1235	*SUM:*		1437	*SUM:*			1387	*SUM:*			1588	*SUM:*			1588
VOLUME/CAPACITY *(V/C)* RATIO:				0.823			0.958				0.925				1.059				1.059
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.753			0.888				0.825				0.959				0.959
LEVEL OF SERVICE (LOS):				C			D				D				E				E

PROJECT IMPACT

Change in *v/c* due to project:	0.134	Δ*v/c* after mitigation:	0.134
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Compton Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
14	East-West Street:	103rd St	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			2			2			2				2				2	
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB-- EB-- 0 WB--		0	NB-- 0 SB-- EB-- 0 WB--		0	NB-- 0 SB-- EB-- 0 WB--		0		NB-- 0 SB-- EB-- 0 WB--		0		NB-- 0 SB-- EB-- 0 WB--		0	
	ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
	Override Capacity			0			0			0				0				0	
NORTHBOUND	Left	103	1	**103**	3	106	**106**	0	113	1	**113**	3	116	1	**116**		116	1	**116**
	Left-Through		0							0				0				0	
	Through	423	1	256	29	452	270	3	467	1	282	29	496	1	297		496	1	297
	Through-Right		1							1				1				1	
	Right	88	0	88	0	88	88	0	97	0	97	0	97	0	97		97	0	97
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	65	1	65	0	65	65	0	71	1	71	0	71	1	71		71	1	71
	Left-Through		0							0				0				0	
	Through	444	1	**260**	49	493	**285**	4	491	1	**287**	49	540	1	**312**		540	1	**312**
	Through-Right		1							1				1				1	
	Right	76	0	76	0	76	76	0	83	0	83	0	83	0	83		83	0	83
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	100	0	**100**	0	100	**100**	0	110	0	**110**	0	110	0	**110**		110	0	**110**
	Left-Through		1							1				1				1	
	Through	265	0	365	0	265	365	4	295	0	405	0	295	0	405		295	0	405
	Through-Right		0							0				0				0	
	Right	122	1	71	8	130	77	0	134	1	78	8	142	1	84		142	1	84
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	75	0	75	0	75	75	0	82	0	82	0	82	0	82		82	0	82
	Left-Through		0							0				0				0	
	Through	351	0	**548**	0	351	**548**	4	389	0	**605**	0	389	0	**605**		389	0	**605**
	Through-Right		0							0				0				0	
	Right	122	0	0	0	122	0	0	134	0	0	0	134	0	0		134	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	*North-South:*		363	*North-South:*		391	*North-South:*			400	*North-South:*			428	*North-South:*			428
		East-West:		648	*East-West:*		648	*East-West:*			715	*East-West:*			715	*East-West:*			715
		SUM:		1011	*SUM:*		1039	*SUM:*			1115	*SUM:*			1143	*SUM:*			1143
	VOLUME/CAPACITY *(V/C)* RATIO:			0.674			0.693				0.743				0.762				0.762
	V/C LESS ATSAC/ATCS ADJUSTMENT:			0.604			0.623				0.643				0.662				0.662
	LEVEL OF SERVICE (LOS):			B			B				B				B				B

PROJECT IMPACT

Change in *v/c* due to project: 0.019 — Δ*v/c* after mitigation: 0.019

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Compton Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
15	East-West Street:	108th St	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2			2			2			2	
Override Capacity			0			0			0			0			0			0	

MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	23	0	23	2	25	25	0	25	0	25	2	27	0	27		27	0	27
	Left-Through		0							0				0				0	
	Through	622	0	**714**	35	657	**751**	3	686	0	**787**	35	721	0	**824**		721	0	**824**
	Through-Right		0							0				0				0	
	Right	69	0	0	0	69	0	0	76	0	0	0	76	0	0		76	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	47	0	**47**	0	47	**47**	0	52	0	**52**	0	52	0	**52**		52	0	**52**
	Left-Through		0							0				0				0	
	Through	513	0	608	61	574	669	4	567	0	672	61	628	0	733		628	0	733
	Through-Right		0							0				0				0	
	Right	48	0	0	0	48	0	0	53	0	0	0	53	0	0		53	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
EASTBOUND	Left	60	0	**60**	0	60	**60**	0	66	0	**66**	0	66	0	**66**		66	0	**66**
	Left-Through		0							0				0				0	
	Through	67	0	150	0	67	156	0	74	0	165	0	74	0	171		74	0	171
	Through-Right		0							0				0				0	
	Right	23	0	0	6	29	0	0	25	0	0	6	31	0	0		31	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
WESTBOUND	Left	77	0	77	0	77	77	0	84	0	84	0	84	0	84		84	0	84
	Left-Through		0							0				0				0	
	Through	130	0	**278**	1	131	**279**	0	143	0	**305**	1	144	0	**306**		144	0	**306**
	Through-Right		0							0				0				0	
	Right	71	0	0	0	71	0	0	78	0	0	0	78	0	0		78	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		761	*North-South:*		798	*North-South:*			839	*North-South:*			876	*North-South:*			876
		East-West:		338	*East-West:*		339	*East-West:*			371	*East-West:*			372	*East-West:*			372
		SUM:		1099	*SUM:*		1137	*SUM:*			1210	*SUM:*			1248	*SUM:*			1248
VOLUME/CAPACITY *(V/C)* RATIO:				0.733			0.758				0.807				0.832				0.832
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.663			0.688				0.707				0.732				0.732
LEVEL OF SERVICE (LOS):				B			B				C				C				C

PROJECT IMPACT

Change in *v/c* due to project:	0.025	Δ*v/c* after mitigation:	0.025
Significant impacted?	NO	Fully mitigated?	N/A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	23	4	36	17	13	23	33	556	18	9	506	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1688	0	0	1725	0	0	1850	0	0	1850	0
Flt Permitted		0.982			0.984			0.997			0.999	
Satd. Flow (perm)	0	1688	0	0	1725	0	0	1850	0	0	1850	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	57	0	0	660	0	0	585	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.5%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	23	4	36	17	13	23	33	556	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	4	39	18	14	25	36	604	20

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1287	1278	563	1290	1281	614	575	0	0
Stage 1	582	582	-	686	686	-	-	-	-
Stage 2	705	696	-	604	595	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	141	166	526	140	166	492	998	-	-
Stage 1	499	499	-	438	448	-	-	-	-
Stage 2	427	443	-	485	492	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	118	155	526	120	155	492	998	-	-
Mov Cap-2 Maneuver	118	155	-	120	155	-	-	-	-
Stage 1	472	492	-	414	423	-	-	-	-
Stage 2	370	419	-	438	485	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	28.9	31	0.5
HCM LOS	D	D	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	998	-	-	218	195	957	-	-
HCM Lane V/C Ratio	0.036	-	-	0.314	0.295	0.01	-	-
HCM Control Delay (s)	8.7	0	-	28.9	31	8.8	0	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	1.2	0	-	-

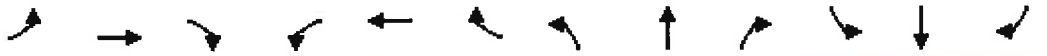
Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	9	506	23
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	10	550	25

Major/Minor	Major2		
Conflicting Flow All	624	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	957	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	957	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	23	4	43	20	13	23	36	593	20	9	573	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.917			0.945			0.996			0.995	
Flt Protected		0.984			0.982			0.997			0.999	
Satd. Flow (prot)	0	1681	0	0	1729	0	0	1850	0	0	1852	0
Flt Permitted		0.984			0.982			0.997			0.999	
Satd. Flow (perm)	0	1681	0	0	1729	0	0	1850	0	0	1852	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	4	47	22	14	25	39	645	22	10	623	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	76	0	0	61	0	0	706	0	0	658	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	23	4	43	20	13	23	36	593	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	4	47	22	14	25	39	645	22

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1408	1400	635	1414	1401	655	648	0	0
Stage 1	655	655	-	734	734	-	-	-	-
Stage 2	753	745	-	680	667	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	116	140	478	115	140	466	938	-	-
Stage 1	455	463	-	412	426	-	-	-	-
Stage 2	402	421	-	441	457	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	94	129	478	95	129	466	938	-	-
Mov Cap-2 Maneuver	94	129	-	95	129	-	-	-	-
Stage 1	425	455	-	385	398	-	-	-	-
Stage 2	343	393	-	387	449	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	35.8	42.5	0.5
HCM LOS	E	E	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	938	-	-	191	155	923	-	-
HCM Lane V/C Ratio	0.042	-	-	0.398	0.393	0.011	-	-
HCM Control Delay (s)	9	0	-	35.8	42.5	8.9	0	-
HCM Lane LOS	A	A	-	E	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.8	1.7	0	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	9	573	23
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	10	623	25

Major/Minor	Major2		
Conflicting Flow All	666	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	923	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	923	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt

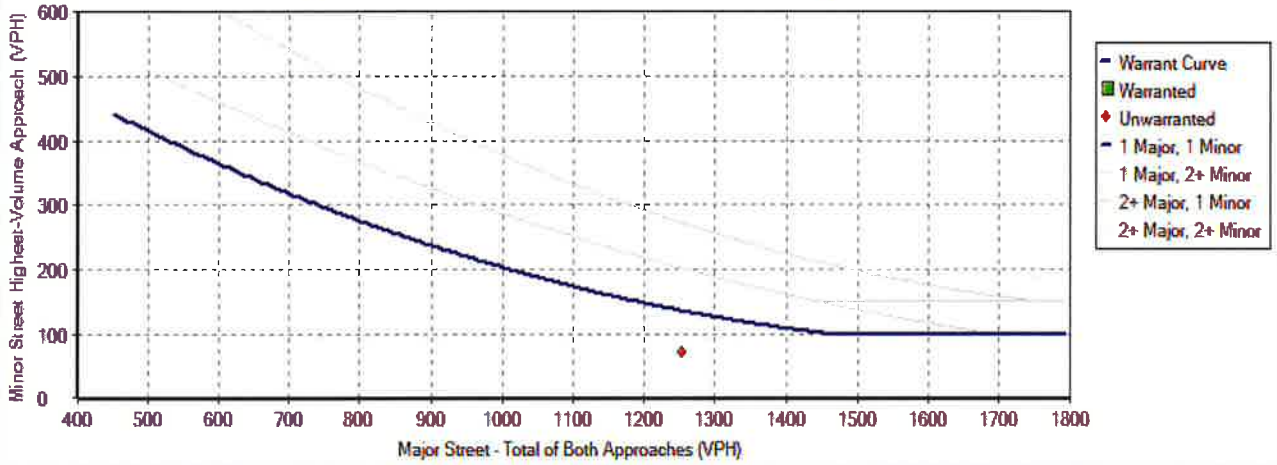
Warrant 3: Peak Hour

1: Compton & 112th -EWP - AM

Warrant 3

Peak Hour Vehicular Volume

Community Population Greater Than 10,000 and Major Street Approach Speed Below 40 mph



Note: Please turn over for volume information.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	25	4	40	19	14	25	36	609	20	10	556	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.922			0.942			0.996			0.994	
Flt Protected		0.982			0.984			0.997			0.999	
Satd. Flow (prot)	0	1687	0	0	1727	0	0	1850	0	0	1850	0
Flt Permitted		0.982			0.984			0.997			0.999	
Satd. Flow (perm)	0	1687	0	0	1727	0	0	1850	0	0	1850	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	4	43	21	15	27	39	662	22	11	604	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	74	0	0	63	0	0	723	0	0	642	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 65.4%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	25	4	40	19	14	25	36	609	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	4	43	21	15	27	39	662	22

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1412	1402	618	1415	1404	673	632	0	0
Stage 1	640	640	-	751	751	-	-	-	-
Stage 2	772	762	-	664	653	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	116	140	489	115	140	455	951	-	-
Stage 1	464	470	-	403	418	-	-	-	-
Stage 2	392	414	-	450	464	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	93	128	489	96	128	455	951	-	-
Mov Cap-2 Maneuver	93	128	-	96	128	-	-	-	-
Stage 1	433	461	-	376	390	-	-	-	-
Stage 2	331	387	-	398	455	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	38.3	41.4	0.5
HCM LOS	E	E	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	951	-	-	181	160	909	-	-
HCM Lane V/C Ratio	0.041	-	-	0.414	0.394	0.012	-	-
HCM Control Delay (s)	8.9	0	-	38.3	41.4	9	0	-
HCM Lane LOS	A	A	-	E	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.9	1.7	0	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	10	556	25
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	11	604	27

Major/Minor	Major2		
Conflicting Flow All	684	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	909	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	909	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.2
HCM LOS	

Minor Lane/Major Mvmt

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	25	4	47	22	14	25	39	646	22	10	623	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.916			0.945			0.996			0.995	
Flt Protected		0.984			0.982			0.997			0.999	
Satd. Flow (prot)	0	1679	0	0	1729	0	0	1850	0	0	1852	0
Flt Permitted		0.984			0.982			0.997			0.999	
Satd. Flow (perm)	0	1679	0	0	1729	0	0	1850	0	0	1852	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	4	51	24	15	27	42	702	24	11	677	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	0	0	66	0	0	768	0	0	715	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	25	4	47	22	14	25	39	646	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	4	51	24	15	27	42	702	24

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1533	1524	691	1539	1525	714	704	0	0
Stage 1	713	713	-	799	799	-	-	-	-
Stage 2	820	811	-	740	726	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	95	118	445	94	118	431	894	-	-
Stage 1	423	435	-	379	398	-	-	-	-
Stage 2	369	393	-	409	430	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	73	106	445	75	106	431	894	-	-
Mov Cap-2 Maneuver	73	106	-	75	106	-	-	-	-
Stage 1	390	426	-	349	367	-	-	-	-
Stage 2	305	362	-	351	421	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	51.5	61.6	0.5
HCM LOS	F	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	894	-	-	156	126	877	-	-
HCM Lane V/C Ratio	0.047	-	-	0.53	0.526	0.012	-	-
HCM Control Delay (s)	9.2	0	-	51.5	61.6	9.2	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.6	2.5	0	-	-

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	10	623	25
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	11	677	27

Major/Minor	Major2		
Conflicting Flow All	726	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	877	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	877	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt

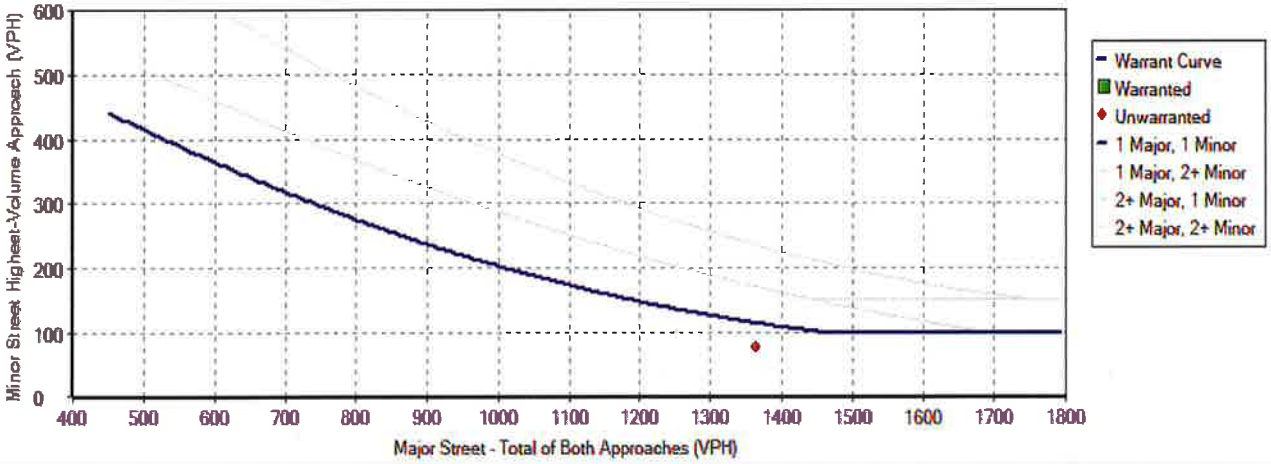
Warrant 3: Peak Hour

1: Compton & 112th -FWP - AM

Warrant 3

Peak Hour Vehicular Volume

Community Population Greater Than 10,000 and Major Street Approach Speed Below 40 mph



Note: Please turn over for volume information.

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Wilmington Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
22	East-West Street:	103rd St	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			2			2			2				2				2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0		NB-- 0	SB--	0		NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
Override Capacity			0			0			0				0				0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	192	1	192	0	192	**192**	0	211	1	211	0	211	1	**211**		211	1	**211**
	Left-Through		0							0				0				0	
	Through	542	1	**542**	12	554	554	9	604	1	**604**	12	616	1	616		616	1	616
	Through-Right		0							0				0				0	
	Right	72	1	28	3	75	24	0	79	1	30	3	82	1	26		82	1	26
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	84	1	**84**	0	84	84	1	93	1	**93**	0	93	1	93		93	1	93
	Left-Through		0							0				0				0	
	Through	430	1	430	18	448	**448**	10	482	1	482	18	500	1	**500**		500	1	**500**
	Through-Right		0							0				0				0	
	Right	77	1	49	0	77	49	0	84	1	53	0	84	1	53		84	1	53
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	57	1	**57**	0	57	**57**	0	63	1	**63**	0	63	1	**63**		63	1	**63**
	Left-Through		0							0				0				0	
	Through	251	1	251	0	251	251	4	279	1	279	0	279	1	279		279	1	279
	Through-Right		0							0				0				0	
	Right	89	1	0	0	89	0	0	98	1	0	0	98	1	0		98	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	89	1	89	14	103	103	0	98	1	98	14	112	1	112		112	1	112
	Left-Through		0							0				0				0	
	Through	348	0	**412**	0	348	**412**	4	386	0	**461**	0	386	0	**461**		386	0	**461**
	Through-Right		1							1				1				1	
	Right	64	0	0	0	64	0	5	75	0	0	0	75	0	0		75	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*	626	*North-South:*	640		*North-South:*	697		*North-South:*	711		*North-South:*	711				
		East-West:	469	*East-West:*	469		*East-West:*	524		*East-West:*	524		*East-West:*	524				
		SUM:	1095	*SUM:*	1109		*SUM:*	1221		*SUM:*	1235		*SUM:*	1235				
VOLUME/CAPACITY *(V/C)* RATIO:			0.730		0.739			0.814			0.823			0.823				
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.660		0.669			0.714			0.723			0.723				
LEVEL OF SERVICE (LOS):			B		B			C			C			C				

PROJECT IMPACT

Change in *v/c* due to project:	0.009	Δ*v/c* after mitigation:	0.009
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Wilmington Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
23	East-West Street:	Santa Ana Blvd N	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
			2			2			2				2			2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0		NB-- 0	SB--	0		NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2			2			2
Override Capacity			0			0			0				0			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	12	1	12	2	14	14	0	13	1	13	2	15	1	15		15	1	15
	Left-Through		0							0				0				0	
	Through	575	0	**635**	17	592	**652**	9	640	0	**706**	17	657	0	**723**		657	0	**723**
	Through-Right		1							1				1				1	
	Right	60	0	0	0	60	0	0	66	0	0	0	66	0	0		66	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	32	1	**32**	0	32	**32**	0	35	1	**35**	0	35	1	**35**		35	1	**35**
	Left-Through		0							0				0				0	
	Through	557	0	564	37	594	601	10	621	0	629	37	658	0	666		658	0	666
	Through-Right		1							1				1				1	
	Right	7	0	0	0	7	0	0	8	0	0	0	8	0	0		8	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	7	0	7	0	7	7	0	8	0	8	0	8	0	8		8	0	8
	Left-Through		0							0				0				0	
	Through	11	0	**48**	0	11	**53**	0	12	0	**53**	0	12	0	**58**		12	0	**58**
	Through-Right		0							0				0				0	
	Right	30	0	0	5	35	0	0	33	0	0	5	38	0	0		38	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
WESTBOUND	Left	100	0	**100**	0	100	**100**	0	110	0	**110**	0	110	0	**110**		110	0	**110**
	Left-Through		1							1				1				1	
	Through	36	0	136	0	36	136	0	40	0	150	0	40	0	150		40	0	150
	Through-Right		0							0				0				0	
	Right	135	1	119	0	135	119	0	148	1	131	0	148	1	131		148	1	131
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*	667		*North-South:*	684		*North-South:*	741			*North-South:*	758			*North-South:*	758		
		East-West:	148		*East-West:*	153		*East-West:*	163			*East-West:*	168			*East-West:*	168		
		SUM:	815		*SUM:*	837		*SUM:*	904			*SUM:*	926			*SUM:*	926		
VOLUME/CAPACITY *(V/C)* RATIO:			0.543			0.558			0.603				0.617				0.617		
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.473			0.488			0.503				0.517				0.517		
LEVEL OF SERVICE (LOS):			A			A			A				A				A		

PROJECT IMPACT

Change in *v/c* due to project:	0.014	Δ*v/c* after mitigation:	0.014
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Wilmington Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
24	East-West Street:	108th St	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	32	1	**32**	2	34	**34**	0	35	1	**35**	2	37	1	**37**		37	1	**37**
Left-Through		0							0				0				0	
Through	573	0	597	20	593	617	9	638	0	664	20	658	0	684		658	0	684
Through-Right		1							1				1				1	
Right	24	0	0	0	24	0	0	26	0	0	0	26	0	0		26	0	0
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	28	1	28	0	28	28	0	31	1	31	0	31	1	31		31	1	31
Left-Through		0							0				0				0	
Through	605	0	**660**	40	645	**700**	10	674	0	**734**	40	714	0	**774**		714	0	**774**
Through-Right		1							1				1				1	
Right	55	0	0	0	55	0	0	60	0	0	0	60	0	0		60	0	0
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	53	0	**53**	0	53	**53**	0	58	0	**58**	0	58	0	**58**		58	0	**58**
Left-Through		0							0				0				0	
Through	87	0	165	0	87	165	0	95	0	180	0	95	0	180		95	0	180
Through-Right		0							0				0				0	
Right	25	0	0	0	25	0	0	27	0	0	0	27	0	0		27	0	0
Left-Through-Right		1							1				1				1	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	101	0	101	0	101	101	0	111	0	111	0	111	0	111		111	0	111
Left-Through		0							0				0				0	
Through	126	0	**249**	0	126	**249**	0	138	0	**273**	0	138	0	**273**		138	0	**273**
Through-Right		0							0				0				0	
Right	22	0	0	0	22	0	0	24	0	0	0	24	0	0		24	0	0
Left-Through-Right		1							1				1				1	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		692	*North-South:*		734	*North-South:*			769	*North-South:*			811	*North-South:*			811
	East-West:		302	*East-West:*		302	*East-West:*			331	*East-West:*			331	*East-West:*			331
	SUM:		994	*SUM:*		1036	*SUM:*			1100	*SUM:*			1142	*SUM:*			1142
VOLUME/CAPACITY *(V/C)* RATIO:			0.663			0.691				0.733				0.761				0.761
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.593			0.621				0.633				0.661				0.661
LEVEL OF SERVICE (LOS):			A			B				B				B				B

Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	0	0	0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB-- 0 EB-- 2 WB-- 0	NB-- 0 SB-- 0 EB-- 2 WB-- 0	NB-- 0 SB-- 0 EB-- 2 WB-- 0
ATSAC-1 or ATSAC+ATCS-2?	1	1	2
Override Capacity	0	0	0

No. of Phases	2	2	2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	0	0	0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB-- 0 EB-- 2 WB-- 0	NB-- 0 SB-- 0 EB-- 2 WB-- 0	NB-- 0 SB-- 0 EB-- 2 WB-- 0
ATSAC-1 or ATSAC+ATCS-2?	2	2	2
Override Capacity	0	0	0

No. of Phases	2	2	2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	0	0	0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB-- 0 EB-- 2 WB-- 0	NB-- 0 SB-- 0 EB-- 2 WB-- 0	NB-- 0 SB-- 0 EB-- 2 WB-- 0
ATSAC-1 or ATSAC+ATCS-2?	2	2	2
Override Capacity	0	0	0

No. of Phases	2	2	2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	0	0	0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB-- 0 EB-- 2 WB-- 0	NB-- 0 SB-- 0 EB-- 2 WB-- 0	NB-- 0 SB-- 0 EB-- 2 WB-- 0
ATSAC-1 or ATSAC+ATCS-2?	2	2	2
Override Capacity	0	0	0

PROJECT IMPACT

Change in *v/c* due to project:	0.028	Δ*v/c* after mitigation:	0.028
Significant impacted?	NO	Fully mitigated?	N/A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	0	0	47	17	0	43	34	654	29	10	769	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.902			0.994			0.999	
Flt Protected					0.986			0.998			0.999	
Satd. Flow (prot)	0	1611	0	0	1657	0	0	1848	0	0	1859	0
Flt Permitted					0.986			0.998			0.999	
Satd. Flow (perm)	0	1611	0	0	1657	0	0	1848	0	0	1859	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	51	18	0	47	37	711	32	11	836	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	65	0	0	780	0	0	851	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 73.5%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	47	17	0	43	34	654	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	51	18	0	47	37	711	32

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1684	1676	838	1686	1663	727	840	0	0
Stage 1	860	860	-	801	801	-	-	-	-
Stage 2	824	816	-	885	862	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	75	95	366	74	97	424	795	-	-
Stage 1	351	373	-	378	397	-	-	-	-
Stage 2	367	391	-	340	372	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	62	85	366	59	87	424	795	-	-
Mov Cap-2 Maneuver	62	85	-	59	87	-	-	-	-
Stage 1	323	364	-	348	365	-	-	-	-
Stage 2	300	360	-	286	363	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	16.4	44.5	0.5
HCM LOS	C	E	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	795	-	-	366	154	865	-	-
HCM Lane V/C Ratio	0.046	-	-	0.14	0.423	0.013	-	-
HCM Control Delay (s)	9.7	0	-	16.4	44.5	9.2	0	-
HCM Lane LOS	A	A	-	C	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	1.9	0	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	10	769	4
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	11	836	4

Major/Minor	Major2		
Conflicting Flow All	742	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	865	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	865	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	0	0	175	63	0	43	37	676	32	10	809	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.945			0.994			0.999	
Flt Protected					0.971			0.998			0.999	
Satd. Flow (prot)	0	1611	0	0	1709	0	0	1848	0	0	1859	0
Flt Permitted					0.971			0.998			0.999	
Satd. Flow (perm)	0	1611	0	0	1709	0	0	1848	0	0	1859	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	190	68	0	47	40	735	35	11	879	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	190	0	0	115	0	0	810	0	0	894	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 87.0%		ICU Level of Service E	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	65.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	175	63	0	43	37	676	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	190	68	0	47	40	735	35

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1759	1753	882	1831	1738	752	884	0	0
Stage 1	903	903	-	833	833	-	-	-	-
Stage 2	856	850	-	998	905	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	66	85	345	~ 59	87	410	765	-	-
Stage 1	332	356	-	363	384	-	-	-	-
Stage 2	352	377	-	294	355	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	53	75	345	~ 24	77	410	765	-	-
Mov Cap-2 Maneuver	53	75	-	~ 24	77	-	-	-	-
Stage 1	301	347	-	330	349	-	-	-	-
Stage 2	283	342	-	128	346	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	27.5	$ 1099.2	0.5
HCM LOS	D	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	765	-	-	345	39	844	-	-
HCM Lane V/C Ratio	0.053	-	-	0.551	2.954	0.013	-	-
HCM Control Delay (s)	10	0	-	27.5	$ 1099.2	9.3	0	-
HCM Lane LOS	A	A	-	D	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	3.2	12.9	0	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	10	809	4
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	11	879	4

Major/Minor	Major2		
Conflicting Flow All	770	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	844	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	844	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt

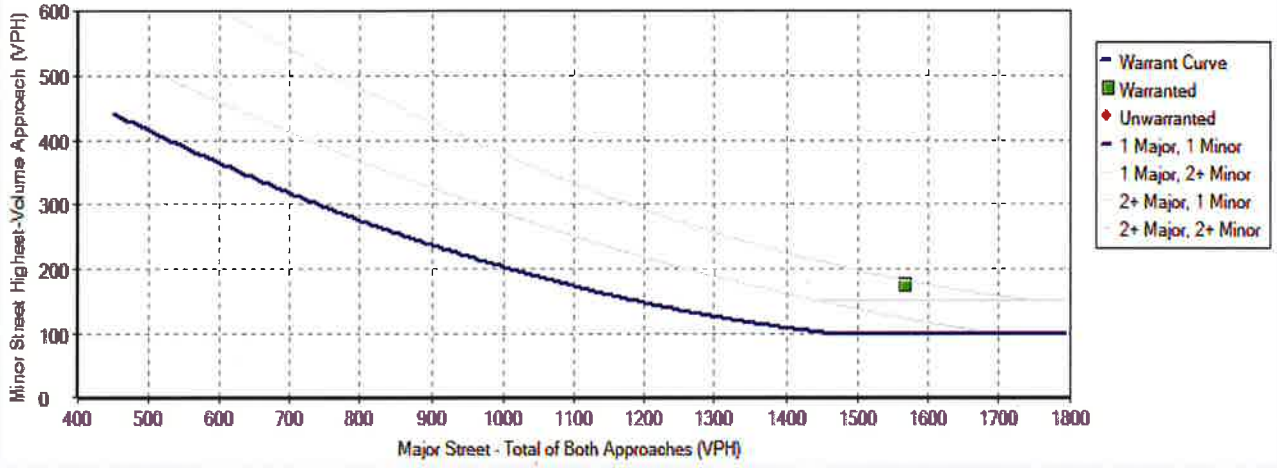
Warrant 3: Peak Hour

1: Wilmington & 112th -EWP - AM

Warrant 3

Peak Hour Vehicular Volume

Community Population Greater Than 10,000 and Major Street Approach Speed Below 40 mph



Note: Please turn over for volume information.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	0	0	52	19	0	47	37	723	32	11	849	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.904			0.995			0.999	
Flt Protected					0.986			0.998			0.999	
Satd. Flow (prot)	0	1611	0	0	1660	0	0	1850	0	0	1859	0
Flt Permitted					0.986			0.998			0.999	
Satd. Flow (perm)	0	1611	0	0	1660	0	0	1850	0	0	1859	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	57	21	0	51	40	786	35	12	923	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	72	0	0	861	0	0	939	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 79.5%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	52	19	0	47	37	723	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	57	21	0	51	40	786	35

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1858	1850	925	1861	1835	803	927	0	0
Stage 1	949	949	-	884	884	-	-	-	-
Stage 2	909	901	-	977	951	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	56	74	326	56	76	383	737	-	-
Stage 1	313	339	-	340	363	-	-	-	-
Stage 2	329	357	-	302	338	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	44	65	326	42	66	383	737	-	-
Mov Cap-2 Maneuver	44	65	-	42	66	-	-	-	-
Stage 1	282	328	-	306	327	-	-	-	-
Stage 2	257	321	-	242	328	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	18.3	78	0.5
HCM LOS	C	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	737	-	-	326	115	808	-	-
HCM Lane V/C Ratio	0.055	-	-	0.173	0.624	0.015	-	-
HCM Control Delay (s)	10.2	0	-	18.3	78	9.5	0	-
HCM Lane LOS	B	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	3.1	0	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	11	849	4
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	12	923	4

Major/Minor	Major2		
Conflicting Flow All	821	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	808	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	808	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	0	0	180	65	0	47	40	745	35	11	890	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.944			0.994			0.999	
Flt Protected					0.972			0.998			0.999	
Satd. Flow (prot)	0	1611	0	0	1709	0	0	1848	0	0	1859	0
Flt Permitted					0.972			0.998			0.999	
Satd. Flow (perm)	0	1611	0	0	1709	0	0	1848	0	0	1859	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	196	71	0	51	43	810	38	12	967	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	196	0	0	122	0	0	891	0	0	983	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 93.3%		ICU Level of Service F	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	129.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	180	65	0	47	40	745	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	196	71	0	51	43	810	38

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1934	1928	970	2007	1912	829	972	0	0
Stage 1	993	993	-	916	916	-	-	-	-
Stage 2	941	935	-	1091	996	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	50	66	307	~ 44	68	370	709	-	-
Stage 1	296	323	-	326	351	-	-	-	-
Stage 2	316	344	-	260	322	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	38	56	307	~ 14	58	370	709	-	-
Mov Cap-2 Maneuver	38	56	-	~ 14	58	-	-	-	-
Stage 1	262	312	-	288	310	-	-	-	-
Stage 2	241	304	-	91	311	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	35.2	$ 2270.2	0.5
HCM LOS	E	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	709	-	-	307	23	790	-	-
HCM Lane V/C Ratio	0.061	-	-	0.637	5.293	0.015	-	-
HCM Control Delay (s)	10.4	0	-	35.2	$ 2270.2	9.6	0	-
HCM Lane LOS	B	A	-	E	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	4.1	15.3	0	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	11	890	4
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	12	967	4

Major/Minor	Major2		
Conflicting Flow All	848	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	790	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	790	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt

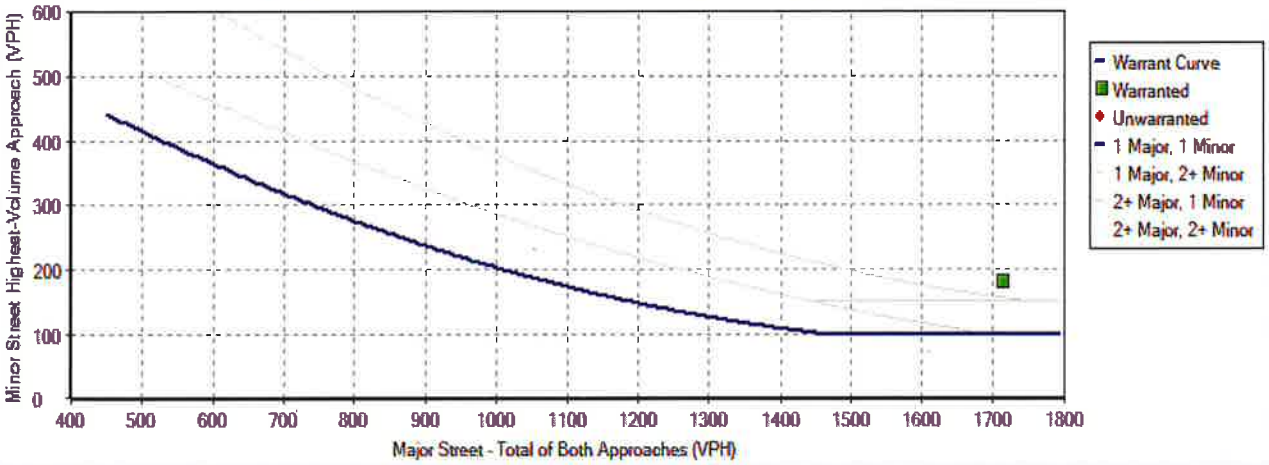
Warrant 3: Peak Hour

1: Wilmington & 112th -FWP - AM

Warrant 3

Peak Hour Vehicular Volume

Community Population Greater Than 10,000 and Major Street Approach Speed Below 40 mph



Note: Please turn over for volume information.

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Avalon Blvd	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Shiva Delparastaran	Date:	1/20/2017
47	East-West Street:	103rd St	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			2			2				2				2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0				0				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 2	SB--	0	NB-- 2	SB--	0	NB-- 2	SB--		0	NB-- 2	SB--		0	NB-- 2	SB--		0
	EB-- 0	WB--	2	EB-- 0	WB--	2	EB-- 0	WB--		2	EB-- 0	WB--		2	EB-- 0	WB--		2
ATSAC-1 or ATSAC+ATCS-2?			1			1				2				2				2
Override Capacity			0			0				0				0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	22	1	22	0	22	22	0	24	1	24	0	24	1	24		24	1	24
	Left-Through		0							0				0				0	
	Through	970	1	**515**	25	995	**528**	13	1077	1	**574**	25	1102	1	**586**		1102	1	**586**
	Through-Right		1							1				1				1	
	Right	60	0	60	0	60	60	4	70	0	70	0	70	0	70		70	0	70
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	78	1	**78**	0	78	**78**	0	86	1	**86**	0	86	1	**86**		86	1	**86**
	Left-Through		0							0				0				0	
	Through	789	1	414	41	830	434	17	883	1	463	41	924	1	483		924	1	483
	Through-Right		1							1				1				1	
	Right	38	0	38	0	38	38	0	42	0	42	0	42	0	42		42	0	42
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	33	1	33	0	33	33	0	36	1	36	0	36	1	36		36	1	36
	Left-Through		0							0				0				0	
	Through	70	0	**89**	2	72	**91**	0	77	0	**98**	2	79	0	**100**		79	0	**100**
	Through-Right		1							1				1				1	
	Right	19	0	0	0	19	0	0	21	0	0	0	21	0	0		21	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	84	1	**84**	0	84	**84**	4	96	1	**96**	0	96	1	**96**		96	1	**96**
	Left-Through		0							0				0				0	
	Through	107	1	107	1	108	108	0	117	1	117	1	118	1	118		118	1	118
	Through-Right		0							0				0				0	
	Right	109	1	109	0	109	109	0	120	1	120	0	120	1	120		120	1	120
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		593	*North-South:*		606	*North-South:*			660	*North-South:*			672	*North-South:*			672
		East-West:		173	*East-West:*		175	*East-West:*			194	*East-West:*			196	*East-West:*			196
		SUM:		766	*SUM:*		781	*SUM:*			854	*SUM:*			868	*SUM:*			868
VOLUME/CAPACITY (*V/C*) RATIO:				0.511			0.521				0.569				0.579				0.579
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.441			0.451				0.469				0.479				0.479
LEVEL OF SERVICE (LOS):				A			A				A				A				A

PROJECT IMPACT

Change in *v/c* due to project:	0.010	Δ*v/c* after mitigation:	0.010
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Year of Count:	Ambient Growth: (%):	Conducted by:	Date:
48	Avalon Blvd	2016	0.49	Saeedeh Farivar	1/18/2017
	East-West Street: 108th St	Projection Year: 2035	Peak Hour: AM	Reviewed by:	Project: Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
No. of Phases			2			2			2				2					2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB-- EB-- 0 WB--		0	NB-- 0 SB-- EB-- 0 WB--		0	NB-- 0 SB-- EB-- 0 WB--		0		NB-- 0 SB-- EB-- 0 WB--		0		NB-- 0 SB-- EB-- 0 WB--			0
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2					2
Override Capacity			0			0			0				0					0
NORTHBOUND Left	35	1	35	2	37	37	2	40	1	40	2	42	1	42		42	1	42
Left-Through		0							0				0				0	
Through	976	1	**534**	25	1001	**547**	17	1088	1	**595**	25	1113	1	**607**		1113	1	**607**
Through-Right		1							1				1				1	
Right	92	0	92	0	92	92	0	101	0	101	0	101	0	101		101	0	101
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND Left	86	1	**86**	0	86	**86**	0	94	1	**94**	0	94	1	**94**		94	1	**94**
Left-Through		0							0				0				0	
Through	796	1	412	41	837	432	21	894	1	462	41	935	1	483		935	1	483
Through-Right		1							1				1				1	
Right	27	0	27	0	27	27	0	30	0	30	0	30	0	30		30	0	30
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND Left	21	0	21	0	21	21	0	23	0	23	0	23	0	23		23	0	23
Left-Through		0							0				0				0	
Through	165	0	**222**	6	171	**230**	1	182	0	**247**	6	188	0	**255**		188	0	**255**
Through-Right		0							0				0				0	
Right	36	0	0	2	38	0	2	42	0	0	2	44	0	0		44	0	0
Left-Through-Right		1							1				1				1	
Left-Right		0							0				0				0	
WESTBOUND Left	109	0	**109**	0	109	**109**	0	120	0	**120**	0	120	0	**120**		120	0	**120**
Left-Through		1							1				1				1	
Through	90	0	199	2	92	201	1	100	0	220	2	102	0	222		102	0	222
Through-Right		0							0				0				0	
Right	63	1	20	1	64	21	0	69	1	22	1	70	1	23		70	1	23
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		620	*North-South:*		633	*North-South:*			689	*North-South:*			701		*North-South:*		701
	East-West:		331	*East-West:*		339	*East-West:*			367	*East-West:*			375		*East-West:*		375
	SUM:		951	*SUM:*		972	*SUM:*			1056	*SUM:*			1076		*SUM:*		1076
VOLUME/CAPACITY *(V/C)* RATIO:			0.634			0.648				0.704				0.717				0.717
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.564			0.578				0.604				0.617				0.617
LEVEL OF SERVICE (LOS):			A			A				B				B				B

PROJECT IMPACT

Change in *v/c* due to project: 0.013

Δ*v/c* after mitigation: 0.013

Significant impacted? NO

Fully mitigated? N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Main St	Year of Count:	2016	Ambient Growth (%):	0.49	Conducted by:	Shiva Delparastaran	Date:	1/18/2017
49	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			2			2			2				2					2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0					0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		0	
		EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
	ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2					2
	Override Capacity			0			0			0				0					0
NORTHBOUND	Left	57	1	57	0	57	57	0	63	1	63	0	63	1	63		63	1	63
	Left-Through		0							0				0				0	
	Through	349	0	**396**	3	352	**399**	4	387	0	**441**	3	390	0	**444**		390	0	**444**
	Through-Right		1							1				1				1	
	Right	47	0	0	0	47	0	2	54	0	0	0	54	0	0		54	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	88	1	**88**	0	88	**88**	0	97	1	**97**	0	97	1	**97**		97	1	**97**
	Left-Through		0							0				0				0	
	Through	341	1	341	8	349	349	10	384	1	384	8	392	1	392		392	1	392
	Through-Right		0							0				0				0	
	Right	101	1	56	0	101	56	0	111	1	61	0	111	1	61		111	1	61
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	91	1	**91**	0	91	**91**	0	100	1	**100**	0	100	1	**100**		100	1	**100**
	Left-Through		0							0				0				0	
	Through	631	2	231	66	697	253	15	707	2	258	66	773	2	280		773	2	280
	Through-Right		1							1				1				1	
	Right	61	0	61	0	61	61	0	67	0	67	0	67	0	67		67	0	67
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	115	1	115	0	115	115	2	128	1	128	0	128	1	128		128	1	128
	Left-Through		0							0				0				0	
	Through	1066	2	**415**	42	1108	**429**	11	1181	2	**460**	42	1223	2	**474**		1223	2	**474**
	Through-Right		1							1				1				1	
	Right	180	0	180	0	180	180	0	198	0	198	0	198	0	198		198	0	198
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	*North-South:*		484	*North-South:*		487	*North-South:*			538	*North-South:*			541		*North-South:*		541
		East-West:		506	*East-West:*		520	*East-West:*			560	*East-West:*			574		*East-West:*		574
		SUM:		990	*SUM:*		1007	*SUM:*			1098	*SUM:*			1115		*SUM:*		1115
	VOLUME/CAPACITY (*V/C*) RATIO:			0.660			0.671				0.732				0.743				0.743
	V/C LESS ATSAC/ATCS ADJUSTMENT:			0.590			0.601				0.632				0.643				0.643
	LEVEL OF SERVICE (LOS):			A			B				B				B				B

PROJECT IMPACT

Change in *v/c* due to project:	0.011	Δ*v/c* after mitigation:	0.011
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	San Pedro St.	Year of Count:	2016	Ambient Growth (%):	0.49	Conducted by:	Shiva Delparastaran	Date:	1/18/2017
50	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			4			4			4				4					4
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0					0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		0	
		EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
	ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2					2
	Override Capacity			0			0			0				0					0
NORTHBOUND	Left	92	1	92	0	92	92	0	101	1	101	0	101	1	101		101	1	101
	Left-Through		0							0				0				0	
	Through	340	1	**340**	2	342	**342**	1	374	1	**374**	2	376	1	**376**		376	1	**376**
	Through-Right		0							0				0				0	
	Right	11	1	0	0	11	0	0	12	1	0	0	12	1	0		12	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	82	1	**82**	0	82	**82**	2	92	1	**92**	0	92	1	**92**		92	1	**92**
	Left-Through		0							0				0				0	
	Through	308	1	308	6	314	314	1	339	1	339	6	345	1	345		345	1	345
	Through-Right		0							0				0				0	
	Right	107	1	30	0	107	30	0	117	1	32	0	117	1	32		117	1	32
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	155	1	**155**	0	155	**155**	0	170	1	**170**	0	170	1	**170**		170	1	**170**
	Left-Through		0							0				0				0	
	Through	354	2	177	66	420	210	17	405	2	203	66	471	2	236		471	2	236
	Through-Right		0							0				0				0	
	Right	73	1	27	0	73	27	0	80	1	30	0	80	1	30		80	1	30
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	39	1	39	0	39	39	0	43	1	43	0	43	1	43		43	1	43
	Left-Through		0							0				0				0	
	Through	1145	2	**428**	42	1187	**442**	13	1269	2	**475**	42	1311	2	**489**		1311	2	**489**
	Through-Right		1							1				1				1	
	Right	140	0	140	0	140	140	2	156	0	156	0	156	0	156		156	0	156
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	*North-South:*		422	*North-South:*		424	*North-South:*			466	*North-South:*			468	*North-South:*			468
		East-West:		583	*East-West:*		597	*East-West:*			645	*East-West:*			659	*East-West:*			659
		SUM:		1005	*SUM:*		1021	*SUM:*			1111	*SUM:*			1127	*SUM:*			1127
	VOLUME/CAPACITY *(V/C)* RATIO:			0.731			0.743				0.808				0.820				0.820
	V/C LESS ATSAC/ATCS ADJUSTMENT:			0.661			0.673				0.708				0.720				0.720
	LEVEL OF SERVICE (LOS):			B			B				C				C				C

PROJECT IMPACT

Change in *v/c* due to project:	0.012	Δ*v/c* after mitigation:	0.012
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	San Pedro St	Year of Count:	2016	Ambient Growth (%):	0.49	Conducted by:	Shiva Delparastaran	Date:	1/18/2017
51	East-West Street:	120th St	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2			2			2			2	
Override Capacity			0			0			0			0			0			0	

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	50	1	**50**	0	50	**50**	0	55	1	**55**	0	55	1	**55**		55	1	**55**
	Left-Through		0							0				0				0	
	Through	303	1	303	0	303	303	1	333	1	333	0	333	1	333		333	1	333
	Through-Right		0							0				0				0	
	Right	86	1	64	5	91	68	0	94	1	70	5	99	1	74		99	1	74
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	73	1	73	6	79	79	0	80	1	80	6	86	1	86		86	1	86
	Left-Through		0							0				0				0	
	Through	342	1	**342**	0	342	**342**	1	376	1	**376**	0	376	1	**376**		376	1	**376**
	Through-Right		0							0				0				0	
	Right	56	1	36	0	56	36	0	61	1	39	0	61	1	39		61	1	39
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	41	1	**41**	0	41	**41**	0	45	1	**45**	0	45	1	**45**		45	1	**45**
	Left-Through		0							0				0				0	
	Through	255	1	255	35	290	290	12	292	1	292	35	327	1	327		327	1	327
	Through-Right		0							0				0				0	
	Right	50	1	25	0	50	25	0	55	1	28	0	55	1	28		55	1	28
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	45	1	45	2	47	47	0	49	1	49	2	51	1	51		51	1	51
	Left-Through		0							0				0				0	
	Through	464	1	**464**	20	484	**484**	7	516	1	**516**	20	536	1	**536**		536	1	**536**
	Through-Right		0							0				0				0	
	Right	98	1	62	2	100	61	0	108	1	68	2	110	1	67		110	1	67
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		392	*North-South:*		392	*North-South:*			431	*North-South:*			431	*North-South:*			431
		East-West:		505	*East-West:*		525	*East-West:*			561	*East-West:*			581	*East-West:*			581
		SUM:		897	*SUM:*		917	*SUM:*			992	*SUM:*			1012	*SUM:*			1012
VOLUME/CAPACITY (*V/C*) RATIO:				0.598			0.611				0.661				0.675				0.675
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.528			0.541				0.561				0.575				0.575
LEVEL OF SERVICE (LOS):				A			A				A				A				A

PROJECT IMPACT

Change in *v/c* due to project:	0.014	Δ*v/c* after mitigation:	0.014
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Compton Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
17	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				1				1				2				2				2
Override Capacity				0				0				0				0				0

MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	115	1	**115**	94	209	**209**	3	129	1	**129**	94	223	1	**223**		223	1	**223**
	Left-Through		0							0				0				0	
	Through	335	1	335	39	374	374	1	369	1	369	39	408	1	408		408	1	408
	Through-Right		0							0				0				0	
	Right	169	1	73	37	206	67	3	188	1	82	37	225	1	76		225	1	76
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	114	1	114	5	119	119	0	125	1	125	5	130	1	130		130	1	130
	Left-Through		0							0				0				0	
	Through	292	0	**427**	73	365	**500**	4	324	0	**472**	73	397	0	**545**		397	0	**545**
	Through-Right		1							1				1				1	
	Right	135	0	0	0	135	0	0	148	0	0	0	148	0	0		148	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	76	1	**76**	0	76	**76**	1	84	1	**84**	0	84	1	**84**		84	1	**84**
	Left-Through		0							0				0				0	
	Through	667	2	280	57	724	355	9	741	2	312	57	798	2	388		798	2	388
	Through-Right		1							1				1				1	
	Right	173	0	173	169	342	342	6	196	0	196	169	365	0	365		365	0	365
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	192	1	192	86	278	278	1	212	1	212	86	298	1	298		298	1	298
	Left-Through		0							0				0				0	
	Through	1504	1	**834**	26	1530	**847**	7	1657	1	**919**	26	1683	1	**932**		1683	1	**932**
	Through-Right		1							1				1				1	
	Right	163	0	163	1	164	164	1	180	0	180	1	181	0	181		181	0	181
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		542	*North-South:*		709	*North-South:*			601	*North-South:*			768	*North-South:*			768
		East-West:		910	*East-West:*		923	*East-West:*			1003	*East-West:*			1016	*East-West:*			1016
		SUM:		1452	*SUM:*		1632	*SUM:*			1604	*SUM:*			1784	*SUM:*			1784
VOLUME/CAPACITY *(V/C)* RATIO:				0.968			1.088				1.069				1.189				1.189
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.898			1.018				0.969				1.089				1.089
LEVEL OF SERVICE (LOS):				D			F				E				F				F

PROJECT IMPACT

Change in *v/c* due to project:	0.120	Δ*v/c* after mitigation:	0.120
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Wilmington Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
26	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

No. of Phases			3			3			3			3			3			3	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				1				1				2				2				2
Override Capacity				0				0				0				0				0

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	177	1	**177**	20	197	**197**	1	195	1	**195**	20	215	1	**215**		215	1	**215**
	Left-Through		0							0				0				0	
	Through	426	1	239	40	466	259	6	473	1	265	40	513	1	285		513	1	285
	Through-Right		1							1				1				1	
	Right	52	0	52	0	52	52	0	57	0	57	0	57	0	57		57	0	57
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	31	1	31	0	31	31	0	34	1	34	0	34	1	34		34	1	34
	Left-Through		0							0				0				0	
	Through	843	1	**494**	386	1229	**689**	32	957	1	**558**	386	1343	1	**753**		1343	1	**753**
	Through-Right		1							1				1				1	
	Right	144	0	144	4	148	148	0	158	0	158	4	162	0	162		162	0	162
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	143	1	**143**	10	153	153	0	157	1	**157**	10	167	1	167		167	1	167
	Left-Through		0							0				0				0	
	Through	23	1	23	0	23	23	0	25	1	25	0	25	1	25		25	1	25
	Through-Right		0							0				0				0	
	Right	220	1	132	46	266	**168**	3	244	1	147	46	290	1	**183**		290	1	**183**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**		0	0	**0**
	Left-Through		0							0				0				0	
	Through	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0		0	0	0
	Through-Right		0							0				0				0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		671	*North-South:*		886	*North-South:*			753	*North-South:*			968	*North-South:*			968
		East-West:		143	*East-West:*		168	*East-West:*			157	*East-West:*			183	*East-West:*			183
		SUM:		814	*SUM:*		1054	*SUM:*			910	*SUM:*			1151	*SUM:*			1151
VOLUME/CAPACITY *(V/C)* RATIO:				0.571			0.740				0.639				0.808				0.808
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.501			0.670				0.539				0.708				0.708
LEVEL OF SERVICE (LOS):				A			B				A				C				C

PROJECT IMPACT

Change in *v/c* due to project:	0.169	Δ*v/c* after mitigation:	0.169
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Imperial Hwy	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
36	East-West Street:	I-105 w/b Ramps	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			4			4				4				4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			1			1				1				1				1
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0		NB-- 0	SB--	0		NB-- 0	SB--	0	
	EB-- 3	WB--	0	EB-- 3	WB--	0	EB-- 0	WB--	0		EB-- 3	WB--	0		EB-- 3	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1				2				2				2
Override Capacity			0			0				0				0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	539	1	**275**	294	833	**427**	3	594	1	**303**	294	888	1	**455**		888	1	**455**
	Left-Through		1							1				1				1	
	Through	11	0	275	9	20	427	0	12	0	303	9	21	0	455		21	0	455
	Through-Right		0							0				0				0	
	Right	137	1	0	12	149	0	0	150	1	0	12	162	1	0		162	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	7	0	7	0	7	7	0	8	0	8	0	8	0	8		8	0	8
	Left-Through		0							0				0				0	
	Through	34	0	**109**	0	34	**109**	0	37	0	**120**	0	37	0	**120**		37	0	**120**
	Through-Right		0							0				0				0	
	Right	68	0	0	0	68	0	0	75	0	0	0	75	0	0		75	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
EASTBOUND	Left	51	1	51	7	58	58	0	56	1	56	7	63	1	63		63	1	63
	Left-Through		0							0				0				0	
	Through	1012	3	**253**	89	1101	**293**	19	1129	3	**282**	89	1218	3	**322**		1218	3	**322**
	Through-Right		1							1				1				1	
	Right	224	1	0	139	363	0	5	251	1	100	139	390	1	0		390	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	742	2	**408**	2	744	**409**	0	814	2	**448**	2	816	2	**449**		816	2	**449**
	Left-Through		0							0				0				0	
	Through	1346	2	453	142	1488	502	30	1507	2	507	142	1649	2	556		1649	2	556
	Through-Right		1							1				1				1	
	Right	13	0	13	4	17	17	0	14	0	14	4	18	0	18		18	0	18
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*	384		*North-South:*	536		*North-South:*	423			*North-South:*	575			*North-South:*	575		
		East-West:	661		*East-West:*	702		*East-West:*	730			*East-West:*	771			*East-West:*	771		
		SUM:	1045		*SUM:*	1238		*SUM:*	1153			*SUM:*	1346			*SUM:*	1346		
VOLUME/CAPACITY *(V/C)* RATIO:			0.760			0.900			0.839				0.979				0.979		
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.690			0.830			0.739				0.879				0.879		
LEVEL OF SERVICE (LOS):			B			D			C				D				D		

PROJECT IMPACT

Change in *v/c* due to project:	0.140	Δ*v/c* after mitigation:	0.140
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Mona Blvd	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
39	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				1				1				2				2				2
Override Capacity				0				0				0				0				0

MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	140	0	**140**	4	144	**144**	0	154	0	**154**	4	158	0	**158**		158	0	**158**
	Left-Through		1							1				1				1	
	Through	49	0	189	2	51	195	0	54	0	208	2	56	0	214		56	0	214
	Through-Right		0							0				0				0	
	Right	157	1	62	5	162	66	0	172	1	67	5	177	1	71		177	1	71
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	27	0	27	0	27	27	0	30	0	30	0	30	0	30		30	0	30
	Left-Through		0							0				0				0	
	Through	103	0	**223**	5	108	**228**	0	113	0	**245**	5	118	0	**250**		118	0	**250**
	Through-Right		0							0				0				0	
	Right	93	0	0	0	93	0	0	102	0	0	0	102	0	0		102	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
EASTBOUND	Left	37	1	**37**	0	37	**37**	0	41	1	**41**	0	41	1	**41**		41	1	**41**
	Left-Through		0							0				0				0	
	Through	937	2	372	84	1021	405	19	1047	2	414	84	1131	2	448		1131	2	448
	Through-Right		1							1				1				1	
	Right	178	0	178	17	195	195	0	195	0	195	17	212	0	212		212	0	212
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	191	1	191	2	193	193	0	210	1	210	2	212	1	212		212	1	212
	Left-Through		0							0				0				0	
	Through	1800	2	**607**	144	1944	**655**	30	2005	2	**676**	144	2149	2	**724**		2149	2	**724**
	Through-Right		1							1				1				1	
	Right	21	0	21	0	21	21	0	23	0	23	0	23	0	23		23	0	23
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES			*North-South:*	363		*North-South:*	372		*North-South:*	399			*North-South:*	408			*North-South:*	408	
			East-West:	644		*East-West:*	692		*East-West:*	717			*East-West:*	765			*East-West:*	765	
			SUM:	1007		*SUM:*	1064		*SUM:*	1116			*SUM:*	1173			*SUM:*	1173	
VOLUME/CAPACITY *(V/C)* RATIO:				0.671			0.709				0.744				0.782				0.782
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.601			0.639				0.644				0.682				0.682
LEVEL OF SERVICE (LOS):				B			B				B				B				B

PROJECT IMPACT

Change in *v/c* due to project:	0.038	Δ*v/c* after mitigation:	0.038
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Avalon Blvd	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
1	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
No. of Phases			4			4			4				4				4	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		0	
	EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
Override Capacity			0			0			0				0				0	
NORTHBOUND Left	100	1	100	0	100	100	10	120	1	120	0	120	1	120		120	1	120
NORTHBOUND Left-Through		0							0				0				0	
NORTHBOUND Through	655	1	**366**	18	673	**377**	30	749	1	**419**	18	767	1	**431**		767	1	**431**
NORTHBOUND Through-Right		1							1				1				1	
NORTHBOUND Right	76	0	76	5	81	81	6	89	0	89	5	94	0	94		94	0	94
NORTHBOUND Left-Through-Right		0							0				0				0	
NORTHBOUND Left-Right		0							0				0				0	
SOUTHBOUND Left	150	1	**150**	20	170	**170**	5	170	1	**170**	20	190	1	**190**		190	1	**190**
SOUTHBOUND Left-Through		0							0				0				0	
SOUTHBOUND Through	548	1	316	15	563	324	37	638	1	365	15	653	1	373		653	1	373
SOUTHBOUND Through-Right		1							1				1				1	
SOUTHBOUND Right	84	0	84	0	84	84	0	92	0	92	0	92	0	92		92	0	92
SOUTHBOUND Left-Through-Right		0							0				0				0	
SOUTHBOUND Left-Right		0							0				0				0	
EASTBOUND Left	165	1	165	0	165	165	0	181	1	181	0	181	1	181		181	1	181
EASTBOUND Left-Through		0							0				0				0	
EASTBOUND Through	1296	2	**477**	52	1348	**495**	10	1432	2	**532**	52	1484	2	**549**		1484	2	**549**
EASTBOUND Through-Right		1							1				1				1	
EASTBOUND Right	136	0	136	0	136	136	14	163	0	163	0	163	0	163		163	0	163
EASTBOUND Left-Through-Right		0							0				0				0	
EASTBOUND Left-Right		0							0				0				0	
WESTBOUND Left	84	1	**84**	6	90	**90**	6	98	1	**98**	6	104	1	**104**		104	1	**104**
WESTBOUND Left-Through		0							0				0				0	
WESTBOUND Through	582	2	251	75	657	286	12	651	2	281	75	726	2	316		726	2	316
WESTBOUND Through-Right		1							1				1				1	
WESTBOUND Right	171	0	171	30	201	201	4	192	0	192	30	222	0	222		222	0	222
WESTBOUND Left-Through-Right		0							0				0				0	
WESTBOUND Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		516	*North-South:*		547	*North-South:*			589	*North-South:*			621	*North-South:*			621
	East-West:		561	*East-West:*		585	*East-West:*			630	*East-West:*			653	*East-West:*			653
	SUM:		1077	*SUM:*		1132	*SUM:*			1219	*SUM:*			1274	*SUM:*			1274
VOLUME/CAPACITY *(V/C)* RATIO:			0.783			0.823				0.887				0.927				0.927
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.713			0.753				0.787				0.827				0.827
LEVEL OF SERVICE (LOS):			C			C				C				D				D

PROJECT IMPACT

Change in *v/c* due to project:	0.040	Δ*v/c* after mitigation:	0.040
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Avalon Blvd	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
2	East-West Street:	120th St	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
No. of Phases			2			2			2				2				2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		0	
	EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
Override Capacity			0			0			0				0				0	
NORTHBOUND Left	79	1	**79**	0	79	**79**	9	96	1	**96**	0	96	1	**96**		96	1	**96**
NORTHBOUND Left-Through		0							0				0				0	
NORTHBOUND Through	529	1	291	5	534	299	36	616	1	347	5	621	1	355		621	1	355
NORTHBOUND Through-Right		1							1				1				1	
NORTHBOUND Right	52	0	52	11	63	63	21	78	0	78	11	89	0	89		89	0	89
NORTHBOUND Left-Through-Right		0							0				0				0	
NORTHBOUND Left-Right		0							0				0				0	
SOUTHBOUND Left	48	1	48	17	65	65	12	65	1	65	17	82	1	82		82	1	82
SOUTHBOUND Left-Through		0							0				0				0	
SOUTHBOUND Through	703	1	**433**	6	709	**436**	43	814	1	**497**	6	820	1	**500**		820	1	**500**
SOUTHBOUND Through-Right		1							1				1				1	
SOUTHBOUND Right	163	0	163	0	163	163	1	180	0	180	0	180	0	180		180	0	180
SOUTHBOUND Left-Through-Right		0							0				0				0	
SOUTHBOUND Left-Right		0							0				0				0	
EASTBOUND Left	109	1	**109**	0	109	**109**	2	122	1	**122**	0	122	1	**122**		122	1	**122**
EASTBOUND Left-Through		0							0				0				0	
EASTBOUND Through	257	1	257	37	294	294	8	290	1	290	37	327	1	327		327	1	327
EASTBOUND Through-Right		0							0				0				0	
EASTBOUND Right	90	1	51	0	90	51	12	111	1	63	0	111	1	63		111	1	63
EASTBOUND Left-Through-Right		0							0				0				0	
EASTBOUND Left-Right		0							0				0				0	
WESTBOUND Left	87	1	87	20	107	107	0	95	1	95	20	115	1	115		115	1	115
WESTBOUND Left-Through		0							0				0				0	
WESTBOUND Through	492	1	**492**	61	553	**553**	11	551	1	**551**	61	612	1	**612**		612	1	**612**
WESTBOUND Through-Right		0							0				0				0	
WESTBOUND Right	64	1	40	22	86	54	9	79	1	47	22	101	1	60		101	1	60
WESTBOUND Left-Through-Right		0							0				0				0	
WESTBOUND Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		512	*North-South:*		515	*North-South:*			593	*North-South:*			596	*North-South:*			596
	East-West:		601	*East-West:*		662	*East-West:*			673	*East-West:*			734	*East-West:*			734
	SUM:		1113	*SUM:*		1177	*SUM:*			1266	*SUM:*			1330	*SUM:*			1330
VOLUME/CAPACITY *(V/C)* RATIO:			0.742			0.785				0.844				0.887				0.887
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.672			0.715				0.744				0.787				0.787
LEVEL OF SERVICE (LOS):			B			C				C				C				C

PROJECT IMPACT

Change in *v/c* due to project:	0.043	Δ*v/c* after mitigation:	0.043
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
5	East-West Street:	103rd St	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			2			2			2				2				2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0		NB-- 0	SB--	0		NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
Override Capacity			0			0			0				0				0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	59	1	**59**	0	59	**59**	0	65	1	**65**	0	65	1	**65**		65	1	**65**
	Left-Through		0							0				0				0	
	Through	1105	2	432	66	1171	454	55	1268	2	493	66	1334	2	515		1334	2	515
	Through-Right		1							1				1				1	
	Right	191	0	191	0	191	191	0	210	0	210	0	210	0	210		210	0	210
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	140	1	140	0	140	140	0	154	1	154	0	154	1	154		154	1	154
	Left-Through		0							0				0				0	
	Through	1203	2	**602**	48	1251	**626**	56	1376	2	**688**	48	1424	2	**712**		1424	2	**712**
	Through-Right		0							0				0				0	
	Right	46	1	29	0	46	29	0	50	1	31	0	50	1	31		50	1	31
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	35	1	**35**	0	35	**35**	0	38	1	**38**	0	38	1	**38**		38	1	**38**
	Left-Through		0							0				0				0	
	Through	197	1	197	2	199	199	3	219	1	219	2	221	1	221		221	1	221
	Through-Right		0							0				0				0	
	Right	59	1	30	0	59	30	0	65	1	33	0	65	1	33		65	1	33
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	162	1	162	0	162	162	0	178	1	178	0	178	1	178		178	1	178
	Left-Through		0							0				0				0	
	Through	217	0	**405**	3	220	**408**	3	241	0	**447**	3	244	0	**450**		244	0	**450**
	Through-Right		1							1				1				1	
	Right	188	0	0	0	188	0	0	206	0	0	0	206	0	0		206	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*	661		*North-South:*	685		*North-South:*	753			*North-South:*	777			*North-South:*	777	
		East-West:	440		*East-West:*	443		*East-West:*	485			*East-West:*	488			*East-West:*	488	
		SUM:	1101		*SUM:*	1128		*SUM:*	1238			*SUM:*	1265			*SUM:*	1265	
VOLUME/CAPACITY *(V/C)* RATIO:			0.734			0.752			0.825				0.843				0.843	
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.664			0.682			0.725				0.743				0.743	
LEVEL OF SERVICE (LOS):			B			B			C				C				C	

PROJECT IMPACT

Change in *v/c* due to project:	0.018	Δ*v/c* after mitigation:	0.018
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
6	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	68	2	37	11	79	43	2	77	2	42	11	88	2	48		88	2	48
Left-Through		0							0				0				0	
Through	982	2	**491**	26	1008	**504**	44	1122	2	**561**	26	1148	2	**574**		1148	2	**574**
Through-Right		0							0				0				0	
Right	283	1	167	41	324	175	0	311	1	183	41	352	1	191		352	1	191
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	211	2	**116**	33	244	**134**	6	238	2	**131**	33	271	2	**149**		271	2	**149**
Left-Through		0							0				0				0	
Through	563	2	282	22	585	293	49	667	2	334	22	689	2	345		689	2	345
Through-Right		0							0				0				0	
Right	178	1	127	0	178	127	2	197	1	141	0	197	1	141		197	1	141
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	185	2	**102**	0	185	**102**	1	204	2	**112**	0	204	2	**112**		204	2	**112**
Left-Through		0							0				0				0	
Through	1050	2	366	77	1127	394	7	1159	2	405	77	1236	2	432		1236	2	432
Through-Right		1							1				1				1	
Right	49	0	49	6	55	55	1	55	0	55	6	61	0	61		61	0	61
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	211	2	116	60	271	149	0	232	2	128	60	292	2	161		292	2	161
Left-Through		0							0				0				0	
Through	965	2	**428**	111	1076	**481**	10	1069	2	**476**	111	1180	2	**530**		1180	2	**530**
Through-Right		1							1				1				1	
Right	318	0	318	50	368	368	11	360	0	360	50	410	0	410		410	0	410
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		607	*North-South:*		638	*North-South:*			692	*North-South:*			723	*North-South:*			723
	East-West:		530	*East-West:*		583	*East-West:*			588	*East-West:*			642	*East-West:*			642
	SUM:		1137	*SUM:*		1221	*SUM:*			1280	*SUM:*			1365	*SUM:*			1365
VOLUME/CAPACITY *(V/C)* RATIO:			0.827			0.888				0.931				0.993				0.993
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.757			0.818				0.831				0.893				0.893
LEVEL OF SERVICE (LOS):			C			D				D				D				D

PROJECT IMPACT			
Change in *v/c* due to project:	0.062	*Δv/c* after mitigation:	0.062
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
7	East-West Street:	I-105 w/b Ramps	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

No. of Phases			3			3			3			3			3			3	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2			2			2			2	
Override Capacity			0			0			0			0			0			0	

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	329	2	**181**	88	417	**229**	27	388	2	**213**	88	476	2	**262**		476	2	**262**
	Left-Through		0							0				0				0	
	Through	944	2	472	78	1022	511	45	1081	2	541	78	1159	2	580		1159	2	580
	Through-Right		0							0				0				0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through		0							0				0				0	
	Through	1000	2	500	32	1032	516	46	1143	2	572	32	1175	2	588		1175	2	588
	Through-Right		0							0				0				0	
	Right	556	1	**556**	55	611	**611**	5	615	1	**615**	55	670	1	**670**		670	1	**670**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	0	0	**0**		0	**0**	0	0	0	**0**	0	0	0	**0**		0	0	**0**
	Left-Through		0							0				0				0	
	Through	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
	Through-Right		0							0				0				0	
	Right	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	265	1	135	0	265	135	41	332	1	168	0	332	1	168		332	1	168
	Left-Through		1							1				1				1	
	Through	4	0	135	0	4	135	0	4	0	168	0	4	0	168		4	0	168
	Through-Right		0							0				0				0	
	Right	536	1	**536**	0	536	**536**	0	588	1	**588**	0	588	1	**588**		588	1	**588**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		737	*North-South:*		840	*North-South:*			828	*North-South:*			932	*North-South:*			932
		East-West:		536	*East-West:*		536	*East-West:*			588	*East-West:*			588	*East-West:*			588
		SUM:		1273	*SUM:*		1376	*SUM:*			1416	*SUM:*			1520	*SUM:*			1520
VOLUME/CAPACITY *(V/C)* RATIO:				0.893			0.966				0.994				1.067				1.067
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.823			0.896				0.894				0.967				0.967
LEVEL OF SERVICE (LOS):				D			D				D				E				E

PROJECT IMPACT

Change in *v/c* due to project:	0.073	Δ*v/c* after mitigation:	0.073
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
8	East-West Street:	I-105 e/b Ramps	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			3			3			3				3				3	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0		NB-- 0	SB--	0		NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
Override Capacity			0			0			0				0				0	

MOVEMENT		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through		0							0				0				0	
	Through	825	3	275	130	955	318	68	973	3	324	130	1103	3	368		1103	3	368
	Through-Right		0							0				0				0	
	Right	385	1	385	0	385	385	51	473	1	473	0	473	1	473		473	1	473
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	463	2	255	0	463	255	0	508	2	279	0	508	2	279		508	2	279
	Left-Through		0							0				0				0	
	Through	793	2	397	32	825	413	87	957	2	479	32	989	2	495		989	2	495
	Through-Right		0							0				0				0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	477	1	365	36	513	392	4	527	1	411	36	563	1	438		563	1	438
	Left-Through		0							0				0				0	
	Through	240	0	365	0	240	392	0	263	0	411	0	263	0	438		263	0	438
	Through-Right		0							0				0				0	
	Right	378	1	0	44	422	0	29	444	1	0	44	488	1	0		488	1	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
WESTBOUND	Left	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through		0							0				0				0	
	Through	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
	Through-Right		0							0				0				0	
	Right	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		North-South:		640	North-South:		640	North-South:			752	North-South:			752	North-South:			752
		East-West:		365	East-West:		392	East-West:			411	East-West:			438	East-West:			438
		SUM:		1005	SUM:		1032	SUM:			1163	SUM:			1190	SUM:			1190
VOLUME/CAPACITY (V/C) RATIO:				0.705			0.724				0.816				0.835				0.835
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.635			0.654				0.716				0.735				0.735
LEVEL OF SERVICE (LOS):				B			B				C				C				C

PROJECT IMPACT

Change in v/c due to project:	0.019	Δv/c after mitigation:	0.019
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
9	East-West Street:	120th St	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			2			2			2				2				2	
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB-- EB-- 0 WB--		0	NB-- 0 SB-- EB-- 0 WB--		0	NB-- 0 SB-- EB-- 0 WB--		0		NB-- 0 SB-- EB-- 0 WB--		0		NB-- 0 SB-- EB-- 0 WB--		0	
	ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
	Override Capacity			0			0			0				0				0	
NORTHBOUND	Left	144	1	**144**	0	144	144	0	158	1	**158**	0	158	1	158		158	1	158
	Left-Through		0							0				0				0	
	Through	845	1	489	5	850	**511**	52	979	1	573	5	984	1	**595**		984	1	**595**
	Through-Right		1							1				1				1	
	Right	132	0	132	40	172	172	21	166	0	166	40	206	0	206		206	0	206
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	75	1	75	78	153	**153**	0	82	1	82	78	160	1	**160**		160	1	**160**
	Left-Through		0							0				0				0	
	Through	770	1	**445**	6	776	448	30	875	1	**547**	6	881	1	550		881	1	550
	Through-Right		1							1				1				1	
	Right	120	0	120	0	120	120	87	219	0	219	0	219	0	219		219	0	219
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	76	1	**76**	0	76	**76**	67	150	1	**150**	0	150	1	**150**		150	1	**150**
	Left-Through		0							0				0				0	
	Through	225	1	182	71	296	218	8	255	1	204	71	326	1	240		326	1	240
	Through-Right		1							1				1				1	
	Right	139	0	139	0	139	139	0	153	0	153	0	153	0	153		153	0	153
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	169	1	169	65	234	234	31	216	1	216	65	281	1	281		281	1	281
	Left-Through		0							0				0				0	
	Through	475	1	**475**	115	590	**590**	11	532	1	**532**	115	647	1	**647**		647	1	**647**
	Through-Right		0							0				0				0	
	Right	80	1	43	136	216	140	0	88	1	47	136	224	1	144		224	1	144
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	*North-South:*		589	*North-South:*		664	*North-South:*			705	*North-South:*			755	*North-South:*			755
		East-West:		551	*East-West:*		666	*East-West:*			682	*East-West:*			797	*East-West:*			797
		SUM:		1140	*SUM:*		1330	*SUM:*			1387	*SUM:*			1552	*SUM:*			1552
	VOLUME/CAPACITY *(V/C)* RATIO:			0.760			0.887				0.925				1.035				1.035
	V/C LESS ATSAC/ATCS ADJUSTMENT:			0.690			0.817				0.825				0.935				0.935
	LEVEL OF SERVICE (LOS):			B			D				D				E				E

PROJECT IMPACT

Change in *v/c* due to project:	0.110	Δ*v/c* after mitigation:	0.110
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Compton Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
14	East-West Street:	103rd St	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	101	1	101	10	111	111	0	111	1	111	10	121	1	121		121	1	121
Left-Through		0							0				0				0	
Through	451	1	**268**	53	504	**294**	8	503	1	**298**	53	556	1	**324**		556	1	**324**
Through-Right		1							1				1				1	
Right	84	0	84	0	84	84	0	92	0	92	0	92	0	92		92	0	92
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	82	1	**82**	0	82	**82**	0	90	1	**90**	0	90	1	**90**		90	1	**90**
Left-Through		0							0				0				0	
Through	361	1	212	36	397	230	6	402	1	235	36	438	1	253		438	1	253
Through-Right		1							1				1				1	
Right	62	0	62	0	62	62	0	68	0	68	0	68	0	68		68	0	68
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	79	0	**79**	0	79	**79**	0	87	0	**87**	0	87	0	**87**		87	0	**87**
Left-Through		1							1				1				1	
Through	352	0	431	0	352	431	3	389	0	476	0	389	0	476		389	0	476
Through-Right		0							0				0				0	
Right	81	1	31	5	86	31	0	89	1	34	5	94	1	34		94	1	34
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	93	0	93	0	93	93	0	102	0	102	0	102	0	102		102	0	102
Left-Through		0							0				0				0	
Through	380	0	**556**	0	380	**556**	3	420	0	**613**	0	420	0	**613**		420	0	**613**
Through-Right		0							0				0				0	
Right	83	0	0	0	83	0	0	91	0	0	0	91	0	0		91	0	0
Left-Through-Right		1							1				1				1	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		350	*North-South:*		376	*North-South:*			388	*North-South:*			414	*North-South:*			414
	East-West:		635	*East-West:*		635	*East-West:*			700	*East-West:*			700	*East-West:*			700
	SUM:		985	*SUM:*		1011	*SUM:*			1088	*SUM:*			1114	*SUM:*			1114
VOLUME/CAPACITY *(V/C)* RATIO:			0.657			0.674				0.725				0.743				0.743
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.587			0.604				0.625				0.643				0.643
LEVEL OF SERVICE (LOS):			A			B				B				B				B

	NB--	SB--	EB--	WB--	NB--	SB--	EB--	WB--	NB--	SB--	EB--	WB--	NB--	SB--	EB--	WB--	NB--	SB--	EB--	WB--
No. of Phases				2				2				2				2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0				0				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATSAC-1 or ATSAC+ATCS-2?				1				1				2				2				2
Override Capacity				0				0				0				0				0

PROJECT IMPACT

Change in *v/c* due to project: 0.018 — Δ*v/c* after mitigation: 0.018

Significant impacted? NO — Fully mitigated? N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

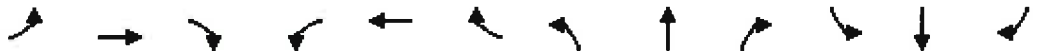
I/S #:	North-South Street:	Compton Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
15	East-West Street:	108th St	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	
	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2			2			2			2	
Override Capacity			0			0			0			0			0			0	

MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	34	0	**34**	8	42	42	0	37	0	**37**	8	45	0	45		45	0	45
	Left-Through		0							0				0				0	
	Through	515	0	620	68	583	**696**	8	573	0	688	68	641	0	**764**		641	0	**764**
	Through-Right		0							0				0				0	
	Right	71	0	0	0	71	0	0	78	0	0	0	78	0	0		78	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	29	0	29	0	29	**29**	0	32	0	32	0	32	0	**32**		32	0	**32**
	Left-Through		0							0				0				0	
	Through	568	0	**628**	44	612	672	6	629	0	**695**	44	673	0	739		673	0	739
	Through-Right		0							0				0				0	
	Right	31	0	0	0	31	0	0	34	0	0	0	34	0	0		34	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
EASTBOUND	Left	43	0	43	0	43	43	0	47	0	47	0	47	0	47		47	0	47
	Left-Through		0							0				0				0	
	Through	107	0	**197**	0	107	**202**	0	117	0	**216**	0	117	0	**221**		117	0	**221**
	Through-Right		0							0				0				0	
	Right	47	0	0	5	52	0	0	52	0	0	5	57	0	0		57	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
WESTBOUND	Left	37	0	**37**	0	37	**37**	0	41	0	**41**	0	41	0	**41**		41	0	**41**
	Left-Through		0							0				0				0	
	Through	73	0	135	4	77	140	0	80	0	148	4	84	0	153		84	0	153
	Through-Right		0							0				0				0	
	Right	25	0	0	1	26	0	0	27	0	0	1	28	0	0		28	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES			*North-South:*	662		*North-South:*	725		*North-South:*		732		*North-South:*		796		*North-South:*		796
			East-West:	234		*East-West:*	239		*East-West:*		257		*East-West:*		262		*East-West:*		262
			SUM:	896		*SUM:*	964		*SUM:*		989		*SUM:*		1058		*SUM:*		1058
VOLUME/CAPACITY *(V/C)* RATIO:				0.597			0.643				0.659				0.705				0.705
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.527			0.573				0.559				0.605				0.605
LEVEL OF SERVICE (LOS):				A			A				A				B				B

PROJECT IMPACT

Change in *v/c* due to project:	0.046	Δ*v/c* after mitigation:	0.046
Significant impacted?	NO	Fully mitigated?	N/A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	4	53	11	5	7	44	570	22	9	573	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.913			0.957			0.995			0.995	
Flt Protected		0.985			0.977			0.997			0.999	
Satd. Flow (prot)	0	1675	0	0	1742	0	0	1848	0	0	1852	0
Flt Permitted		0.985			0.977			0.997			0.999	
Satd. Flow (perm)	0	1675	0	0	1742	0	0	1848	0	0	1852	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	4	58	12	5	8	48	620	24	10	623	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	90	0	0	25	0	0	692	0	0	658	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.2%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	26	4	53	11	5	7	44	570	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	4	58	12	5	8	48	620	24

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1389	1394	635	1413	1394	632	648	0	0
Stage 1	655	655	-	727	727	-	-	-	-
Stage 2	734	739	-	686	667	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	120	141	478	115	141	480	938	-	-
Stage 1	455	463	-	415	429	-	-	-	-
Stage 2	412	424	-	438	457	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	106	128	478	91	128	480	938	-	-
Mov Cap-2 Maneuver	106	128	-	91	128	-	-	-	-
Stage 1	419	455	-	382	395	-	-	-	-
Stage 2	368	390	-	375	449	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	33.6	38.5	0.6
HCM LOS	D	E	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	938	-	-	214	132	942	-	-
HCM Lane V/C Ratio	0.051	-	-	0.422	0.189	0.01	-	-
HCM Control Delay (s)	9	0	-	33.6	38.5	8.9	0	-
HCM Lane LOS	A	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.9	0.7	0	-	-

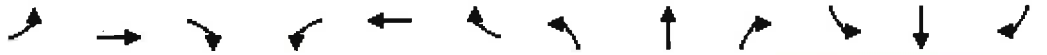
Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	9	573	23
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	10	623	25

Major/Minor	Major2		
Conflicting Flow All	643	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	942	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	942	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	26	4	58	13	5	7	52	645	26	9	623	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.910			0.960			0.995			0.995	
Flt Protected		0.985			0.975			0.996			0.999	
Satd. Flow (prot)	0	1670	0	0	1744	0	0	1846	0	0	1852	0
Flt Permitted		0.985			0.975			0.996			0.999	
Satd. Flow (perm)	0	1670	0	0	1744	0	0	1846	0	0	1852	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	4	63	14	5	8	57	701	28	10	677	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	27	0	0	786	0	0	712	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 79.0%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	26	4	58	13	5	7	52	645	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	4	63	14	5	8	57	701	28

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1544	1551	690	1571	1550	715	702	0	0
Stage 1	709	709	-	828	828	-	-	-	-
Stage 2	835	842	-	743	722	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	94	114	445	90	114	431	895	-	-
Stage 1	425	437	-	365	386	-	-	-	-
Stage 2	362	380	-	407	431	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	80	100	445	68	100	431	895	-	-
Mov Cap-2 Maneuver	80	100	-	68	100	-	-	-	-
Stage 1	379	429	-	326	344	-	-	-	-
Stage 2	312	339	-	339	423	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	46.5	56	0.7
HCM LOS	E	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	895	-	-	178	97	875	-	-
HCM Lane V/C Ratio	0.063	-	-	0.537	0.28	0.011	-	-
HCM Control Delay (s)	9.3	0	-	46.5	56	9.2	0	-
HCM Lane LOS	A	A	-	E	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	2.8	1	0	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	9	623	23
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	10	677	25

Major/Minor	Major2		
Conflicting Flow All	729	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	875	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	875	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt

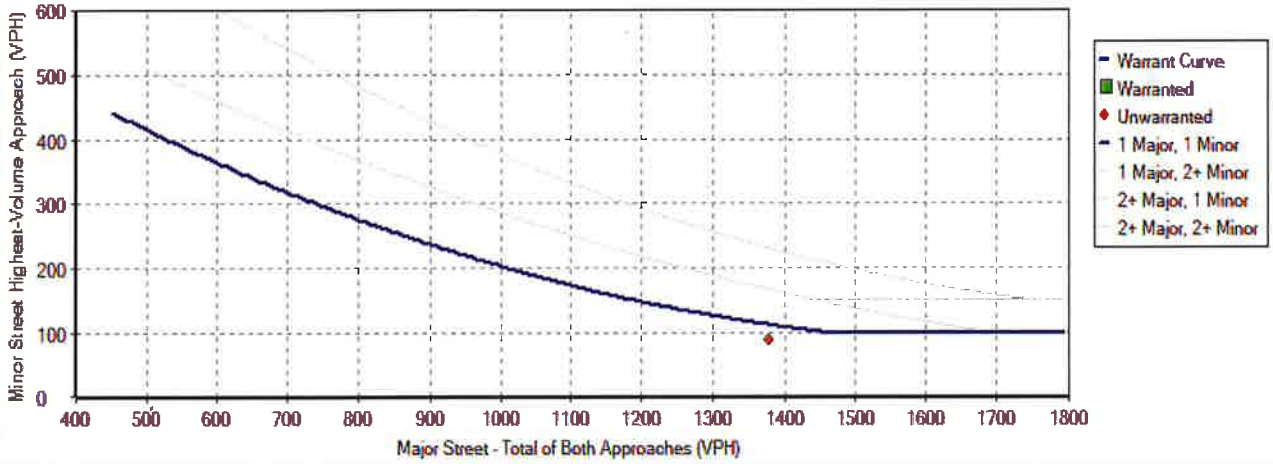
Warrant 3: Peak Hour

1: Compton & 112th -EWP - PM

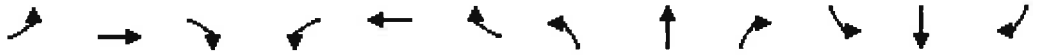
Warrant 3

Peak Hour Vehicular Volume

Community Population Greater Than 10,000 and Major Street Approach Speed Below 40 mph



Note: Please turn over for volume information.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	29	4	57	12	6	8	48	630	24	10	631	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.915			0.958			0.995			0.995	
Flt Protected		0.984			0.978			0.997			0.999	
Satd. Flow (prot)	0	1677	0	0	1745	0	0	1848	0	0	1852	0
Flt Permitted		0.984			0.978			0.997			0.999	
Satd. Flow (perm)	0	1677	0	0	1745	0	0	1848	0	0	1852	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	4	62	13	7	9	52	685	26	11	686	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	98	0	0	29	0	0	763	0	0	724	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 75.3%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	29	4	57	12	6	8	48	630	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	4	62	13	7	9	52	685	26

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1531	1536	699	1556	1537	698	713	0	0
Stage 1	721	721	-	802	802	-	-	-	-
Stage 2	810	815	-	754	735	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	96	116	440	92	116	440	887	-	-
Stage 1	419	432	-	378	396	-	-	-	-
Stage 2	374	391	-	401	425	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	82	103	440	70	103	440	887	-	-
Mov Cap-2 Maneuver	82	103	-	70	103	-	-	-	-
Stage 1	378	423	-	341	358	-	-	-	-
Stage 2	325	353	-	334	416	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	50.4	51.5	0.6
HCM LOS	F	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	887	-	-	172	105	888	-	-
HCM Lane V/C Ratio	0.059	-	-	0.569	0.269	0.012	-	-
HCM Control Delay (s)	9.3	0	-	50.4	51.5	9.1	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	3	1	0	-	-

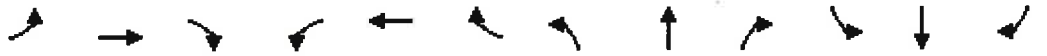
Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	10	631	25
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	11	686	27

Major/Minor	Major2		
Conflicting Flow All	711	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	888	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	888	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	29	4	62	14	6	8	56	705	28	10	680	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.912			0.961			0.995			0.995	
Flt Protected		0.985			0.976			0.996			0.999	
Satd. Flow (prot)	0	1673	0	0	1747	0	0	1846	0	0	1852	0
Flt Permitted		0.985			0.976			0.996			0.999	
Satd. Flow (perm)	0	1673	0	0	1747	0	0	1846	0	0	1852	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	4	67	15	7	9	61	766	30	11	739	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	31	0	0	857	0	0	777	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 85.0%		ICU Level of Service E	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	29	4	62	14	6	8	56	705	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	4	67	15	7	9	61	766	30

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1685	1692	753	1713	1691	782	766	0	0
Stage 1	774	774	-	903	903	-	-	-	-
Stage 2	911	918	-	810	788	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	75	93	410	71	93	394	847	-	-
Stage 1	391	408	-	332	356	-	-	-	-
Stage 2	328	350	-	374	402	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	61	79	410	50	79	394	847	-	-
Mov Cap-2 Maneuver	61	79	-	50	79	-	-	-	-
Stage 1	340	399	-	289	310	-	-	-	-
Stage 2	273	305	-	302	393	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	81.3	84.1	0.7
HCM LOS	F	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	847	-	-	140	74	825	-	-
HCM Lane V/C Ratio	0.072	-	-	0.738	0.411	0.013	-	-
HCM Control Delay (s)	9.6	0	-	81.3	84.1	9.4	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	4.3	1.6	0	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	10	680	25
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	11	739	27

Major/Minor	Major2		
Conflicting Flow All	797	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	825	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	825	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt

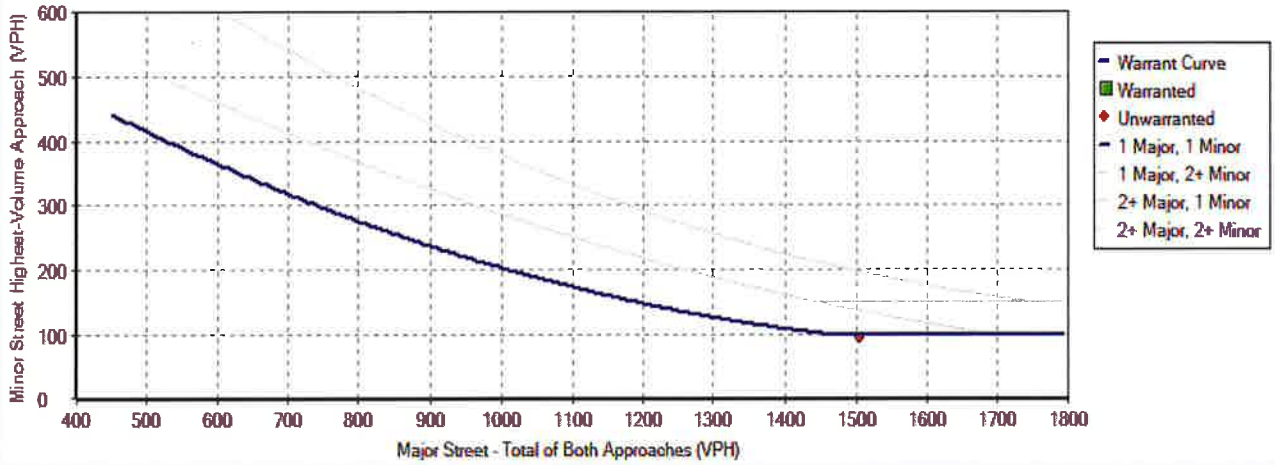
Warrant 3: Peak Hour

1: Compton & 112th -FWP - PM

Warrant 3

Peak Hour Vehicular Volume

Community Population Greater Than 10,000 and Major Street Approach Speed Below 40 mph



Note: Please turn over for volume information.

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Wilmington Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
22	East-West Street:	103rd St	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases		2			2			2				2				2		
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0			0				0				0		
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--	0		NB-- 0 SB--	0		NB-- 0 SB--	0			NB-- 0 SB--	0			NB-- 0 SB--	0		
		EB-- 0 WB--	0		EB-- 0 WB--	0		EB-- 0 WB--	0			EB-- 0 WB--	0			EB-- 0 WB--	0		
	ATSAC-1 or ATSAC+ATCS-2?		1			1			2				2				2		
	Override Capacity		0			0			0				0				0		
NORTHBOUND	Left	127	1	**127**	0	127	**127**	0	139	1	**139**	0	139	1	**139**		139	1	**139**
	Left-Through		0							0				0				0	
	Through	373	1	373	22	395	**395**	24	433	1	**433**	22	455	1	**455**		455	1	**455**
	Through-Right		0							0				0				0	
	Right	67	1	38	8	75	42	0	74	1	42	8	82	1	46		82	1	46
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	95	1	95	0	95	**95**	8	112	1	**112**	0	112	1	**112**		112	1	**112**
	Left-Through		0							0				0				0	
	Through	343	1	**343**	15	358	358	18	394	1	394	15	409	1	409		409	1	409
	Through-Right		0							0				0				0	
	Right	40	1	19	0	40	19	0	44	1	21	0	44	1	21		44	1	21
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	42	1	**42**	0	42	**42**	0	46	1	**46**	0	46	1	**46**		46	1	**46**
	Left-Through		0							0				0				0	
	Through	237	1	237	0	237	237	3	263	1	263	0	263	1	263		263	1	263
	Through-Right		0							0				0				0	
	Right	135	1	72	0	135	72	0	148	1	79	0	148	1	79		148	1	79
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	58	1	58	9	67	67	0	64	1	64	9	73	1	73		73	1	73
	Left-Through		0							0				0				0	
	Through	246	0	**289**	0	246	**289**	3	273	0	**328**	0	273	0	**328**		273	0	**328**
	Through-Right		1							1				1				1	
	Right	43	0	0	0	43	0	8	55	0	0	0	55	0	0		55	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	*North-South:*	470		*North-South:*	490		*North-South:*	545			*North-South:*	567			*North-South:*	567		
		East-West:	331		*East-West:*	331		*East-West:*	374			*East-West:*	374			*East-West:*	374		
		SUM:	801		*SUM:*	821		*SUM:*	919			*SUM:*	941			*SUM:*	941		
	VOLUME/CAPACITY *(V/C)* RATIO:		0.534			0.547			0.613				0.627				0.627		
	V/C LESS ATSAC/ATCS ADJUSTMENT:		0.464			0.477			0.513				0.527				0.527		
	LEVEL OF SERVICE (LOS):		A			A			A				A				A		

PROJECT IMPACT

Change in *v/c* due to project:	0.014	Δ*v/c* after mitigation:	0.014
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Wilmington Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
23	East-West Street:	Santa Ana Blvd N	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2			2			2			2	
Override Capacity			0			0			0			0			0			0	

MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	16	1	16	7	23	23	0	18	1	18	7	25	1	25		25	1	25
Left-Through		0							0				0				0	
Through	581	0	**643**	37	618	**680**	24	662	0	**730**	37	699	0	**767**		699	0	**767**
Through-Right		1							1				1				1	
Right	62	0	0	0	62	0	0	68	0	0	0	68	0	0		68	0	0
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	46	1	**46**	0	46	**46**	0	50	1	**50**	0	50	1	**50**		50	1	**50**
Left-Through		0							0				0				0	
Through	449	0	453	28	477	481	18	511	0	515	28	539	0	543		539	0	543
Through-Right		1							1				1				1	
Right	4	0	0	0	4	0	0	4	0	0	0	4	0	0		4	0	0
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	2	0	2	0	2	2	0	2	0	2	0	2	0	2		2	0	2
Left-Through		0							0				0				0	
Through	11	0	**26**	0	11	**30**	0	12	0	**28**	0	12	0	**32**		12	0	**32**
Through-Right		0							0				0				0	
Right	13	0	0	4	17	0	0	14	0	0	4	18	0	0		18	0	0
Left-Through-Right		1							1				1				1	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	52	0	**52**	0	52	**52**	0	57	0	**57**	0	57	0	**57**		57	0	**57**
Left-Through		1							1				1				1	
Through	14	0	66	0	14	66	0	15	0	72	0	15	0	72		15	0	72
Through-Right		0							0				0				0	
Right	66	1	43	0	66	43	0	72	1	47	0	72	1	47		72	1	47
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		689	*North-South:*		726	*North-South:*			780	*North-South:*			817	*North-South:*			817
	East-West:		78	*East-West:*		82	*East-West:*			85	*East-West:*			89	*East-West:*			89
	SUM:		767	*SUM:*		808	*SUM:*			865	*SUM:*			906	*SUM:*			906
VOLUME/CAPACITY *(V/C)* RATIO:			0.511			0.539				0.577				0.604				0.604
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.441			0.469				0.477				0.504				0.504
LEVEL OF SERVICE (LOS):			A			A				A				A				A

PROJECT IMPACT

Change in *v/c* due to project:	0.027	Δ*v/c* after mitigation:	0.027
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

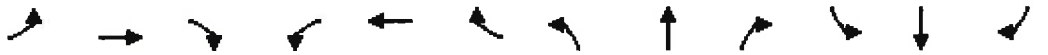
Weekday - PM Peak Hour

I/S #:	North-South Street:	Wilmington Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
24	East-West Street:	108th St	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			2			2			2				2				2	
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		0	
		EB-- 2 WB--		0	EB-- 2 WB--		0	EB-- 2 WB--		0		EB-- 2 WB--		0		EB-- 2 WB--		0	
	ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
	Override Capacity			0			0			0				0				0	
NORTHBOUND	Left	37	1	37	5	42	42	0	41	1	41	5	46	1	46		46	1	46
	Left-Through		0							0				0				0	
	Through	602	0	**631**	44	646	**675**	24	685	0	**717**	44	729	0	**761**		729	0	**761**
	Through-Right		1							1				1				1	
	Right	29	0	0	0	29	0	0	32	0	0	0	32	0	0		32	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	32	1	**32**	0	32	**32**	0	35	1	**35**	0	35	1	**35**		35	1	**35**
	Left-Through		0							0				0				0	
	Through	461	0	482	32	493	514	18	524	0	547	32	556	0	579		556	0	579
	Through-Right		1							1				1				1	
	Right	21	0	0	0	21	0	0	23	0	0	0	23	0	0		23	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	36	0	36	0	36	36	0	40	0	40	0	40	0	40		40	0	40
	Left-Through		0							0				0				0	
	Through	77	0	**139**	0	77	**139**	0	84	0	**153**	0	84	0	**153**		84	0	**153**
	Through-Right		0							0				0				0	
	Right	26	0	0	0	26	0	0	29	0	0	0	29	0	0		29	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
WESTBOUND	Left	47	0	**47**	0	47	**47**	0	52	0	**52**	0	52	0	**52**		52	0	**52**
	Left-Through		0							0				0				0	
	Through	22	0	87	0	22	87	0	24	0	96	0	24	0	96		24	0	96
	Through-Right		0							0				0				0	
	Right	18	0	0	0	18	0	0	20	0	0	0	20	0	0		20	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	*North-South:*		663	*North-South:*		707	*North-South:*			752	*North-South:*			796	*North-South:*			796
		East-West:		186	*East-West:*		186	*East-West:*			205	*East-West:*			205	*East-West:*			205
		SUM:		849	*SUM:*		893	*SUM:*			957	*SUM:*			1001	*SUM:*			1001
	VOLUME/CAPACITY *(V/C)* RATIO:			0.566			0.595				0.638				0.667				0.667
	V/C LESS ATSAC/ATCS ADJUSTMENT:			0.496			0.525				0.538				0.567				0.567
	LEVEL OF SERVICE (LOS):			A			A				A				A				A

PROJECT IMPACT

Change in *v/c* due to project:	0.029	Δ*v/c* after mitigation:	0.029
Significant impacted?	NO	Fully mitigated?	N/A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	1	1	35	18	0	13	21	730	31	17	532	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.872			0.944			0.995			0.998	
Flt Protected		0.999			0.971			0.999			0.999	
Satd. Flow (prot)	0	1623	0	0	1707	0	0	1852	0	0	1857	0
Flt Permitted		0.999			0.971			0.999			0.999	
Satd. Flow (perm)	0	1623	0	0	1707	0	0	1852	0	0	1857	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	1	38	20	0	14	23	793	34	18	578	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	40	0	0	34	0	0	850	0	0	604	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 64.4%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	1	35	18	0	13	21	730	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	38	20	0	14	23	793	34

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1482	1492	582	1495	1479	810	586	0	0
Stage 1	619	619	-	856	856	-	-	-	-
Stage 2	863	873	-	639	623	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	103	123	513	101	126	380	989	-	-
Stage 1	476	480	-	352	374	-	-	-	-
Stage 2	349	368	-	464	478	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	94	114	513	88	117	380	989	-	-
Mov Cap-2 Maneuver	94	114	-	88	117	-	-	-	-
Stage 1	456	464	-	337	358	-	-	-	-
Stage 2	322	352	-	414	462	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	14.4	42.1	0.2
HCM LOS	B	E	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	989	-	-	422	130	804	-	-
HCM Lane V/C Ratio	0.023	-	-	0.095	0.259	0.023	-	-
HCM Control Delay (s)	8.7	0	-	14.4	42.1	9.6	0	-
HCM Lane LOS	A	A	-	B	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	1	0.1	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	17	532	7
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	18	578	8

Major/Minor	Major2		
Conflicting Flow All	827	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	804	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	804	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.3
HCM LOS	

Minor Lane/Major Mvmt

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	1	1	106	55	0	13	29	779	42	17	564	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.867			0.974			0.993			0.998	
Flt Protected					0.961			0.998			0.999	
Satd. Flow (prot)	0	1615	0	0	1744	0	0	1846	0	0	1857	0
Flt Permitted					0.961			0.998			0.999	
Satd. Flow (perm)	0	1615	0	0	1744	0	0	1846	0	0	1857	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	1	115	60	0	14	32	847	46	18	613	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	117	0	0	74	0	0	925	0	0	639	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 73.6%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	12

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	1	106	55	0	13	29	779	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	115	60	0	14	32	847	46

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1594	1609	617	1645	1591	870	621	0	0
Stage 1	654	654	-	933	933	-	-	-	-
Stage 2	940	955	-	712	658	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	86	105	490	79	107	351	960	-	-
Stage 1	456	463	-	319	345	-	-	-	-
Stage 2	316	337	-	423	461	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	76	94	490	~ 55	96	351	960	-	-
Mov Cap-2 Maneuver	76	94	-	~ 55	96	-	-	-	-
Stage 1	425	446	-	298	322	-	-	-	-
Stage 2	283	314	-	311	444	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	15.8	254.5	0.3
HCM LOS	C	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	960	-	-	450	66	760	-	-
HCM Lane V/C Ratio	0.033	-	-	0.261	1.12	0.024	-	-
HCM Control Delay (s)	8.9	0	-	15.8	254.5	9.9	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1	5.8	0.1	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	17	564	7
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	18	613	8

Major/Minor	Major2		
Conflicting Flow All	892	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	760	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	760	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.3
HCM LOS	

Minor Lane/Major Mvmt

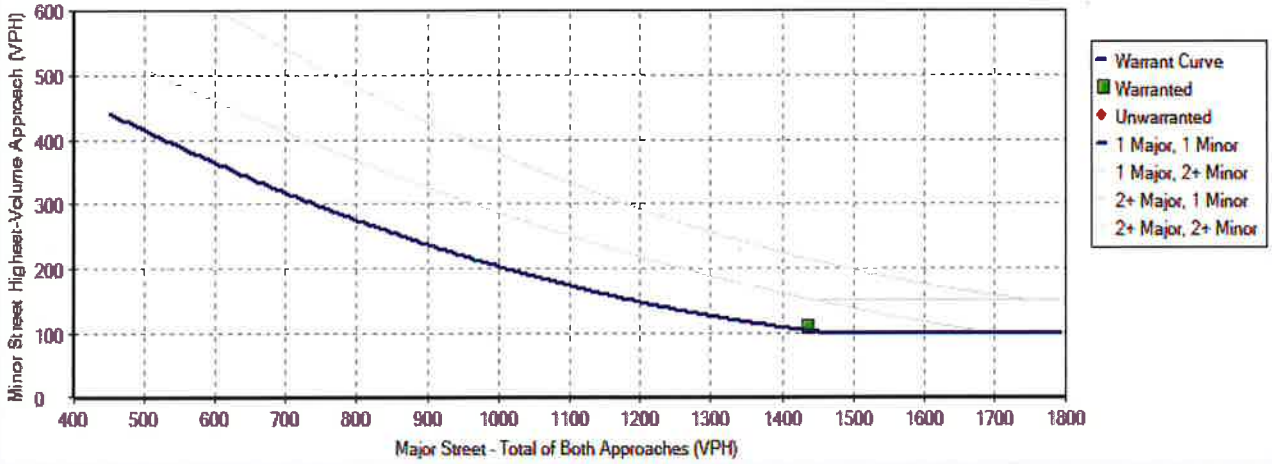
Warrant 3: Peak Hour

1: Wilmington & 112th -EWP - PM

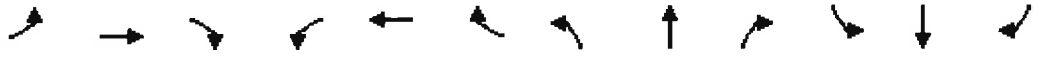
Warrant 3

Peak Hour Vehicular Volume

Community Population Greater Than 10,000 and Major Street Approach Speed Below 40 mph



Note: Please turn over for volume information.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	1	1	39	20	0	14	23	821	34	19	599	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.871			0.945			0.995			0.998	
Flt Protected		0.999			0.971			0.999			0.998	
Satd. Flow (prot)	0	1621	0	0	1709	0	0	1852	0	0	1855	0
Flt Permitted		0.999			0.971			0.999			0.998	
Satd. Flow (perm)	0	1621	0	0	1709	0	0	1852	0	0	1855	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	1	42	22	0	15	25	892	37	21	651	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	37	0	0	954	0	0	681	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.5%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	1	39	20	0	14	23	821	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	42	22	0	15	25	892	37

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1665	1676	655	1679	1662	911	660	0	0
Stage 1	697	697	-	961	961	-	-	-	-
Stage 2	968	979	-	718	701	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	77	95	466	75	97	332	928	-	-
Stage 1	431	443	-	308	335	-	-	-	-
Stage 2	305	328	-	420	441	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	68	86	466	62	87	332	928	-	-
Mov Cap-2 Maneuver	68	86	-	62	87	-	-	-	-
Stage 1	407	423	-	291	316	-	-	-	-
Stage 2	275	310	-	364	421	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	16	67.2	0.2
HCM LOS	C	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	928	-	-	373	93	736	-	-
HCM Lane V/C Ratio	0.027	-	-	0.119	0.397	0.028	-	-
HCM Control Delay (s)	9	0	-	16	67.2	10	0	-
HCM Lane LOS	A	A	-	C	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1.6	0.1	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	19	599	8
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	21	651	9

Major/Minor	Major2		
Conflicting Flow All	929	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	736	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	736	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.3
HCM LOS	

Minor Lane/Major Mvmt

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	1	1	110	57	0	14	31	870	45	19	630	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.867			0.974			0.994			0.998	
Flt Protected					0.961			0.998			0.999	
Satd. Flow (prot)	0	1615	0	0	1744	0	0	1848	0	0	1857	0
Flt Permitted					0.961			0.998			0.999	
Satd. Flow (perm)	0	1615	0	0	1744	0	0	1848	0	0	1857	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		266			341			283			255	
Travel Time (s)		6.0			7.8			6.4			5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	1	120	62	0	15	34	946	49	21	685	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	77	0	0	1029	0	0	715	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 79.6%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	22.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	1	110	57	0	14	31	870	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	120	62	0	15	34	946	49

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1775	1792	689	1829	1773	970	693	0	0
Stage 1	730	730	-	1038	1038	-	-	-	-
Stage 2	1045	1062	-	791	735	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	64	81	446	~ 59	83	307	902	-	-
Stage 1	414	428	-	279	308	-	-	-	-
Stage 2	276	300	-	383	425	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	55	70	446	~ 38	72	307	902	-	-
Mov Cap-2 Maneuver	55	70	-	~ 38	72	-	-	-	-
Stage 1	379	407	-	255	282	-	-	-	-
Stage 2	240	275	-	266	404	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	17.8	$ 522.7	0.3
HCM LOS	C	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	902	-	-	401	46	695	-	-
HCM Lane V/C Ratio	0.037	-	-	0.304	1.678	0.03	-	-
HCM Control Delay (s)	9.1	0	-	17.8	$ 522.7	10.3	0	-
HCM Lane LOS	A	A	-	C	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	7.7	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	19	630	8
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	21	685	9

Major/Minor	Major2		
Conflicting Flow All	995	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	695	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	695	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.3
HCM LOS	

Minor Lane/Major Mvmt

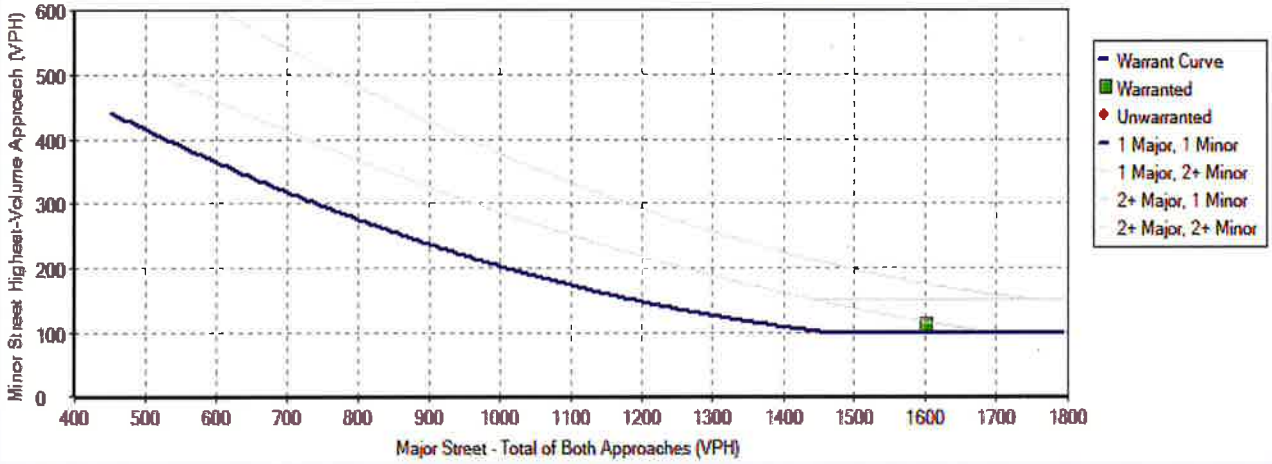
Warrant 3: Peak Hour

1: Wilmington & 112th -FWP - PM

Warrant 3

Peak Hour Vehicular Volume

Community Population Greater Than 10,000 and Major Street Approach Speed Below 40 mph



Note: Please turn over for volume information.

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Avalon Blvd	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Shiva Delparastaran	Date:	1/20/2017
47	East-West Street:	103rd St	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			2			2			2				2				2	
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 2	SB--	0	NB-- 2	SB--	0	NB-- 2	SB--	0		NB-- 2	SB--	0		NB-- 2	SB--	0	
		EB-- 0	WB--	2	EB-- 0	WB--	2	EB-- 0	WB--	2		EB-- 0	WB--	2		EB-- 0	WB--	2	
	ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
	Override Capacity			0			0			0				0				0	
NORTHBOUND	Left	21	1	21	0	21	21	0	23	1	23	0	23	1	23		23	1	23
	Left-Through		0							0				0				0	
	Through	846	1	**470**	46	892	**493**	30	958	1	**532**	46	1004	1	**555**		1004	1	**555**
	Through-Right		1							1				1				1	
	Right	93	0	93	0	93	93	3	105	0	105	0	105	0	105		105	0	105
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	89	1	**89**	0	89	**89**	0	98	1	**98**	0	98	1	**98**		98	1	**98**
	Left-Through		0							0				0				0	
	Through	825	1	442	32	857	458	37	942	1	503	32	974	1	519		974	1	519
	Through-Right		1							1				1				1	
	Right	58	0	58	0	58	58	0	64	0	64	0	64	0	64		64	0	64
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	60	1	60	0	60	60	0	66	1	66	0	66	1	66		66	1	66
	Left-Through		0							0				0				0	
	Through	98	0	**117**	2	100	**119**	0	108	0	**129**	2	110	0	**131**		110	0	**131**
	Through-Right		1							1				1				1	
	Right	19	0	0	0	19	0	0	21	0	0	0	21	0	0		21	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	141	1	**141**	0	141	**141**	3	158	1	**158**	0	158	1	**158**		158	1	**158**
	Left-Through		0							0				0				0	
	Through	155	1	155	3	158	158	0	170	1	170	3	173	1	173		173	1	173
	Through-Right		0							0				0				0	
	Right	81	1	81	0	81	81	0	89	1	89	0	89	1	89		89	1	89
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	*North-South:*		559	*North-South:*		582	*North-South:*			630	*North-South:*			653	*North-South:*			653
		East-West:		258	*East-West:*		260	*East-West:*			287	*East-West:*			289	*East-West:*			289
		SUM:		817	*SUM:*		842	*SUM:*			917	*SUM:*			942	*SUM:*			942
	VOLUME/CAPACITY *(V/C)* RATIO:			0.545			0.561				0.611				0.628				0.628
	V/C LESS ATSAC/ATCS ADJUSTMENT:			0.475			0.491				0.511				0.528				0.528
	LEVEL OF SERVICE (LOS):			A			A				A				A				A

PROJECT IMPACT

Change in *v/c* due to project:	0.017	Δ*v/c* after mitigation:	0.017
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Avalon Blvd	Year of Count:	2016	Ambient Growth (%):	0.49	Conducted by:	Shiva Delparastaran	Date:	1/18/2017
48	East-West Street:	108th St	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				1				1				2				2				2
Override Capacity				0				0				0				0				0

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	18	1	18	4	22	22	1	21	1	21	4	25	1	25		25	1	25
	Left-Through		0							0				0				0	
	Through	866	1	**495**	44	910	**517**	33	983	1	**560**	44	1027	1	**582**		1027	1	**582**
	Through-Right		1							1				1				1	
	Right	124	0	124	0	124	124	0	136	0	136	0	136	0	136		136	0	136
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	64	1	**64**	0	64	**64**	0	70	1	**70**	0	70	1	**70**		70	1	**70**
	Left-Through		0							0				0				0	
	Through	794	1	425	27	821	441	40	911	1	486	27	938	1	502		938	1	502
	Through-Right		1							1				1				1	
	Right	55	0	55	5	60	60	0	60	0	60	5	65	0	65		65	0	65
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	33	0	33	0	33	33	0	36	0	36	0	36	0	36		36	0	36
	Left-Through		0							0				0				0	
	Through	230	0	**290**	5	235	**297**	2	254	0	**322**	5	259	0	**329**		259	0	**329**
	Through-Right		0							0				0				0	
	Right	27	0	0	2	29	0	2	32	0	0	2	34	0	0		34	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
WESTBOUND	Left	168	0	**168**	0	168	**168**	0	184	0	**184**	0	184	0	**184**		184	0	**184**
	Left-Through		1							1				1				1	
	Through	82	0	250	2	84	252	2	92	0	276	2	94	0	278		94	0	278
	Through-Right		0							0				0				0	
	Right	64	1	32	1	65	33	0	70	1	35	1	71	1	36		71	1	36
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		559	*North-South:*		581	*North-South:*			630	*North-South:*			652	*North-South:*			652
		East-West:		458	*East-West:*		465	*East-West:*			506	*East-West:*			513	*East-West:*			513
		SUM:		1017	*SUM:*		1046	*SUM:*			1136	*SUM:*			1165	*SUM:*			1165
VOLUME/CAPACITY *(V/C)* RATIO:				0.678			0.697				0.757				0.777				0.777
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.608			0.627				0.657				0.677				0.677
LEVEL OF SERVICE (LOS):				B			B				B				B				B

PROJECT IMPACT

Change in *v/c* due to project:	0.020	Δ*v/c* after mitigation:	0.020
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Main St	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Shiva Delparastaran	Date:	1/18/2017
49	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			2			2				2				2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0				0				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--		0	NB-- 0	SB--		0	NB-- 0	SB--		0
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--		0	EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?			1			1				2				2				2
Override Capacity			0			0				0				0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	72	1	72	0	72	72	0	79	1	79	0	79	1	79		79	1	79
	Left-Through		0							0				0				0	
	Through	399	0	**454**	11	410	**465**	21	459	0	**521**	11	470	0	**532**		470	0	**532**
	Through-Right		1							1				1				1	
	Right	55	0	0	0	55	0	2	62	0	0	0	62	0	0		62	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	99	1	**99**	0	99	**99**	0	109	1	**109**	0	109	1	**109**		109	1	**109**
	Left-Through		0							0				0				0	
	Through	293	1	293	5	298	298	28	350	1	350	5	355	1	355		355	1	355
	Through-Right		0							0				0				0	
	Right	104	1	23	0	104	23	0	114	1	25	0	114	1	25		114	1	25
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	162	1	162	0	162	162	0	178	1	178	0	178	1	178		178	1	178
	Left-Through		0							0				0				0	
	Through	1238	2	**437**	52	1290	**455**	21	1379	2	**487**	52	1431	2	**504**		1431	2	**504**
	Through-Right		1							1				1				1	
	Right	74	0	74	0	74	74	0	81	0	81	0	81	0	81		81	0	81
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	63	1	**63**	0	63	**63**	1	70	1	**70**	0	70	1	**70**		70	1	**70**
	Left-Through		0							0				0				0	
	Through	811	2	313	75	886	338	20	910	2	350	75	985	2	375		985	2	375
	Through-Right		1							1				1				1	
	Right	127	0	127	0	127	127	0	139	0	139	0	139	0	139		139	0	139
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		553	*North-South:*		564	*North-South:*			630	*North-South:*			641	*North-South:*			641
		East-West:		500	*East-West:*		518	*East-West:*			557	*East-West:*			574	*East-West:*			574
		SUM:		1053	*SUM:*		1082	*SUM:*			1187	*SUM:*			1215	*SUM:*			1215
VOLUME/CAPACITY *(V/C)* RATIO:				0.702			0.721				0.791				0.810				0.810
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.632			0.651				0.691				0.710				0.710
LEVEL OF SERVICE (LOS):				B			B				B				C				C

PROJECT IMPACT

Change in *v/c* due to project:	0.019	Δ*v/c* after mitigation:	0.019
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	San Pedro St.	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Shiva Delparastaran	Date:	1/18/2017
50	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
	No. of Phases			4			4			4				4					4
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0					0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		0	
		EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
	ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2					2
	Override Capacity			0			0			0				0					0
NORTHBOUND	Left	79	1	79	0	79	79	0	87	1	87	0	87	1	87		87	1	87
	Left-Through		0							0				0				0	
	Through	351	1	**351**	8	359	**359**	1	386	1	**386**	8	394	1	**394**		394	1	**394**
	Through-Right		0							0				0				0	
	Right	18	1	2	0	18	2	0	20	1	3	0	20	1	3		20	1	3
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	81	1	**81**	0	81	**81**	2	91	1	**91**	0	91	1	**91**		91	1	**91**
	Left-Through		0							0				0				0	
	Through	295	1	295	5	300	300	2	326	1	326	5	331	1	331		331	1	331
	Through-Right		0							0				0				0	
	Right	125	1	63	0	125	63	0	137	1	69	0	137	1	69		137	1	69
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	125	1	125	0	125	125	0	137	1	137	0	137	1	137		137	1	137
	Left-Through		0							0				0				0	
	Through	1180	2	**590**	52	1232	**616**	22	1317	2	**659**	52	1369	2	**685**		1369	2	**685**
	Through-Right		0							0				0				0	
	Right	72	1	33	0	72	33	0	79	1	36	0	79	1	36		79	1	36
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	32	1	**32**	0	32	**32**	0	35	1	**35**	0	35	1	**35**		35	1	**35**
	Left-Through		0							0				0				0	
	Through	772	2	300	75	847	325	21	868	2	336	75	943	2	361		943	2	361
	Through-Right		1							1				1				1	
	Right	127	0	127	0	127	127	1	140	0	140	0	140	0	140		140	0	140
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES	*North-South:*		432	*North-South:*		440	*North-South:*			477	*North-South:*			485	*North-South:*			485
		East-West:		622	*East-West:*		648	*East-West:*			694	*East-West:*			720	*East-West:*			720
		SUM:		1054	*SUM:*		1088	*SUM:*			1171	*SUM:*			1205	*SUM:*			1205
	VOLUME/CAPACITY *(V/C)* RATIO:			0.767			0.791				0.852				0.876				0.876
	V/C LESS ATSAC/ATCS ADJUSTMENT:			0.697			0.721				0.752				0.776				0.776
	LEVEL OF SERVICE (LOS):			B			C				C				C				C

PROJECT IMPACT

Change in *v/c* due to project:	0.024	Δ*v/c* after mitigation:	0.024
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	San Pedro St	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Shiva Delparastaran	Date:	1/18/2017
51	East-West Street:	120th St	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2			2			2			2	
Override Capacity			0			0			0			0			0			0	

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	40	1	40	0	40	40	0	44	1	44	0	44	1	44		44	1	44
	Left-Through		0							0				0				0	
	Through	368	1	**368**	0	368	**368**	1	405	1	**405**	0	405	1	**405**		405	1	**405**
	Through-Right		0							0				0				0	
	Right	94	1	73	4	98	74	0	103	1	80	4	107	1	81		107	1	81
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	77	1	**77**	5	82	**82**	0	84	1	**84**	5	89	1	**89**		89	1	**89**
	Left-Through		0							0				0				0	
	Through	280	1	280	0	280	280	2	309	1	309	0	309	1	309		309	1	309
	Through-Right		0							0				0				0	
	Right	31	1	0	0	31	0	0	34	1	0	0	34	1	0		34	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	63	1	63	0	63	63	0	69	1	69	0	69	1	69		69	1	69
	Left-Through		0							0				0				0	
	Through	514	1	**514**	26	540	**540**	21	585	1	**585**	26	611	1	**611**		611	1	**611**
	Through-Right		0							0				0				0	
	Right	61	1	41	0	61	41	0	67	1	45	0	67	1	45		67	1	45
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	42	1	**42**	7	49	**49**	0	46	1	**46**	7	53	1	**53**		53	1	**53**
	Left-Through		0							0				0				0	
	Through	310	1	310	41	351	351	22	362	1	362	41	403	1	403		403	1	403
	Through-Right		0							0				0				0	
	Right	73	1	35	8	81	40	0	80	1	38	8	88	1	44		88	1	44
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		445	*North-South:*		450	*North-South:*			489	*North-South:*			494	*North-South:*			494
		East-West:		556	*East-West:*		589	*East-West:*			631	*East-West:*			664	*East-West:*			664
		SUM:		1001	*SUM:*		1039	*SUM:*			1120	*SUM:*			1158	*SUM:*			1158
VOLUME/CAPACITY *(V/C)* RATIO:				0.667			0.693				0.747				0.772				0.772
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.597			0.623				0.647				0.672				0.672
LEVEL OF SERVICE (LOS):				A			B				B				B				B

PROJECT IMPACT

Change in *v/c* due to project:	0.025	Δ*v/c* after mitigation:	0.025
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Compton Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
17	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
No. of Phases			2			2			2				2				2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB--		0	NB-- 0 SB--		0	NB-- 0 SB--		0		NB-- 0 SB--		0		NB-- 0 SB--		0	
	EB-- 0 WB--		0	EB-- 0 WB--		0	EB-- 0 WB--		0		EB-- 0 WB--		0		EB-- 0 WB--		0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
Override Capacity			0			0			0				0				0	
NORTHBOUND Left	99	1	99	174	273	**273**	11	120	1	120	174	294	1	**294**		294	1	**294**
NORTHBOUND Left-Through		0							0				0				0	
NORTHBOUND Through	307	1	**307**	84	391	391	5	342	1	**342**	84	426	1	426		426	1	426
NORTHBOUND Through-Right		0							0				0				0	
NORTHBOUND Right	169	1	137	69	238	181	2	187	1	150	69	256	1	194		256	1	194
NORTHBOUND Left-Through-Right		0							0				0				0	
NORTHBOUND Left-Right		0							0				0				0	
SOUTHBOUND Left	216	1	**216**	4	220	220	2	239	1	**239**	4	243	1	243		243	1	243
SOUTHBOUND Left-Through		0							0				0				0	
SOUTHBOUND Through	260	0	362	53	313	**415**	2	287	0	400	53	340	0	**453**		340	0	**453**
SOUTHBOUND Through-Right		1							1				1				1	
SOUTHBOUND Right	102	0	0	0	102	0	1	113	0	0	0	113	0	0		113	0	0
SOUTHBOUND Left-Through-Right		0							0				0				0	
SOUTHBOUND Left-Right		0							0				0				0	
EASTBOUND Left	79	1	79	0	79	79	1	88	1	88	0	88	1	88		88	1	88
EASTBOUND Left-Through		0							0				0				0	
EASTBOUND Through	1448	2	**512**	51	1499	**564**	6	1595	2	**566**	51	1646	2	**618**		1646	2	**618**
EASTBOUND Through-Right		1							1				1				1	
EASTBOUND Right	87	0	87	105	192	192	8	103	0	103	105	208	0	208		208	0	208
EASTBOUND Left-Through-Right		0							0				0				0	
EASTBOUND Left-Right		0							0				0				0	
WESTBOUND Left	64	1	**64**	51	115	**115**	4	74	1	**74**	51	125	1	**125**		125	1	**125**
WESTBOUND Left-Through		0							0				0				0	
WESTBOUND Through	742	1	488	60	802	520	8	822	1	541	60	882	1	572		882	1	572
WESTBOUND Through-Right		1							1				1				1	
WESTBOUND Right	234	0	234	3	237	237	2	259	0	259	3	262	0	262		262	0	262
WESTBOUND Left-Through-Right		0							0				0				0	
WESTBOUND Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		523	*North-South:*		688	*North-South:*			581	*North-South:*			747	*North-South:*			747
	East-West:		576	*East-West:*		679	*East-West:*			640	*East-West:*			743	*East-West:*			743
	SUM:		1099	*SUM:*		1367	*SUM:*			1221	*SUM:*			1490	*SUM:*			1490
VOLUME/CAPACITY *(V/C)* RATIO:			0.733			0.911				0.814				0.993				0.993
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.663			0.841				0.714				0.893				0.893
LEVEL OF SERVICE (LOS):			B			D				C				D				D

PROJECT IMPACT

Change in *v/c* due to project: 0.179 — Δ*v/c* after mitigation: 0.179

Significant impacted? YES — Fully mitigated? NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Wilmington Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
26	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

No. of Phases			3			3			3			3			3			3	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0	
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2			2			2			2	
Override Capacity			0			0			0			0			0			0	

MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	161	1	**161**	33	194	**194**	4	181	1	**181**	33	214	1	**214**		214	1	**214**
	Left-Through		0							0				0				0	
	Through	456	1	252	71	527	287	20	520	1	286	71	591	1	322		591	1	322
	Through-Right		1							1				1				1	
	Right	47	0	47	0	47	47	0	52	0	52	0	52	0	52		52	0	52
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	30	1	30	0	30	30	0	33	1	33	0	33	1	33		33	1	33
	Left-Through		0							0				0				0	
	Through	624	1	**348**	305	929	**502**	53	738	1	**408**	305	1043	1	**563**		1043	1	**563**
	Through-Right		1							1				1				1	
	Right	71	0	71	4	75	75	0	78	0	78	4	82	0	82		82	0	82
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	138	1	138	10	148	148	0	151	1	151	10	161	1	161		161	1	161
	Left-Through		0							0				0				0	
	Through	15	1	15	0	15	15	0	16	1	16	0	16	1	16		16	1	16
	Through-Right		0							0				0				0	
	Right	379	1	**299**	78	457	**360**	1	417	1	**327**	78	495	1	**388**		495	1	**388**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	0	0	**0**	0	0	**0**	0	0	0	**0**	0	0	0	**0**		0	0	**0**
	Left-Through		0							0				0				0	
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Through-Right		0							0				0				0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		509	*North-South:*		696	*North-South:*			589	*North-South:*			777	*North-South:*			777
		East-West:		299	*East-West:*		360	*East-West:*			327	*East-West:*			388	*East-West:*			388
		SUM:		808	*SUM:*		1056	*SUM:*			916	*SUM:*			1165	*SUM:*			1165
VOLUME/CAPACITY *(V/C)* RATIO:				0.567			0.741				0.643				0.818				0.818
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.497			0.671				0.543				0.718				0.718
LEVEL OF SERVICE (LOS):				A			B				A				C				C

PROJECT IMPACT

Change in *v/c* due to project:	0.175	Δ*v/c* after mitigation:	0.175
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Imperial Hwy	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
36	East-West Street:	I-105 w/b Ramps	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	549	1	**279**	217	766	**391**	4	606	1	**308**	217	823	1	**420**		823	1	**420**
Left-Through		1							1				1				1	
Through	8	0	279	7	15	391	0	9	0	308	7	16	0	420		16	0	420
Through-Right		0							0				0				0	
Right	274	1	109	10	284	118	0	301	1	119	10	311	1	129		311	1	129
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	9	0	9	0	9	9	0	10	0	10	0	10	0	10		10	0	10
Left-Through		0							0				0				0	
Through	22	0	**56**	0	22	**56**	0	24	0	**61**	0	24	0	**61**		24	0	**61**
Through-Right		0							0				0				0	
Right	25	0	0	0	25	0	0	27	0	0	0	27	0	0		27	0	0
Left-Through-Right		1							1				1				1	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	47	1	47	18	65	65	0	52	1	52	18	70	1	70		70	1	70
Left-Through		0							0				0				0	
Through	1628	3	**407**	186	1814	**482**	48	1834	3	**459**	186	2020	3	**535**		2020	3	**535**
Through-Right		1							1				1				1	
Right	342	1	63	253	595	0	25	400	1	246	253	653	1	0		653	1	0
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	602	2	**331**	2	604	**332**	0	661	2	**364**	2	663	2	**365**		663	2	**365**
Left-Through		0							0				0				0	
Through	820	2	274	103	923	309	46	946	2	316	103	1049	2	351		1049	2	351
Through-Right		1							1				1				1	
Right	1	0	1	3	4	4	0	1	0	1	3	4	0	4		4	0	4
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		335	*North-South:*		447	*North-South:*			369	*North-South:*			481	*North-South:*			481
	East-West:		738	*East-West:*		814	*East-West:*			823	*East-West:*			900	*East-West:*			900
	SUM:		1073	*SUM:*		1261	*SUM:*			1192	*SUM:*			1381	*SUM:*			1381
VOLUME/CAPACITY *(V/C)* RATIO:			0.780			0.917				0.867				1.004				1.004
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.710			0.847				0.767				0.904				0.904
LEVEL OF SERVICE (LOS):			C			D				C				E				E
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			1			1				1				1				1
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--		0	NB-- 0	SB--		0	NB-- 0	SB--		0
	EB-- 3	WB--	0	EB-- 3	WB--	0	EB-- 0	WB--		0	EB-- 3	WB--		0	EB-- 3	WB--		0
ATSAC-1 or ATSAC+ATCS-2?			1			1				2				2				2
Override Capacity			0			0				0				0				0

PROJECT IMPACT

Change in *v/c* due to project: 0.137 — Δ*v/c* after mitigation: 0.137

Significant impacted? YES — Fully mitigated? NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Mona Blvd	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	9/30/2016
39	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	NB--	0 SB--	0	
	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	EB--	0 WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2			2			2			2	
Override Capacity			0			0			0			0			0			0	

MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	186	0	**186**	3	189	**189**	0	204	0	**204**	3	207	0	**207**		207	0	**207**
	Left-Through		1							1				1				1	
	Through	68	0	254	7	75	264	0	75	0	279	7	82	0	289		82	0	289
	Through-Right		0							0				0				0	
	Right	249	1	172	5	254	173	0	273	1	189	5	278	1	190		278	1	190
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	55	0	55	0	55	55	0	60	0	60	0	60	0	60		60	0	60
	Left-Through		0							0				0				0	
	Through	69	0	**197**	4	73	**201**	0	76	0	**216**	4	80	0	**220**		80	0	**220**
	Through-Right		0							0				0				0	
	Right	73	0	0	0	73	0	0	80	0	0	0	80	0	0		80	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
EASTBOUND	Left	95	1	95	0	95	95	0	104	1	104	0	104	1	104		104	1	104
	Left-Through		0							0				0				0	
	Through	1631	2	**624**	172	1803	**690**	48	1838	2	**701**	172	2010	2	**767**		2010	2	**767**
	Through-Right		1							1				1				1	
	Right	242	0	242	24	266	266	0	266	0	266	24	290	0	290		290	0	290
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	154	1	**154**	8	162	**162**	0	169	1	**169**	8	177	1	**177**		177	1	**177**
	Left-Through		0							0				0				0	
	Through	1121	2	388	105	1226	423	46	1276	2	441	105	1381	2	476		1381	2	476
	Through-Right		1							1				1				1	
	Right	43	0	43	0	43	43	0	47	0	47	0	47	0	47		47	0	47
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		383	*North-South:*		390	*North-South:*			420	*North-South:*			427	*North-South:*			427
		East-West:		778	*East-West:*		852	*East-West:*			870	*East-West:*			944	*East-West:*			944
		SUM:		1161	*SUM:*		1242	*SUM:*			1290	*SUM:*			1371	*SUM:*			1371
VOLUME/CAPACITY *(V/C)* RATIO:				0.774			0.828				0.860				0.914				0.914
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.704			0.758				0.760				0.814				0.814
LEVEL OF SERVICE (LOS):				C			C				C				D				D

PROJECT IMPACT

Change in *v/c* due to project:	0.054	Δ*v/c* after mitigation:	0.054
Significant impacted?	YES	Fully mitigated?	NO

Intersection LOS Analysis Sheets

City of Los Angeles
Mitigation

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	10/3/2016
7	East-West Street:	I-105 w/b Ramps	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			3			3			3				3				3	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--	0		NB-- 0	SB--	0		NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	EB-- 0	WB--	0		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			1			1			2				2				2	
Override Capacity			0			0			0				0				0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	301	2	**166**	29	330	**182**	5	335	2	**184**	29	364	2	**200**		364	2	**200**
	Left-Through		0							0				0				0	
	Through	1119	2	560	83	1202	601	16	1244	2	622	83	1327	2	664		1327	2	664
	Through-Right		0							0				0				0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through		0							0				0				0	
	Through	1086	2	543	30	1116	558	22	1214	2	607	30	1244	2	622		1244	2	622
	Through-Right		0							0				0				0	
	Right	734	1	**734**	26	760	**760**	1	806	1	**806**	26	832	1	**832**		832	1	**832**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	0	0	**0**		0	**0**	0	0	0	**0**	0	0	0	**0**		0	0	**0**
	Left-Through		0							0				0				0	
	Through	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
	Through-Right		0							0				0				0	
	Right	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	116	1	116	0	116	116	24	151	1	78	0	151	1	78		151	1	151
	Left-Through		0							1				1				0	
	Through	4	0	**188**	0	4	**188**	0	4	0	78	0	4	0	78		4	0	**206**
	Through-Right		1							0				0				1	
	Right	372	1	0	0	372	0	0	408	1	**408**	0	408	1	**408**		408	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
	CRITICAL VOLUMES		*North-South:*	900		*North-South:*	942		*North-South:*		990		*North-South:*		1032		*North-South:*		1032
			East-West:	188		*East-West:*	188		*East-West:*		408		*East-West:*		408		*East-West:*		206
			SUM:	1088		*SUM:*	1130		*SUM:*		1398		*SUM:*		1440		*SUM:*		1238
	VOLUME/CAPACITY *(V/C)* RATIO:			0.764			0.793				0.981				1.011				0.869
	V/C LESS ATSAC/ATCS ADJUSTMENT:			0.694			0.723				0.881				0.911				0.769
	LEVEL OF SERVICE (LOS):			B			C				D				E				C

PROJECT IMPACT

Change in *v/c* due to project:	0.030	Δ*v/c* after mitigation:	-0.112
Significant impacted?	YES	Fully mitigated?	YES

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	10/3/2016
9	East-West Street:	120th St	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				1				1				2				2				2
Override Capacity				0				0				0				0				0

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	67	1	**67**	0	67	67	0	74	1	74	0	74	1	74		74	1	74
	Left-Through		0							0				0				0	
	Through	686	2	343	7	693	**347**	20	773	1	**465**	7	780	1	**504**		780	2	**390**
	Through-Right		0							1				1				0	
	Right	134	1	71	72	206	131	9	156	0	156	72	228	0	228		228	1	142
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	176	1	176	112	288	**288**	0	193	1	**193**	112	305	1	**305**		305	1	**305**
	Left-Through		0							0				0				0	
	Through	856	1	**477**	3	859	479	26	965	1	553	3	968	1	555		968	1	555
	Through-Right		1							1				1				1	
	Right	98	0	98	0	98	98	33	141	0	141	0	141	0	141		141	0	141
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	119	1	**119**	0	119	**119**	13	144	1	**144**	0	144	1	**144**		144	1	**144**
	Left-Through		0							0				0				0	
	Through	464	1	255	91	555	300	6	515	1	282	91	606	1	328		606	1	328
	Through-Right		1							1				1				1	
	Right	45	0	45	0	45	45	0	49	0	49	0	49	0	49		49	0	49
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	126	1	126	24	150	150	10	148	1	148	24	172	1	172		172	1	172
	Left-Through		0							0				0				0	
	Through	530	1	**530**	50	580	**580**	3	585	1	**585**	50	635	1	**635**		635	1	**635**
	Through-Right		0							0				0				0	
	Right	212	1	124	53	265	121	0	233	1	137	53	286	1	134		286	1	134
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		544	*North-South:*		635	*North-South:*			658	*North-South:*			809	*North-South:*			695
		East-West:		649	*East-West:*		699	*East-West:*			729	*East-West:*			779	*East-West:*			779
		SUM:		1193	*SUM:*		1334	*SUM:*			1387	*SUM:*			1588	*SUM:*			1474
VOLUME/CAPACITY *(V/C)* RATIO:				0.795			0.889				0.925				1.059				0.983
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.725			0.819				0.825				0.959				0.883
LEVEL OF SERVICE (LOS):				C			D				D				E				D

PROJECT IMPACT

Change in *v/c* due to project:	0.134	Δ*v/c* after mitigation:	0.058
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Compton Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	10/3/2016
17	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				1				1				2				2				2
Override Capacity				0				0				0				0				0

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	115	1	**115**	94	209	**209**	3	129	1	**129**	94	223	1	**223**		223	1	**223**
	Left-Through		0							0				0				0	
	Through	335	1	335	39	374	374	1	369	1	369	39	408	1	408		408	1	408
	Through-Right		0							0				0				0	
	Right	169	1	73	37	206	67	3	188	1	82	37	225	1	76		225	1	76
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	114	1	114	5	119	119	0	125	1	125	5	130	1	130		130	1	130
	Left-Through		0							0				0				0	
	Through	292	0	**427**	73	365	**500**	4	324	0	**472**	73	397	0	**545**		397	0	**545**
	Through-Right		1							1				1				1	
	Right	135	0	0	0	135	0	0	148	0	0	0	148	0	0		148	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	76	1	**76**	0	76	**76**	1	84	1	**84**	0	84	1	**84**		84	1	**84**
	Left-Through		0							0				0				0	
	Through	667	2	280	57	724	355	9	741	2	312	57	798	2	388		798	2	388
	Through-Right		1							1				1				1	
	Right	173	0	173	169	342	342	6	196	0	196	169	365	0	365		365	0	365
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	192	1	192	86	278	278	1	212	1	212	86	298	1	298		298	1	298
	Left-Through		0							0				0				0	
	Through	1504	2	**752**	26	1530	**765**	7	1657	1	**919**	26	1683	1	**932**		1683	2	**842**
	Through-Right		0							1				1				0	
	Right	163	1	106	1	164	105	1	180	0	180	1	181	0	181		181	1	116
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		542	*North-South:*		709	*North-South:*			601	*North-South:*			768	*North-South:*			768
		East-West:		828	*East-West:*		841	*East-West:*			1003	*East-West:*			1016	*East-West:*			926
		SUM:		1370	*SUM:*		1550	*SUM:*			1604	*SUM:*			1784	*SUM:*			1694
VOLUME/CAPACITY (*V/C*) RATIO:				0.913			1.033				1.069				1.189				1.129
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.843			0.963				0.969				1.089				1.029
LEVEL OF SERVICE (LOS):				D			E				E				F				F

PROJECT IMPACT

Change in *v/c* due to project:	0.120	Δ*v/c* after mitigation:	0.060
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - AM Peak Hour

I/S #:	North-South Street:	Imperial Hwy	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	10/3/2016
36	East-West Street:	I-105 w/b Ramps	Projection Year:	2035	Peak Hour:	AM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	539	2	**183**	294	833	**284**	3	594	1	**303**	294	888	1	**455**		888	2	**303**
Left-Through		1							1				1				1	
Through	11	0	183	9	20	284	0	12	0	303	9	21	0	455		21	0	303
Through-Right		0							0				0				0	
Right	137	1	0	12	149	0	0	150	1	0	12	162	1	0		162	1	0
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	7	0	7	0	7	7	0	8	0	8	0	8	0	8		8	0	8
Left-Through		0							0				0				0	
Through	34	0	**109**	0	34	**109**	0	37	0	**120**	0	37	0	**120**		37	0	**120**
Through-Right		0							0				0				0	
Right	68	0	0	0	68	0	0	75	0	0	0	75	0	0		75	0	0
Left-Through-Right		1							1				1				1	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	51	1	51	7	58	58	0	56	1	56	7	63	1	63		63	1	63
Left-Through		0							0				0				0	
Through	1012	3	**253**	89	1101	**293**	19	1129	3	**282**	89	1218	3	**322**		1218	3	**322**
Through-Right		1							1				1				1	
Right	224	1	41	139	363	0	5	251	1	100	139	390	1	0		390	1	0
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	742	2	**408**	2	744	**409**	0	814	2	**448**	2	816	2	**449**		816	2	**449**
Left-Through		0							0				0				0	
Through	1346	2	453	142	1488	502	30	1507	2	507	142	1649	2	556		1649	2	556
Through-Right		1							1				1				1	
Right	13	0	13	4	17	17	0	14	0	14	4	18	0	18		18	0	18
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		292	*North-South:*		393	*North-South:*			423	*North-South:*			575	*North-South:*			423
	East-West:		661	*East-West:*		702	*East-West:*			730	*East-West:*			771	*East-West:*			771
	SUM:		953	*SUM:*		1095	*SUM:*			1153	*SUM:*			1346	*SUM:*			1194
VOLUME/CAPACITY *(V/C)* RATIO:			0.693			0.796				0.839				0.979				0.868
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.623			0.726				0.739				0.879				0.768
LEVEL OF SERVICE (LOS):			B			C				C				D				C

NB--	EB--	SB--	WB--	Existing	Existing + Project	Future w/o Project	Future w/ Project	Future w/ Project w/ Mitigation
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1	1	1	1	1
Right Turns: FREE-1, NRTOR-2 or OLA-3?	0	3	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
ATSAC-1 or ATSAC+ATCS-2?				1	1	2	2	2
Override Capacity				0	0	0	0	0

PROJECT IMPACT

Change in *v/c* due to project:	0.140	Δ*v/c* after mitigation:	0.029
Significant impacted?	YES	Fully mitigated?	YES

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	10/3/2016
7	East-West Street:	I-105 w/b Ramps	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

No. of Phases			3			3			3				3				3		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0				0				0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				1				1				2				2				2
Override Capacity				0				0				0				0				0

MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	329	2	**181**	88	417	**229**	27	388	2	**213**	88	476	2	**262**		476	2	**262**
	Left-Through		0							0				0				0	
	Through	944	2	472	78	1022	511	45	1081	2	541	78	1159	2	580		1159	2	580
	Through-Right		0							0				0				0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through		0							0				0				0	
	Through	1000	2	500	32	1032	516	46	1143	2	572	32	1175	2	588		1175	2	588
	Through-Right		0							0				0				0	
	Right	556	1	**556**	55	611	**611**	5	615	1	**615**	55	670	1	**670**		670	1	**670**
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	0	0	**0**		0	**0**	0	0	0	**0**	0	0	0	**0**		0	0	0
	Left-Through		0							0				0				0	
	Through	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	**0**
	Through-Right		0							0				0				0	
	Right	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	265	1	265	0	265	265	41	332	1	168	0	332	1	168		332	1	**332**
	Left-Through		0							1				1				0	
	Through	4	0	**270**	0	4	**270**	0	4	0	168	0	4	0	168		4	0	296
	Through-Right		1							0				0				1	
	Right	536	1	0	0	536	0	0	588	1	**588**	0	588	1	**588**		588	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		737	*North-South:*		840	*North-South:*			828	*North-South:*			932	*North-South:*			932
		East-West:		270	*East-West:*		270	*East-West:*			588	*East-West:*			588	*East-West:*			332
		SUM:		1007	*SUM:*		1110	*SUM:*			1416	*SUM:*			1520	*SUM:*			1264
VOLUME/CAPACITY *(V/C)* RATIO:				0.707			0.779				0.994				1.067				0.887
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.637			0.709				0.894				0.967				0.787
LEVEL OF SERVICE (LOS):				B			C				D				E				C

PROJECT IMPACT

Change in *v/c* due to project:	0.073	Δ*v/c* after mitigation:	-0.107
Significant impacted?	YES	Fully mitigated?	YES

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Central Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	10/3/2016
9	East-West Street:	120th St	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND																		
Left	144	1	**144**	0	144	**144**	0	158	1	**158**	0	158	1	158		158	1	**158**
Left-Through		0							0				0				0	
Through	845	2	423	5	850	425	52	979	1	573	5	984	1	**595**		984	2	492
Through-Right		0							1				1				0	
Right	132	1	48	40	172	55	21	166	0	166	40	206	0	206		206	1	66
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
SOUTHBOUND																		
Left	75	1	75	78	153	153	0	82	1	82	78	160	1	**160**		160	1	160
Left-Through		0							0				0				0	
Through	770	1	**445**	6	776	**448**	30	875	1	**547**	6	881	1	550		881	1	**550**
Through-Right		1							1				1				1	
Right	120	0	120	0	120	120	87	219	0	219	0	219	0	219		219	0	219
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
EASTBOUND																		
Left	76	1	**76**	0	76	**76**	67	150	1	**150**	0	150	1	**150**		150	1	**150**
Left-Through		0							0				0				0	
Through	225	1	182	71	296	218	8	255	1	204	71	326	1	240		326	1	240
Through-Right		1							1				1				1	
Right	139	0	139	0	139	139	0	153	0	153	0	153	0	153		153	0	153
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
WESTBOUND																		
Left	169	1	169	65	234	234	31	216	1	216	65	281	1	281		281	1	281
Left-Through		0							0				0				0	
Through	475	1	**475**	115	590	**590**	11	532	1	**532**	115	647	1	**647**		647	1	**647**
Through-Right		0							0				0				0	
Right	80	1	43	136	216	140	0	88	1	47	136	224	1	144		224	1	144
Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0	
CRITICAL VOLUMES	*North-South:*		589	*North-South:*		592	*North-South:*			705	*North-South:*			755	*North-South:*			708
	East-West:		551	*East-West:*		666	*East-West:*			682	*East-West:*			797	*East-West:*			797
	SUM:		1140	*SUM:*		1258	*SUM:*			1387	*SUM:*			1552	*SUM:*			1505
VOLUME/CAPACITY *(V/C)* RATIO:			0.760			0.839				0.925				1.035				1.003
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.690			0.769				0.825				0.935				0.903
LEVEL OF SERVICE (LOS):			B			C				D				E				E

Opposed Ø'ing: N/S-1, E/W-2 or Both-3?																		
			2			2				2				2				2
			0			0				0				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0	NB--	0	SB-- 0	NB--	0	SB-- 0		NB--	0	SB-- 0		NB--	0	SB-- 0	
	EB--	0	WB-- 0	EB--	0	WB-- 0	EB--	0	WB-- 0		EB--	0	WB-- 0		EB--	0	WB-- 0	
ATSAC-1 or ATSAC+ATCS-2?			1			1				2				2				2
Override Capacity			0			0				0				0				0

PROJECT IMPACT

Change in *v/c* due to project:	0.110	Δ*v/c* after mitigation:	0.078
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Compton Ave	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	10/3/2016
17	East-West Street:	Imperial Hwy	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

No. of Phases			2			2			2			2			2			2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				1				1				2				2				2
Override Capacity				0				0				0				0				0

	MOVEMENT	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	99	1	99	174	273	**273**	11	120	1	120	174	294	1	**294**		294	1	**294**
	Left-Through		0							0				0				0	
	Through	307	1	**307**	84	391	391	5	342	1	**342**	84	426	1	426		426	1	426
	Through-Right		0							0				0				0	
	Right	169	1	137	69	238	181	2	187	1	150	69	256	1	194		256	1	194
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	216	1	**216**	4	220	220	2	239	1	**239**	4	243	1	243		243	1	243
	Left-Through		0							0				0				0	
	Through	260	0	362	53	313	**415**	2	287	0	400	53	340	0	**453**		340	0	**453**
	Through-Right		1							1				1				1	
	Right	102	0	0	0	102	0	1	113	0	0	0	113	0	0		113	0	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
EASTBOUND	Left	79	1	79	0	79	79	1	88	1	88	0	88	1	88		88	1	88
	Left-Through		0							0				0				0	
	Through	1448	2	**512**	51	1499	**564**	6	1595	2	**566**	51	1646	2	**618**		1646	2	**618**
	Through-Right		1							1				1				1	
	Right	87	0	87	105	192	192	8	103	0	103	105	208	0	208		208	0	208
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	64	1	**64**	51	115	**115**	4	74	1	**74**	51	125	1	**125**		125	1	**125**
	Left-Through		0							0				0				0	
	Through	742	2	371	60	802	401	8	822	1	541	60	882	1	572		882	2	441
	Through-Right		0							1				1				0	
	Right	234	1	126	3	237	127	2	259	0	259	3	262	0	262		262	1	141
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*		523	*North-South:*		688	*North-South:*			581	*North-South:*			747	*North-South:*			747
		East-West:		576	*East-West:*		679	*East-West:*			640	*East-West:*			743	*East-West:*			743
		SUM:		1099	*SUM:*		1367	*SUM:*			1221	*SUM:*			1490	*SUM:*			1490
VOLUME/CAPACITY (*V/C*) RATIO:				0.733			0.911				0.814				0.993				0.993
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.663			0.841				0.714				0.893				0.893
LEVEL OF SERVICE (LOS):				B			D				C				D				D

PROJECT IMPACT

Change in *v/c* due to project:	0.179	Δ*v/c* after mitigation:	0.179
Significant impacted?	YES	Fully mitigated?	NO

Level of Service Worksheet

Willowbrook TOD Specific Plan

Weekday - PM Peak Hour

I/S #:	North-South Street:	Imperial Hwy	Year of Count:	2016	Ambient Growth: (%):	0.49	Conducted by:	Saeedeh Farivar	Date:	10/3/2016
36	East-West Street:	I-105 w/b Ramps	Projection Year:	2035	Peak Hour:	PM	Reviewed by:		Project:	Willowbrook

	EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
No. of Phases			4			4				4				4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			1			1				1				1				1
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	NB-- 0	SB--		0	NB-- 0	SB--		0	NB-- 0	SB--		0
	EB-- 3	WB--	0	EB-- 3	WB--	0	EB-- 0	WB--		0	EB-- 3	WB--		0	EB-- 3	WB--		0
ATSAC-1 or ATSAC+ATCS-2?			1			1				2				2				2
Override Capacity			0			0				0				0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	549	2	**186**	217	766	**260**	4	606	1	**308**	217	823	1	**420**		823	2	**280**
	Left-Through		1							1				1				1	
	Through	8	0	186	7	15	260	0	9	0	308	7	16	0	420		16	0	280
	Through-Right		0							0				0				0	
	Right	274	1	109	10	284	118	0	301	1	119	10	311	1	129		311	1	129
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
SOUTHBOUND	Left	9	0	9	0	9	**9**	0	10	0	**10**	0	10	0	**10**		10	0	**10**
	Left-Through		0							0				0				0	
	Through	22	0	**56**	0	22	**56**	0	24	0	**61**	0	24	0	**61**		24	0	**61**
	Through-Right		0							0				0				0	
	Right	25	0	0	0	25	0	0	27	0	0	0	27	0	0		27	0	0
	Left-Through-Right		1							1				1				1	
	Left-Right		0							0				0				0	
EASTBOUND	Left	47	1	**47**	18	65	**65**	0	52	1	**52**	18	70	1	**70**		70	1	**70**
	Left-Through		0							0				0				0	
	Through	1628	3	**407**	186	1814	**482**	48	1834	3	**459**	186	2020	3	**535**		2020	3	**535**
	Through-Right		1							1				1				1	
	Right	342	1	156	253	595	0	25	400	1	246	253	653	1	0		653	1	0
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
WESTBOUND	Left	602	2	**331**	2	604	**332**	0	661	2	**364**	2	663	2	**365**		663	2	**365**
	Left-Through		0							0				0				0	
	Through	820	2	274	103	923	309	46	946	2	316	103	1049	2	351		1049	2	351
	Through-Right		1							1				1				1	
	Right	1	0	1	3	4	4	0	1	0	1	3	4	0	4		4	0	4
	Left-Through-Right		0							0				0				0	
	Left-Right		0							0				0				0	
CRITICAL VOLUMES		*North-South:*	242		*North-South:*	316		*North-South:*			369	*North-South:*			481	*North-South:*			341
		East-West:	738		*East-West:*	814		*East-West:*			823	*East-West:*			900	*East-West:*			900
		SUM:	980		*SUM:*	1130		*SUM:*			1192	*SUM:*			1381	*SUM:*			1241
VOLUME/CAPACITY *(V/C)* RATIO:			0.713			0.822					0.867				1.004				0.903
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.643			0.752					0.767				0.904				0.803
LEVEL OF SERVICE (LOS):			B			C					C				E				D

PROJECT IMPACT

Change in *v/c* due to project: 0.137 — Δ*v/c* after mitigation: 0.036

Significant impacted? YES — Fully mitigated? NO

Appendix E

Freeway Off-Ramp Analysis

Freeway Off-Ramp Analysis

Existing Conditions

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	944	241	97	1139	702	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.91	0.97	0.95
Frt		0.850			0.970	
Flt Protected			0.950		0.962	
Satd. Flow (prot)	3471	1553	1736	4988	3307	0
Flt Permitted			0.950		0.962	
Satd. Flow (perm)	3471	1553	1736	4988	3307	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		223			38	
Link Speed (mph)	30			30	30	
Link Distance (ft)	568			630	393	
Travel Time (s)	12.9			14.3	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1026	262	105	1238	763	192
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1026	262	105	1238	955	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	Prot	NA	Prot	
Protected Phases	4	2	3	8	2	
Permitted Phases		4				
Minimum Split (s)	22.0	22.0	10.0	22.0	22.0	
Total Split (s)	41.0	37.0	14.0	55.0	37.0	
Total Split (%)	44.6%	40.2%	15.2%	59.8%	40.2%	
Maximum Green (s)	35.0	32.0	8.0	49.0	32.0	
Yellow Time (s)	5.0	4.0	5.0	5.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	6.0	5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Walk Time (s)	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	35.0	73.0	8.0	49.0	32.0	
Actuated g/C Ratio	0.38	0.79	0.09	0.53	0.35	
v/c Ratio	0.78	0.21	0.70	0.47	0.81	
Control Delay	30.0	0.9	66.3	14.1	32.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	30.0	0.9	66.3	14.1	32.9	
LOS	C	A	E	B	C	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	24.1			18.2	32.9	
Approach LOS	C			B	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 92			
Actuated Cycle Length: 92			
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 24.2		Intersection LOS: C	
Intersection Capacity Utilization 71.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: I-110 NB Off-ramp & El Segundo Blvd- Existing AM



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	1026	262	105	1238	955
v/c Ratio	0.78	0.21	0.70	0.47	0.81
Control Delay	30.0	0.9	66.3	14.1	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	0.9	66.3	14.1	32.9
Queue Length 50th (ft)	326	4	73	185	297
Queue Length 95th (ft)	421	20	#167	228	392
Internal Link Dist (ft)	488			550	313
Turn Bay Length (ft)					
Base Capacity (vph)	1320	1278	150	2656	1175
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.78	0.21	0.70	0.47	0.81

Intersection Summary

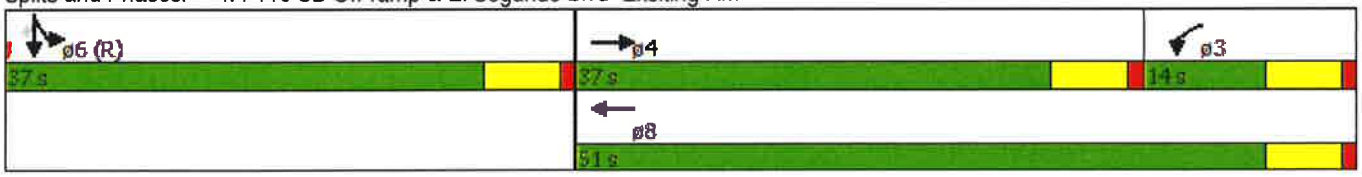
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	702	541	304	1656	0	0	0	0	511	0	839
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.935									0.867	0.850
Flt Protected				0.950						0.950	0.994	
Satd. Flow (prot)	0	4663	0	1736	4988	0	0	0	0	1649	1433	1475
Flt Permitted				0.950						0.950	0.994	
Satd. Flow (perm)	0	4663	0	1736	4988	0	0	0	0	1649	1433	1475
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		244									112	112
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		802			783			340			320	
Travel Time (s)		18.2			17.8			7.7			7.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	763	588	330	1800	0	0	0	0	555	0	912
Shared Lane Traffic (%)										10%		47%
Lane Group Flow (vph)	0	1351	0	330	1800	0	0	0	0	499	485	483
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Minimum Split (s)		22.0		10.0	22.0					22.0	22.0	22.0
Total Split (s)		37.0		14.0	51.0					37.0	37.0	37.0
Total Split (%)		42.0%		15.9%	58.0%					42.0%	42.0%	42.0%
Maximum Green (s)		31.0		8.0	45.0					31.0	31.0	31.0
Yellow Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Walk Time (s)		5.0			5.0					5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		31.0		8.0	45.0					31.0	31.0	31.0
Actuated g/C Ratio		0.35		0.09	0.51					0.35	0.35	0.35
v/c Ratio		0.75		2.10	0.71					0.86	0.84	0.82
Control Delay		23.4		540.8	18.4					43.4	35.2	32.8
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		23.4		540.8	18.4					43.4	35.2	32.8
LOS		C		F	B					D	D	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		23.4			99.3						37.2	
Approach LOS		C			F						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 88			
Actuated Cycle Length: 88			
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 2.10			
Intersection Signal Delay: 60.2		Intersection LOS: E	
Intersection Capacity Utilization 80.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: I-110 SB Off-ramp & El Segundo Blvd- Exsiting AM





Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1351	330	1800	499	485	483
v/c Ratio	0.75	2.10	0.71	0.86	0.84	0.82
Control Delay	23.4	540.8	18.4	43.4	35.2	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	540.8	18.4	43.4	35.2	32.8
Queue Length 50th (ft)	236	~352	317	320	254	237
Queue Length 95th (ft)	302	#546	383	#546	#492	#457
Internal Link Dist (ft)	722		703		240	
Turn Bay Length (ft)						
Base Capacity (vph)	1800	157	2550	580	577	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	2.10	0.71	0.86	0.84	0.82

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

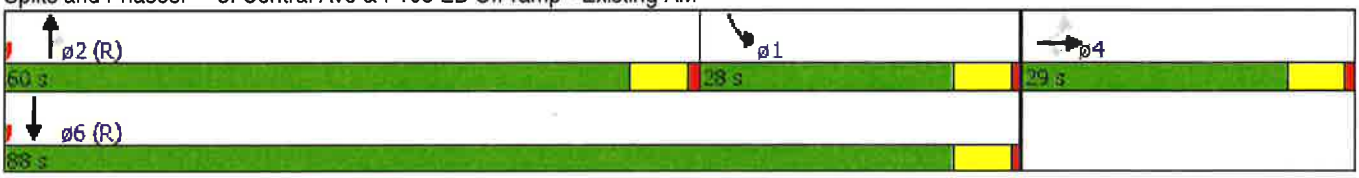
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	664	13	538	0	0	0	0	768	335	567	669	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frt		0.943	0.850						0.850			
Flt Protected	0.950	0.971								0.950		
Satd. Flow (prot)	1633	1508	1461	0	0	0	0	4940	1538	3335	3438	0
Flt Permitted	0.950	0.971								0.950		
Satd. Flow (perm)	1633	1508	1461	0	0	0	0	4940	1538	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23	283						364			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	722	14	585	0	0	0	0	835	364	616	727	0
Shared Lane Traffic (%)	37%		29%									
Lane Group Flow (vph)	455	451	415	0	0	0	0	835	364	616	727	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Minimum Split (s)	22.0	22.0	22.0					22.0	22.0	10.0	22.0	
Total Split (s)	29.0	29.0	29.0					60.0	60.0	28.0	88.0	
Total Split (%)	24.8%	24.8%	24.8%					51.3%	51.3%	23.9%	75.2%	
Maximum Green (s)	23.0	23.0	23.0					54.0	54.0	22.0	82.0	
Yellow Time (s)	5.0	5.0	5.0					5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0	6.0	6.0	6.0	
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0	5.0					5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0	11.0					11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)	23.0	23.0	23.0					54.0	54.0	22.0	82.0	
Actuated g/C Ratio	0.20	0.20	0.20					0.46	0.46	0.19	0.70	
v/c Ratio	1.42	1.44	0.81					0.37	0.40	0.98	0.30	
Control Delay	241.1	247.5	27.6					21.0	3.3	79.6	7.0	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	241.1	247.5	27.6					21.0	3.3	79.6	7.0	
LOS	F	F	C					C	A	E	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		176.2						15.6			40.3	
Approach LOS		F						B			D	

Intersection Summary

Area Type: Other
Cycle Length: 117
Actuated Cycle Length: 117
Offset: 68 (58%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
Maximum v/c Ratio: 1.44
Intersection Signal Delay: 79.1 Intersection LOS: E
Intersection Capacity Utilization 76.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Central Ave & I-105 EB Off-ramp - Existing AM





Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	455	451	415	835	364	616	727
v/c Ratio	1.42	1.44	0.81	0.37	0.40	0.98	0.30
Control Delay	241.1	247.5	27.6	21.0	3.3	79.6	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	241.1	247.5	27.6	21.0	3.3	79.6	7.0
Queue Length 50th (ft)	~584	~593	121	175	0	289	117
Queue Length 95th (ft)	#842	#867	#330	215	62	#431	149
Internal Link Dist (ft)		575		502			478
Turn Bay Length (ft)							
Base Capacity (vph)	321	314	514	2280	905	627	2409
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.42	1.44	0.81	0.37	0.40	0.98	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

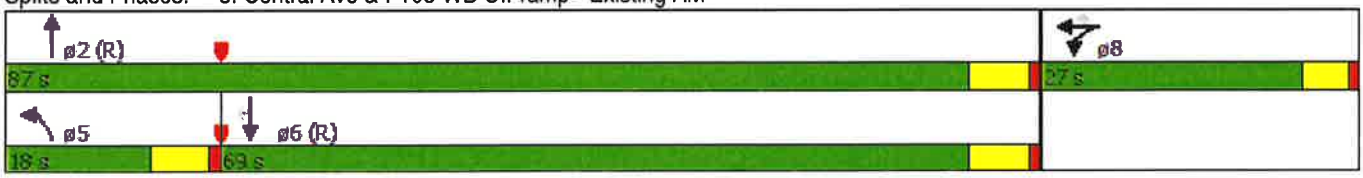
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	116	4	372	301	1119	0	0	1086	734
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950	0.955		0.950					
Satd. Flow (prot)	0	0	0	1633	1642	1538	3335	3438	0	0	3438	1538
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1633	1642	1538	3335	3438	0	0	3438	1538
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						113						
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	126	4	404	327	1216	0	0	1180	798
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	0	0	66	64	404	327	1216	0	0	1180	798
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Minimum Split (s)				21.1	21.1	21.1	10.0	22.0			22.0	22.0
Total Split (s)				27.0	27.0	27.0	18.0	87.0			69.0	69.0
Total Split (%)				23.7%	23.7%	23.7%	15.8%	76.3%			60.5%	60.5%
Maximum Green (s)				22.0	22.0	22.0	12.0	81.0			63.0	63.0
Yellow Time (s)				4.0	4.0	4.0	5.0	5.0			5.0	5.0
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)				5.0	5.0	5.0	6.0	6.0			6.0	6.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Walk Time (s)				5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)				11.0	11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)				0	0	0		0			0	0
Act Effct Green (s)				22.0	22.0	22.0	12.0	81.0			63.0	63.0
Actuated g/C Ratio				0.19	0.19	0.19	0.11	0.71			0.55	0.55
v/c Ratio				0.21	0.20	1.04	0.93	0.50			0.62	0.94
Control Delay				40.8	40.7	89.8	84.6	8.2			19.2	44.3
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				40.8	40.7	89.8	84.6	8.2			19.2	44.3
LOS				D	D	F	F	A			B	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					77.9			24.4			29.3	
Approach LOS					E			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 114			
Actuated Cycle Length: 114			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 33.8		Intersection LOS: C	
Intersection Capacity Utilization 71.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Central Ave & I-105 WB Off-ramp - Existing AM





Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	66	64	404	327	1216	1180	798
v/c Ratio	0.21	0.20	1.04	0.93	0.50	0.62	0.94
Control Delay	40.8	40.7	89.8	84.6	8.2	19.2	44.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	40.7	89.8	84.6	8.2	19.2	44.3
Queue Length 50th (ft)	51	50	~299	149	222	354	622
Queue Length 95th (ft)	104	101	#536	#254	274	437	#968
Internal Link Dist (ft)		665			502	478	
Turn Bay Length (ft)							
Base Capacity (vph)	315	316	388	351	2442	1899	849
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.20	1.04	0.93	0.50	0.62	0.94

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

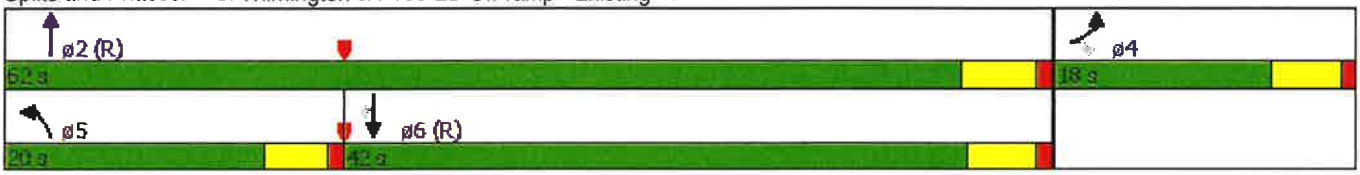


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	411	537	328	650	662	486
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	120			0
Storage Lanes	1	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.95	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1719	4940	3438	2707
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1719	4940	3438	2707
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		420				528
Link Speed (mph)	30			30	30	
Link Distance (ft)	1070			942	903	
Travel Time (s)	24.3			21.4	20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	447	584	357	707	720	528
Shared Lane Traffic (%)						
Lane Group Flow (vph)	447	584	357	707	720	528
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Minimum Split (s)	21.1	21.1	8.7	21.4	21.1	21.1
Total Split (s)	18.0	18.0	20.0	62.0	42.0	42.0
Total Split (%)	22.5%	22.5%	25.0%	77.5%	52.5%	52.5%
Maximum Green (s)	12.9	12.9	15.3	56.6	36.9	36.9
Yellow Time (s)	4.1	4.1	3.7	4.4	4.1	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	4.7	5.4	5.1	5.1
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Walk Time (s)	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	12.9	12.9	15.3	56.6	36.9	36.9
Actuated g/C Ratio	0.16	0.16	0.19	0.71	0.46	0.46
v/c Ratio	1.61	0.97	1.09	0.20	0.45	0.34
Control Delay	319.4	42.9	109.2	4.2	15.8	1.9

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	319.4	42.9	109.2	4.2	15.8	1.9
LOS	F	D	F	A	B	A
Approach Delay	162.8			39.4	10.0	
Approach LOS	F			D	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 1.61			
Intersection Signal Delay: 66.5		Intersection LOS: E	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington & I-105 EB Off-ramp - Existing AM





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	447	584	357	707	720	528
v/c Ratio	1.61	0.97	1.09	0.20	0.45	0.34
Control Delay	319.4	42.9	109.2	4.2	15.8	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	319.4	42.9	109.2	4.2	15.8	1.9
Queue Length 50th (ft)	~391	101	~244	43	148	0
Queue Length 95th (ft)	#600	#361	#437	58	202	32
Internal Link Dist (ft)	990			862	823	
Turn Bay Length (ft)			120			
Base Capacity (vph)	277	600	328	3495	1585	1533
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.61	0.97	1.09	0.20	0.45	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

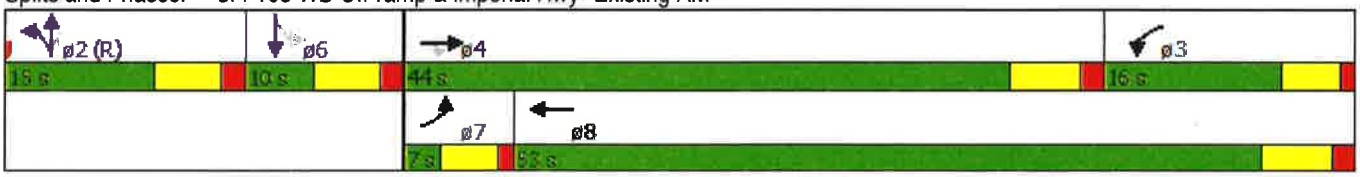
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	1012	224	742	1346	13	539	11	137	7	37	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	340		0	0		0	0		0
Storage Lanes	1		1	2		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	0.81	0.97	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.997	0.850		0.999				0.850		0.918	
Flt Protected	0.950			0.950			0.950	0.954			0.997	
Satd. Flow (prot)	1719	5845	1246	3335	4935	0	1633	1640	1538	0	1656	0
Flt Permitted	0.950			0.950			0.950	0.954			0.944	
Satd. Flow (perm)	1719	5845	1246	3335	4935	0	1633	1640	1538	0	1568	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6	219		3				245		69	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1132			1053			585			490	
Travel Time (s)		25.7			23.9			13.3			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	1100	243	807	1463	14	586	12	149	8	40	74
Shared Lane Traffic (%)			10%				49%					
Lane Group Flow (vph)	55	1124	219	807	1477	0	299	299	149	0	122	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Minimum Split (s)	8.7	21.9	21.9	8.7	21.9		21.6	21.6	21.6	21.6	21.6	
Total Split (s)	7.0	44.0	44.0	16.0	53.0		15.0	15.0	15.0	10.0	10.0	
Total Split (%)	8.2%	51.8%	51.8%	18.8%	62.4%		17.6%	17.6%	17.6%	11.8%	11.8%	
Maximum Green (s)	2.3	38.1	38.1	11.3	47.1		9.4	9.4	9.4	4.4	4.4	
Yellow Time (s)	3.7	4.4	4.4	3.7	4.4		4.1	4.1	4.1	4.1	4.1	
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.7	5.9	5.9	4.7	5.9		5.6	5.6	5.6		5.6	
Lead/Lag	Lead	Lead	Lead	Lag	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	2.3	38.1	38.1	11.3	47.1		9.4	9.4	9.4		4.4	
Actuated g/C Ratio	0.03	0.45	0.45	0.13	0.55		0.11	0.11	0.11		0.05	
v/c Ratio	1.20	0.43	0.32	1.82	0.54		1.66	1.65	0.39		0.84	
Control Delay	236.5	16.6	3.5	404.5	12.9		349.0	345.1	3.2		63.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	236.5	16.6	3.5	404.5	12.9		349.0	345.1	3.2		63.1	
LOS	F	B	A	F	B		F	F	A		E	
Approach Delay		23.2			151.3			278.5			63.1	
Approach LOS		C			F			F			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.82			
Intersection Signal Delay: 130.4		Intersection LOS: F	
Intersection Capacity Utilization 72.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: I-105 WB Off-ramp & Imperial Hwy- Existing AM



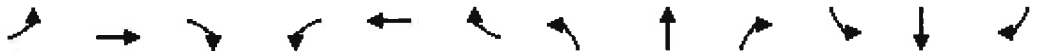


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	55	1124	219	807	1477	299	299	149	122
v/c Ratio	1.20	0.43	0.32	1.82	0.54	1.66	1.65	0.39	0.84
Control Delay	236.5	16.6	3.5	404.5	12.9	349.0	345.1	3.2	63.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	236.5	16.6	3.5	404.5	12.9	349.0	345.1	3.2	63.1
Queue Length 50th (ft)	~43	145	0	~407	205	~296	~295	0	34
Queue Length 95th (ft)	#132	181	55	#541	252	#491	#491	4	#149
Internal Link Dist (ft)		1052			973		505		410
Turn Bay Length (ft)	100			340					
Base Capacity (vph)	46	2623	679	443	2735	180	181	387	146
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.20	0.43	0.32	1.82	0.54	1.66	1.65	0.39	0.84

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

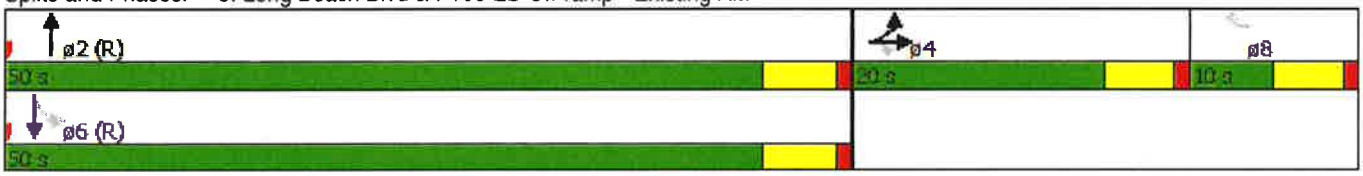


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	614	3	346	0	0	11	0	907	14	30	602	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		110	0		0	0		0	180		0
Storage Lanes	1		1	0		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.865		0.998				
Flt Protected	0.950	0.953								0.950		
Satd. Flow (prot)	1633	1638	1538	0	0	1565	0	4930	0	1719	3438	0
Flt Permitted	0.950	0.953								0.252		
Satd. Flow (perm)	1633	1638	1538	0	0	1565	0	4930	0	456	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			288			102		4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		817			156			598			555	
Travel Time (s)		18.6			3.5			13.6			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	667	3	376	0	0	12	0	986	15	33	654	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	333	337	376	0	0	12	0	1001	0	33	654	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	Perm			Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4			8				6		
Minimum Split (s)	21.1	21.1	21.1			21.1		21.4		21.4	21.4	
Total Split (s)	20.0	20.0	20.0			10.0		50.0		50.0	50.0	
Total Split (%)	25.0%	25.0%	25.0%			12.5%		62.5%		62.5%	62.5%	
Maximum Green (s)	14.9	14.9	14.9			4.9		44.6		44.6	44.6	
Yellow Time (s)	4.1	4.1	4.1			4.1		4.4		4.4	4.4	
All-Red Time (s)	1.0	1.0	1.0			1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Lost Time (s)	5.1	5.1	5.1			5.1		5.4		5.4	5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0			11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0			0		0		0	0	
Act Effct Green (s)	14.9	14.9	14.9			4.9		44.6		44.6	44.6	
Actuated g/C Ratio	0.19	0.19	0.19			0.06		0.56		0.56	0.56	
v/c Ratio	1.10	1.10	0.72			0.06		0.36		0.13	0.34	
Control Delay	113.5	116.4	17.3			0.6		10.2		10.1	10.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Delay	113.5	116.4	17.3			0.6		10.2		10.1	10.3	
LOS	F	F	B			A		B		B	B	
Approach Delay		79.9						10.2			10.3	
Approach LOS		E						B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Pretimed			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 36.7		Intersection LOS: D	
Intersection Capacity Utilization 51.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 EB Off-ramp - Existing AM





Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	333	337	376	12	1001	33	654
v/c Ratio	1.10	1.10	0.72	0.06	0.36	0.13	0.34
Control Delay	113.5	116.4	17.3	0.6	10.2	10.1	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.5	116.4	17.3	0.6	10.2	10.1	10.3
Queue Length 50th (ft)	~241	~246	46	0	112	9	104
Queue Length 95th (ft)	#438	#445	#172	0	144	26	143
Internal Link Dist (ft)		737			518		475
Turn Bay Length (ft)			110			180	
Base Capacity (vph)	304	305	520	191	2750	254	1916
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.10	1.10	0.72	0.06	0.36	0.13	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

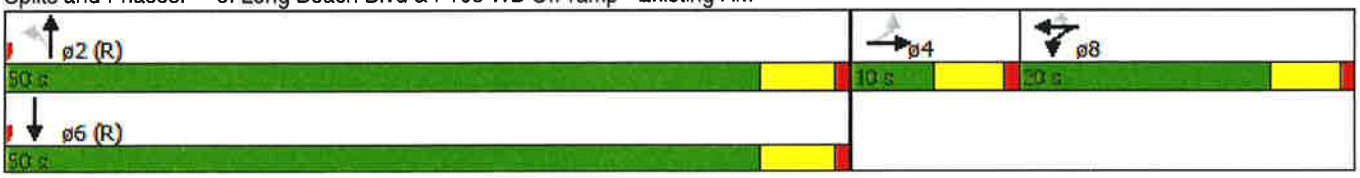
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	0	5	165	27	792	11	1123	0	0	1218	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		140	150		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.964			0.860	0.850					0.995	
Flt Protected		0.964		0.950			0.950					
Satd. Flow (prot)	0	1682	0	1719	1478	1461	1719	4940	0	0	4915	0
Flt Permitted		0.709		0.950			0.151					
Satd. Flow (perm)	0	1237	0	1719	1478	1461	273	4940	0	0	4915	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102			133	133					11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			573			493			550	
Travel Time (s)		4.9			13.0			11.2			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	0	5	179	29	861	12	1221	0	0	1324	48
Shared Lane Traffic (%)						49%						
Lane Group Flow (vph)	0	19	0	179	451	439	12	1221	0	0	1372	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	Perm	Perm	NA			NA	
Protected Phases		4		8	8			2			6	
Permitted Phases	4					8	2					
Minimum Split (s)	21.1	21.1		21.1	21.1	21.1	31.4	31.4			21.4	
Total Split (s)	10.0	10.0		20.0	20.0	20.0	50.0	50.0			50.0	
Total Split (%)	12.5%	12.5%		25.0%	25.0%	25.0%	62.5%	62.5%			62.5%	
Maximum Green (s)	4.9	4.9		14.9	14.9	14.9	44.6	44.6			44.6	
Yellow Time (s)	4.1	4.1		4.1	4.1	4.1	4.4	4.4			4.4	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0			1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)		5.1		5.1	5.1	5.1	5.4	5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)		4.9		14.9	14.9	14.9	44.6	44.6			44.6	
Actuated g/C Ratio		0.06		0.19	0.19	0.19	0.56	0.56			0.56	
v/c Ratio		0.11		0.56	1.18	1.16	0.08	0.44			0.50	
Control Delay		1.3		37.2	127.9	119.7	9.9	11.0			11.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay		1.3		37.2	127.9	119.7	9.9	11.0			11.5	
LOS		A		D	F	F	A	B			B	
Approach Delay		1.3			109.4			11.0			11.5	
Approach LOS		A			F			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 39.6		Intersection LOS: D	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 WB Off-ramp - Existing AM



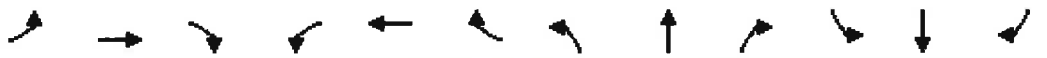


Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	19	179	451	439	12	1221	1372
v/c Ratio	0.11	0.56	1.18	1.16	0.08	0.44	0.50
Control Delay	1.3	37.2	127.9	119.7	9.9	11.0	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.3	37.2	127.9	119.7	9.9	11.0	11.5
Queue Length 50th (ft)	0	98	~272	~257	3	145	169
Queue Length 95th (ft)	0	175	#500	#482	13	183	212
Internal Link Dist (ft)	135		493			413	470
Turn Bay Length (ft)				140	150		
Base Capacity (vph)	171	320	383	380	152	2754	2744
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.56	1.18	1.16	0.08	0.44	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

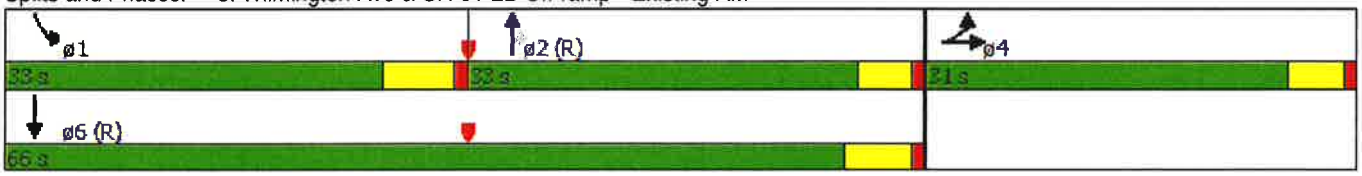


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	771	445	225	0	0	0	0	973	217	162	495	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Frt		0.965							0.850			
Flt Protected	0.950	0.985								0.950		
Satd. Flow (prot)	1564	3130	0	0	0	0	0	3438	2707	3335	3438	0
Flt Permitted	0.950	0.985								0.950		
Satd. Flow (perm)	1564	3130	0	0	0	0	0	3438	2707	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38							236			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	838	484	245	0	0	0	0	1058	236	176	538	0
Shared Lane Traffic (%)	37%											
Lane Group Flow (vph)	528	1039	0	0	0	0	0	1058	236	176	538	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Minimum Split (s)	21.1	21.1						21.4	21.4	10.0	26.5	
Total Split (s)	31.0	31.0						33.0	33.0	33.0	66.0	
Total Split (%)	32.0%	32.0%						34.0%	34.0%	34.0%	68.0%	
Maximum Green (s)	26.0	26.0						28.0	28.0	27.0	60.0	
Yellow Time (s)	4.0	4.0						4.0	4.0	5.0	5.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0						5.0	5.0	6.0	6.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0						5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	26.0	26.0						28.0	28.0	27.0	60.0	
Actuated g/C Ratio	0.27	0.27						0.29	0.29	0.28	0.62	
v/c Ratio	1.26	1.20						1.07	0.25	0.19	0.25	
Control Delay	167.6	133.1						82.5	4.3	27.4	8.7	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	167.6	133.1						82.5	4.3	27.4	8.7	
LOS	F	F						F	A	C	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		144.7						68.2			13.3	
Approach LOS		F						E			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 97			
Actuated Cycle Length: 97			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 1.26			
Intersection Signal Delay: 90.8		Intersection LOS: F	
Intersection Capacity Utilization 72.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington Ave & SR-91 EB Off-ramp - Existing AM





Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	528	1039	1058	236	176	538
v/c Ratio	1.26	1.20	1.07	0.25	0.19	0.25
Control Delay	167.6	133.1	82.5	4.3	27.4	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	167.6	133.1	82.5	4.3	27.4	8.7
Queue Length 50th (ft)	~542	~506	~458	0	51	86
Queue Length 95th (ft)	#805	#669	#612	35	83	117
Internal Link Dist (ft)		510	324			339
Turn Bay Length (ft)						
Base Capacity (vph)	419	866	992	949	928	2126
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.26	1.20	1.07	0.25	0.19	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

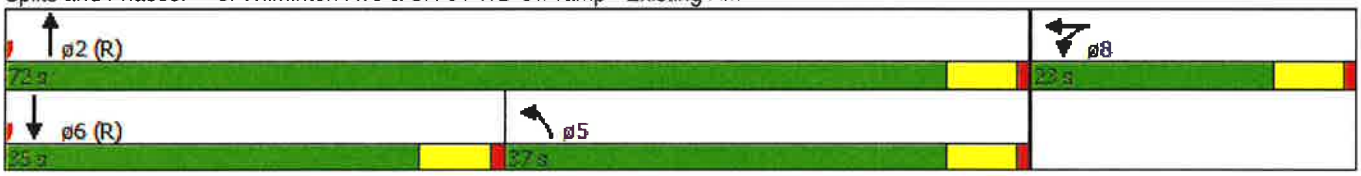
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	175	90	576	536	1234	0	0	455	482
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Frt					0.874						0.923	
Flt Protected				0.950	0.999		0.950					
Satd. Flow (prot)	0	0	0	1564	2875	0	1719	3438	0	0	4560	0
Flt Permitted				0.950	0.999		0.950					
Satd. Flow (perm)	0	0	0	1564	2875	0	1719	3438	0	0	4560	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					84						257	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	190	98	626	583	1341	0	0	495	524
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	0	0	0	171	743	0	583	1341	0	0	1019	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases												
Minimum Split (s)				22.0	22.0		10.0	22.0			22.0	
Total Split (s)				23.0	23.0		37.0	72.0			35.0	
Total Split (%)				24.2%	24.2%		38.9%	75.8%			36.8%	
Maximum Green (s)				17.0	17.0		31.0	66.0			29.0	
Yellow Time (s)				5.0	5.0		5.0	5.0			5.0	
All-Red Time (s)				1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0			6.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)				17.0	17.0		31.0	66.0			29.0	
Actuated g/C Ratio				0.18	0.18		0.33	0.69			0.31	
v/c Ratio				0.61	1.90dr		1.04	0.56			0.65	
Control Delay				46.4	167.3		82.2	8.4			23.2	
Queue Delay				0.0	0.0		0.0	0.0			0.0	
Total Delay				46.4	167.3		82.2	8.4			23.2	
LOS				D	F		F	A			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					144.7			30.7			23.2	
Approach LOS					F			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 1.27			
Intersection Signal Delay: 55.8		Intersection LOS: E	
Intersection Capacity Utilization 81.8%		ICU Level of Service D	
Analysis Period (min) 15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilminton Ave & SR-91 WB Off-ramp - Existing AM





Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	171	743	583	1341	1019
v/c Ratio	0.61	1.90dr	1.04	0.56	0.65
Control Delay	46.4	167.3	82.2	8.4	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	167.3	82.2	8.4	23.2
Queue Length 50th (ft)	126	~349	~459	222	173
Queue Length 95th (ft)	218	#497	#705	282	230
Internal Link Dist (ft)		500		324	339
Turn Bay Length (ft)					
Base Capacity (vph)	279	583	560	2388	1570
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	1.27	1.04	0.56	0.65

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1473	443	268	707	318	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.91	0.97	0.95
Frt		0.850			0.932	
Flt Protected			0.950		0.973	
Satd. Flow (prot)	3471	1553	1736	4988	3214	0
Flt Permitted			0.950		0.973	
Satd. Flow (perm)	3471	1553	1736	4988	3214	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		81			221	
Link Speed (mph)	30			30	30	
Link Distance (ft)	568			630	393	
Travel Time (s)	12.9			14.3	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1601	482	291	768	346	288
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1601	482	291	768	634	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	Prot	NA	Prot	
Protected Phases	4	2	3	8	2	
Permitted Phases		4				
Minimum Split (s)	22.0	21.1	10.0	22.0	21.1	
Total Split (s)	44.0	24.0	19.0	63.0	24.0	
Total Split (%)	50.6%	27.6%	21.8%	72.4%	27.6%	
Maximum Green (s)	38.0	19.0	13.0	57.0	19.0	
Yellow Time (s)	5.0	4.0	5.0	5.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	6.0	5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Walk Time (s)	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	38.0	63.0	13.0	57.0	19.0	
Actuated g/C Ratio	0.44	0.72	0.15	0.66	0.22	
v/c Ratio	1.06	0.42	1.12	0.24	0.73	
Control Delay	65.2	5.1	130.0	6.3	25.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.2	5.1	130.0	6.3	25.7	
LOS	E	A	F	A	C	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	51.3			40.3	25.7	
Approach LOS	D			D	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 87			
Actuated Cycle Length: 87			
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.12			
Intersection Signal Delay: 43.9		Intersection LOS: D	
Intersection Capacity Utilization 87.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: I-110 NB Off-ramp & El Segundo Blvd- Existing PM



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	1601	482	291	768	634
v/c Ratio	1.06	0.42	1.12	0.24	0.73
Control Delay	65.2	5.1	130.0	6.3	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	5.1	130.0	6.3	25.7
Queue Length 50th (ft)	~614	81	~223	66	129
Queue Length 95th (ft)	#775	137	#409	86	202
Internal Link Dist (ft)	488			550	313
Turn Bay Length (ft)					
Base Capacity (vph)	1516	1146	259	3268	874
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.06	0.42	1.12	0.24	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1508	607	157	883	0	0	0	0	437	0	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.957									0.920	0.850
Flt Protected				0.950						0.950	0.977	
Satd. Flow (prot)	0	4773	0	1736	4988	0	0	0	0	1649	1494	1475
Flt Permitted				0.950						0.950	0.977	
Satd. Flow (perm)	0	4773	0	1736	4988	0	0	0	0	1649	1494	1475
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		145									107	158
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		802			783			340			320	
Travel Time (s)		18.2			17.8			7.7			7.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1639	660	171	960	0	0	0	0	475	0	461
Shared Lane Traffic (%)										31%		36%
Lane Group Flow (vph)	0	2299	0	171	960	0	0	0	0	328	313	295
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Minimum Split (s)		22.0		10.0	22.0					22.0	22.0	22.0
Total Split (s)		48.0		18.0	66.0					26.0	26.0	26.0
Total Split (%)		52.2%		19.6%	71.7%					28.3%	28.3%	28.3%
Maximum Green (s)		42.0		12.0	60.0					20.0	20.0	20.0
Yellow Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Walk Time (s)		5.0			5.0					5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		42.0		12.0	60.0					20.0	20.0	20.0
Actuated g/C Ratio		0.46		0.13	0.65					0.22	0.22	0.22
v/c Ratio		1.02		0.76	0.30					0.92	0.77	0.66
Control Delay		48.1		60.9	7.2					67.5	36.1	23.2
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		48.1		60.9	7.2					67.5	36.1	23.2
LOS		D		E	A					E	D	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		48.1			15.3						43.0	
Approach LOS		D			B						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 92			
Actuated Cycle Length: 92			
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 38.5		Intersection LOS: D	
Intersection Capacity Utilization 82.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: I-110 SB Off-ramp & El Segundo Blvd- Exsiting PM





Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	2299	171	960	328	313	295
v/c Ratio	1.02	0.76	0.30	0.92	0.77	0.66
Control Delay	48.1	60.9	7.2	67.5	36.1	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	60.9	7.2	67.5	36.1	23.2
Queue Length 50th (ft)	~576	117	94	236	150	88
Queue Length 95th (ft)	#724	#237	118	#437	#320	206
Internal Link Dist (ft)	722		703		240	
Turn Bay Length (ft)						
Base Capacity (vph)	2257	226	3253	358	408	444
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.76	0.30	0.92	0.77	0.66

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

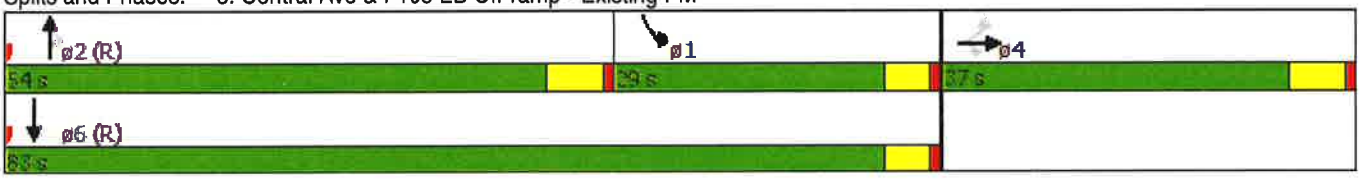
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	477	240	378	0	0	0	0	825	385	463	793	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frt		0.984	0.850						0.850			
Flt Protected	0.950	0.987								0.950		
Satd. Flow (prot)	1633	1599	1461	0	0	0	0	4940	1538	3335	3438	0
Flt Permitted	0.950	0.987								0.950		
Satd. Flow (perm)	1633	1599	1461	0	0	0	0	4940	1538	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5	192						181			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	518	261	411	0	0	0	0	897	418	503	862	0
Shared Lane Traffic (%)	21%		11%									
Lane Group Flow (vph)	409	415	366	0	0	0	0	897	418	503	862	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Minimum Split (s)	22.0	22.0	22.0					22.0	22.0	9.0	22.0	
Total Split (s)	37.0	37.0	37.0					54.0	54.0	29.0	83.0	
Total Split (%)	30.8%	30.8%	30.8%					45.0%	45.0%	24.2%	69.2%	
Maximum Green (s)	31.0	31.0	31.0					48.0	48.0	24.0	78.0	
Yellow Time (s)	5.0	5.0	5.0					5.0	5.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0	6.0	5.0	5.0	
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0	5.0					5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0	11.0					11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)	31.0	31.0	31.0					48.0	48.0	24.0	78.0	
Actuated g/C Ratio	0.26	0.26	0.26					0.40	0.40	0.20	0.65	
v/c Ratio	0.97	1.00	0.71					0.45	0.58	0.75	0.39	
Control Delay	81.9	88.0	26.9					27.3	18.8	53.4	10.4	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	81.9	88.0	26.9					27.3	18.8	53.4	10.4	
LOS	F	F	C					C	B	D	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		67.1						24.6			26.2	
Approach LOS		E						C			C	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 38.3 Intersection LOS: D
Intersection Capacity Utilization 74.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Central Ave & I-105 EB Off-ramp - Existing PM

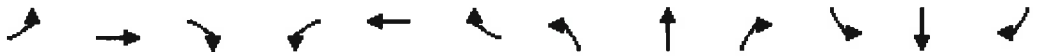




Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	409	415	366	897	418	503	862
v/c Ratio	0.97	1.00	0.71	0.45	0.58	0.75	0.39
Control Delay	81.9	88.0	26.9	27.3	18.8	53.4	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.9	88.0	26.9	27.3	18.8	53.4	10.4
Queue Length 50th (ft)	396	420	155	220	167	229	181
Queue Length 95th (ft)	#653	#703	303	268	293	303	226
Internal Link Dist (ft)		575		502			478
Turn Bay Length (ft)							
Base Capacity (vph)	421	416	519	1976	723	667	2234
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	1.00	0.71	0.45	0.58	0.75	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



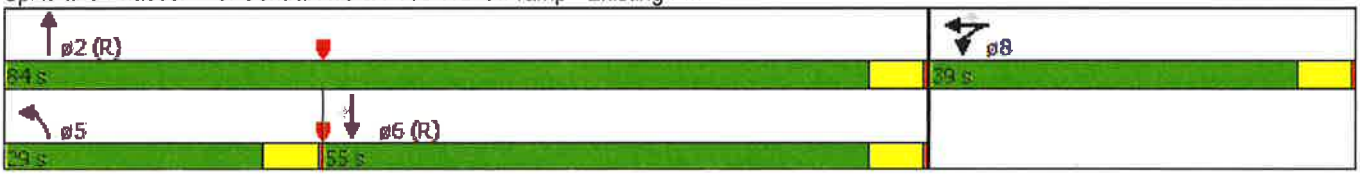
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	265	0	536	329	944	0	0	1000	556
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1633	1633	1538	3335	3438	0	0	3438	1538
Flt Permitted				0.950	0.950		0.950					
Satd. Flow (perm)	0	0	0	1633	1633	1538	3335	3438	0	0	3438	1538
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						131						
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	288	0	583	358	1026	0	0	1087	604
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	144	144	583	358	1026	0	0	1087	604
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Minimum Split (s)				21.5	21.5	21.5	9.5	21.5			21.5	21.5
Total Split (s)				39.0	39.0	39.0	29.0	84.0			55.0	55.0
Total Split (%)				31.7%	31.7%	31.7%	23.6%	68.3%			44.7%	44.7%
Maximum Green (s)				33.5	33.5	33.5	23.5	78.5			49.5	49.5
Yellow Time (s)				5.0	5.0	5.0	5.0	5.0			5.0	5.0
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	0.5
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	5.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Walk Time (s)				5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)				11.0	11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)				0	0	0		0			0	0
Act Effct Green (s)				33.5	33.5	33.5	23.5	78.5			49.5	49.5
Actuated g/C Ratio				0.27	0.27	0.27	0.19	0.64			0.40	0.40
v/c Ratio				0.32	0.32	1.13	0.56	0.47			0.79	0.98
Control Delay				38.2	38.2	114.4	49.0	12.3			37.1	67.8
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				38.2	38.2	114.4	49.0	12.3			37.1	67.8
LOS				D	D	F	D	B			D	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					89.2			21.8			48.1	
Approach LOS					F			C			D	

Intersection Summary

Area Type: Other
Cycle Length: 123
Actuated Cycle Length: 123
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 48.0 Intersection LOS: D
Intersection Capacity Utilization 68.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Central Ave & I-105 WB Off-ramp - Existing PM





Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	144	144	583	358	1026	1087	604
v/c Ratio	0.32	0.32	1.13	0.56	0.47	0.79	0.98
Control Delay	38.2	38.2	114.4	49.0	12.3	37.1	67.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	38.2	114.4	49.0	12.3	37.1	67.8
Queue Length 50th (ft)	115	115	~551	161	247	471	560
Queue Length 95th (ft)	192	192	#824	221	303	575	#856
Internal Link Dist (ft)		665			502	478	
Turn Bay Length (ft)							
Base Capacity (vph)	444	444	514	637	2194	1383	618
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.32	1.13	0.56	0.47	0.79	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

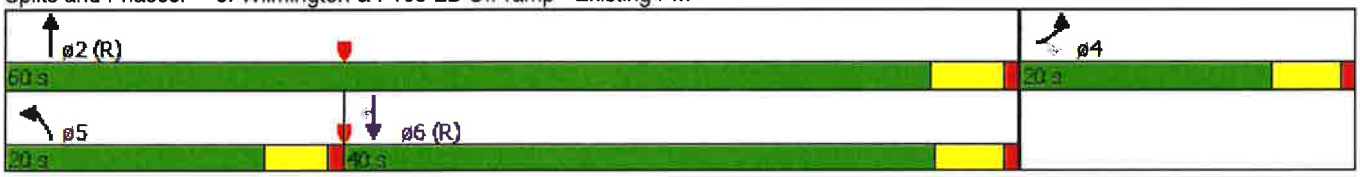


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	331	181	329	911	534	425
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	120			0
Storage Lanes	1	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.95	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1719	4940	3438	2707
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1719	4940	3438	2707
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		197				462
Link Speed (mph)	30			30	30	
Link Distance (ft)	1070			942	903	
Travel Time (s)	24.3			21.4	20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	360	197	358	990	580	462
Shared Lane Traffic (%)						
Lane Group Flow (vph)	360	197	358	990	580	462
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Minimum Split (s)	21.1	21.1	8.7	21.4	21.1	21.1
Total Split (s)	20.0	20.0	20.0	60.0	40.0	40.0
Total Split (%)	25.0%	25.0%	25.0%	75.0%	50.0%	50.0%
Maximum Green (s)	14.9	14.9	15.3	54.6	34.9	34.9
Yellow Time (s)	4.1	4.1	3.7	4.4	4.1	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	4.7	5.4	5.1	5.1
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Walk Time (s)	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	14.9	14.9	15.3	54.6	34.9	34.9
Actuated g/C Ratio	0.19	0.19	0.19	0.68	0.44	0.44
v/c Ratio	1.12	0.44	1.09	0.29	0.39	0.32
Control Delay	121.8	8.1	110.2	5.3	16.3	2.1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.8	8.1	110.2	5.3	16.3	2.1
LOS	F	A	F	A	B	A
Approach Delay	81.6			33.2	10.0	
Approach LOS	F			C	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Pretimed			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 34.1		Intersection LOS: C	
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington & I-105 EB Off-ramp - Existing PM



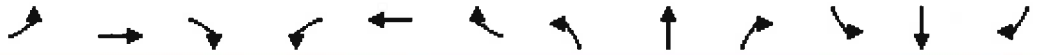


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	360	197	358	990	580	462
v/c Ratio	1.12	0.44	1.09	0.29	0.39	0.32
Control Delay	121.8	8.1	110.2	5.3	16.3	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.8	8.1	110.2	5.3	16.3	2.1
Queue Length 50th (ft)	~253	0	~245	73	119	0
Queue Length 95th (ft)	#446	64	#438	94	167	32
Internal Link Dist (ft)	990			862	823	
Turn Bay Length (ft)			120			
Base Capacity (vph)	320	446	328	3371	1499	1441
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.44	1.09	0.29	0.39	0.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

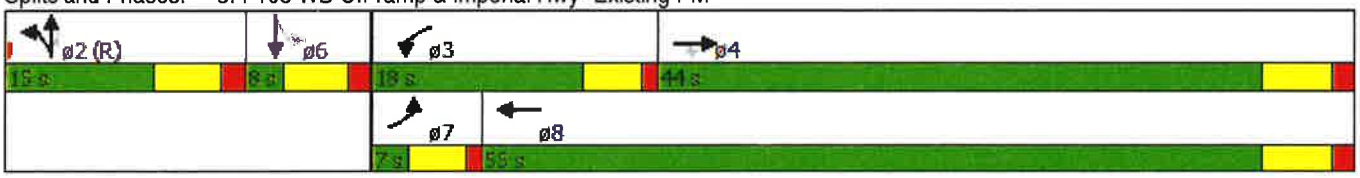


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	47	1628	342	602	820	1	549	8	274	9	22	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	340		0	0		0	0		0
Storage Lanes	1		1	2		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	0.81	0.97	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.997	0.850						0.850		0.940	
Flt Protected	0.950			0.950			0.950	0.954			0.992	
Satd. Flow (prot)	1719	5845	1246	3335	4940	0	1633	1640	1538	0	1687	0
Flt Permitted	0.950			0.950			0.950	0.954			0.970	
Satd. Flow (perm)	1719	5845	1246	3335	4940	0	1633	1640	1538	0	1650	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5	335						230		27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1132			1053			585			490	
Travel Time (s)		25.7			23.9			13.3			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	1770	372	654	891	1	597	9	298	10	24	27
Shared Lane Traffic (%)			10%				49%					
Lane Group Flow (vph)	51	1807	335	654	892	0	304	302	298	0	61	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Minimum Split (s)	8.7	21.9	21.9	8.7	21.9		21.6	21.6	21.6	21.6	21.6	
Total Split (s)	7.0	44.0	44.0	18.0	55.0		15.0	15.0	15.0	8.0	8.0	
Total Split (%)	8.2%	51.8%	51.8%	21.2%	64.7%		17.6%	17.6%	17.6%	9.4%	9.4%	
Maximum Green (s)	2.3	38.1	38.1	13.3	49.1		9.4	9.4	9.4	2.4	2.4	
Yellow Time (s)	3.7	4.4	4.4	3.7	4.4		4.1	4.1	4.1	4.1	4.1	
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.7	5.9	5.9	4.7	5.9		5.6	5.6	5.6		5.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	2.3	38.1	38.1	13.3	49.1		9.4	9.4	9.4		2.4	
Actuated g/C Ratio	0.03	0.45	0.45	0.16	0.58		0.11	0.11	0.11		0.03	
v/c Ratio	1.11	0.69	0.45	1.26	0.31		1.69	1.67	0.80		0.85	
Control Delay	209.9	20.4	3.9	162.7	9.6		360.7	352.0	27.4		100.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	209.9	20.4	3.9	162.7	9.6		360.7	352.0	27.4		100.2	
LOS	F	C	A	F	A		F	F	C		F	
Approach Delay		22.3			74.4			247.9			100.2	
Approach LOS		C			E			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 130			
Control Type: Pretimed			
Maximum v/c Ratio: 1.69			
Intersection Signal Delay: 83.8		Intersection LOS: F	
Intersection Capacity Utilization 78.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: I-105 WB Off-ramp & Imperial Hwy- Existing PM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	51	1807	335	654	892	304	302	298	61
v/c Ratio	1.11	0.69	0.45	1.26	0.31	1.69	1.67	0.80	0.85
Control Delay	209.9	20.4	3.9	162.7	9.6	360.7	352.0	27.4	100.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	209.9	20.4	3.9	162.7	9.6	360.7	352.0	27.4	100.2
Queue Length 50th (ft)	~38	274	0	~273	99	~304	~301	41	22
Queue Length 95th (ft)	#123	328	67	#400	127	#500	#495	#192	#111
Internal Link Dist (ft)		1052			973		505		410
Turn Bay Length (ft)	100			340					
Base Capacity (vph)	46	2622	743	521	2853	180	181	374	72
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.11	0.69	0.45	1.26	0.31	1.69	1.67	0.80	0.85

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

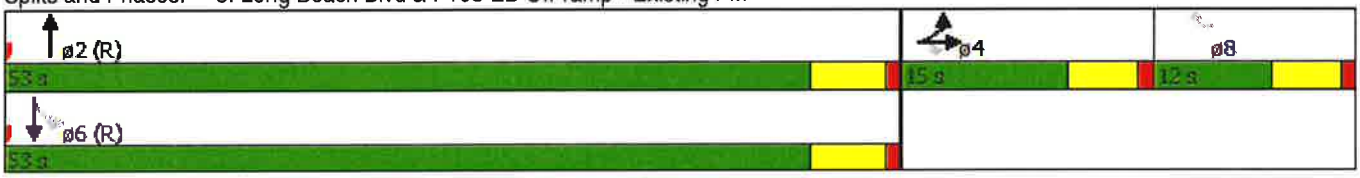
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	328	1	215	0	0	14	0	991	4	14	920	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		110	0		0	0		0	180		0
Storage Lanes	1		1	0		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.865		0.999				
Flt Protected	0.950	0.953								0.950		
Satd. Flow (prot)	1633	1638	1538	0	0	1565	0	4935	0	1719	3438	0
Flt Permitted	0.950	0.953								0.232		
Satd. Flow (perm)	1633	1638	1538	0	0	1565	0	4935	0	420	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			234			102		1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		817			156			598			555	
Travel Time (s)		18.6			3.5			13.6			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	357	1	234	0	0	15	0	1077	4	15	1000	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	178	180	234	0	0	15	0	1081	0	15	1000	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	Perm			Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4			8				6		
Minimum Split (s)	21.1	21.1	21.1			21.1		21.4		21.4	21.4	
Total Split (s)	15.0	15.0	15.0			12.0		53.0		53.0	53.0	
Total Split (%)	18.8%	18.8%	18.8%			15.0%		66.3%		66.3%	66.3%	
Maximum Green (s)	9.9	9.9	9.9			6.9		47.6		47.6	47.6	
Yellow Time (s)	4.1	4.1	4.1			4.1		4.4		4.4	4.4	
All-Red Time (s)	1.0	1.0	1.0			1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Lost Time (s)	5.1	5.1	5.1			5.1		5.4		5.4	5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0			11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0			0		0		0	0	
Act Effct Green (s)	9.9	9.9	9.9			6.9		47.6		47.6	47.6	
Actuated g/C Ratio	0.12	0.12	0.12			0.09		0.60		0.60	0.60	
v/c Ratio	0.88	0.89	0.59			0.07		0.37		0.06	0.49	
Control Delay	76.1	77.8	11.7			0.6		8.8		7.6	10.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Delay	76.1	77.8	11.7			0.6		8.8		7.6	10.3	
LOS	E	E	B			A		A		A	B	
Approach Delay		51.2						8.8			10.2	
Approach LOS		D						A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 18.6		Intersection LOS: B	
Intersection Capacity Utilization 47.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 EB Off-ramp - Existing PM





Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	178	180	234	15	1081	15	1000
v/c Ratio	0.88	0.89	0.59	0.07	0.37	0.06	0.49
Control Delay	76.1	77.8	11.7	0.6	8.8	7.6	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.1	77.8	11.7	0.6	8.8	7.6	10.3
Queue Length 50th (ft)	112	113	0	0	111	3	163
Queue Length 95th (ft)	#255	#258	75	0	142	13	217
Internal Link Dist (ft)		737			518		475
Turn Bay Length (ft)			110			180	
Base Capacity (vph)	202	202	395	228	2936	249	2045
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.89	0.59	0.07	0.37	0.06	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

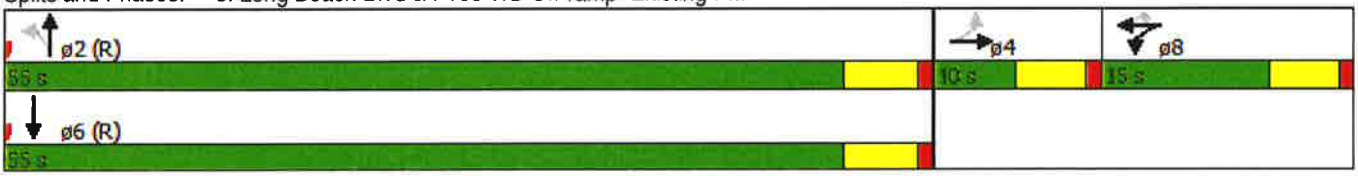


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	0	9	285	9	987	15	1064	0	0	1221	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		140	150		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.964			0.853	0.850					0.998	
Flt Protected		0.964		0.950			0.950					
Satd. Flow (prot)	0	1682	0	1719	1466	1461	1719	4940	0	0	4930	0
Flt Permitted		0.709		0.950			0.167					
Satd. Flow (perm)	0	1237	0	1719	1466	1461	302	4940	0	0	4930	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102			138	138					6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			573			493			550	
Travel Time (s)		4.9			13.0			11.2			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	0	10	310	10	1073	16	1157	0	0	1327	22
Shared Lane Traffic (%)						50%						
Lane Group Flow (vph)	0	38	0	310	547	536	16	1157	0	0	1349	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	Perm	Perm	NA			NA	
Protected Phases		4		8	8			2			6	
Permitted Phases	4					8	2					
Minimum Split (s)	21.1	21.1		21.1	21.1	21.1	31.4	31.4			21.4	
Total Split (s)	10.0	10.0		15.0	15.0	15.0	55.0	55.0			55.0	
Total Split (%)	12.5%	12.5%		18.8%	18.8%	18.8%	68.8%	68.8%			68.8%	
Maximum Green (s)	4.9	4.9		9.9	9.9	9.9	49.6	49.6			49.6	
Yellow Time (s)	4.1	4.1		4.1	4.1	4.1	4.4	4.4			4.4	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0			1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)		5.1		5.1	5.1	5.1	5.4	5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)		4.9		9.9	9.9	9.9	49.6	49.6			49.6	
Actuated g/C Ratio		0.06		0.12	0.12	0.12	0.62	0.62			0.62	
v/c Ratio		0.22		1.46	1.81	1.78	0.09	0.38			0.44	
Control Delay		3.0		261.9	398.6	385.2	7.5	8.0			8.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay		3.0		261.9	398.6	385.2	7.5	8.0			8.5	
LOS		A		F	F	F	A	A			A	
Approach Delay		3.0			363.0			8.0			8.5	
Approach LOS		A			F			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 1.81			
Intersection Signal Delay: 133.2		Intersection LOS: F	
Intersection Capacity Utilization 77.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 WB Off-ramp- Existing PM



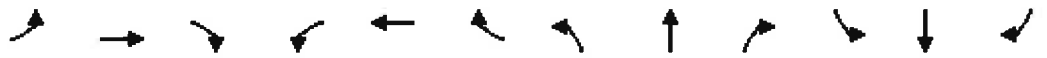


Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	38	310	547	536	16	1157	1349
v/c Ratio	0.22	1.46	1.81	1.78	0.09	0.38	0.44
Control Delay	3.0	261.9	398.6	385.2	7.5	8.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	261.9	398.6	385.2	7.5	8.0	8.5
Queue Length 50th (ft)	0	~258	~451	~436	4	112	138
Queue Length 95th (ft)	0	#441	#695	#677	13	142	172
Internal Link Dist (ft)	135		493			413	470
Turn Bay Length (ft)				140	150		
Base Capacity (vph)	171	212	302	301	187	3062	3058
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	1.46	1.81	1.78	0.09	0.38	0.44

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	433	182	502	0	0	0	0	569	240	256	814	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Frt		0.896							0.850			
Flt Protected	0.950	0.997								0.950		
Satd. Flow (prot)	1564	2942	0	0	0	0	0	3438	2707	3335	3438	0
Flt Permitted	0.950	0.997								0.950		
Satd. Flow (perm)	1564	2942	0	0	0	0	0	3438	2707	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		167							261			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	471	198	546	0	0	0	0	618	261	278	885	0
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	424	791	0	0	0	0	0	618	261	278	885	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Minimum Split (s)	22.0	22.0						22.0	22.0	10.0	22.0	
Total Split (s)	35.0	35.0						42.0	42.0	31.0	73.0	
Total Split (%)	32.4%	32.4%						38.9%	38.9%	28.7%	67.6%	
Maximum Green (s)	29.0	29.0						36.0	36.0	25.0	67.0	
Yellow Time (s)	5.0	5.0						5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0						6.0	6.0	6.0	6.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0						5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	29.0	29.0						36.0	36.0	25.0	67.0	
Actuated g/C Ratio	0.27	0.27						0.33	0.33	0.23	0.62	
v/c Ratio	1.01	1.06dr						0.54	0.24	0.36	0.42	
Control Delay	87.3	41.0						31.4	3.8	36.4	11.2	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	87.3	41.0						31.4	3.8	36.4	11.2	
LOS	F	D						C	A	D	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		57.1						23.2			17.2	
Approach LOS		E						C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 108			
Actuated Cycle Length: 108			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 33.7		Intersection LOS: C	
Intersection Capacity Utilization 60.5%		ICU Level of Service B	
Analysis Period (min) 15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilmington Ave & SR-91 EB Off-ramp - Existing PM





Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	424	791	618	261	278	885
v/c Ratio	1.01	1.06dr	0.54	0.24	0.36	0.42
Control Delay	87.3	41.0	31.4	3.8	36.4	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.3	41.0	31.4	3.8	36.4	11.2
Queue Length 50th (ft)	~394	279	217	0	100	183
Queue Length 95th (ft)	#663	#412	286	36	146	232
Internal Link Dist (ft)		510	324			339
Turn Bay Length (ft)						
Base Capacity (vph)	419	912	1146	1076	771	2132
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.87	0.54	0.24	0.36	0.42

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

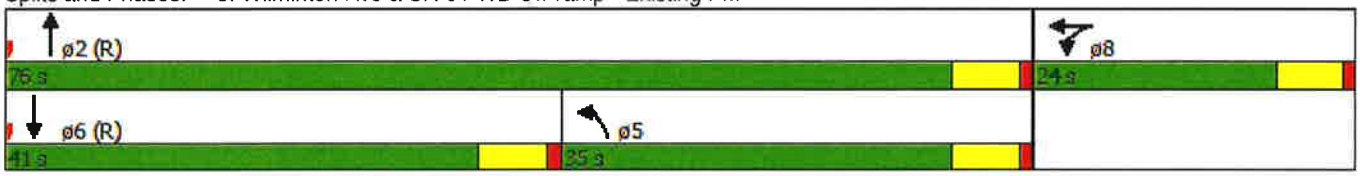
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	197	834	177	325	691	0	0	837	644
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Frt					0.974						0.935	
Flt Protected				0.950	0.999		0.950					
Satd. Flow (prot)	0	0	0	1564	3204	0	1719	3438	0	0	4619	0
Flt Permitted				0.950	0.999		0.950					
Satd. Flow (perm)	0	0	0	1564	3204	0	1719	3438	0	0	4619	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					20						137	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	214	907	192	353	751	0	0	910	700
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	0	0	0	193	1120	0	353	751	0	0	1610	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases												
Minimum Split (s)				22.0	22.0		10.0	22.0			22.0	
Total Split (s)				24.0	24.0		35.0	76.0			41.0	
Total Split (%)				24.0%	24.0%		35.0%	76.0%			41.0%	
Maximum Green (s)				18.0	18.0		29.0	70.0			35.0	
Yellow Time (s)				5.0	5.0		5.0	5.0			5.0	
All-Red Time (s)				1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0			6.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)				18.0	18.0		29.0	70.0			35.0	
Actuated g/C Ratio				0.18	0.18		0.29	0.70			0.35	
v/c Ratio				0.69	1.89		0.71	0.31			1.10dr	
Control Delay				52.3	432.3		40.8	6.2			41.5	
Queue Delay				0.0	0.0		0.0	0.0			0.0	
Total Delay				52.3	432.3		40.8	6.2			41.5	
LOS				D	F		D	A			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					376.4			17.2			41.5	
Approach LOS					F			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 140			
Control Type: Pretimed			
Maximum v/c Ratio: 1.89			
Intersection Signal Delay: 144.1		Intersection LOS: F	
Intersection Capacity Utilization 87.3%		ICU Level of Service E	
Analysis Period (min) 15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilminton Ave & SR-91 WB Off-ramp - Existing PM



Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	193	1120	353	751	1610
v/c Ratio	0.69	1.89	0.71	0.31	1.10dr
Control Delay	52.3	432.3	40.8	6.2	41.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	432.3	40.8	6.2	41.5
Queue Length 50th (ft)	153	~726	241	101	403
Queue Length 95th (ft)	#274	#892	365	132	#532
Internal Link Dist (ft)		500		324	339
Turn Bay Length (ft)					
Base Capacity (vph)	281	593	498	2406	1705
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.69	1.89	0.71	0.31	0.94

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Freeway Off-Ramp Analysis

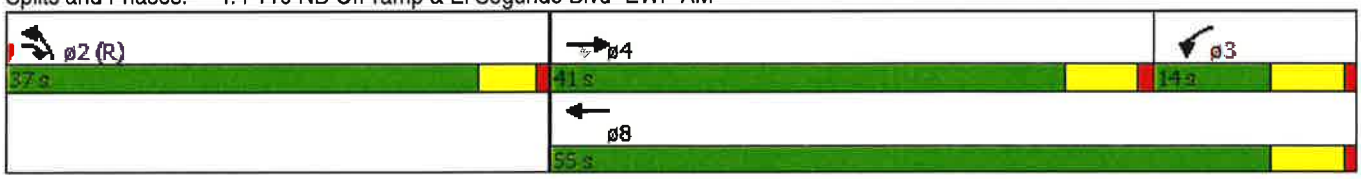
Existing + Project Conditions

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1002	241	99	1180	702	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.91	0.97	0.95
Frt		0.850			0.968	
Flt Protected			0.950		0.962	
Satd. Flow (prot)	3471	1553	1736	4988	3300	0
Flt Permitted			0.950		0.962	
Satd. Flow (perm)	3471	1553	1736	4988	3300	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		213			43	
Link Speed (mph)	30			30	30	
Link Distance (ft)	568			630	393	
Travel Time (s)	12.9			14.3	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1089	262	108	1283	763	209
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1089	262	108	1283	972	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	Prot	NA	Prot	
Protected Phases	4	2	3	8	2	
Permitted Phases		4				
Minimum Split (s)	22.0	22.0	10.0	22.0	22.0	
Total Split (s)	41.0	37.0	14.0	55.0	37.0	
Total Split (%)	44.6%	40.2%	15.2%	59.8%	40.2%	
Maximum Green (s)	35.0	32.0	8.0	49.0	32.0	
Yellow Time (s)	5.0	4.0	5.0	5.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	6.0	5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Walk Time (s)	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	35.0	73.0	8.0	49.0	32.0	
Actuated g/C Ratio	0.38	0.79	0.09	0.53	0.35	
v/c Ratio	0.82	0.21	0.72	0.48	0.83	
Control Delay	32.3	0.9	68.3	14.3	33.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.3	0.9	68.3	14.3	33.5	
LOS	C	A	E	B	C	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	26.2			18.5	33.5	
Approach LOS	C			B	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 92			
Actuated Cycle Length: 92			
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green			
Natural Cycle: 65			
Control Type: Pretimed			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 25.2		Intersection LOS: C	
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: I-110 NB Off-ramp & El Segundo Blvd- EWP AM





Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	1089	262	108	1283	972
v/c Ratio	0.82	0.21	0.72	0.48	0.83
Control Delay	32.3	0.9	68.3	14.3	33.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	0.9	68.3	14.3	33.5
Queue Length 50th (ft)	355	6	75	195	304
Queue Length 95th (ft)	457	21	#174	239	400
Internal Link Dist (ft)	488			550	313
Turn Bay Length (ft)					
Base Capacity (vph)	1320	1276	150	2656	1175
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.82	0.21	0.72	0.48	0.83

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	754	541	313	1689	0	0	0	0	517	0	839
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.937									0.867	0.850
Flt Protected				0.950						0.950	0.994	
Satd. Flow (prot)	0	4673	0	1736	4988	0	0	0	0	1649	1433	1475
Flt Permitted				0.950						0.950	0.994	
Satd. Flow (perm)	0	4673	0	1736	4988	0	0	0	0	1649	1433	1475
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		226									112	112
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		802			783			340			320	
Travel Time (s)		18.2			17.8			7.7			7.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	820	588	340	1836	0	0	0	0	562	0	912
Shared Lane Traffic (%)										10%		47%
Lane Group Flow (vph)	0	1408	0	340	1836	0	0	0	0	506	485	483
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Minimum Split (s)		22.0		10.0	22.0					22.0	22.0	22.0
Total Split (s)		37.0		14.0	51.0					37.0	37.0	37.0
Total Split (%)		42.0%		15.9%	58.0%					42.0%	42.0%	42.0%
Maximum Green (s)		31.0		8.0	45.0					31.0	31.0	31.0
Yellow Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Walk Time (s)		5.0			5.0					5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		31.0		8.0	45.0					31.0	31.0	31.0
Actuated g/C Ratio		0.35		0.09	0.51					0.35	0.35	0.35
v/c Ratio		0.79		2.17	0.72					0.87	0.84	0.82
Control Delay		25.0		568.5	18.7					44.7	35.2	32.8
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		25.0		568.5	18.7					44.7	35.2	32.8
LOS		C		F	B					D	D	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		25.0			104.6						37.7	
Approach LOS		C			F						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 88			
Actuated Cycle Length: 88			
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 2.17			
Intersection Signal Delay: 62.9		Intersection LOS: E	
Intersection Capacity Utilization 81.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: I-110 SB Off-ramp & El Segundo Blvd- EWP AM





Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1408	340	1836	506	485	483
v/c Ratio	0.79	2.17	0.72	0.87	0.84	0.82
Control Delay	25.0	568.5	18.7	44.7	35.2	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	568.5	18.7	44.7	35.2	32.8
Queue Length 50th (ft)	257	~366	328	327	254	237
Queue Length 95th (ft)	327	#563	395	#557	#492	#457
Internal Link Dist (ft)	722		703		240	
Turn Bay Length (ft)						
Base Capacity (vph)	1792	157	2550	580	577	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	2.17	0.72	0.87	0.84	0.82

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

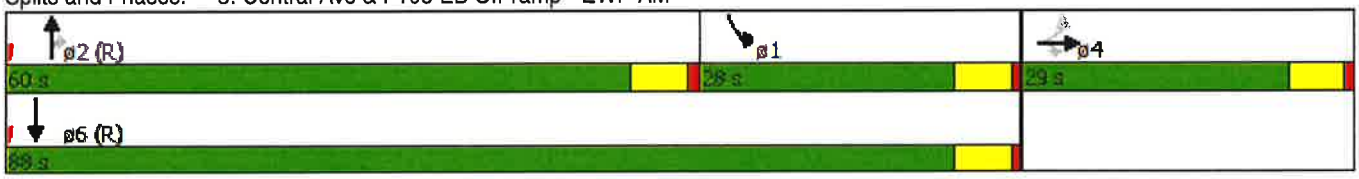
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	720	13	615	0	0	0	0	823	335	567	699	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frt		0.937	0.850						0.850			
Flt Protected	0.950	0.973								0.950		
Satd. Flow (prot)	1633	1501	1461	0	0	0	0	4940	1538	3335	3438	0
Flt Permitted	0.950	0.973								0.950		
Satd. Flow (perm)	1633	1501	1461	0	0	0	0	4940	1538	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28	266						364			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	783	14	668	0	0	0	0	895	364	616	760	0
Shared Lane Traffic (%)	35%		31%									
Lane Group Flow (vph)	509	495	461	0	0	0	0	895	364	616	760	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Minimum Split (s)	22.0	22.0	22.0					22.0	22.0	10.0	22.0	
Total Split (s)	29.0	29.0	29.0					60.0	60.0	28.0	88.0	
Total Split (%)	24.8%	24.8%	24.8%					51.3%	51.3%	23.9%	75.2%	
Maximum Green (s)	23.0	23.0	23.0					54.0	54.0	22.0	82.0	
Yellow Time (s)	5.0	5.0	5.0					5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0	6.0	6.0	6.0	
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0	5.0					5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0	11.0					11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)	23.0	23.0	23.0					54.0	54.0	22.0	82.0	
Actuated g/C Ratio	0.20	0.20	0.20					0.46	0.46	0.19	0.70	
v/c Ratio	1.59	1.56	0.92					0.39	0.40	0.98	0.32	
Control Delay	310.6	299.0	45.0					21.4	3.3	79.6	7.1	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	310.6	299.0	45.0					21.4	3.3	79.6	7.1	
LOS	F	F	D					C	A	E	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		223.1						16.1			39.6	
Approach LOS		F						B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 117			
Actuated Cycle Length: 117			
Offset: 68 (58%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 1.59			
Intersection Signal Delay: 97.9		Intersection LOS: F	
Intersection Capacity Utilization 78.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Central Ave & I-105 EB Off-ramp - EWP AM





Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	509	495	461	895	364	616	760
v/c Ratio	1.59	1.56	0.92	0.39	0.40	0.98	0.32
Control Delay	310.6	299.0	45.0	21.4	3.3	79.6	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	310.6	299.0	45.0	21.4	3.3	79.6	7.1
Queue Length 50th (ft)	~691	~678	200	190	0	289	124
Queue Length 95th (ft)	#958	#958	#458	232	62	#431	157
Internal Link Dist (ft)		575		502			478
Turn Bay Length (ft)							
Base Capacity (vph)	321	317	500	2280	905	627	2409
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.59	1.56	0.92	0.39	0.40	0.98	0.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

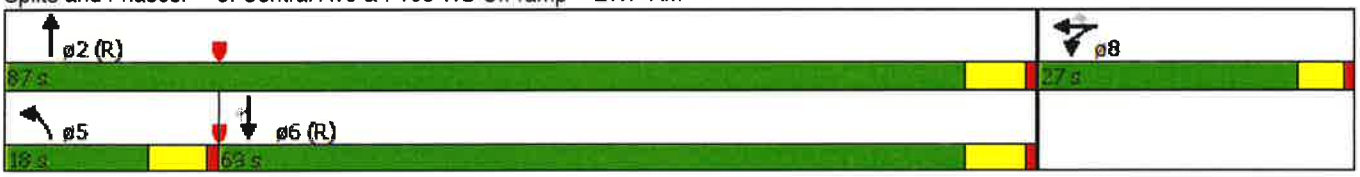
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	116	4	372	330	1202	0	0	1116	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950	0.955		0.950					
Satd. Flow (prot)	0	0	0	1633	1642	1538	3335	3438	0	0	3438	1538
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1633	1642	1538	3335	3438	0	0	3438	1538
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						95						
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	126	4	404	359	1307	0	0	1213	826
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	0	0	66	64	404	359	1307	0	0	1213	826
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Minimum Split (s)				21.1	21.1	21.1	10.0	22.0			22.0	22.0
Total Split (s)				27.0	27.0	27.0	18.0	87.0			69.0	69.0
Total Split (%)				23.7%	23.7%	23.7%	15.8%	76.3%			60.5%	60.5%
Maximum Green (s)				22.0	22.0	22.0	12.0	81.0			63.0	63.0
Yellow Time (s)				4.0	4.0	4.0	5.0	5.0			5.0	5.0
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)				5.0	5.0	5.0	6.0	6.0			6.0	6.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Walk Time (s)				5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)				11.0	11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)				0	0	0		0			0	0
Act Effct Green (s)				22.0	22.0	22.0	12.0	81.0			63.0	63.0
Actuated g/C Ratio				0.19	0.19	0.19	0.11	0.71			0.55	0.55
v/c Ratio				0.21	0.20	1.08	1.02	0.54			0.64	0.97
Control Delay				40.8	40.7	104.6	104.5	8.7			19.6	50.7
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				40.8	40.7	104.6	104.5	8.7			19.6	50.7
LOS				D	D	F	F	A			B	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					89.1			29.3			32.2	
Approach LOS					F			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 114			
Actuated Cycle Length: 114			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Pretimed			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 38.2		Intersection LOS: D	
Intersection Capacity Utilization 74.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Central Ave & I-105 WB Off-ramp - EWP AM





Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	66	64	404	359	1307	1213	826
v/c Ratio	0.21	0.20	1.08	1.02	0.54	0.64	0.97
Control Delay	40.8	40.7	104.6	104.5	8.7	19.6	50.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	40.7	104.6	104.5	8.7	19.6	50.7
Queue Length 50th (ft)	51	50	~327	~173	249	370	669
Queue Length 95th (ft)	104	101	#564	#288	306	456	#1024
Internal Link Dist (ft)		665			502	478	
Turn Bay Length (ft)							
Base Capacity (vph)	315	316	373	351	2442	1899	849
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.20	1.08	1.02	0.54	0.64	0.97

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

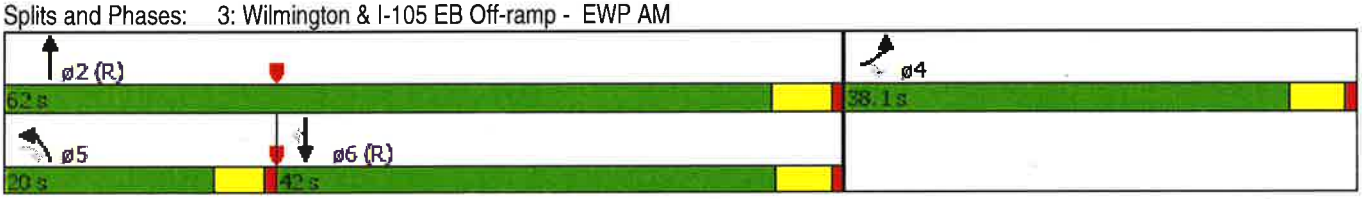


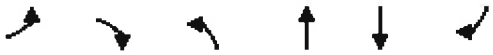
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	415	741	479	903	1066	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	120			0
Storage Lanes	1	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.95	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1719	4940	3438	2707
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1719	4940	3438	2707
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		15				558
Link Speed (mph)	30			30	30	
Link Distance (ft)	1070			942	903	
Travel Time (s)	24.3			21.4	20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	451	805	521	982	1159	558
Shared Lane Traffic (%)						
Lane Group Flow (vph)	451	805	521	982	1159	558
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4 5				6
Minimum Split (s)	38.1		8.7	21.4	21.1	21.1
Total Split (s)	38.1		20.0	62.0	42.0	42.0
Total Split (%)	38.1%		20.0%	61.9%	42.0%	42.0%
Maximum Green (s)	33.0		15.3	56.6	36.9	36.9
Yellow Time (s)	4.1		3.7	4.4	4.1	4.1
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1		4.7	5.4	5.1	5.1
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Walk Time (s)	7.0			5.0	5.0	5.0
Flash Dont Walk (s)	26.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effct Green (s)	33.0	53.0	15.3	56.6	36.9	36.9
Actuated g/C Ratio	0.33	0.53	0.15	0.57	0.37	0.37
v/c Ratio	0.80	0.98	1.99	0.35	0.91	0.41
Control Delay	42.7	51.2	484.0	12.2	42.5	2.9

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.7	51.2	484.0	12.2	42.5	2.9
LOS	D	D	F	B	D	A
Approach Delay	48.1			175.8	29.6	
Approach LOS	D			F	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100.1			
Actuated Cycle Length: 100.1			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Pretimed			
Maximum v/c Ratio: 1.99			
Intersection Signal Delay: 83.9		Intersection LOS: F	
Intersection Capacity Utilization 91.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington & I-105 EB Off-ramp - EWP AM



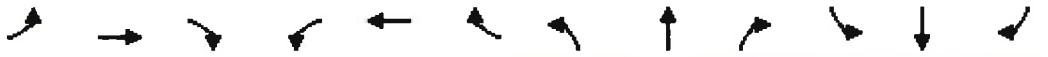


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	451	805	521	982	1159	558
v/c Ratio	0.80	0.98	1.99	0.35	0.91	0.41
Control Delay	42.7	51.2	484.0	12.2	42.5	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.7	51.2	484.0	12.2	42.5	2.9
Queue Length 50th (ft)	311	567	~624	140	438	0
Queue Length 95th (ft)	#499	#907	#865	173	#601	44
Internal Link Dist (ft)	990			862	823	
Turn Bay Length (ft)			120			
Base Capacity (vph)	566	821	262	2793	1267	1350
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.98	1.99	0.35	0.91	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

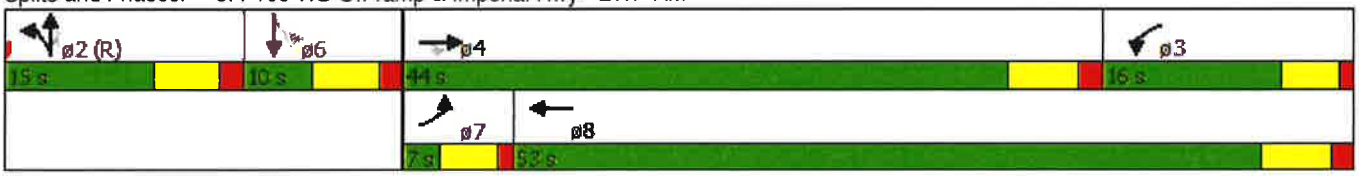


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	1101	363	744	1488	17	833	20	149	7	34	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	340		0	0		0	0		0
Storage Lanes	1		1	2		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	0.81	0.97	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.987	0.850		0.998				0.850		0.916	
Flt Protected	0.950			0.950			0.950	0.955			0.997	
Satd. Flow (prot)	1719	5787	1246	3335	4930	0	1633	1642	1538	0	1653	0
Flt Permitted	0.950			0.950			0.950	0.955			0.921	
Satd. Flow (perm)	1719	5787	1246	3335	4930	0	1633	1642	1538	0	1527	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29	284		3				245		63	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1132			1053			585			490	
Travel Time (s)		25.7			23.9			13.3			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	1197	395	809	1617	18	905	22	162	8	37	74
Shared Lane Traffic (%)			28%				49%					
Lane Group Flow (vph)	63	1308	284	809	1635	0	462	465	162	0	119	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Minimum Split (s)	8.7	21.9	21.9	8.7	21.9		21.6	21.6	21.6	21.6	21.6	
Total Split (s)	7.0	44.0	44.0	16.0	53.0		15.0	15.0	15.0	10.0	10.0	
Total Split (%)	8.2%	51.8%	51.8%	18.8%	62.4%		17.6%	17.6%	17.6%	11.8%	11.8%	
Maximum Green (s)	2.3	38.1	38.1	11.3	47.1		9.4	9.4	9.4	4.4	4.4	
Yellow Time (s)	3.7	4.4	4.4	3.7	4.4		4.1	4.1	4.1	4.1	4.1	
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.7	5.9	5.9	4.7	5.9		5.6	5.6	5.6		5.6	
Lead/Lag	Lead	Lead	Lead	Lag	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	2.3	38.1	38.1	11.3	47.1		9.4	9.4	9.4		4.4	
Actuated g/C Ratio	0.03	0.45	0.45	0.13	0.55		0.11	0.11	0.11		0.05	
v/c Ratio	1.37	0.50	0.40	1.83	0.60		2.57	2.57	0.42		0.86	
Control Delay	295.6	17.1	3.7	406.5	13.8		741.0	742.0	4.3		70.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	295.6	17.1	3.7	406.5	13.8		741.0	742.0	4.3		70.8	
LOS	F	B	A	F	B		F	F	A		E	
Approach Delay		25.4			143.8			631.8			70.8	
Approach LOS		C			F			F			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 2.57			
Intersection Signal Delay: 205.4		Intersection LOS: F	
Intersection Capacity Utilization 83.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: I-105 WB Off-ramp & Imperial Hwy- EWP AM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	63	1308	284	809	1635	462	465	162	119
v/c Ratio	1.37	0.50	0.40	1.83	0.60	2.57	2.57	0.42	0.86
Control Delay	295.6	17.1	3.7	406.5	13.8	741.0	742.0	4.3	70.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	295.6	17.1	3.7	406.5	13.8	741.0	742.0	4.3	70.8
Queue Length 50th (ft)	~54	173	0	~408	237	~528	~532	0	36
Queue Length 95th (ft)	#148	213	62	#543	290	#757	#761	14	#153
Internal Link Dist (ft)		1052			973		505		410
Turn Bay Length (ft)	100			340					
Base Capacity (vph)	46	2609	715	443	2733	180	181	387	138
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.37	0.50	0.40	1.83	0.60	2.57	2.57	0.42	0.86

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

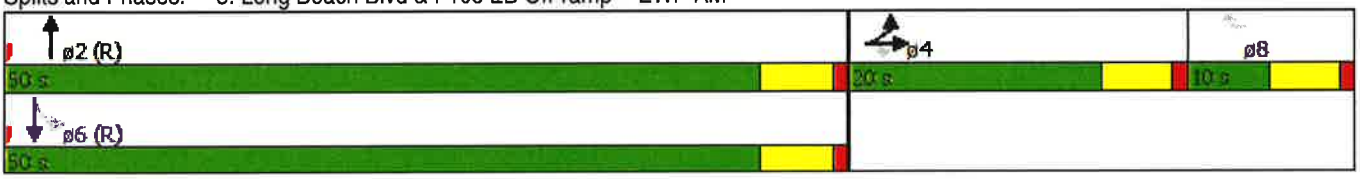
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	614	3	346	0	0	11	0	907	14	30	602	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		110	0		0	0		0	180		0
Storage Lanes	1		1	0		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.865		0.998				
Flt Protected	0.950	0.953								0.950		
Satd. Flow (prot)	1633	1638	1538	0	0	1565	0	4930	0	1719	3438	0
Flt Permitted	0.950	0.953								0.252		
Satd. Flow (perm)	1633	1638	1538	0	0	1565	0	4930	0	456	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			288			102		4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		817			156			598			555	
Travel Time (s)		18.6			3.5			13.6			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	667	3	376	0	0	12	0	986	15	33	654	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	333	337	376	0	0	12	0	1001	0	33	654	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	Perm			Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4			8				6		
Minimum Split (s)	21.1	21.1	21.1			21.1		21.4		21.4	21.4	
Total Split (s)	20.0	20.0	20.0			10.0		50.0		50.0	50.0	
Total Split (%)	25.0%	25.0%	25.0%			12.5%		62.5%		62.5%	62.5%	
Maximum Green (s)	14.9	14.9	14.9			4.9		44.6		44.6	44.6	
Yellow Time (s)	4.1	4.1	4.1			4.1		4.4		4.4	4.4	
All-Red Time (s)	1.0	1.0	1.0			1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Lost Time (s)	5.1	5.1	5.1			5.1		5.4		5.4	5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0			11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0			0		0		0	0	
Act Effct Green (s)	14.9	14.9	14.9			4.9		44.6		44.6	44.6	
Actuated g/C Ratio	0.19	0.19	0.19			0.06		0.56		0.56	0.56	
v/c Ratio	1.10	1.10	0.72			0.06		0.36		0.13	0.34	
Control Delay	113.5	116.4	17.3			0.6		10.2		10.1	10.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Delay	113.5	116.4	17.3			0.6		10.2		10.1	10.3	
LOS	F	F	B			A		B		B	B	
Approach Delay		79.9						10.2			10.3	
Approach LOS		E						B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Pretimed			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 36.7		Intersection LOS: D	
Intersection Capacity Utilization 51.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 EB Off-ramp - EWP AM





Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	333	337	376	12	1001	33	654
v/c Ratio	1.10	1.10	0.72	0.06	0.36	0.13	0.34
Control Delay	113.5	116.4	17.3	0.6	10.2	10.1	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.5	116.4	17.3	0.6	10.2	10.1	10.3
Queue Length 50th (ft)	~241	~246	46	0	112	9	104
Queue Length 95th (ft)	#438	#445	#172	0	144	26	143
Internal Link Dist (ft)		737			518		475
Turn Bay Length (ft)			110			180	
Base Capacity (vph)	304	305	520	191	2750	254	1916
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.10	1.10	0.72	0.06	0.36	0.13	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

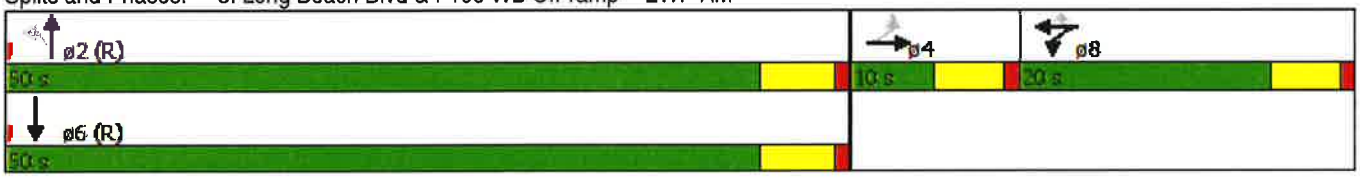
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	0	5	165	27	797	11	1123	0	0	1218	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		140	150		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.964			0.860	0.850					0.995	
Flt Protected		0.964		0.950			0.950					
Satd. Flow (prot)	0	1682	0	1719	1478	1461	1719	4940	0	0	4915	0
Flt Permitted		0.709		0.950			0.151					
Satd. Flow (perm)	0	1237	0	1719	1478	1461	273	4940	0	0	4915	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102			133	133					11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			573			493			550	
Travel Time (s)		4.9			13.0			11.2			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	0	5	179	29	866	12	1221	0	0	1324	48
Shared Lane Traffic (%)						49%						
Lane Group Flow (vph)	0	19	0	179	453	442	12	1221	0	0	1372	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	Perm	Perm	NA			NA	
Protected Phases		4		8	8			2			6	
Permitted Phases	4					8	2					
Minimum Split (s)	21.1	21.1		21.1	21.1	21.1	31.4	31.4			21.4	
Total Split (s)	10.0	10.0		20.0	20.0	20.0	50.0	50.0			50.0	
Total Split (%)	12.5%	12.5%		25.0%	25.0%	25.0%	62.5%	62.5%			62.5%	
Maximum Green (s)	4.9	4.9		14.9	14.9	14.9	44.6	44.6			44.6	
Yellow Time (s)	4.1	4.1		4.1	4.1	4.1	4.4	4.4			4.4	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0			1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)		5.1		5.1	5.1	5.1	5.4	5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)		4.9		14.9	14.9	14.9	44.6	44.6			44.6	
Actuated g/C Ratio		0.06		0.19	0.19	0.19	0.56	0.56			0.56	
v/c Ratio		0.11		0.56	1.18	1.16	0.08	0.44			0.50	
Control Delay		1.3		37.2	129.9	122.6	9.9	11.0			11.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay		1.3		37.2	129.9	122.6	9.9	11.0			11.5	
LOS		A		D	F	F	A	B			B	
Approach Delay		1.3			111.5			11.0			11.5	
Approach LOS		A			F			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
Maximum v/c Ratio: 1.18
Intersection Signal Delay: 40.3 Intersection LOS: D
Intersection Capacity Utilization 70.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Long Beach Blvd & I-105 WB Off-ramp - EWP AM





Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	19	179	453	442	12	1221	1372
v/c Ratio	0.11	0.56	1.18	1.16	0.08	0.44	0.50
Control Delay	1.3	37.2	129.9	122.6	9.9	11.0	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.3	37.2	129.9	122.6	9.9	11.0	11.5
Queue Length 50th (ft)	0	98	~274	~262	3	145	169
Queue Length 95th (ft)	0	175	#502	#488	13	183	212
Internal Link Dist (ft)	135		493			413	470
Turn Bay Length (ft)				140	150		
Base Capacity (vph)	171	320	383	380	152	2754	2744
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.56	1.18	1.16	0.08	0.44	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

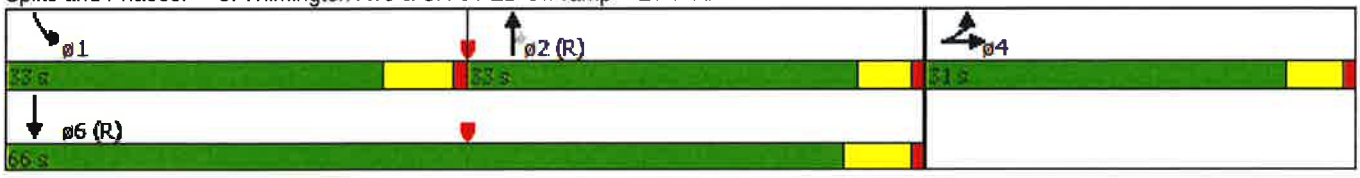
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	793	445	225	0	0	0	0	1077	217	185	564	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Frt		0.965							0.850			
Flt Protected	0.950	0.985								0.950		
Satd. Flow (prot)	1564	3130	0	0	0	0	0	3438	2707	3335	3438	0
Flt Permitted	0.950	0.985								0.950		
Satd. Flow (perm)	1564	3130	0	0	0	0	0	3438	2707	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37							220			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	862	484	245	0	0	0	0	1171	236	201	613	0
Shared Lane Traffic (%)	38%											
Lane Group Flow (vph)	534	1057	0	0	0	0	0	1171	236	201	613	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Minimum Split (s)	21.1	21.1						21.4	21.4	10.0	26.5	
Total Split (s)	31.0	31.0						33.0	33.0	33.0	66.0	
Total Split (%)	32.0%	32.0%						34.0%	34.0%	34.0%	68.0%	
Maximum Green (s)	26.0	26.0						28.0	28.0	27.0	60.0	
Yellow Time (s)	4.0	4.0						4.0	4.0	5.0	5.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0						5.0	5.0	6.0	6.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0						5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	26.0	26.0						28.0	28.0	27.0	60.0	
Actuated g/C Ratio	0.27	0.27						0.29	0.29	0.28	0.62	
v/c Ratio	1.27	1.22						1.18	0.25	0.22	0.29	
Control Delay	173.2	141.5						124.4	5.4	27.7	9.0	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	173.2	141.5						124.4	5.4	27.7	9.0	
LOS	F	F						F	A	C	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		152.1						104.4			13.6	
Approach LOS		F						F			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 97			
Actuated Cycle Length: 97			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.27			
Intersection Signal Delay: 104.9		Intersection LOS: F	
Intersection Capacity Utilization 76.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington Ave & SR-91 EB Off-ramp - EWP AM





Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	534	1057	1171	236	201	613
v/c Ratio	1.27	1.22	1.18	0.25	0.22	0.29
Control Delay	173.2	141.5	124.4	5.4	27.7	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	173.2	141.5	124.4	5.4	27.7	9.0
Queue Length 50th (ft)	~552	~523	~550	4	58	101
Queue Length 95th (ft)	#817	#686	#707	40	93	136
Internal Link Dist (ft)		510	324			339
Turn Bay Length (ft)						
Base Capacity (vph)	419	866	992	937	928	2126
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.27	1.22	1.18	0.25	0.22	0.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	175	90	623	536	1359	0	0	547	494
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Frt					0.872						0.929	
Flt Protected				0.950	0.999		0.950					
Satd. Flow (prot)	0	0	0	1564	2869	0	1719	3438	0	0	4589	0
Flt Permitted				0.950	0.999		0.950					
Satd. Flow (perm)	0	0	0	1564	2869	0	1719	3438	0	0	4589	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					64						246	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	190	98	677	583	1477	0	0	595	537
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	0	0	0	171	794	0	583	1477	0	0	1132	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases												
Minimum Split (s)				22.0	22.0		10.0	22.0			22.0	
Total Split (s)				23.0	23.0		37.0	72.0			35.0	
Total Split (%)				24.2%	24.2%		38.9%	75.8%			36.8%	
Maximum Green (s)				17.0	17.0		31.0	66.0			29.0	
Yellow Time (s)				5.0	5.0		5.0	5.0			5.0	
All-Red Time (s)				1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0			6.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)				17.0	17.0		31.0	66.0			29.0	
Actuated g/C Ratio				0.18	0.18		0.33	0.69			0.31	
v/c Ratio				0.61	2.16dr		1.04	0.62			0.72	
Control Delay				46.4	222.6		82.2	9.2			25.7	
Queue Delay				0.0	0.0		0.0	0.0			0.0	
Total Delay				46.4	222.6		82.2	9.2			25.7	
LOS				D	F		F	A			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					191.4			29.8			25.7	
Approach LOS					F			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.41			
Intersection Signal Delay: 66.2		Intersection LOS: E	
Intersection Capacity Utilization 84.8%		ICU Level of Service E	
Analysis Period (min) 15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilminton Ave & SR-91 WB Off-ramp - EWP AM





Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	171	794	583	1477	1132
v/c Ratio	0.61	2.16dr	1.04	0.62	0.72
Control Delay	46.4	222.6	82.2	9.2	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	222.6	82.2	9.2	25.7
Queue Length 50th (ft)	126	~407	~459	261	209
Queue Length 95th (ft)	218	#558	#705	331	272
Internal Link Dist (ft)		500		324	339
Turn Bay Length (ft)					
Base Capacity (vph)	279	565	560	2388	1571
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	1.41	1.04	0.62	0.72

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

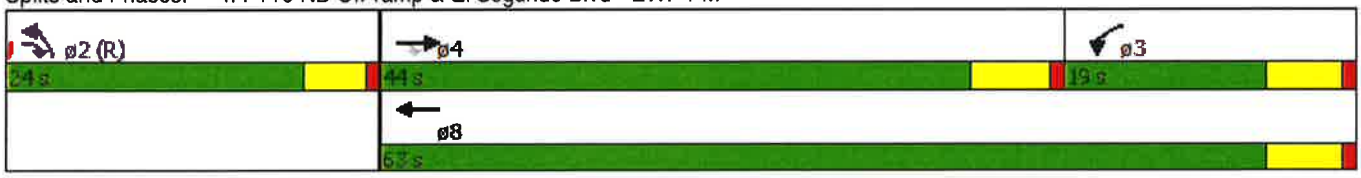
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1518	443	274	787	318	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.91	0.97	0.95
Frt		0.850			0.930	
Flt Protected			0.950		0.974	
Satd. Flow (prot)	3471	1553	1736	4988	3210	0
Flt Permitted			0.950		0.974	
Satd. Flow (perm)	3471	1553	1736	4988	3210	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		76			230	
Link Speed (mph)	30			30	30	
Link Distance (ft)	568			630	393	
Travel Time (s)	12.9			14.3	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1650	482	298	855	346	300
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1650	482	298	855	646	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	Prot	NA	Prot	
Protected Phases	4	2	3	8	2	
Permitted Phases		4				
Minimum Split (s)	22.0	21.1	10.0	22.0	21.1	
Total Split (s)	44.0	24.0	19.0	63.0	24.0	
Total Split (%)	50.6%	27.6%	21.8%	72.4%	27.6%	
Maximum Green (s)	38.0	19.0	13.0	57.0	19.0	
Yellow Time (s)	5.0	4.0	5.0	5.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	6.0	5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Walk Time (s)	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	38.0	63.0	13.0	57.0	19.0	
Actuated g/C Ratio	0.44	0.72	0.15	0.66	0.22	
v/c Ratio	1.09	0.42	1.15	0.26	0.73	
Control Delay	76.7	5.2	138.9	6.5	25.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.7	5.2	138.9	6.5	25.7	
LOS	E	A	F	A	C	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	60.6			40.7	25.7	
Approach LOS	E			D	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 87			
Actuated Cycle Length: 87			
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 49.0		Intersection LOS: D	
Intersection Capacity Utilization 89.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: I-110 NB Off-ramp & El Segundo Blvd- EWP PM





Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	1650	482	298	855	646
v/c Ratio	1.09	0.42	1.15	0.26	0.73
Control Delay	76.7	5.2	138.9	6.5	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	76.7	5.2	138.9	6.5	25.7
Queue Length 50th (ft)	~650	83	~233	75	131
Queue Length 95th (ft)	#811	139	#420	97	204
Internal Link Dist (ft)	488			550	313
Turn Bay Length (ft)					
Base Capacity (vph)	1516	1145	259	3268	880
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.09	0.42	1.15	0.26	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1549	607	176	943	0	0	0	0	441	0	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.958									0.923	0.850
Flt Protected				0.950						0.950	0.976	
Satd. Flow (prot)	0	4778	0	1736	4988	0	0	0	0	1649	1498	1475
Flt Permitted				0.950						0.950	0.976	
Satd. Flow (perm)	0	4778	0	1736	4988	0	0	0	0	1649	1498	1475
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		141									107	137
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		802			783			340			320	
Travel Time (s)		18.2			17.8			7.7			7.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1684	660	191	1025	0	0	0	0	479	0	461
Shared Lane Traffic (%)										32%		35%
Lane Group Flow (vph)	0	2344	0	191	1025	0	0	0	0	326	314	300
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Minimum Split (s)		22.0		10.0	22.0					22.0	22.0	22.0
Total Split (s)		48.0		18.0	66.0					26.0	26.0	26.0
Total Split (%)		52.2%		19.6%	71.7%					28.3%	28.3%	28.3%
Maximum Green (s)		42.0		12.0	60.0					20.0	20.0	20.0
Yellow Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Walk Time (s)		5.0			5.0					5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		42.0		12.0	60.0					20.0	20.0	20.0
Actuated g/C Ratio		0.46		0.13	0.65					0.22	0.22	0.22
v/c Ratio		1.04		0.85	0.32					0.91	0.77	0.70
Control Delay		54.3		71.3	7.3					66.5	36.1	27.8
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		54.3		71.3	7.3					66.5	36.1	27.8
LOS		D		E	A					E	D	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		54.3			17.4						44.0	
Approach LOS		D			B						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 92			
Actuated Cycle Length: 92			
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 42.1		Intersection LOS: D	
Intersection Capacity Utilization 84.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: I-110 SB Off-ramp & El Segundo Blvd- EWP PM



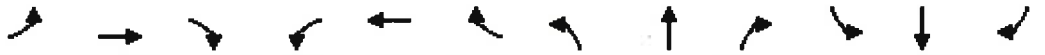


Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	2344	191	1025	326	314	300
v/c Ratio	1.04	0.85	0.32	0.91	0.77	0.70
Control Delay	54.3	71.3	7.3	66.5	36.1	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	71.3	7.3	66.5	36.1	27.8
Queue Length 50th (ft)	~632	132	102	235	150	109
Queue Length 95th (ft)	#750	#274	128	#435	#319	#231
Internal Link Dist (ft)	722		703		240	
Turn Bay Length (ft)						
Base Capacity (vph)	2257	226	3253	358	409	427
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.85	0.32	0.91	0.77	0.70

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



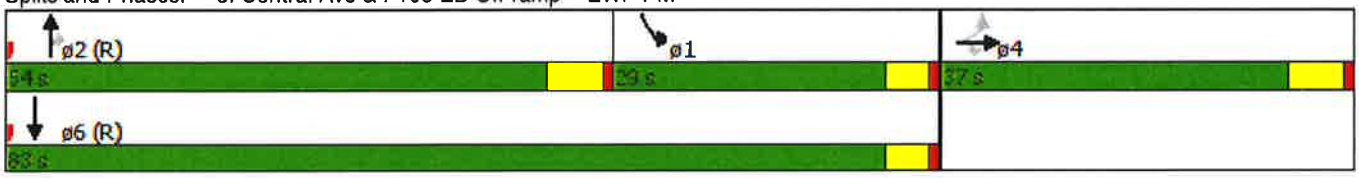
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	513	240	422	0	0	0	0	955	385	463	825	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frt		0.979	0.850						0.850			
Flt Protected	0.950	0.986								0.950		
Satd. Flow (prot)	1633	1590	1461	0	0	0	0	4940	1538	3335	3438	0
Flt Permitted	0.950	0.986								0.950		
Satd. Flow (perm)	1633	1590	1461	0	0	0	0	4940	1538	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7	179						181			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	558	261	459	0	0	0	0	1038	418	503	897	0
Shared Lane Traffic (%)	22%		14%									
Lane Group Flow (vph)	435	448	395	0	0	0	0	1038	418	503	897	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Minimum Split (s)	22.0	22.0	22.0					22.0	22.0	9.0	22.0	
Total Split (s)	37.0	37.0	37.0					54.0	54.0	29.0	83.0	
Total Split (%)	30.8%	30.8%	30.8%					45.0%	45.0%	24.2%	69.2%	
Maximum Green (s)	31.0	31.0	31.0					48.0	48.0	24.0	78.0	
Yellow Time (s)	5.0	5.0	5.0					5.0	5.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0	6.0	5.0	5.0	
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0	5.0					5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0	11.0					11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)	31.0	31.0	31.0					48.0	48.0	24.0	78.0	
Actuated g/C Ratio	0.26	0.26	0.26					0.40	0.40	0.20	0.65	
v/c Ratio	1.03	1.08	0.77					0.53	0.58	0.75	0.40	
Control Delay	96.6	109.0	33.7					28.5	18.8	53.4	10.6	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	96.6	109.0	33.7					28.5	18.8	53.4	10.6	
LOS	F	F	C					C	B	D	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		81.5						25.8			26.0	
Approach LOS		F						C			C	

Intersection Summary

Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 43.1		Intersection LOS: D	
Intersection Capacity Utilization 76.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Central Ave & I-105 EB Off-ramp - EWP PM



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	435	448	395	1038	418	503	897
v/c Ratio	1.03	1.08	0.77	0.53	0.58	0.75	0.40
Control Delay	96.6	109.0	33.7	28.5	18.8	53.4	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.6	109.0	33.7	28.5	18.8	53.4	10.6
Queue Length 50th (ft)	~455	~505	203	264	167	229	191
Queue Length 95th (ft)	#712	#780	#377	317	293	303	238
Internal Link Dist (ft)		575		502			478
Turn Bay Length (ft)							
Base Capacity (vph)	421	415	510	1976	723	667	2234
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	1.08	0.77	0.53	0.58	0.75	0.40

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	265	0	536	417	1022	0	0	1032	611
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1633	1633	1538	3335	3438	0	0	3438	1538
Flt Permitted				0.950	0.950		0.950					
Satd. Flow (perm)	0	0	0	1633	1633	1538	3335	3438	0	0	3438	1538
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						109						
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	288	0	583	453	1111	0	0	1122	664
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	144	144	583	453	1111	0	0	1122	664
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Minimum Split (s)				21.5	21.5	21.5	9.5	21.5			21.5	21.5
Total Split (s)				39.0	39.0	39.0	29.0	84.0			55.0	55.0
Total Split (%)				31.7%	31.7%	31.7%	23.6%	68.3%			44.7%	44.7%
Maximum Green (s)				33.5	33.5	33.5	23.5	78.5			49.5	49.5
Yellow Time (s)				5.0	5.0	5.0	5.0	5.0			5.0	5.0
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	0.5
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	5.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Walk Time (s)				5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)				11.0	11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)				0	0	0		0			0	0
Act Effct Green (s)				33.5	33.5	33.5	23.5	78.5			49.5	49.5
Actuated g/C Ratio				0.27	0.27	0.27	0.19	0.64			0.40	0.40
v/c Ratio				0.32	0.32	1.17	0.71	0.51			0.81	1.07
Control Delay				38.2	38.2	129.6	53.6	12.9			38.3	93.7
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				38.2	38.2	129.6	53.6	12.9			38.3	93.7
LOS				D	D	F	D	B			D	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					99.4			24.7			58.9	
Approach LOS					F			C			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 123			
Actuated Cycle Length: 123			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Pretimed			
Maximum v/c Ratio: 1.17			
Intersection Signal Delay: 54.6		Intersection LOS: D	
Intersection Capacity Utilization 70.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Central Ave & I-105 WB Off-ramp - EWP PM





Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	144	144	583	453	1111	1122	664
v/c Ratio	0.32	0.32	1.17	0.71	0.51	0.81	1.07
Control Delay	38.2	38.2	129.6	53.6	12.9	38.3	93.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	38.2	129.6	53.6	12.9	38.3	93.7
Queue Length 50th (ft)	115	115	~584	210	277	493	~703
Queue Length 95th (ft)	192	192	#856	280	339	602	#981
Internal Link Dist (ft)		665			502	478	
Turn Bay Length (ft)							
Base Capacity (vph)	444	444	498	637	2194	1383	618
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.32	1.17	0.71	0.51	0.81	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

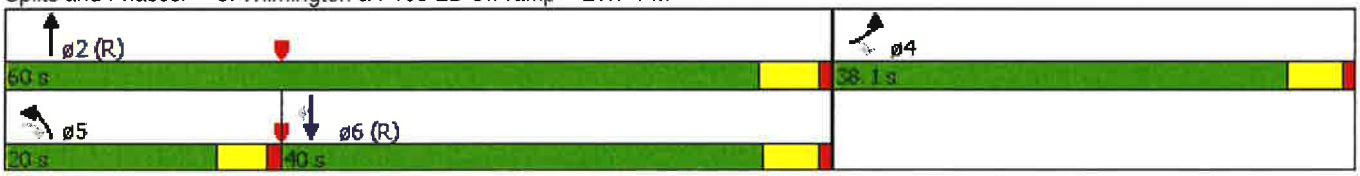


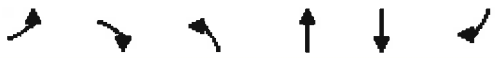
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	334	354	639	1377	856	485
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	120			0
Storage Lanes	1	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.95	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1719	4940	3438	2707
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1719	4940	3438	2707
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		32				527
Link Speed (mph)	30			30	30	
Link Distance (ft)	1070			942	903	
Travel Time (s)	24.3			21.4	20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	363	385	695	1497	930	527
Shared Lane Traffic (%)						
Lane Group Flow (vph)	363	385	695	1497	930	527
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4 5				6
Minimum Split (s)	38.1		8.7	21.4	21.1	21.1
Total Split (s)	38.1		20.0	60.0	40.0	40.0
Total Split (%)	38.8%		20.4%	61.2%	40.8%	40.8%
Maximum Green (s)	33.0		15.3	54.6	34.9	34.9
Yellow Time (s)	4.1		3.7	4.4	4.1	4.1
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1		4.7	5.4	5.1	5.1
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Walk Time (s)	7.0			5.0	5.0	5.0
Flash Dont Walk (s)	26.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effct Green (s)	33.0	53.0	15.3	54.6	34.9	34.9
Actuated g/C Ratio	0.34	0.54	0.16	0.56	0.36	0.36
v/c Ratio	0.63	0.46	2.59	0.54	0.76	0.40
Control Delay	33.2	14.6	748.1	14.8	32.8	3.0

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	14.6	748.1	14.8	32.8	3.0
LOS	C	B	F	B	C	A
Approach Delay	23.6			247.3	22.0	
Approach LOS	C			F	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 98.1			
Actuated Cycle Length: 98.1			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 2.59			
Intersection Signal Delay: 134.6		Intersection LOS: F	
Intersection Capacity Utilization 90.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington & I-105 EB Off-ramp - EWP PM





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	363	385	695	1497	930	527
v/c Ratio	0.63	0.46	2.59	0.54	0.76	0.40
Control Delay	33.2	14.6	748.1	14.8	32.8	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	14.6	748.1	14.8	32.8	3.0
Queue Length 50th (ft)	227	151	~880	246	320	0
Queue Length 95th (ft)	346	240	#1142	295	412	43
Internal Link Dist (ft)	990			862	823	
Turn Bay Length (ft)			120			
Base Capacity (vph)	578	845	268	2749	1223	1302
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.46	2.59	0.54	0.76	0.40

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

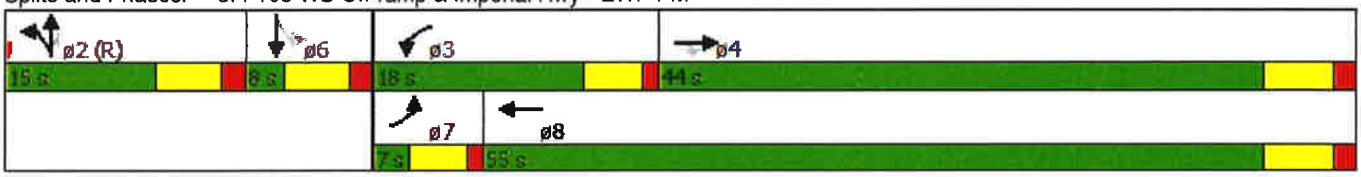


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	1814	595	604	923	4	766	15	284	9	22	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	340		0	0		0	0		0
Storage Lanes	1		1	2		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	0.81	0.97	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.987	0.850		0.999				0.850		0.940	
Flt Protected	0.950			0.950			0.950	0.954			0.992	
Satd. Flow (prot)	1719	5787	1246	3335	4935	0	1633	1640	1538	0	1687	0
Flt Permitted	0.950			0.950			0.950	0.954			0.970	
Satd. Flow (perm)	1719	5787	1246	3335	4935	0	1633	1640	1538	0	1650	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29	466		1				230		27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1132			1053			585			490	
Travel Time (s)		25.7			23.9			13.3			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	1972	647	657	1003	4	833	16	309	10	24	27
Shared Lane Traffic (%)			28%				49%					
Lane Group Flow (vph)	71	2153	466	657	1007	0	425	424	309	0	61	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Minimum Split (s)	8.7	21.9	21.9	8.7	21.9		21.6	21.6	21.6	21.6	21.6	
Total Split (s)	7.0	44.0	44.0	18.0	55.0		15.0	15.0	15.0	8.0	8.0	
Total Split (%)	8.2%	51.8%	51.8%	21.2%	64.7%		17.6%	17.6%	17.6%	9.4%	9.4%	
Maximum Green (s)	2.3	38.1	38.1	13.3	49.1		9.4	9.4	9.4	2.4	2.4	
Yellow Time (s)	3.7	4.4	4.4	3.7	4.4		4.1	4.1	4.1	4.1	4.1	
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.7	5.9	5.9	4.7	5.9		5.6	5.6	5.6		5.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	2.3	38.1	38.1	13.3	49.1		9.4	9.4	9.4		2.4	
Actuated g/C Ratio	0.03	0.45	0.45	0.16	0.58		0.11	0.11	0.11		0.03	
v/c Ratio	1.54	0.83	0.57	1.26	0.35		2.36	2.34	0.83		0.85	
Control Delay	360.2	23.6	4.7	165.0	9.9		650.8	642.6	30.8		100.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	360.2	23.6	4.7	165.0	9.9		650.8	642.6	30.8		100.2	
LOS	F	C	A	F	A		F	F	C		F	
Approach Delay		29.2			71.2			482.4			100.2	
Approach LOS		C			E			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 2.36			
Intersection Signal Delay: 136.7		Intersection LOS: F	
Intersection Capacity Utilization 88.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: I-105 WB Off-ramp & Imperial Hwy- EWP PM





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	71	2153	466	657	1007	425	424	309	61
v/c Ratio	1.54	0.83	0.57	1.26	0.35	2.36	2.34	0.83	0.85
Control Delay	360.2	23.6	4.7	165.0	9.9	650.8	642.6	30.8	100.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	360.2	23.6	4.7	165.0	9.9	650.8	642.6	30.8	100.2
Queue Length 50th (ft)	~65	355	0	~275	115	~475	~473	48	22
Queue Length 95th (ft)	#164	421	79	#402	146	#697	#695	#208	#111
Internal Link Dist (ft)		1052			973		505		410
Turn Bay Length (ft)	100			340					
Base Capacity (vph)	46	2609	815	521	2851	180	181	374	72
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.54	0.83	0.57	1.26	0.35	2.36	2.34	0.83	0.85

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

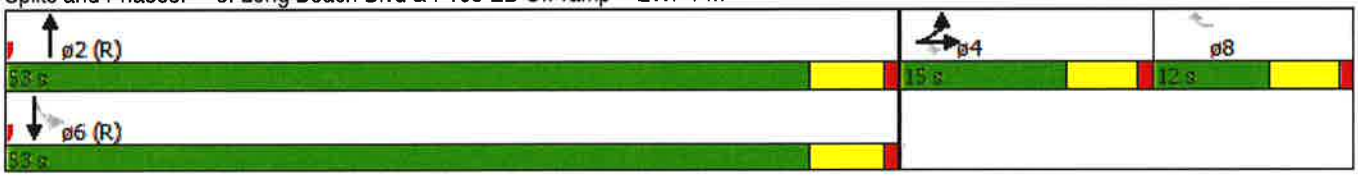


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	328	1	215	0	0	14	0	991	4	14	920	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		110	0		0	0		0	180		0
Storage Lanes	1		1	0		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.865		0.999				
Flt Protected	0.950	0.953								0.950		
Satd. Flow (prot)	1633	1638	1538	0	0	1565	0	4935	0	1719	3438	0
Flt Permitted	0.950	0.953								0.232		
Satd. Flow (perm)	1633	1638	1538	0	0	1565	0	4935	0	420	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			234			102		1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		817			156			598			555	
Travel Time (s)		18.6			3.5			13.6			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	357	1	234	0	0	15	0	1077	4	15	1000	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	178	180	234	0	0	15	0	1081	0	15	1000	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	Perm			Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4			8				6		
Minimum Split (s)	21.1	21.1	21.1			21.1		21.4		21.4	21.4	
Total Split (s)	15.0	15.0	15.0			12.0		53.0		53.0	53.0	
Total Split (%)	18.8%	18.8%	18.8%			15.0%		66.3%		66.3%	66.3%	
Maximum Green (s)	9.9	9.9	9.9			6.9		47.6		47.6	47.6	
Yellow Time (s)	4.1	4.1	4.1			4.1		4.4		4.4	4.4	
All-Red Time (s)	1.0	1.0	1.0			1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Lost Time (s)	5.1	5.1	5.1			5.1		5.4		5.4	5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0			11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0			0		0		0	0	
Act Effct Green (s)	9.9	9.9	9.9			6.9		47.6		47.6	47.6	
Actuated g/C Ratio	0.12	0.12	0.12			0.09		0.60		0.60	0.60	
v/c Ratio	0.88	0.89	0.59			0.07		0.37		0.06	0.49	
Control Delay	76.1	77.8	11.7			0.6		8.8		7.6	10.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Delay	76.1	77.8	11.7			0.6		8.8		7.6	10.3	
LOS	E	E	B			A		A		A	B	
Approach Delay		51.2						8.8			10.2	
Approach LOS		D						A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 18.6		Intersection LOS: B	
Intersection Capacity Utilization 47.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 EB Off-ramp - EWP PM





Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	178	180	234	15	1081	15	1000
v/c Ratio	0.88	0.89	0.59	0.07	0.37	0.06	0.49
Control Delay	76.1	77.8	11.7	0.6	8.8	7.6	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.1	77.8	11.7	0.6	8.8	7.6	10.3
Queue Length 50th (ft)	112	113	0	0	111	3	163
Queue Length 95th (ft)	#255	#258	75	0	142	13	217
Internal Link Dist (ft)		737			518		475
Turn Bay Length (ft)			110			180	
Base Capacity (vph)	202	202	395	228	2936	249	2045
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.89	0.59	0.07	0.37	0.06	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



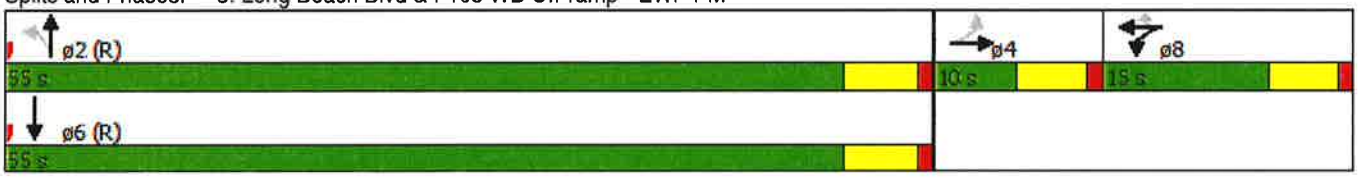
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	0	9	285	9	990	15	1064	0	0	1221	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		140	150		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.964			0.853	0.850					0.998	
Flt Protected		0.964		0.950			0.950					
Satd. Flow (prot)	0	1682	0	1719	1466	1461	1719	4940	0	0	4930	0
Flt Permitted		0.709		0.950			0.167					
Satd. Flow (perm)	0	1237	0	1719	1466	1461	302	4940	0	0	4930	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102			138	138					6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			573			493			550	
Travel Time (s)		4.9			13.0			11.2			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	0	10	310	10	1076	16	1157	0	0	1327	22
Shared Lane Traffic (%)						50%						
Lane Group Flow (vph)	0	38	0	310	548	538	16	1157	0	0	1349	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	Perm	Perm	NA			NA	
Protected Phases		4		8	8			2			6	
Permitted Phases	4					8	2					
Minimum Split (s)	21.1	21.1		21.1	21.1	21.1	31.4	31.4			21.4	
Total Split (s)	10.0	10.0		15.0	15.0	15.0	55.0	55.0			55.0	
Total Split (%)	12.5%	12.5%		18.8%	18.8%	18.8%	68.8%	68.8%			68.8%	
Maximum Green (s)	4.9	4.9		9.9	9.9	9.9	49.6	49.6			49.6	
Yellow Time (s)	4.1	4.1		4.1	4.1	4.1	4.4	4.4			4.4	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0			1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)		5.1		5.1	5.1	5.1	5.4	5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)		4.9		9.9	9.9	9.9	49.6	49.6			49.6	
Actuated g/C Ratio		0.06		0.12	0.12	0.12	0.62	0.62			0.62	
v/c Ratio		0.22		1.46	1.81	1.79	0.09	0.38			0.44	
Control Delay		3.0		261.9	400.0	388.1	7.5	8.0			8.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay		3.0		261.9	400.0	388.1	7.5	8.0			8.5	
LOS		A		F	F	F	A	A			A	
Approach Delay		3.0			364.8			8.0			8.5	
Approach LOS		A			F			A			A	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 1.81
Intersection Signal Delay: 134.0 Intersection LOS: F
Intersection Capacity Utilization 77.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Long Beach Blvd & I-105 WB Off-ramp- EWP PM

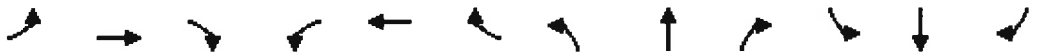


Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	38	310	548	538	16	1157	1349
v/c Ratio	0.22	1.46	1.81	1.79	0.09	0.38	0.44
Control Delay	3.0	261.9	400.0	388.1	7.5	8.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	261.9	400.0	388.1	7.5	8.0	8.5
Queue Length 50th (ft)	0	~258	~452	~440	4	112	138
Queue Length 95th (ft)	0	#441	#695	#682	13	142	172
Internal Link Dist (ft)	135		493			413	470
Turn Bay Length (ft)				140	150		
Base Capacity (vph)	171	212	302	301	187	3062	3058
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	1.46	1.81	1.79	0.09	0.38	0.44

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



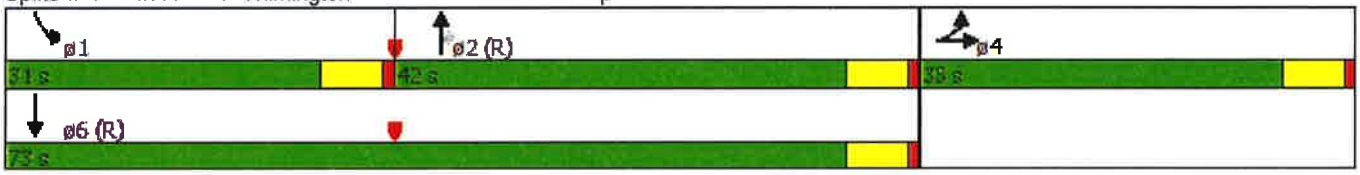
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	448	182	502	0	0	0	0	654	240	307	929	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Frt		0.898							0.850			
Flt Protected	0.950	0.996								0.950		
Satd. Flow (prot)	1564	2946	0	0	0	0	0	3438	2707	3335	3438	0
Flt Permitted	0.950	0.996								0.950		
Satd. Flow (perm)	1564	2946	0	0	0	0	0	3438	2707	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		127							261			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	487	198	546	0	0	0	0	711	261	334	1010	0
Shared Lane Traffic (%)	12%											
Lane Group Flow (vph)	429	802	0	0	0	0	0	711	261	334	1010	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Minimum Split (s)	22.0	22.0						22.0	22.0	10.0	22.0	
Total Split (s)	35.0	35.0						42.0	42.0	31.0	73.0	
Total Split (%)	32.4%	32.4%						38.9%	38.9%	28.7%	67.6%	
Maximum Green (s)	29.0	29.0						36.0	36.0	25.0	67.0	
Yellow Time (s)	5.0	5.0						5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0						6.0	6.0	6.0	6.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0						5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	29.0	29.0						36.0	36.0	25.0	67.0	
Actuated g/C Ratio	0.27	0.27						0.33	0.33	0.23	0.62	
v/c Ratio	1.02	1.13dr						0.62	0.24	0.43	0.47	
Control Delay	90.2	47.5						33.1	3.8	37.5	11.9	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	90.2	47.5						33.1	3.8	37.5	11.9	
LOS	F	D						C	A	D	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		62.4						25.2			18.3	
Approach LOS		E						C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 108			
Actuated Cycle Length: 108			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 35.5		Intersection LOS: D	
Intersection Capacity Utilization 64.6%		ICU Level of Service C	
Analysis Period (min) 15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilmington Ave & SR-91 EB Off-ramp - EWP PM





Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	429	802	711	261	334	1010
v/c Ratio	1.02	1.13dr	0.62	0.24	0.43	0.47
Control Delay	90.2	47.5	33.1	3.8	37.5	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.2	47.5	33.1	3.8	37.5	11.9
Queue Length 50th (ft)	~417	305	259	0	122	219
Queue Length 95th (ft)	#672	#452	336	36	175	276
Internal Link Dist (ft)		510	324			339
Turn Bay Length (ft)						
Base Capacity (vph)	419	883	1146	1076	771	2132
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.91	0.62	0.24	0.43	0.47

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

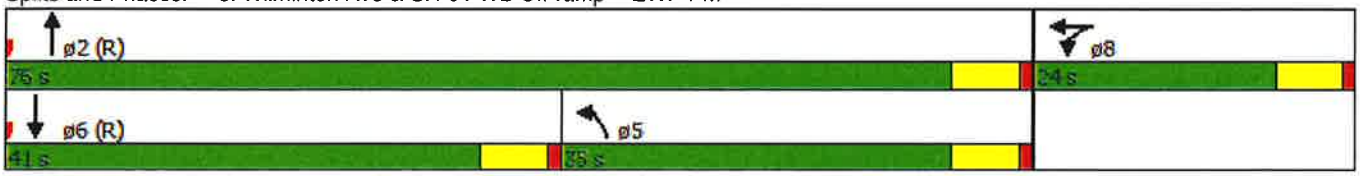
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	197	834	207	325	791	0	0	1005	669
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Frt					0.971						0.940	
Flt Protected				0.950	0.999		0.950					
Satd. Flow (prot)	0	0	0	1564	3195	0	1719	3438	0	0	4644	0
Flt Permitted				0.950	0.999		0.950					
Satd. Flow (perm)	0	0	0	1564	3195	0	1719	3438	0	0	4644	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					24						137	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	214	907	225	353	860	0	0	1092	727
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	0	0	0	193	1153	0	353	860	0	0	1819	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases												
Minimum Split (s)				22.0	22.0		10.0	22.0			22.0	
Total Split (s)				24.0	24.0		35.0	76.0			41.0	
Total Split (%)				24.0%	24.0%		35.0%	76.0%			41.0%	
Maximum Green (s)				18.0	18.0		29.0	70.0			35.0	
Yellow Time (s)				5.0	5.0		5.0	5.0			5.0	
All-Red Time (s)				1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0			6.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)				18.0	18.0		29.0	70.0			35.0	
Actuated g/C Ratio				0.18	0.18		0.29	0.70			0.35	
v/c Ratio				0.69	1.94		0.71	0.36			1.14dr	
Control Delay				52.3	455.1		40.8	6.5			70.2	
Queue Delay				0.0	0.0		0.0	0.0			0.0	
Total Delay				52.3	455.1		40.8	6.5			70.2	
LOS				D	F		D	A			E	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					397.3			16.5			70.2	
Approach LOS					F			B			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 1.94			
Intersection Signal Delay: 155.9		Intersection LOS: F	
Intersection Capacity Utilization 91.2%		ICU Level of Service F	
Analysis Period (min) 15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilminton Ave & SR-91 WB Off-ramp - EWP PM





Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	193	1153	353	860	1819
v/c Ratio	0.69	1.94	0.71	0.36	1.14dr
Control Delay	52.3	455.1	40.8	6.5	70.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	455.1	40.8	6.5	70.2
Queue Length 50th (ft)	153	~753	241	121	~538
Queue Length 95th (ft)	#274	#920	365	155	#656
Internal Link Dist (ft)		500		324	339
Turn Bay Length (ft)					
Base Capacity (vph)	281	594	498	2406	1714
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.69	1.94	0.71	0.36	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Freeway Off-Ramp Analysis

Future Without Project Conditions

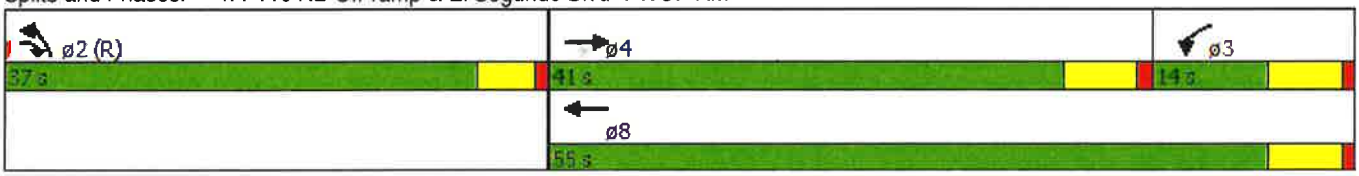
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1064	263	126	1375	766	204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.91	0.97	0.95
Frt		0.850			0.968	
Flt Protected			0.950		0.962	
Satd. Flow (prot)	3471	1553	1736	4988	3300	0
Flt Permitted			0.950		0.962	
Satd. Flow (perm)	3471	1553	1736	4988	3300	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		135			41	
Link Speed (mph)	30			30	30	
Link Distance (ft)	568			630	393	
Travel Time (s)	12.9			14.3	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1157	286	137	1495	833	222
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1157	286	137	1495	1055	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	Prot	NA	Prot	
Protected Phases	4	2	3	8	2	
Permitted Phases		4				
Minimum Split (s)	22.0	22.0	10.0	22.0	22.0	
Total Split (s)	41.0	37.0	14.0	55.0	37.0	
Total Split (%)	44.6%	40.2%	15.2%	59.8%	40.2%	
Maximum Green (s)	35.0	32.0	8.0	49.0	32.0	
Yellow Time (s)	5.0	4.0	5.0	5.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	6.0	5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Walk Time (s)	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	35.0	73.0	8.0	49.0	32.0	
Actuated g/C Ratio	0.38	0.79	0.09	0.53	0.35	
v/c Ratio	0.88	0.23	0.91	0.56	0.90	
Control Delay	35.6	1.6	97.7	15.4	39.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.6	1.6	97.7	15.4	39.1	
LOS	D	A	F	B	D	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	28.9			22.3	39.1	
Approach LOS	C			C	D	

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 92
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 28.9 Intersection LOS: C
Intersection Capacity Utilization 78.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: I-110 NB Off-ramp & El Segundo Blvd- FWOP AM



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	1157	286	137	1495	1055
v/c Ratio	0.88	0.23	0.91	0.56	0.90
Control Delay	35.6	1.6	97.7	15.4	39.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	1.6	97.7	15.4	39.1
Queue Length 50th (ft)	388	18	97	241	344
Queue Length 95th (ft)	#537	37	#228	292	#492
Internal Link Dist (ft)	488			550	313
Turn Bay Length (ft)					
Base Capacity (vph)	1320	1260	150	2656	1174
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.88	0.23	0.91	0.56	0.90

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

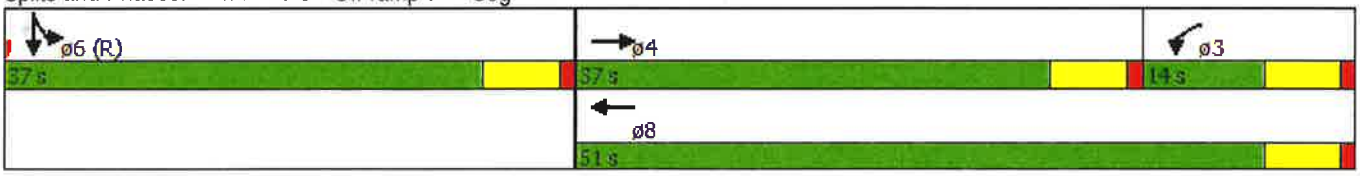
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	784	591	342	1819	0	0	0	0	574	0	916
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.936									0.868	0.850
Flt Protected				0.950						0.950	0.994	
Satd. Flow (prot)	0	4668	0	1736	4988	0	0	0	0	1649	1434	1475
Flt Permitted				0.950						0.950	0.994	
Satd. Flow (perm)	0	4668	0	1736	4988	0	0	0	0	1649	1434	1475
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		239									112	112
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		802			783			340			320	
Travel Time (s)		18.2			17.8			7.7			7.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	852	642	372	1977	0	0	0	0	624	0	996
Shared Lane Traffic (%)										10%		47%
Lane Group Flow (vph)	0	1494	0	372	1977	0	0	0	0	562	530	528
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Minimum Split (s)		22.0		10.0	22.0					22.0	22.0	22.0
Total Split (s)		37.0		14.0	51.0					37.0	37.0	37.0
Total Split (%)		42.0%		15.9%	58.0%					42.0%	42.0%	42.0%
Maximum Green (s)		31.0		8.0	45.0					31.0	31.0	31.0
Yellow Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Walk Time (s)		5.0			5.0					5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		31.0		8.0	45.0					31.0	31.0	31.0
Actuated g/C Ratio		0.35		0.09	0.51					0.35	0.35	0.35
v/c Ratio		0.90dr		2.37	0.78					0.97	0.92	0.89
Control Delay		26.6		657.2	20.1					60.5	45.3	41.0
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		26.6		657.2	20.1					60.5	45.3	41.0
LOS		C		F	C					E	D	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		26.6			121.0						49.1	
Approach LOS		C			F						D	

Intersection Summary

Area Type: Other
Cycle Length: 88
Actuated Cycle Length: 88
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 2.37
Intersection Signal Delay: 73.9 Intersection LOS: E
Intersection Capacity Utilization 87.6% ICU Level of Service E
Analysis Period (min) 15
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 4: I-110 SB Off-ramp & El Segundo Blvd- FWOP AM



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1494	372	1977	562	530	528
v/c Ratio	0.90dr	2.37	0.78	0.97	0.92	0.89
Control Delay	26.6	657.2	20.1	60.5	45.3	41.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	657.2	20.1	60.5	45.3	41.0
Queue Length 50th (ft)	280	~411	370	381	300	281
Queue Length 95th (ft)	354	#615	445	#648	#571	#532
Internal Link Dist (ft)	722		703		240	
Turn Bay Length (ft)						
Base Capacity (vph)	1799	157	2550	580	577	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	2.37	0.78	0.97	0.92	0.89

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

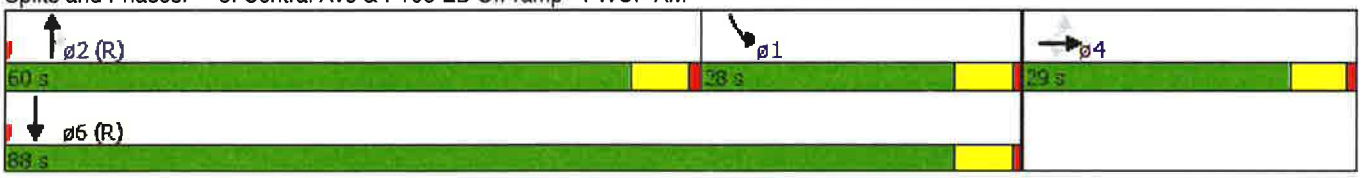
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	727	14	599	0	0	0	0	856	381	618	776	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frt		0.941	0.850						0.850			
Flt Protected	0.950	0.972								0.950		
Satd. Flow (prot)	1633	1506	1461	0	0	0	0	4940	1538	3335	3438	0
Flt Permitted	0.950	0.972								0.950		
Satd. Flow (perm)	1633	1506	1461	0	0	0	0	4940	1538	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25	227						414			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	790	15	651	0	0	0	0	930	414	672	843	0
Shared Lane Traffic (%)	36%		30%									
Lane Group Flow (vph)	506	494	456	0	0	0	0	930	414	672	843	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Minimum Split (s)	22.0	22.0	22.0					22.0	22.0	10.0	22.0	
Total Split (s)	29.0	29.0	29.0					60.0	60.0	28.0	88.0	
Total Split (%)	24.8%	24.8%	24.8%					51.3%	51.3%	23.9%	75.2%	
Maximum Green (s)	23.0	23.0	23.0					54.0	54.0	22.0	82.0	
Yellow Time (s)	5.0	5.0	5.0					5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0	6.0	6.0	6.0	
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0	5.0					5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0	11.0					11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)	23.0	23.0	23.0					54.0	54.0	22.0	82.0	
Actuated g/C Ratio	0.20	0.20	0.20					0.46	0.46	0.19	0.70	
v/c Ratio	1.58	1.56	0.97					0.41	0.44	1.07	0.35	
Control Delay	306.7	299.9	59.3					21.6	3.4	102.0	7.4	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	306.7	299.9	59.3					21.6	3.4	102.0	7.4	
LOS	F	F	E					C	A	F	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		226.9						16.0			49.4	
Approach LOS		F						B			D	

Intersection Summary

Area Type: Other
Cycle Length: 117
Actuated Cycle Length: 117
Offset: 68 (58%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 1.58
Intersection Signal Delay: 98.9 Intersection LOS: F
Intersection Capacity Utilization 82.8% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Central Ave & I-105 EB Off-ramp - FWOP AM





Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	506	494	456	930	414	672	843
v/c Ratio	1.58	1.56	0.97	0.41	0.44	1.07	0.35
Control Delay	306.7	299.9	59.3	21.6	3.4	102.0	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	306.7	299.9	59.3	21.6	3.4	102.0	7.4
Queue Length 50th (ft)	~685	~680	240	199	0	~347	142
Queue Length 95th (ft)	#951	#960	#513	242	65	#490	178
Internal Link Dist (ft)		575		502			478
Turn Bay Length (ft)							
Base Capacity (vph)	321	316	469	2280	932	627	2409
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.58	1.56	0.97	0.41	0.44	1.07	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

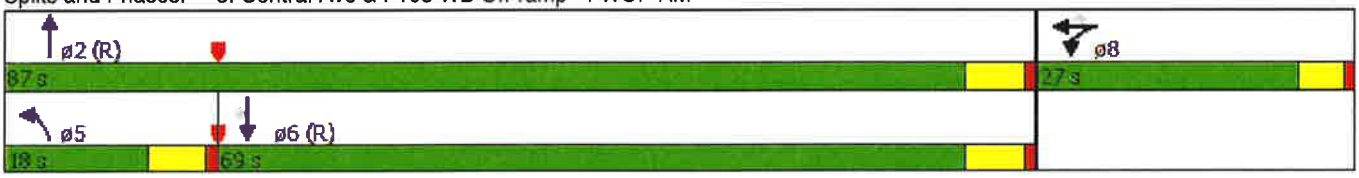
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	151	4	406	333	1237	0	0	1207	802
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950	0.955		0.950					
Satd. Flow (prot)	0	0	0	1633	1642	1538	3335	3438	0	0	3438	1538
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1633	1642	1538	3335	3438	0	0	3438	1538
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						88						
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	164	4	441	362	1345	0	0	1312	872
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	0	0	84	84	441	362	1345	0	0	1312	872
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Minimum Split (s)				21.1	21.1	21.1	10.0	22.0			22.0	22.0
Total Split (s)				27.0	27.0	27.0	18.0	87.0			69.0	69.0
Total Split (%)				23.7%	23.7%	23.7%	15.8%	76.3%			60.5%	60.5%
Maximum Green (s)				22.0	22.0	22.0	12.0	81.0			63.0	63.0
Yellow Time (s)				4.0	4.0	4.0	5.0	5.0			5.0	5.0
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)				5.0	5.0	5.0	6.0	6.0			6.0	6.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Walk Time (s)				5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)				11.0	11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)				0	0	0		0			0	0
Act Effct Green (s)				22.0	22.0	22.0	12.0	81.0			63.0	63.0
Actuated g/C Ratio				0.19	0.19	0.19	0.11	0.71			0.55	0.55
v/c Ratio				0.27	0.27	1.20	1.03	0.55			0.69	1.03
Control Delay				41.8	41.8	146.8	106.5	8.9			20.9	64.4
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				41.8	41.8	146.8	106.5	8.9			20.9	64.4
LOS				D	D	F	F	A			C	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					117.8			29.6			38.3	
Approach LOS					F			C			D	

Intersection Summary

Area Type: Other
Cycle Length: 114
Actuated Cycle Length: 114
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.20
Intersection Signal Delay: 45.7 Intersection LOS: D
Intersection Capacity Utilization 77.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Central Ave & I-105 WB Off-ramp - FWOP AM





Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	84	84	441	362	1345	1312	872
v/c Ratio	0.27	0.27	1.20	1.03	0.55	0.69	1.03
Control Delay	41.8	41.8	146.8	106.5	8.9	20.9	64.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	41.8	146.8	106.5	8.9	20.9	64.4
Queue Length 50th (ft)	66	66	~406	~176	262	418	~820
Queue Length 95th (ft)	126	126	#651	#291	321	514	#1112
Internal Link Dist (ft)		665			502	478	
Turn Bay Length (ft)							
Base Capacity (vph)	315	316	367	351	2442	1899	849
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.27	1.20	1.03	0.55	0.69	1.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

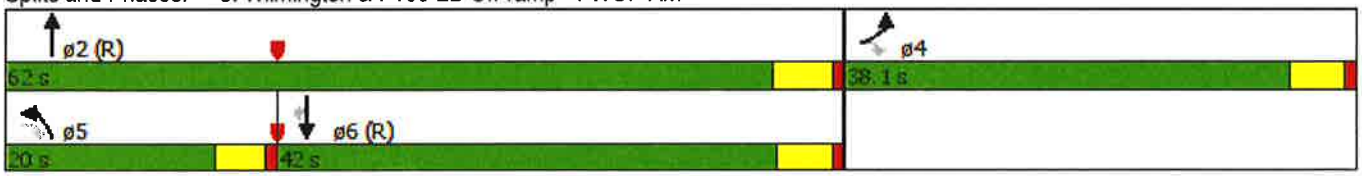


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	449	604	358	731	756	531
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	120			0
Storage Lanes	1	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.95	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1719	4940	3438	2707
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1719	4940	3438	2707
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		55				577
Link Speed (mph)	30			30	30	
Link Distance (ft)	1070			942	903	
Travel Time (s)	24.3			21.4	20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	488	657	389	795	822	577
Shared Lane Traffic (%)						
Lane Group Flow (vph)	488	657	389	795	822	577
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4 5				6
Minimum Split (s)	38.1		8.7	21.4	21.1	21.1
Total Split (s)	38.1		20.0	62.0	42.0	42.0
Total Split (%)	38.1%		20.0%	61.9%	42.0%	42.0%
Maximum Green (s)	33.0		15.3	56.6	36.9	36.9
Yellow Time (s)	4.1		3.7	4.4	4.1	4.1
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1		4.7	5.4	5.1	5.1
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Walk Time (s)	7.0			5.0	5.0	5.0
Flash Dont Walk (s)	26.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effct Green (s)	33.0	53.0	15.3	56.6	36.9	36.9
Actuated g/C Ratio	0.33	0.53	0.15	0.57	0.37	0.37
v/c Ratio	0.86	0.78	1.48	0.28	0.65	0.42
Control Delay	48.5	25.3	270.0	11.6	29.1	2.9

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	25.3	270.0	11.6	29.1	2.9
LOS	D	C	F	B	C	A
Approach Delay	35.2			96.5	18.3	
Approach LOS	D			F	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100.1			
Actuated Cycle Length: 100.1			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.48			
Intersection Signal Delay: 48.3		Intersection LOS: D	
Intersection Capacity Utilization 78.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington & I-105 EB Off-ramp - FWOP AM





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	488	657	389	795	822	577
v/c Ratio	0.86	0.78	1.48	0.28	0.65	0.42
Control Delay	48.5	25.3	270.0	11.6	29.1	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	25.3	270.0	11.6	29.1	2.9
Queue Length 50th (ft)	347	355	~413	108	271	0
Queue Length 95th (ft)	#564	554	#632	137	351	44
Internal Link Dist (ft)	990			862	823	
Turn Bay Length (ft)			120			
Base Capacity (vph)	566	840	262	2793	1267	1362
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.78	1.48	0.28	0.65	0.42

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	1123	250	810	1499	14	591	12	150	8	37	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	340		0	0		0	0		0
Storage Lanes	1		1	2		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	0.81	0.97	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.997	0.850		0.999				0.850		0.916	
Flt Protected	0.950			0.950			0.950	0.954			0.997	
Satd. Flow (prot)	1719	5845	1246	3335	4935	0	1633	1640	1538	0	1653	0
Flt Permitted	0.950			0.950			0.950	0.954			0.937	
Satd. Flow (perm)	1719	5845	1246	3335	4935	0	1633	1640	1538	0	1553	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6	245		2				245		63	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1132			1053			585			490	
Travel Time (s)		25.7			23.9			13.3			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	1221	272	880	1629	15	642	13	163	9	40	80
Shared Lane Traffic (%)			10%				49%					
Lane Group Flow (vph)	60	1248	245	880	1644	0	327	328	163	0	129	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Minimum Split (s)	8.7	21.9	21.9	8.7	21.9		21.6	21.6	21.6	21.6	21.6	
Total Split (s)	7.0	44.0	44.0	16.0	53.0		15.0	15.0	15.0	10.0	10.0	
Total Split (%)	8.2%	51.8%	51.8%	18.8%	62.4%		17.6%	17.6%	17.6%	11.8%	11.8%	
Maximum Green (s)	2.3	38.1	38.1	11.3	47.1		9.4	9.4	9.4	4.4	4.4	
Yellow Time (s)	3.7	4.4	4.4	3.7	4.4		4.1	4.1	4.1	4.1	4.1	
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.7	5.9	5.9	4.7	5.9		5.6	5.6	5.6		5.6	
Lead/Lag	Lead	Lead	Lead	Lag	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	2.3	38.1	38.1	11.3	47.1		9.4	9.4	9.4		4.4	
Actuated g/C Ratio	0.03	0.45	0.45	0.13	0.55		0.11	0.11	0.11		0.05	
v/c Ratio	1.30	0.48	0.35	1.99	0.60		1.82	1.81	0.42		0.92	
Control Delay	272.7	17.1	3.6	476.3	13.8		414.9	412.8	4.4		83.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	272.7	17.1	3.6	476.3	13.8		414.9	412.8	4.4		83.2	
LOS	F	B	A	F	B		F	F	A		F	
Approach Delay		24.8			175.1			332.2			83.2	
Approach LOS		C			F			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 120			
Control Type: Pretimed			
Maximum v/c Ratio: 1.99			
Intersection Signal Delay: 151.9		Intersection LOS: F	
Intersection Capacity Utilization 77.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: I-105 Off-ramp & Imperial Hwy- FWOP AM





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	60	1248	245	880	1644	327	328	163	129
v/c Ratio	1.30	0.48	0.35	1.99	0.60	1.82	1.81	0.42	0.92
Control Delay	272.7	17.1	3.6	476.3	13.8	414.9	412.8	4.4	83.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	272.7	17.1	3.6	476.3	13.8	414.9	412.8	4.4	83.2
Queue Length 50th (ft)	~50	166	0	~458	239	~336	~337	0	43
Queue Length 95th (ft)	#143	204	59	#596	293	#538	#538	15	#171
Internal Link Dist (ft)		1052			973		505		410
Turn Bay Length (ft)	100			340					
Base Capacity (vph)	46	2623	693	443	2735	180	181	387	140
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.30	0.48	0.35	1.99	0.60	1.82	1.81	0.42	0.92

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	670	3	378	0	0	12	0	990	15	33	658	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		110	0		0	0		0	180		0
Storage Lanes	1		1	0		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.865		0.998				
Flt Protected	0.950	0.953								0.950		
Satd. Flow (prot)	1633	1638	1538	0	0	1565	0	4930	0	1719	3438	0
Flt Permitted	0.950	0.953								0.223		
Satd. Flow (perm)	1633	1638	1538	0	0	1565	0	4930	0	404	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			289			102		4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		817			156			598			555	
Travel Time (s)		18.6			3.5			13.6			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	728	3	411	0	0	13	0	1076	16	36	715	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	364	367	411	0	0	13	0	1092	0	36	715	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	Perm			Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4			8				6		
Minimum Split (s)	21.1	21.1	21.1			21.1		21.4		21.4	21.4	
Total Split (s)	20.0	20.0	20.0			10.0		50.0		50.0	50.0	
Total Split (%)	25.0%	25.0%	25.0%			12.5%		62.5%		62.5%	62.5%	
Maximum Green (s)	14.9	14.9	14.9			4.9		44.6		44.6	44.6	
Yellow Time (s)	4.1	4.1	4.1			4.1		4.4		4.4	4.4	
All-Red Time (s)	1.0	1.0	1.0			1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Lost Time (s)	5.1	5.1	5.1			5.1		5.4		5.4	5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0			11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0			0		0		0	0	
Act Effct Green (s)	14.9	14.9	14.9			4.9		44.6		44.6	44.6	
Actuated g/C Ratio	0.19	0.19	0.19			0.06		0.56		0.56	0.56	
v/c Ratio	1.20	1.20	0.79			0.07		0.40		0.16	0.37	
Control Delay	148.4	150.4	22.4			0.7		10.6		10.8	10.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Delay	148.4	150.4	22.4			0.7		10.6		10.8	10.6	
LOS	F	F	C			A		B		B	B	
Approach Delay		103.7						10.6			10.6	
Approach LOS		F						B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 46.0		Intersection LOS: D	
Intersection Capacity Utilization 54.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 EB Off-ramp - FWOP AM



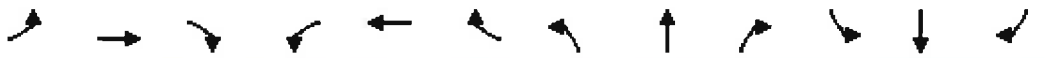


Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	364	367	411	13	1092	36	715
v/c Ratio	1.20	1.20	0.79	0.07	0.40	0.16	0.37
Control Delay	148.4	150.4	22.4	0.7	10.6	10.8	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	148.4	150.4	22.4	0.7	10.6	10.8	10.6
Queue Length 50th (ft)	~283	~286	65	0	125	10	116
Queue Length 95th (ft)	#488	#490	#239	0	159	29	159
Internal Link Dist (ft)		737			518		475
Turn Bay Length (ft)			110			180	
Base Capacity (vph)	304	305	521	191	2750	225	1916
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.20	1.20	0.79	0.07	0.40	0.16	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

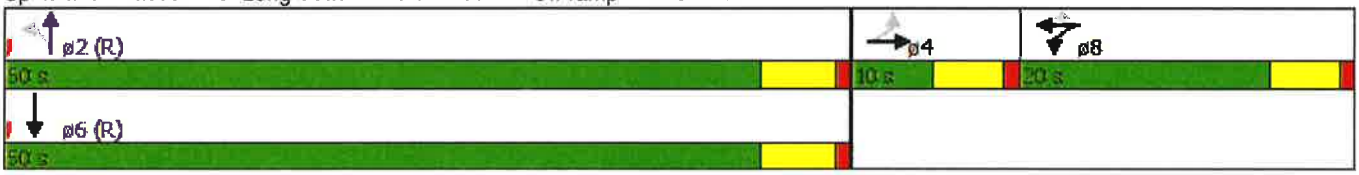


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	0	6	180	30	864	12	1225	0	0	1329	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		140	150		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.957			0.860	0.850					0.995	
Flt Protected		0.967		0.950			0.950					
Satd. Flow (prot)	0	1675	0	1719	1478	1461	1719	4940	0	0	4915	0
Flt Permitted		0.686		0.950			0.126					
Satd. Flow (perm)	0	1188	0	1719	1478	1461	228	4940	0	0	4915	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102			118	118					11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			573			493			550	
Travel Time (s)		4.9			13.0			11.2			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	0	7	196	33	939	13	1332	0	0	1445	52
Shared Lane Traffic (%)						49%						
Lane Group Flow (vph)	0	22	0	196	493	479	13	1332	0	0	1497	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	Perm	Perm	NA			NA	
Protected Phases		4		8	8			2			6	
Permitted Phases	4					8	2					
Minimum Split (s)	21.1	21.1		21.1	21.1	21.1	31.4	31.4			21.4	
Total Split (s)	10.0	10.0		20.0	20.0	20.0	50.0	50.0			50.0	
Total Split (%)	12.5%	12.5%		25.0%	25.0%	25.0%	62.5%	62.5%			62.5%	
Maximum Green (s)	4.9	4.9		14.9	14.9	14.9	44.6	44.6			44.6	
Yellow Time (s)	4.1	4.1		4.1	4.1	4.1	4.4	4.4			4.4	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0			1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)		5.1		5.1	5.1	5.1	5.4	5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)		4.9		14.9	14.9	14.9	44.6	44.6			44.6	
Actuated g/C Ratio		0.06		0.19	0.19	0.19	0.56	0.56			0.56	
v/c Ratio		0.13		0.61	1.33	1.30	0.10	0.48			0.55	
Control Delay		1.6		39.1	189.7	178.6	10.8	11.5			12.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay		1.6		39.1	189.7	178.6	10.8	11.5			12.1	
LOS		A		D	F	F	B	B			B	
Approach Delay		1.6			159.9			11.5			12.1	
Approach LOS		A			F			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 1.33			
Intersection Signal Delay: 54.6		Intersection LOS: D	
Intersection Capacity Utilization 75.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 WB Off-ramp - FWOP AM





Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	22	196	493	479	13	1332	1497
v/c Ratio	0.13	0.61	1.33	1.30	0.10	0.48	0.55
Control Delay	1.6	39.1	189.7	178.6	10.8	11.5	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.6	39.1	189.7	178.6	10.8	11.5	12.1
Queue Length 50th (ft)	0	109	~347	~329	3	163	191
Queue Length 95th (ft)	0	190	#581	#563	15	205	238
Internal Link Dist (ft)	135		493			413	470
Turn Bay Length (ft)				140	150		
Base Capacity (vph)	168	320	371	368	127	2754	2744
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.61	1.33	1.30	0.10	0.48	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

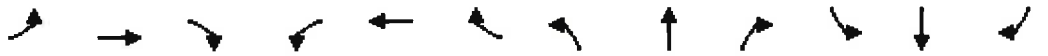


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	576	1133	1165	258	191	591
v/c Ratio	1.37	1.31	1.17	0.27	0.21	0.28
Control Delay	213.9	177.7	122.0	5.2	27.5	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	213.9	177.7	122.0	5.2	27.5	8.9
Queue Length 50th (ft)	~624	~588	~545	4	55	96
Queue Length 95th (ft)	#895	#753	#701	42	89	130
Internal Link Dist (ft)		510	324			339
Turn Bay Length (ft)						
Base Capacity (vph)	419	866	992	953	928	2126
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.37	1.31	1.17	0.27	0.21	0.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



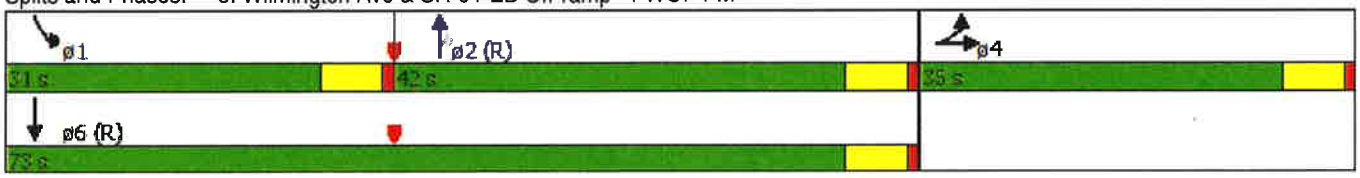
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	473	198	548	0	0	0	0	631	262	279	906	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Frt		0.896							0.850			
Flt Protected	0.950	0.997								0.950		
Satd. Flow (prot)	1564	2942	0	0	0	0	0	3438	2707	3335	3438	0
Flt Permitted	0.950	0.997								0.950		
Satd. Flow (perm)	1564	2942	0	0	0	0	0	3438	2707	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		134							285			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	514	215	596	0	0	0	0	686	285	303	985	0
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	463	862	0	0	0	0	0	686	285	303	985	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Minimum Split (s)	22.0	22.0						22.0	22.0	10.0	22.0	
Total Split (s)	35.0	35.0						42.0	42.0	31.0	73.0	
Total Split (%)	32.4%	32.4%						38.9%	38.9%	28.7%	67.6%	
Maximum Green (s)	29.0	29.0						36.0	36.0	25.0	67.0	
Yellow Time (s)	5.0	5.0						5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0						6.0	6.0	6.0	6.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0						5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	29.0	29.0						36.0	36.0	25.0	67.0	
Actuated g/C Ratio	0.27	0.27						0.33	0.33	0.23	0.62	
v/c Ratio	1.11	1.22dr						0.60	0.26	0.39	0.46	
Control Delay	113.6	57.6						32.6	3.7	36.9	11.8	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	113.6	57.6						32.6	3.7	36.9	11.8	
LOS	F	E						C	A	D	B	

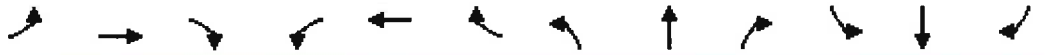
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		77.1						24.1			17.7	
Approach LOS		E						C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 108			
Actuated Cycle Length: 108			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 41.4		Intersection LOS: D	
Intersection Capacity Utilization 65.0%		ICU Level of Service C	
Analysis Period (min) 15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilmington Ave & SR-91 EB Off-ramp - FWOP PM





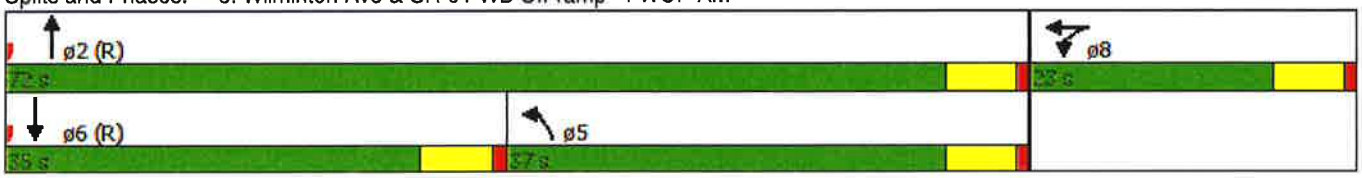
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	191	98	628	585	1358	0	0	500	526
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Frt					0.874						0.923	
Flt Protected				0.950	0.999		0.950					
Satd. Flow (prot)	0	0	0	1564	2875	0	1719	3438	0	0	4560	0
Flt Permitted				0.950	0.999		0.950					
Satd. Flow (perm)	0	0	0	1564	2875	0	1719	3438	0	0	4560	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					64						232	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	208	107	683	636	1476	0	0	543	572
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	0	0	0	187	811	0	636	1476	0	0	1115	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases												
Minimum Split (s)				22.0	22.0		10.0	22.0			22.0	
Total Split (s)				23.0	23.0		37.0	72.0			35.0	
Total Split (%)				24.2%	24.2%		38.9%	75.8%			36.8%	
Maximum Green (s)				17.0	17.0		31.0	66.0			29.0	
Yellow Time (s)				5.0	5.0		5.0	5.0			5.0	
All-Red Time (s)				1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0			6.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)				17.0	17.0		31.0	66.0			29.0	
Actuated g/C Ratio				0.18	0.18		0.33	0.69			0.31	
v/c Ratio				0.67	2.18dr		1.14	0.62			0.90dr	
Control Delay				49.6	233.2		113.0	9.2			26.0	
Queue Delay				0.0	0.0		0.0	0.0			0.0	
Total Delay				49.6	233.2		113.0	9.2			26.0	
LOS				D	F		F	A			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					198.8			40.4			26.0	
Approach LOS					F			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.43			
Intersection Signal Delay: 74.0		Intersection LOS: E	
Intersection Capacity Utilization 87.9%		ICU Level of Service E	
Analysis Period (min) 15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilminton Ave & SR-91 WB Off-ramp - FWOP AM





Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	187	811	636	1476	1115
v/c Ratio	0.67	2.18dr	1.14	0.62	0.90dr
Control Delay	49.6	233.2	113.0	9.2	26.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	233.2	113.0	9.2	26.0
Queue Length 50th (ft)	139	~421	~540	261	208
Queue Length 95th (ft)	#254	#573	#791	331	270
Internal Link Dist (ft)		500		324	339
Turn Bay Length (ft)					
Base Capacity (vph)	279	567	560	2388	1553
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.67	1.43	1.14	0.62	0.72

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

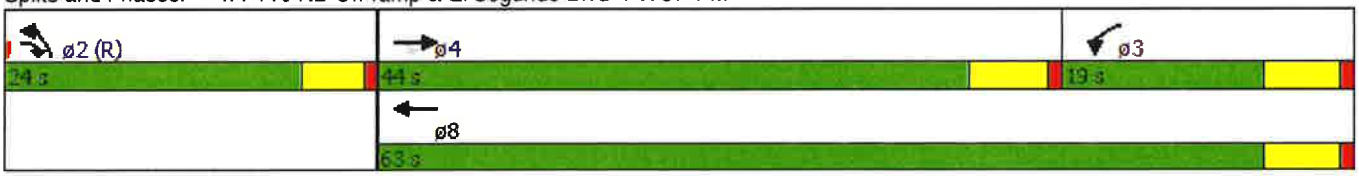
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1683	484	326	826	347	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.91	0.97	0.95
Frt		0.850			0.928	
Flt Protected			0.950		0.975	
Satd. Flow (prot)	3471	1553	1736	4988	3207	0
Flt Permitted			0.950		0.975	
Satd. Flow (perm)	3471	1553	1736	4988	3207	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		45			246	
Link Speed (mph)	30			30	30	
Link Distance (ft)	568			630	393	
Travel Time (s)	12.9			14.3	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1829	526	354	898	377	348
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1829	526	354	898	725	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	Prot	NA	Prot	
Protected Phases	4	2	3	8	2	
Permitted Phases		4				
Minimum Split (s)	22.0	21.1	10.0	22.0	21.1	
Total Split (s)	44.0	24.0	19.0	63.0	24.0	
Total Split (%)	50.6%	27.6%	21.8%	72.4%	27.6%	
Maximum Green (s)	38.0	19.0	13.0	57.0	19.0	
Yellow Time (s)	5.0	4.0	5.0	5.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	6.0	5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Walk Time (s)	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	38.0	63.0	13.0	57.0	19.0	
Actuated g/C Ratio	0.44	0.72	0.15	0.66	0.22	
v/c Ratio	1.21	0.46	1.37	0.27	0.81	
Control Delay	124.8	6.0	219.8	6.6	29.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	124.8	6.0	219.8	6.6	29.7	
LOS	F	A	F	A	C	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	98.3			66.9	29.7	
Approach LOS	F			E	C	

Intersection Summary

Area Type: Other
Cycle Length: 87
Actuated Cycle Length: 87
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
Natural Cycle: 140
Control Type: Pretimed
Maximum v/c Ratio: 1.37
Intersection Signal Delay: 77.7 Intersection LOS: E
Intersection Capacity Utilization 98.7% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 4: I-110 NB Off-ramp & El Segundo Blvd- FWOP PM



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	1829	526	354	898	725
v/c Ratio	1.21	0.46	1.37	0.27	0.81
Control Delay	124.8	6.0	219.8	6.6	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	124.8	6.0	219.8	6.6	29.7
Queue Length 50th (ft)	~780	106	~310	80	156
Queue Length 95th (ft)	#944	171	#510	102	#246
Internal Link Dist (ft)	488			550	313
Turn Bay Length (ft)					
Base Capacity (vph)	1516	1137	259	3268	892
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.21	0.46	1.37	0.27	0.81

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

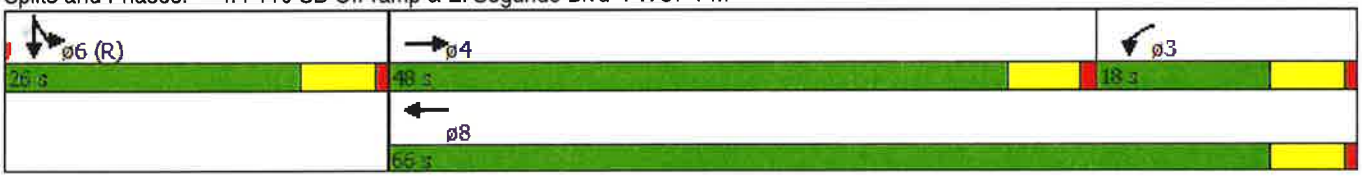
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1678	662	193	995	0	0	0	0	520	0	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.958									0.933	0.850
Flt Protected				0.950						0.950	0.973	
Satd. Flow (prot)	0	4778	0	1736	4988	0	0	0	0	1649	1509	1475
Flt Permitted				0.950						0.950	0.973	
Satd. Flow (perm)	0	4778	0	1736	4988	0	0	0	0	1649	1509	1475
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		142									107	122
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		802			783			340			320	
Travel Time (s)		18.2			17.8			7.7			7.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1824	720	210	1082	0	0	0	0	565	0	503
Shared Lane Traffic (%)										35%		32%
Lane Group Flow (vph)	0	2544	0	210	1082	0	0	0	0	367	359	342
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Minimum Split (s)		22.0		10.0	22.0					22.0	22.0	22.0
Total Split (s)		48.0		18.0	66.0					26.0	26.0	26.0
Total Split (%)		52.2%		19.6%	71.7%					28.3%	28.3%	28.3%
Maximum Green (s)		42.0		12.0	60.0					20.0	20.0	20.0
Yellow Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Walk Time (s)		5.0			5.0					5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		42.0		12.0	60.0					20.0	20.0	20.0
Actuated g/C Ratio		0.46		0.13	0.65					0.22	0.22	0.22
v/c Ratio		1.13		0.93	0.33					1.03	0.87	0.82
Control Delay		87.9		85.8	7.4					91.7	47.7	39.7
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		87.9		85.8	7.4					91.7	47.7	39.7
LOS		F		F	A					F	D	D

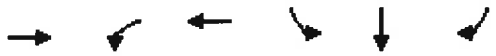
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		87.9			20.2						60.3	
Approach LOS		F			C						E	

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 92
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 64.1 Intersection LOS: E
Intersection Capacity Utilization 92.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 4: I-110 SB Off-ramp & El Segundo Blvd- FWOP PM





Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	2544	210	1082	367	359	342
v/c Ratio	1.13	0.93	0.33	1.03	0.87	0.82
Control Delay	87.9	85.8	7.4	91.7	47.7	39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.9	85.8	7.4	91.7	47.7	39.7
Queue Length 50th (ft)	~742	148	109	~282	192	157
Queue Length 95th (ft)	#859	#308	136	#508	#405	#343
Internal Link Dist (ft)	722		703		240	
Turn Bay Length (ft)						
Base Capacity (vph)	2258	226	3253	358	411	416
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.93	0.33	1.03	0.87	0.82

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

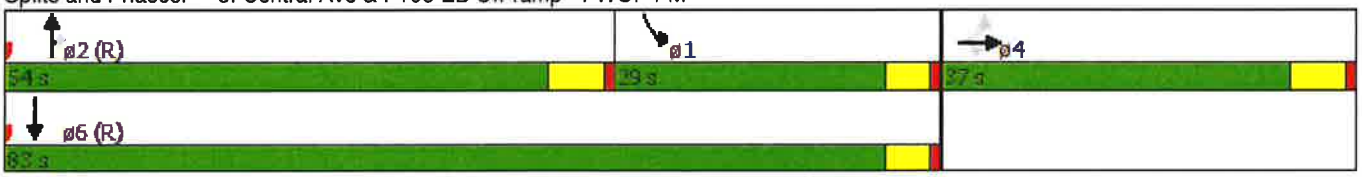
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	524	262	441	0	0	0	0	968	471	505	952	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frt		0.978	0.850						0.850			
Flt Protected	0.950	0.988								0.950		
Satd. Flow (prot)	1633	1591	1461	0	0	0	0	4940	1538	3335	3438	0
Flt Permitted	0.950	0.988								0.950		
Satd. Flow (perm)	1633	1591	1461	0	0	0	0	4940	1538	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7	133						158			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	570	285	479	0	0	0	0	1052	512	549	1035	0
Shared Lane Traffic (%)	20%		14%									
Lane Group Flow (vph)	456	466	412	0	0	0	0	1052	512	549	1035	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Minimum Split (s)	22.0	22.0	22.0					22.0	22.0	9.0	22.0	
Total Split (s)	37.0	37.0	37.0					54.0	54.0	29.0	83.0	
Total Split (%)	30.8%	30.8%	30.8%					45.0%	45.0%	24.2%	69.2%	
Maximum Green (s)	31.0	31.0	31.0					48.0	48.0	24.0	78.0	
Yellow Time (s)	5.0	5.0	5.0					5.0	5.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0	6.0	5.0	5.0	
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0	5.0					5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0	11.0					11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)	31.0	31.0	31.0					48.0	48.0	24.0	78.0	
Actuated g/C Ratio	0.26	0.26	0.26					0.40	0.40	0.20	0.65	
v/c Ratio	1.08	1.12	0.87					0.53	0.72	0.82	0.46	
Control Delay	110.4	121.8	47.9					28.7	27.2	57.4	11.3	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	110.4	121.8	47.9					28.7	27.2	57.4	11.3	
LOS	F	F	D					C	C	E	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		95.1						28.2			27.3	
Approach LOS		F						C			C	

Intersection Summary

Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 1.12			
Intersection Signal Delay: 47.8		Intersection LOS: D	
Intersection Capacity Utilization 83.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Central Ave & I-105 EB Off-ramp - FWOP PM





Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	456	466	412	1052	512	549	1035
v/c Ratio	1.08	1.12	0.87	0.53	0.72	0.82	0.46
Control Delay	110.4	121.8	47.9	28.7	27.2	57.4	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.4	121.8	47.9	28.7	27.2	57.4	11.3
Queue Length 50th (ft)	~498	~543	273	269	280	254	233
Queue Length 95th (ft)	#757	#820	#505	323	446	#349	288
Internal Link Dist (ft)		575		502			478
Turn Bay Length (ft)							
Base Capacity (vph)	421	416	476	1976	710	667	2234
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	1.12	0.87	0.53	0.72	0.82	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

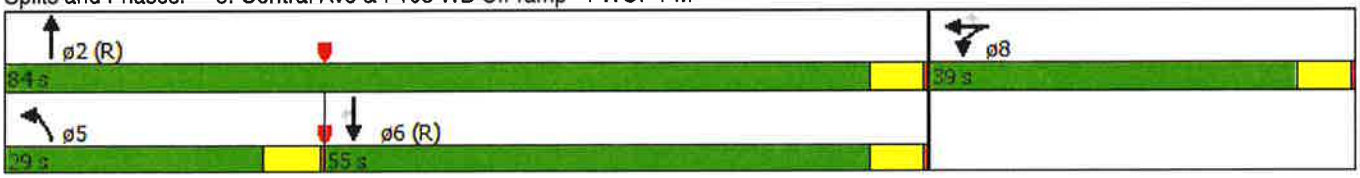
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	330	0	585	386	1075	0	0	1137	611
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1633	1633	1538	3335	3438	0	0	3438	1538
Flt Permitted				0.950	0.950		0.950					
Satd. Flow (perm)	0	0	0	1633	1633	1538	3335	3438	0	0	3438	1538
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						96						
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	359	0	636	420	1168	0	0	1236	664
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	179	180	636	420	1168	0	0	1236	664
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Minimum Split (s)				21.5	21.5	21.5	9.5	21.5			21.5	21.5
Total Split (s)				39.0	39.0	39.0	29.0	84.0			55.0	55.0
Total Split (%)				31.7%	31.7%	31.7%	23.6%	68.3%			44.7%	44.7%
Maximum Green (s)				33.5	33.5	33.5	23.5	78.5			49.5	49.5
Yellow Time (s)				5.0	5.0	5.0	5.0	5.0			5.0	5.0
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	0.5
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	5.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Walk Time (s)				5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)				11.0	11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)				0	0	0		0			0	0
Act Effct Green (s)				33.5	33.5	33.5	23.5	78.5			49.5	49.5
Actuated g/C Ratio				0.27	0.27	0.27	0.19	0.64			0.40	0.40
v/c Ratio				0.40	0.41	1.30	0.66	0.53			0.89	1.07
Control Delay				39.9	39.9	182.7	51.7	13.3			43.9	93.7
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				39.9	39.9	182.7	51.7	13.3			43.9	93.7
LOS				D	D	F	D	B			D	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					131.2			23.5			61.3	
Approach LOS					F			C			E	

Intersection Summary

Area Type: Other
Cycle Length: 123
Actuated Cycle Length: 123
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Pretimed
Maximum v/c Ratio: 1.30
Intersection Signal Delay: 63.4 Intersection LOS: E
Intersection Capacity Utilization 75.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Central Ave & I-105 WB Off-ramp - FWOP PM





Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	179	180	636	420	1168	1236	664
v/c Ratio	0.40	0.41	1.30	0.66	0.53	0.89	1.07
Control Delay	39.9	39.9	182.7	51.7	13.3	43.9	93.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.9	39.9	182.7	51.7	13.3	43.9	93.7
Queue Length 50th (ft)	147	148	~710	192	298	571	~703
Queue Length 95th (ft)	234	235	#989	259	364	#703	#981
Internal Link Dist (ft)		665			502	478	
Turn Bay Length (ft)							
Base Capacity (vph)	444	444	488	637	2194	1383	618
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.41	1.30	0.66	0.53	0.89	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

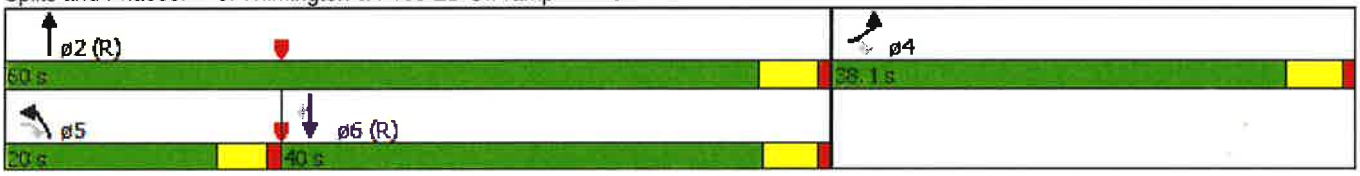


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	361	207	359	1081	633	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	120			0
Storage Lanes	1	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.95	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1719	4940	3438	2707
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1719	4940	3438	2707
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		83				510
Link Speed (mph)	30			30	30	
Link Distance (ft)	1070			942	903	
Travel Time (s)	24.3			21.4	20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	392	225	390	1175	688	510
Shared Lane Traffic (%)						
Lane Group Flow (vph)	392	225	390	1175	688	510
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4 5				6
Minimum Split (s)	38.1		8.7	21.4	21.1	21.1
Total Split (s)	38.1		20.0	60.0	40.0	40.0
Total Split (%)	38.8%		20.4%	61.2%	40.8%	40.8%
Maximum Green (s)	33.0		15.3	54.6	34.9	34.9
Yellow Time (s)	4.1		3.7	4.4	4.1	4.1
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1		4.7	5.4	5.1	5.1
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Walk Time (s)	7.0			5.0	5.0	5.0
Flash Dont Walk (s)	26.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effct Green (s)	33.0	53.0	15.3	54.6	34.9	34.9
Actuated g/C Ratio	0.34	0.54	0.16	0.56	0.36	0.36
v/c Ratio	0.68	0.26	1.46	0.43	0.56	0.40
Control Delay	35.0	8.2	257.0	13.3	27.6	3.0

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	8.2	257.0	13.3	27.6	3.0
LOS	D	A	F	B	C	A
Approach Delay	25.3			74.0	17.2	
Approach LOS	C			E	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 98.1			
Actuated Cycle Length: 98.1			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.46			
Intersection Signal Delay: 45.0		Intersection LOS: D	
Intersection Capacity Utilization 69.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington & I-105 EB Off-ramp - FWOP PM





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	392	225	390	1175	688	510
v/c Ratio	0.68	0.26	1.46	0.43	0.56	0.40
Control Delay	35.0	8.2	257.0	13.3	27.6	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	8.2	257.0	13.3	27.6	3.0
Queue Length 50th (ft)	250	51	~402	176	215	0
Queue Length 95th (ft)	378	101	#618	216	284	43
Internal Link Dist (ft)	990			862	823	
Turn Bay Length (ft)			120			
Base Capacity (vph)	578	869	268	2749	1223	1291
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.26	1.46	0.43	0.56	0.40

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

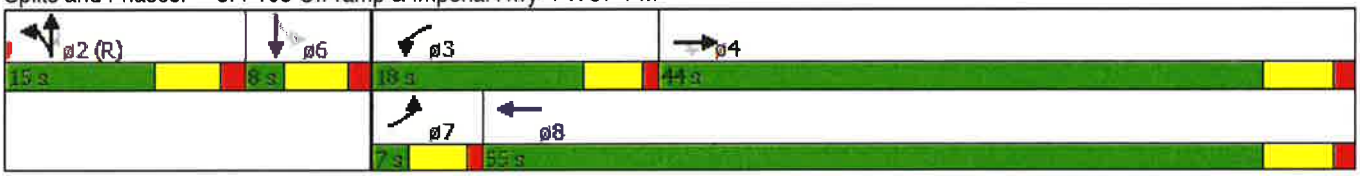
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	1824	399	657	941	1	603	9	299	10	24	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	340		0	0		0	0		0
Storage Lanes	1		1	2		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	0.81	0.97	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.997	0.850						0.850		0.940	
Flt Protected	0.950			0.950			0.950	0.954			0.992	
Satd. Flow (prot)	1719	5845	1246	3335	4940	0	1633	1640	1538	0	1687	0
Flt Permitted	0.950			0.950			0.950	0.954			0.970	
Satd. Flow (perm)	1719	5845	1246	3335	4940	0	1633	1640	1538	0	1650	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6	391						230		30	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1132			1053			585			490	
Travel Time (s)		25.7			23.9			13.3			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	1983	434	714	1023	1	655	10	325	11	26	30
Shared Lane Traffic (%)			10%				49%					
Lane Group Flow (vph)	57	2026	391	714	1024	0	334	331	325	0	67	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Minimum Split (s)	8.7	21.9	21.9	8.7	21.9		21.6	21.6	21.6	21.6	21.6	
Total Split (s)	7.0	44.0	44.0	18.0	55.0		15.0	15.0	15.0	8.0	8.0	
Total Split (%)	8.2%	51.8%	51.8%	21.2%	64.7%		17.6%	17.6%	17.6%	9.4%	9.4%	
Maximum Green (s)	2.3	38.1	38.1	13.3	49.1		9.4	9.4	9.4	2.4	2.4	
Yellow Time (s)	3.7	4.4	4.4	3.7	4.4		4.1	4.1	4.1	4.1	4.1	
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.7	5.9	5.9	4.7	5.9		5.6	5.6	5.6		5.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	2.3	38.1	38.1	13.3	49.1		9.4	9.4	9.4		2.4	
Actuated g/C Ratio	0.03	0.45	0.45	0.16	0.58		0.11	0.11	0.11		0.03	
v/c Ratio	1.24	0.77	0.51	1.37	0.36		1.86	1.83	0.87		0.89	
Control Delay	250.6	22.3	4.2	209.6	10.0		431.5	419.9	36.7		108.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	250.6	22.3	4.2	209.6	10.0		431.5	419.9	36.7		108.0	
LOS	F	C	A	F	B		F	F	D		F	
Approach Delay		24.7			92.0			298.0			108.0	
Approach LOS		C			F			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 1.86			
Intersection Signal Delay: 99.3		Intersection LOS: F	
Intersection Capacity Utilization 84.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: I-105 Off-ramp & Imperial Hwy- FWOP PM





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	57	2026	391	714	1024	334	331	325	67
v/c Ratio	1.24	0.77	0.51	1.37	0.36	1.86	1.83	0.87	0.89
Control Delay	250.6	22.3	4.2	209.6	10.0	431.5	419.9	36.7	108.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	250.6	22.3	4.2	209.6	10.0	431.5	419.9	36.7	108.0
Queue Length 50th (ft)	~46	325	0	~315	117	~346	~342	59	24
Queue Length 95th (ft)	#136	386	72	#444	149	#549	#543	#235	#119
Internal Link Dist (ft)		1052			973		505		410
Turn Bay Length (ft)	100			340					
Base Capacity (vph)	46	2623	774	521	2853	180	181	374	75
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.24	0.77	0.51	1.37	0.36	1.86	1.83	0.87	0.89

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

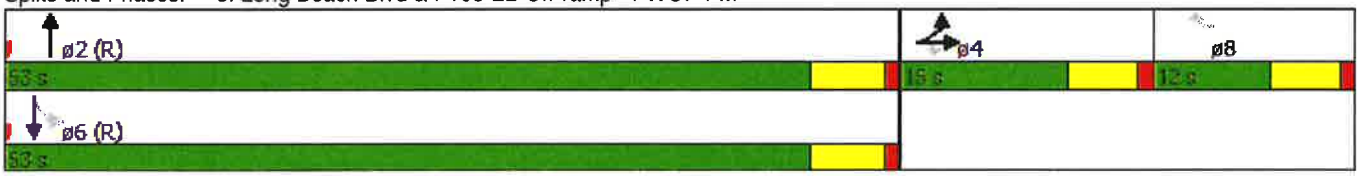


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	358	1	235	0	0	15	0	1081	4	15	1004	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		110	0		0	0		0	180		0
Storage Lanes	1		1	0		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.865		0.999				
Flt Protected	0.950	0.953								0.950		
Satd. Flow (prot)	1633	1638	1538	0	0	1565	0	4935	0	1719	3438	0
Flt Permitted	0.950	0.953								0.204		
Satd. Flow (perm)	1633	1638	1538	0	0	1565	0	4935	0	369	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			222			102		1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		817			156			598			555	
Travel Time (s)		18.6			3.5			13.6			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	389	1	255	0	0	16	0	1175	4	16	1091	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	194	196	255	0	0	16	0	1179	0	16	1091	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	Perm			Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4			8				6		
Minimum Split (s)	21.1	21.1	21.1			21.1		21.4		21.4	21.4	
Total Split (s)	15.0	15.0	15.0			12.0		53.0		53.0	53.0	
Total Split (%)	18.8%	18.8%	18.8%			15.0%		66.3%		66.3%	66.3%	
Maximum Green (s)	9.9	9.9	9.9			6.9		47.6		47.6	47.6	
Yellow Time (s)	4.1	4.1	4.1			4.1		4.4		4.4	4.4	
All-Red Time (s)	1.0	1.0	1.0			1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Lost Time (s)	5.1	5.1	5.1			5.1		5.4		5.4	5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0			11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0			0		0		0	0	
Act Effct Green (s)	9.9	9.9	9.9			6.9		47.6		47.6	47.6	
Actuated g/C Ratio	0.12	0.12	0.12			0.09		0.60		0.60	0.60	
v/c Ratio	0.96	0.97	0.66			0.07		0.40		0.07	0.53	
Control Delay	92.3	94.6	16.7			0.6		9.1		7.9	10.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Delay	92.3	94.6	16.7			0.6		9.1		7.9	10.8	
LOS	F	F	B			A		A		A	B	
Approach Delay		63.1						9.1			10.8	
Approach LOS		E						A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 21.5		Intersection LOS: C	
Intersection Capacity Utilization 51.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 EB Off-ramp - FWOP PM





Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	194	196	255	16	1179	16	1091
v/c Ratio	0.96	0.97	0.66	0.07	0.40	0.07	0.53
Control Delay	92.3	94.6	16.7	0.6	9.1	7.9	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.3	94.6	16.7	0.6	9.1	7.9	10.8
Queue Length 50th (ft)	124	125	18	0	124	4	185
Queue Length 95th (ft)	#283	#285	#107	0	157	14	245
Internal Link Dist (ft)		737			518		475
Turn Bay Length (ft)			110			180	
Base Capacity (vph)	202	202	384	228	2936	219	2045
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.97	0.66	0.07	0.40	0.07	0.53

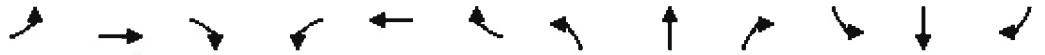
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		140	150		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.965			0.853	0.850					0.998	
Flt Protected		0.964		0.950			0.950					
Satd. Flow (prot)	0	1683	0	1719	1466	1461	1719	4940	0	0	4930	0
Flt Permitted		0.712		0.950			0.141					
Satd. Flow (perm)	0	1243	0	1719	1466	1461	255	4940	0	0	4930	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102			116	116					6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			573			493			550	
Travel Time (s)		4.9			13.0			11.2			12.5	

Intersection Summary	
Area Type:	Other

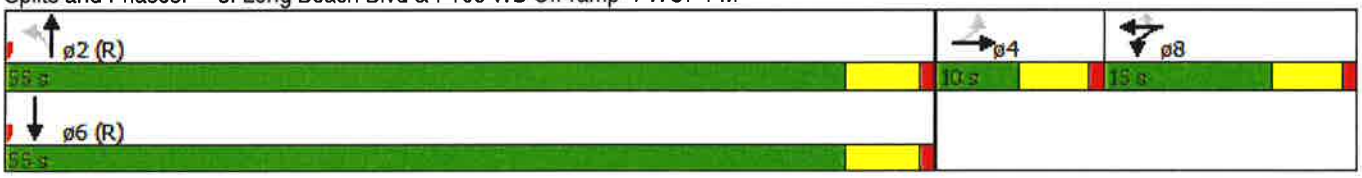


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	0	10	311	10	1077	17	1160	0	0	1332	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		140	150		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.965			0.853	0.850					0.998	
Flt Protected		0.964		0.950			0.950					
Satd. Flow (prot)	0	1683	0	1719	1466	1461	1719	4940	0	0	4930	0
Flt Permitted		0.712		0.950			0.141					
Satd. Flow (perm)	0	1243	0	1719	1466	1461	255	4940	0	0	4930	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102			116	116					6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			573			493			550	
Travel Time (s)		4.9			13.0			11.2			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	0	11	338	11	1171	18	1261	0	0	1448	24
Shared Lane Traffic (%)						50%						
Lane Group Flow (vph)	0	43	0	338	597	585	18	1261	0	0	1472	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	Perm	Perm	NA			NA	
Protected Phases		4		8	8			2			6	
Permitted Phases	4					8	2					
Minimum Split (s)	21.1	21.1		21.1	21.1	21.1	31.4	31.4			21.4	
Total Split (s)	10.0	10.0		15.0	15.0	15.0	55.0	55.0			55.0	
Total Split (%)	12.5%	12.5%		18.8%	18.8%	18.8%	68.8%	68.8%			68.8%	
Maximum Green (s)	4.9	4.9		9.9	9.9	9.9	49.6	49.6			49.6	
Yellow Time (s)	4.1	4.1		4.1	4.1	4.1	4.4	4.4			4.4	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0			1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)		5.1		5.1	5.1	5.1	5.4	5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)		4.9		9.9	9.9	9.9	49.6	49.6			49.6	
Actuated g/C Ratio		0.06		0.12	0.12	0.12	0.62	0.62			0.62	
v/c Ratio		0.25		1.59	2.11	2.07	0.11	0.41			0.48	
Control Delay		3.5		316.6	530.7	515.3	8.4	8.3			8.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay		3.5		316.6	530.7	515.3	8.4	8.3			8.8	
LOS		A		F	F	F	A	A			A	
Approach Delay		3.5			477.2			8.3			8.8	
Approach LOS		A			F			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 2.11			
Intersection Signal Delay: 173.6		Intersection LOS: F	
Intersection Capacity Utilization 83.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 WB Off-ramp- FWOP PM





Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	43	338	597	585	18	1261	1472
v/c Ratio	0.25	1.59	2.11	2.07	0.11	0.41	0.48
Control Delay	3.5	316.6	530.7	515.3	8.4	8.3	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.5	316.6	530.7	515.3	8.4	8.3	8.8
Queue Length 50th (ft)	0	~294	~547	~531	4	126	155
Queue Length 95th (ft)	1	#483	#797	#780	16	158	193
Internal Link Dist (ft)	135		493			413	470
Turn Bay Length (ft)				140	150		
Base Capacity (vph)	171	212	283	282	158	3062	3058
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	1.59	2.11	2.07	0.11	0.41	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	841	486	246	0	0	0	0	1072	237	176	544	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Frt		0.965							0.850			
Flt Protected	0.950	0.985								0.950		
Satd. Flow (prot)	1564	3130	0	0	0	0	0	3438	2707	3335	3438	0
Flt Permitted	0.950	0.985								0.950		
Satd. Flow (perm)	1564	3130	0	0	0	0	0	3438	2707	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38							242			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	914	528	267	0	0	0	0	1165	258	191	591	0
Shared Lane Traffic (%)	37%											
Lane Group Flow (vph)	576	1133	0	0	0	0	0	1165	258	191	591	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Minimum Split (s)	21.1	21.1						21.4	21.4	10.0	26.5	
Total Split (s)	31.0	31.0						33.0	33.0	33.0	66.0	
Total Split (%)	32.0%	32.0%						34.0%	34.0%	34.0%	68.0%	
Maximum Green (s)	26.0	26.0						28.0	28.0	27.0	60.0	
Yellow Time (s)	4.0	4.0						4.0	4.0	5.0	5.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0						5.0	5.0	6.0	6.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0						5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	26.0	26.0						28.0	28.0	27.0	60.0	
Actuated g/C Ratio	0.27	0.27						0.29	0.29	0.28	0.62	
v/c Ratio	1.37	1.31						1.17	0.27	0.21	0.28	
Control Delay	213.9	177.7						122.0	5.2	27.5	8.9	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	213.9	177.7						122.0	5.2	27.5	8.9	
LOS	F	F						F	A	C	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		189.9						100.8			13.5	
Approach LOS		F						F			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 97			
Actuated Cycle Length: 97			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.37			
Intersection Signal Delay: 122.3		Intersection LOS: F	
Intersection Capacity Utilization 78.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington Ave & SR-91 EB Off-ramp - FWOP AM





Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	463	862	686	285	303	985
v/c Ratio	1.11	1.22dr	0.60	0.26	0.39	0.46
Control Delay	113.6	57.6	32.6	3.7	36.9	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.6	57.6	32.6	3.7	36.9	11.8
Queue Length 50th (ft)	~482	339	247	0	110	212
Queue Length 95th (ft)	#742	#509	323	38	159	267
Internal Link Dist (ft)		510	324			339
Turn Bay Length (ft)						
Base Capacity (vph)	419	888	1146	1092	771	2132
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.11	0.97	0.60	0.26	0.39	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

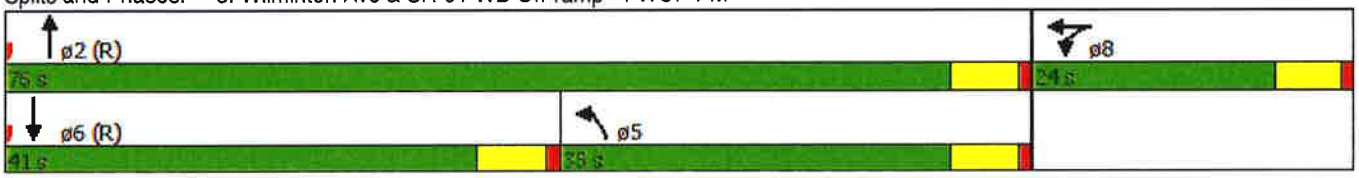
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	215	910	193	355	765	0	0	932	703
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Frt					0.974						0.936	
Flt Protected				0.950	0.999		0.950					
Satd. Flow (prot)	0	0	0	1564	3204	0	1719	3438	0	0	4624	0
Flt Permitted				0.950	0.999		0.950					
Satd. Flow (perm)	0	0	0	1564	3204	0	1719	3438	0	0	4624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					20						118	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	234	989	210	386	832	0	0	1013	764
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	0	0	0	211	1222	0	386	832	0	0	1777	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases												
Minimum Split (s)				22.0	22.0		10.0	22.0			22.0	
Total Split (s)				24.0	24.0		35.0	76.0			41.0	
Total Split (%)				24.0%	24.0%		35.0%	76.0%			41.0%	
Maximum Green (s)				18.0	18.0		29.0	70.0			35.0	
Yellow Time (s)				5.0	5.0		5.0	5.0			5.0	
All-Red Time (s)				1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0			6.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)				18.0	18.0		29.0	70.0			35.0	
Actuated g/C Ratio				0.18	0.18		0.29	0.70			0.35	
v/c Ratio				0.75	2.06		0.78	0.35			1.22dr	
Control Delay				56.9	507.5		44.7	6.4			66.3	
Queue Delay				0.0	0.0		0.0	0.0			0.0	
Total Delay				56.9	507.5		44.7	6.4			66.3	
LOS				E	F		D	A			E	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					441.1			18.6			66.3	
Approach LOS					F			B			E	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 2.06
Intersection Signal Delay: 174.5 Intersection LOS: F
Intersection Capacity Utilization 94.3% ICU Level of Service F
Analysis Period (min) 15
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilminton Ave & SR-91 WB Off-ramp - FWOP PM





Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	211	1222	386	832	1777
v/c Ratio	0.75	2.06	0.78	0.35	1.22dr
Control Delay	56.9	507.5	44.7	6.4	66.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	507.5	44.7	6.4	66.3
Queue Length 50th (ft)	170	~818	270	115	~522
Queue Length 95th (ft)	#313	#986	#437	149	#640
Internal Link Dist (ft)		500		324	339
Turn Bay Length (ft)					
Base Capacity (vph)	281	593	498	2406	1695
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	2.06	0.78	0.35	1.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Freeway Off-Ramp Analysis

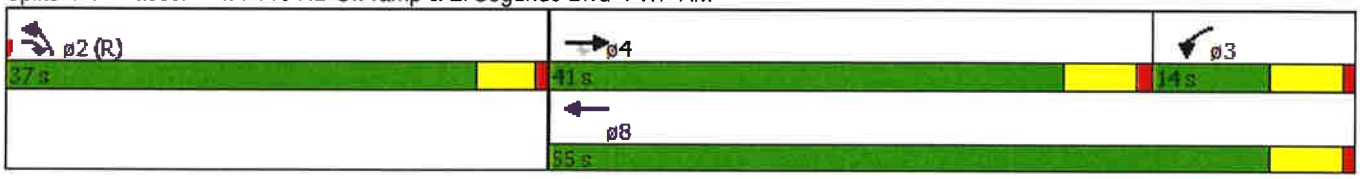
Future With Project Conditions

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1122	263	128	1410	766	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.91	0.97	0.95
Frt		0.850			0.967	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3471	1553	1736	4988	3300	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3471	1553	1736	4988	3300	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		131			45	
Link Speed (mph)	30			30	30	
Link Distance (ft)	568			630	393	
Travel Time (s)	12.9			14.3	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1220	286	139	1533	833	238
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1220	286	139	1533	1071	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	Prot	NA	Prot	
Protected Phases	4	2	3	8	2	
Permitted Phases		4				
Minimum Split (s)	22.0	22.0	10.0	22.0	22.0	
Total Split (s)	41.0	37.0	14.0	55.0	37.0	
Total Split (%)	44.6%	40.2%	15.2%	59.8%	40.2%	
Maximum Green (s)	35.0	32.0	8.0	49.0	32.0	
Yellow Time (s)	5.0	4.0	5.0	5.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	6.0	5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Walk Time (s)	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	35.0	73.0	8.0	49.0	32.0	
Actuated g/C Ratio	0.38	0.79	0.09	0.53	0.35	
v/c Ratio	0.92	0.23	0.93	0.58	0.91	
Control Delay	40.3	1.7	100.6	15.6	40.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.3	1.7	100.6	15.6	40.2	
LOS	D	A	F	B	D	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	33.0			22.7	40.2	
Approach LOS	C			C	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 92			
Actuated Cycle Length: 92			
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 30.7		Intersection LOS: C	
Intersection Capacity Utilization 81.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: I-110 NB Off-ramp & El Segundo Blvd- FWP AM



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	1220	286	139	1533	1071
v/c Ratio	0.92	0.23	0.93	0.58	0.91
Control Delay	40.3	1.7	100.6	15.6	40.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	1.7	100.6	15.6	40.2
Queue Length 50th (ft)	421	19	98	250	351
Queue Length 95th (ft)	#587	38	#233	302	#503
Internal Link Dist (ft)	488			550	313
Turn Bay Length (ft)					
Base Capacity (vph)	1320	1259	150	2656	1177
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.92	0.23	0.93	0.58	0.91

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

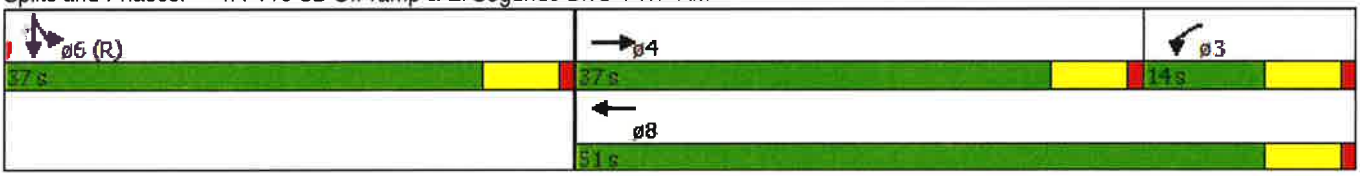
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	836	591	351	1852	0	0	0	0	580	0	916
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.938									0.868	0.850
Flt Protected				0.950						0.950	0.994	
Satd. Flow (prot)	0	4678	0	1736	4988	0	0	0	0	1649	1434	1475
Flt Permitted				0.950						0.950	0.994	
Satd. Flow (perm)	0	4678	0	1736	4988	0	0	0	0	1649	1434	1475
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		224									112	112
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		802			783			340			320	
Travel Time (s)		18.2			17.8			7.7			7.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	909	642	382	2013	0	0	0	0	630	0	996
Shared Lane Traffic (%)										10%		47%
Lane Group Flow (vph)	0	1551	0	382	2013	0	0	0	0	567	531	528
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Minimum Split (s)		22.0		10.0	22.0					22.0	22.0	22.0
Total Split (s)		37.0		14.0	51.0					37.0	37.0	37.0
Total Split (%)		42.0%		15.9%	58.0%					42.0%	42.0%	42.0%
Maximum Green (s)		31.0		8.0	45.0					31.0	31.0	31.0
Yellow Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Walk Time (s)		5.0			5.0					5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		31.0		8.0	45.0					31.0	31.0	31.0
Actuated g/C Ratio		0.35		0.09	0.51					0.35	0.35	0.35
v/c Ratio		0.92dr		2.43	0.79					0.98	0.92	0.89
Control Delay		28.9		685.1	20.5					62.4	45.5	41.0
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		28.9		685.1	20.5					62.4	45.5	41.0
LOS		C		F	C					E	D	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		28.9			126.5						49.9	
Approach LOS		C			F						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 88			
Actuated Cycle Length: 88			
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green			
Natural Cycle: 110			
Control Type: Pretimed			
Maximum v/c Ratio: 2.43			
Intersection Signal Delay: 77.0		Intersection LOS: E	
Intersection Capacity Utilization 89.2%		ICU Level of Service E	
Analysis Period (min) 15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 4: I-110 SB Off-ramp & El Segundo Blvd- FWP AM





Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1551	382	2013	567	531	528
v/c Ratio	0.92dr	2.43	0.79	0.98	0.92	0.89
Control Delay	28.9	685.1	20.5	62.4	45.5	41.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	685.1	20.5	62.4	45.5	41.0
Queue Length 50th (ft)	302	~425	381	386	301	281
Queue Length 95th (ft)	380	#631	458	#656	#572	#532
Internal Link Dist (ft)	722		703		240	
Turn Bay Length (ft)						
Base Capacity (vph)	1793	157	2550	580	577	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	2.43	0.79	0.98	0.92	0.89

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

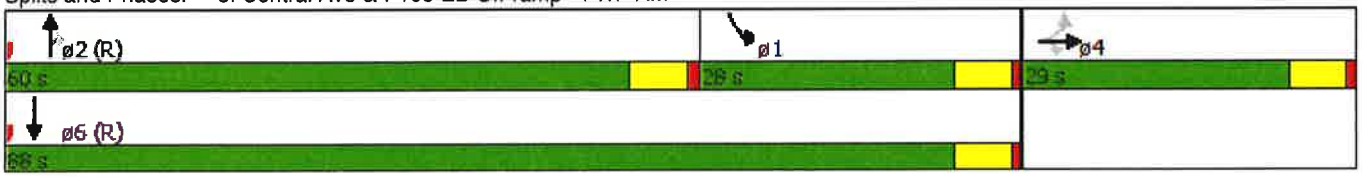
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	783	14	676	0	0	0	0	911	381	618	806	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frt		0.937	0.850						0.850			
Flt Protected	0.950	0.973								0.950		
Satd. Flow (prot)	1633	1501	1461	0	0	0	0	4940	1538	3335	3438	0
Flt Permitted	0.950	0.973								0.950		
Satd. Flow (perm)	1633	1501	1461	0	0	0	0	4940	1538	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28	213						414			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	851	15	735	0	0	0	0	990	414	672	876	0
Shared Lane Traffic (%)	35%		31%									
Lane Group Flow (vph)	553	541	507	0	0	0	0	990	414	672	876	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Minimum Split (s)	22.0	22.0	22.0					22.0	22.0	10.0	22.0	
Total Split (s)	29.0	29.0	29.0					60.0	60.0	28.0	88.0	
Total Split (%)	24.8%	24.8%	24.8%					51.3%	51.3%	23.9%	75.2%	
Maximum Green (s)	23.0	23.0	23.0					54.0	54.0	22.0	82.0	
Yellow Time (s)	5.0	5.0	5.0					5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0	6.0	6.0	6.0	
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0	5.0					5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0	11.0					11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)	23.0	23.0	23.0					54.0	54.0	22.0	82.0	
Actuated g/C Ratio	0.20	0.20	0.20					0.46	0.46	0.19	0.70	
v/c Ratio	1.72	1.71	1.11					0.43	0.44	1.07	0.36	
Control Delay	368.5	360.4	100.5					22.0	3.4	102.0	7.5	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	368.5	360.4	100.5					22.0	3.4	102.0	7.5	
LOS	F	F	F					C	A	F	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		280.9						16.5			48.5	
Approach LOS		F						B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 117			
Actuated Cycle Length: 117			
Offset: 68 (58%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.72			
Intersection Signal Delay: 120.4		Intersection LOS: F	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Central Ave & I-105 EB Off-ramp - FWP AM





Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	553	541	507	990	414	672	876
v/c Ratio	1.72	1.71	1.11	0.43	0.44	1.07	0.36
Control Delay	368.5	360.4	100.5	22.0	3.4	102.0	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	368.5	360.4	100.5	22.0	3.4	102.0	7.5
Queue Length 50th (ft)	~778	~775	~376	215	0	~347	149
Queue Length 95th (ft)	#1052	#1063	#647	260	65	#490	187
Internal Link Dist (ft)		575		502			478
Turn Bay Length (ft)							
Base Capacity (vph)	321	317	458	2280	932	627	2409
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.72	1.71	1.11	0.43	0.44	1.07	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

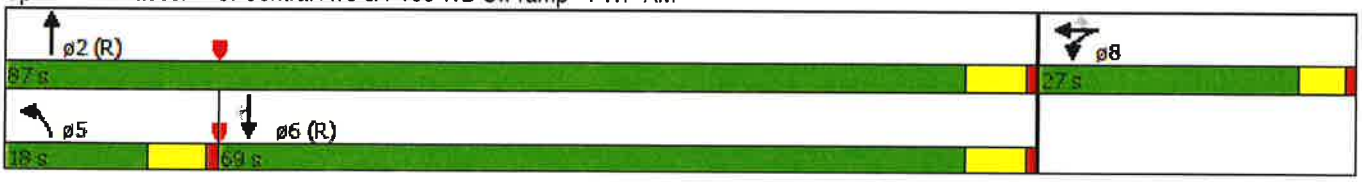
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	151	5	406	363	1320	0	0	1237	828
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950	0.955		0.950					
Satd. Flow (prot)	0	0	0	1633	1642	1538	3335	3438	0	0	3438	1538
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1633	1642	1538	3335	3438	0	0	3438	1538
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						86						
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	164	5	441	395	1435	0	0	1345	900
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	0	0	84	85	441	395	1435	0	0	1345	900
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Minimum Split (s)				21.1	21.1	21.1	10.0	22.0			22.0	22.0
Total Split (s)				27.0	27.0	27.0	18.0	87.0			69.0	69.0
Total Split (%)				23.7%	23.7%	23.7%	15.8%	76.3%			60.5%	60.5%
Maximum Green (s)				22.0	22.0	22.0	12.0	81.0			63.0	63.0
Yellow Time (s)				4.0	4.0	4.0	5.0	5.0			5.0	5.0
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)				5.0	5.0	5.0	6.0	6.0			6.0	6.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Walk Time (s)				5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)				11.0	11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)				0	0	0		0			0	0
Act Effct Green (s)				22.0	22.0	22.0	12.0	81.0			63.0	63.0
Actuated g/C Ratio				0.19	0.19	0.19	0.11	0.71			0.55	0.55
v/c Ratio				0.27	0.27	1.20	1.13	0.59			0.71	1.06
Control Delay				41.8	41.9	148.2	132.9	9.4			21.3	74.5
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				41.8	41.9	148.2	132.9	9.4			21.3	74.5
LOS				D	D	F	F	A			C	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					118.7			36.1			42.6	
Approach LOS					F			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 114			
Actuated Cycle Length: 114			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Pretimed			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 50.0		Intersection LOS: D	
Intersection Capacity Utilization 80.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Central Ave & I-105 WB Off-ramp - FWP AM





Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	84	85	441	395	1435	1345	900
v/c Ratio	0.27	0.27	1.20	1.13	0.59	0.71	1.06
Control Delay	41.8	41.9	148.2	132.9	9.4	21.3	74.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	41.9	148.2	132.9	9.4	21.3	74.5
Queue Length 50th (ft)	66	67	~410	~207	292	436	~871
Queue Length 95th (ft)	126	127	#654	#326	357	535	#1163
Internal Link Dist (ft)		665			502	478	
Turn Bay Length (ft)							
Base Capacity (vph)	315	316	366	351	2442	1899	849
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.27	1.20	1.13	0.59	0.71	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

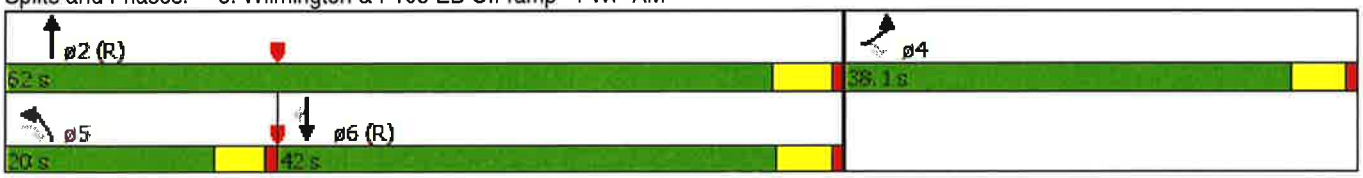


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	453	808	509	984	1160	558
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	120			0
Storage Lanes	1	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.95	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1719	4940	3438	2707
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1719	4940	3438	2707
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		10				573
Link Speed (mph)	30			30	30	
Link Distance (ft)	1070			942	903	
Travel Time (s)	24.3			21.4	20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	492	878	553	1070	1261	607
Shared Lane Traffic (%)						
Lane Group Flow (vph)	492	878	553	1070	1261	607
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4 5				6
Minimum Split (s)	38.1		8.7	21.4	21.1	21.1
Total Split (s)	38.1		20.0	62.0	42.0	42.0
Total Split (%)	38.1%		20.0%	61.9%	42.0%	42.0%
Maximum Green (s)	33.0		15.3	56.6	36.9	36.9
Yellow Time (s)	4.1		3.7	4.4	4.1	4.1
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1		4.7	5.4	5.1	5.1
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Walk Time (s)	7.0			5.0	5.0	5.0
Flash Dont Walk (s)	26.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effct Green (s)	33.0	53.0	15.3	56.6	36.9	36.9
Actuated g/C Ratio	0.33	0.53	0.15	0.57	0.37	0.37
v/c Ratio	0.87	1.07	2.11	0.38	1.00	0.45
Control Delay	49.2	77.4	537.0	12.6	56.6	3.7

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	77.4	537.0	12.6	56.6	3.7
LOS	D	E	F	B	E	A
Approach Delay	67.3			191.3	39.4	
Approach LOS	E			F	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100.1			
Actuated Cycle Length: 100.1			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Pretimed			
Maximum v/c Ratio: 2.11			
Intersection Signal Delay: 97.9		Intersection LOS: F	
Intersection Capacity Utilization 97.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington & I-105 EB Off-ramp - FWP AM



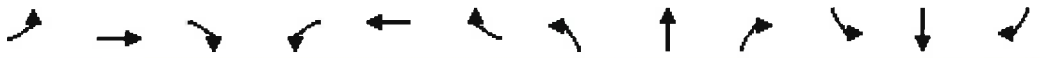


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	492	878	553	1070	1261	607
v/c Ratio	0.87	1.07	2.11	0.38	1.00	0.45
Control Delay	49.2	77.4	537.0	12.6	56.6	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	77.4	537.0	12.6	56.6	3.7
Queue Length 50th (ft)	351	~749	~676	156	500	9
Queue Length 95th (ft)	#572	#1035	#922	192	#688	56
Internal Link Dist (ft)	990			862	823	
Turn Bay Length (ft)			120			
Base Capacity (vph)	566	819	262	2793	1267	1359
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	1.07	2.11	0.38	1.00	0.45

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

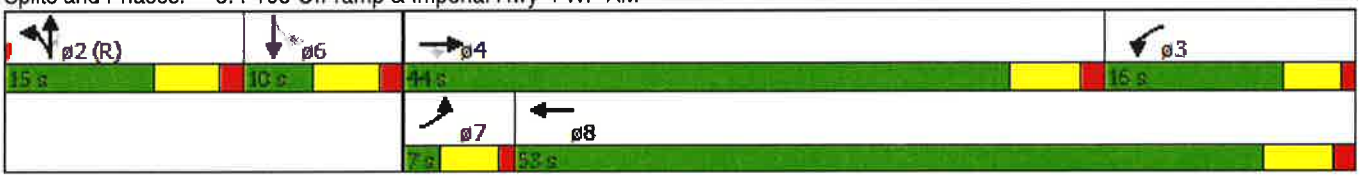


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	62	1212	389	812	1641	18	885	21	162	8	37	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	340		0	0		0	0		0
Storage Lanes	1		1	2		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	0.81	0.97	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.988	0.850		0.998				0.850		0.916	
Flt Protected	0.950			0.950			0.950	0.954			0.997	
Satd. Flow (prot)	1719	5793	1246	3335	4930	0	1633	1640	1538	0	1653	0
Flt Permitted	0.950			0.950			0.950	0.954			0.914	
Satd. Flow (perm)	1719	5793	1246	3335	4930	0	1633	1640	1538	0	1515	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27	309		3				245		58	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1132			1053			585			490	
Travel Time (s)		25.7			23.9			13.3			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	67	1317	423	883	1784	20	962	23	176	9	40	80
Shared Lane Traffic (%)			27%				49%					
Lane Group Flow (vph)	67	1431	309	883	1804	0	491	494	176	0	129	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Minimum Split (s)	8.7	21.9	21.9	8.7	21.9		21.6	21.6	21.6	21.6	21.6	
Total Split (s)	7.0	44.0	44.0	16.0	53.0		15.0	15.0	15.0	10.0	10.0	
Total Split (%)	8.2%	51.8%	51.8%	18.8%	62.4%		17.6%	17.6%	17.6%	11.8%	11.8%	
Maximum Green (s)	2.3	38.1	38.1	11.3	47.1		9.4	9.4	9.4	4.4	4.4	
Yellow Time (s)	3.7	4.4	4.4	3.7	4.4		4.1	4.1	4.1	4.1	4.1	
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.7	5.9	5.9	4.7	5.9		5.6	5.6	5.6		5.6	
Lead/Lag	Lead	Lead	Lead	Lag	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	2.3	38.1	38.1	11.3	47.1		9.4	9.4	9.4		4.4	
Actuated g/C Ratio	0.03	0.45	0.45	0.13	0.55		0.11	0.11	0.11		0.05	
v/c Ratio	1.46	0.55	0.42	1.99	0.66		2.73	2.73	0.45		0.97	
Control Delay	327.4	17.8	3.8	479.2	14.8		812.0	812.6	5.5		97.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	327.4	17.8	3.8	479.2	14.8		812.0	812.6	5.5		97.8	
LOS	F	B	A	F	B		F	F	A		F	
Approach Delay		26.9			167.4			690.0			97.8	
Approach LOS		C			F			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 2.73			
Intersection Signal Delay: 226.8		Intersection LOS: F	
Intersection Capacity Utilization 88.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: I-105 Off-ramp & Imperial Hwy- FWP AM

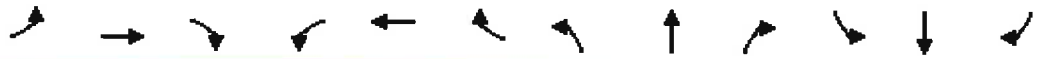


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	67	1431	309	883	1804	491	494	176	129
v/c Ratio	1.46	0.55	0.42	1.99	0.66	2.73	2.73	0.45	0.97
Control Delay	327.4	17.8	3.8	479.2	14.8	812.0	812.6	5.5	97.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	327.4	17.8	3.8	479.2	14.8	812.0	812.6	5.5	97.8
Queue Length 50th (ft)	~59	195	0	~460	276	~569	~573	0	46
Queue Length 95th (ft)	#158	238	65	#598	336	#803	#808	24	#179
Internal Link Dist (ft)		1052			973		505		410
Turn Bay Length (ft)	100			340					
Base Capacity (vph)	46	2611	728	443	2733	180	181	387	133
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.46	0.55	0.42	1.99	0.66	2.73	2.73	0.45	0.97

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

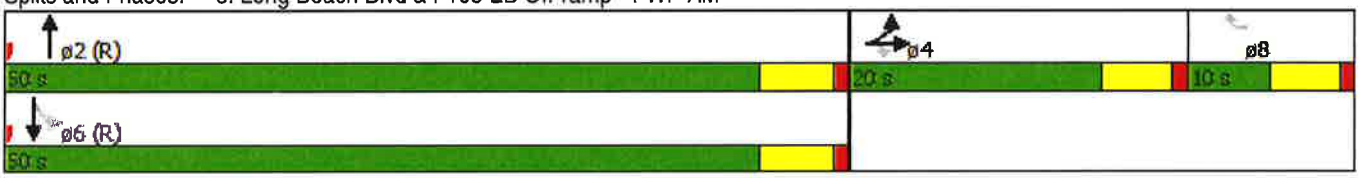


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	670	3	378	0	0	12	0	990	15	33	658	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		110	0		0	0		0	180		0
Storage Lanes	1		1	0		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.865		0.998				
Flt Protected	0.950	0.953								0.950		
Satd. Flow (prot)	1633	1638	1538	0	0	1565	0	4930	0	1719	3438	0
Flt Permitted	0.950	0.953								0.223		
Satd. Flow (perm)	1633	1638	1538	0	0	1565	0	4930	0	404	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			289			102		4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		817			156			598			555	
Travel Time (s)		18.6			3.5			13.6			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	728	3	411	0	0	13	0	1076	16	36	715	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	364	367	411	0	0	13	0	1092	0	36	715	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	Perm			Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4			8				6		
Minimum Split (s)	21.1	21.1	21.1			21.1		21.4		21.4	21.4	
Total Split (s)	20.0	20.0	20.0			10.0		50.0		50.0	50.0	
Total Split (%)	25.0%	25.0%	25.0%			12.5%		62.5%		62.5%	62.5%	
Maximum Green (s)	14.9	14.9	14.9			4.9		44.6		44.6	44.6	
Yellow Time (s)	4.1	4.1	4.1			4.1		4.4		4.4	4.4	
All-Red Time (s)	1.0	1.0	1.0			1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Lost Time (s)	5.1	5.1	5.1			5.1		5.4		5.4	5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0			11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0			0		0		0	0	
Act Effct Green (s)	14.9	14.9	14.9			4.9		44.6		44.6	44.6	
Actuated g/C Ratio	0.19	0.19	0.19			0.06		0.56		0.56	0.56	
v/c Ratio	1.20	1.20	0.79			0.07		0.40		0.16	0.37	
Control Delay	148.4	150.4	22.4			0.7		10.6		10.8	10.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Delay	148.4	150.4	22.4			0.7		10.6		10.8	10.6	
LOS	F	F	C			A		B		B	B	
Approach Delay		103.7						10.6			10.6	
Approach LOS		F						B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 46.0		Intersection LOS: D	
Intersection Capacity Utilization 54.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 EB Off-ramp - FWP AM





Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	364	367	411	13	1092	36	715
v/c Ratio	1.20	1.20	0.79	0.07	0.40	0.16	0.37
Control Delay	148.4	150.4	22.4	0.7	10.6	10.8	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	148.4	150.4	22.4	0.7	10.6	10.8	10.6
Queue Length 50th (ft)	~283	~286	65	0	125	10	116
Queue Length 95th (ft)	#488	#490	#239	0	159	29	159
Internal Link Dist (ft)		737			518		475
Turn Bay Length (ft)			110			180	
Base Capacity (vph)	304	305	521	191	2750	225	1916
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.20	1.20	0.79	0.07	0.40	0.16	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

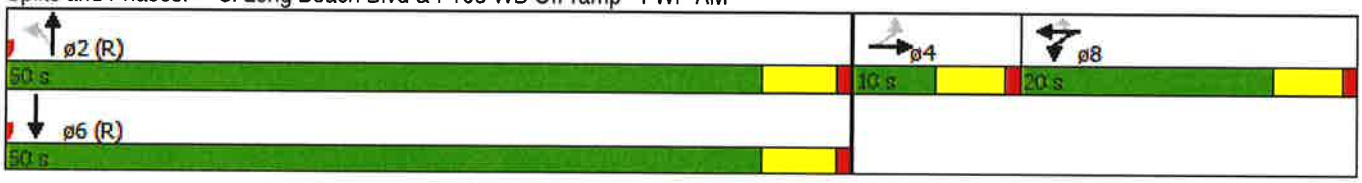
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	0	6	180	30	869	12	1225	0	0	1329	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		140	150		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.957			0.860	0.850					0.995	
Flt Protected		0.967		0.950			0.950					
Satd. Flow (prot)	0	1675	0	1719	1478	1461	1719	4940	0	0	4915	0
Flt Permitted		0.686		0.950			0.126					
Satd. Flow (perm)	0	1188	0	1719	1478	1461	228	4940	0	0	4915	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102			118	118					11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			573			493			550	
Travel Time (s)		4.9			13.0			11.2			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	0	7	196	33	945	13	1332	0	0	1445	52
Shared Lane Traffic (%)						49%						
Lane Group Flow (vph)	0	22	0	196	496	482	13	1332	0	0	1497	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	Perm	Perm	NA			NA	
Protected Phases		4		8	8			2			6	
Permitted Phases	4					8	2					
Minimum Split (s)	21.1	21.1		21.1	21.1	21.1	31.4	31.4			21.4	
Total Split (s)	10.0	10.0		20.0	20.0	20.0	50.0	50.0			50.0	
Total Split (%)	12.5%	12.5%		25.0%	25.0%	25.0%	62.5%	62.5%			62.5%	
Maximum Green (s)	4.9	4.9		14.9	14.9	14.9	44.6	44.6			44.6	
Yellow Time (s)	4.1	4.1		4.1	4.1	4.1	4.4	4.4			4.4	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0			1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)		5.1		5.1	5.1	5.1	5.4	5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)		4.9		14.9	14.9	14.9	44.6	44.6			44.6	
Actuated g/C Ratio		0.06		0.19	0.19	0.19	0.56	0.56			0.56	
v/c Ratio		0.13		0.61	1.34	1.31	0.10	0.48			0.55	
Control Delay		1.6		39.1	193.1	181.9	10.8	11.5			12.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay		1.6		39.1	193.1	181.9	10.8	11.5			12.1	
LOS		A		D	F	F	B	B			B	
Approach Delay		1.6			162.8			11.5			12.1	
Approach LOS		A			F			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 1.34			
Intersection Signal Delay: 55.6		Intersection LOS: E	
Intersection Capacity Utilization 75.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 WB Off-ramp - FWP AM



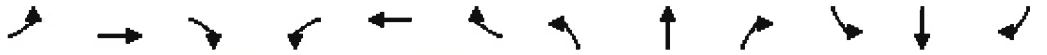


Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	22	196	496	482	13	1332	1497
v/c Ratio	0.13	0.61	1.34	1.31	0.10	0.48	0.55
Control Delay	1.6	39.1	193.1	181.9	10.8	11.5	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.6	39.1	193.1	181.9	10.8	11.5	12.1
Queue Length 50th (ft)	0	109	~351	~333	3	163	191
Queue Length 95th (ft)	0	190	#586	#566	15	205	238
Internal Link Dist (ft)	135		493			413	470
Turn Bay Length (ft)				140	150		
Base Capacity (vph)	168	320	371	368	127	2754	2744
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.61	1.34	1.31	0.10	0.48	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

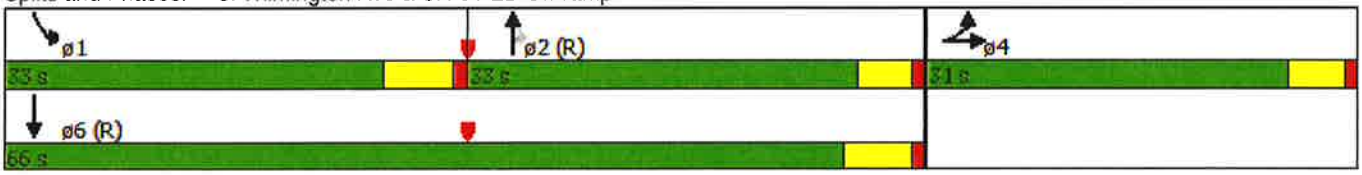


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	863	486	246	0	0	0	0	1176	237	199	613	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Frt		0.965							0.850			
Flt Protected	0.950	0.985								0.950		
Satd. Flow (prot)	1564	3130	0	0	0	0	0	3438	2707	3335	3438	0
Flt Permitted	0.950	0.985								0.950		
Satd. Flow (perm)	1564	3130	0	0	0	0	0	3438	2707	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37							220			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	938	528	267	0	0	0	0	1278	258	216	666	0
Shared Lane Traffic (%)	38%											
Lane Group Flow (vph)	582	1151	0	0	0	0	0	1278	258	216	666	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Minimum Split (s)	21.1	21.1						21.4	21.4	10.0	26.5	
Total Split (s)	31.0	31.0						33.0	33.0	33.0	66.0	
Total Split (%)	32.0%	32.0%						34.0%	34.0%	34.0%	68.0%	
Maximum Green (s)	26.0	26.0						28.0	28.0	27.0	60.0	
Yellow Time (s)	4.0	4.0						4.0	4.0	5.0	5.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0						5.0	5.0	6.0	6.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0						5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	26.0	26.0						28.0	28.0	27.0	60.0	
Actuated g/C Ratio	0.27	0.27						0.29	0.29	0.28	0.62	
v/c Ratio	1.39	1.33						1.29	0.28	0.23	0.31	
Control Delay	219.8	186.5						168.6	6.5	27.8	9.2	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	219.8	186.5						168.6	6.5	27.8	9.2	
LOS	F	F						F	A	C	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		197.7						141.4			13.8	
Approach LOS		F						F			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 97			
Actuated Cycle Length: 97			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.39			
Intersection Signal Delay: 137.8		Intersection LOS: F	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington Ave & SR-91 EB Off-ramp - FWP AM





Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	582	1151	1278	258	216	666
v/c Ratio	1.39	1.33	1.29	0.28	0.23	0.31
Control Delay	219.8	186.5	168.6	6.5	27.8	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	219.8	186.5	168.6	6.5	27.8	9.2
Queue Length 50th (ft)	~635	~604	~637	11	63	112
Queue Length 95th (ft)	#907	#770	#796	49	100	149
Internal Link Dist (ft)		510	324			339
Turn Bay Length (ft)						
Base Capacity (vph)	419	866	992	937	928	2126
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.39	1.33	1.29	0.28	0.23	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



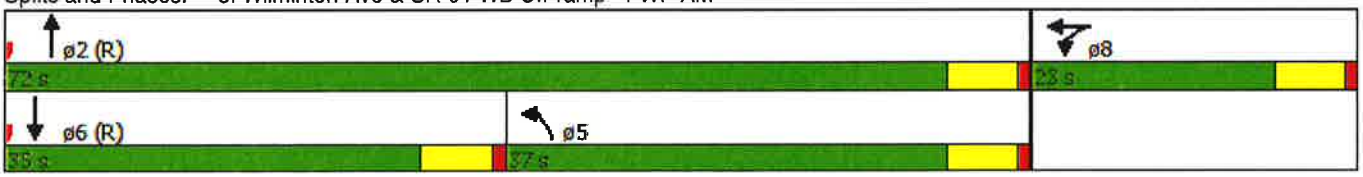
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	191	98	675	585	1483	0	0	592	538
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Frt					0.872						0.929	
Flt Protected				0.950	0.999		0.950					
Satd. Flow (prot)	0	0	0	1564	2869	0	1719	3438	0	0	4589	0
Flt Permitted				0.950	0.999		0.950					
Satd. Flow (perm)	0	0	0	1564	2869	0	1719	3438	0	0	4589	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					48						232	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	208	107	734	636	1612	0	0	643	585
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	0	0	0	187	862	0	636	1612	0	0	1228	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases												
Minimum Split (s)				22.0	22.0		10.0	22.0			22.0	
Total Split (s)				23.0	23.0		37.0	72.0			35.0	
Total Split (%)				24.2%	24.2%		38.9%	75.8%			36.8%	
Maximum Green (s)				17.0	17.0		31.0	66.0			29.0	
Yellow Time (s)				5.0	5.0		5.0	5.0			5.0	
All-Red Time (s)				1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0			6.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)				17.0	17.0		31.0	66.0			29.0	
Actuated g/C Ratio				0.18	0.18		0.33	0.69			0.31	
v/c Ratio				0.67	2.45dr		1.14	0.68			0.92dr	
Control Delay				49.6	289.9		113.0	10.1			28.5	
Queue Delay				0.0	0.0		0.0	0.0			0.0	
Total Delay				49.6	289.9		113.0	10.1			28.5	
LOS				D	F		F	B			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					247.0			39.2			28.5	
Approach LOS					F			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Pretimed
Maximum v/c Ratio: 1.56
Intersection Signal Delay: 84.5 Intersection LOS: F
Intersection Capacity Utilization 91.0% ICU Level of Service E
Analysis Period (min) 15
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilminton Ave & SR-91 WB Off-ramp - FWP AM





Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	187	862	636	1612	1228
v/c Ratio	0.67	2.45dr	1.14	0.68	0.92dr
Control Delay	49.6	289.9	113.0	10.1	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	289.9	113.0	10.1	28.5
Queue Length 50th (ft)	139	~476	~540	307	243
Queue Length 95th (ft)	#254	#630	#791	390	310
Internal Link Dist (ft)		500		324	339
Turn Bay Length (ft)					
Base Capacity (vph)	279	552	560	2388	1562
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.67	1.56	1.14	0.68	0.79

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

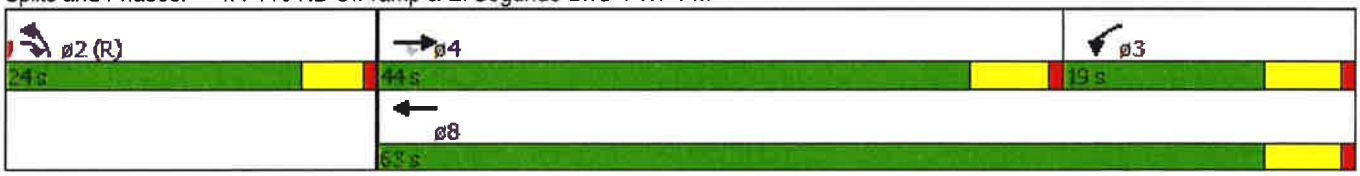
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1728	484	332	906	347	331
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.91	0.97	0.95
Frt		0.850			0.927	
Flt Protected			0.950		0.975	
Satd. Flow (prot)	3471	1553	1736	4988	3203	0
Flt Permitted			0.950		0.975	
Satd. Flow (perm)	3471	1553	1736	4988	3203	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		42			254	
Link Speed (mph)	30			30	30	
Link Distance (ft)	568			630	393	
Travel Time (s)	12.9			14.3	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1878	526	361	985	377	360
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1878	526	361	985	737	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	pm+ov	Prot	NA	Prot	
Protected Phases	4	2	3	8	2	
Permitted Phases		4				
Minimum Split (s)	22.0	21.1	10.0	22.0	21.1	
Total Split (s)	44.0	24.0	19.0	63.0	24.0	
Total Split (%)	50.6%	27.6%	21.8%	72.4%	27.6%	
Maximum Green (s)	38.0	19.0	13.0	57.0	19.0	
Yellow Time (s)	5.0	4.0	5.0	5.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	6.0	5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Walk Time (s)	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	38.0	63.0	13.0	57.0	19.0	
Actuated g/C Ratio	0.44	0.72	0.15	0.66	0.22	
v/c Ratio	1.24	0.46	1.39	0.30	0.82	
Control Delay	138.6	6.1	230.7	6.7	29.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	138.6	6.1	230.7	6.7	29.9	
LOS	F	A	F	A	C	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	109.6			66.8	29.9	
Approach LOS	F			E	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 87			
Actuated Cycle Length: 87			
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 1.39			
Intersection Signal Delay: 83.7		Intersection LOS: F	
Intersection Capacity Utilization 100.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 4: I-110 NB Off-ramp & El Segundo Blvd- FWP PM





Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	1878	526	361	985	737
v/c Ratio	1.24	0.46	1.39	0.30	0.82
Control Delay	138.6	6.1	230.7	6.7	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	138.6	6.1	230.7	6.7	29.9
Queue Length 50th (ft)	~815	107	~320	90	158
Queue Length 95th (ft)	#980	172	#521	114	#263
Internal Link Dist (ft)	488			550	313
Turn Bay Length (ft)					
Base Capacity (vph)	1516	1136	259	3268	898
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.24	0.46	1.39	0.30	0.82

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

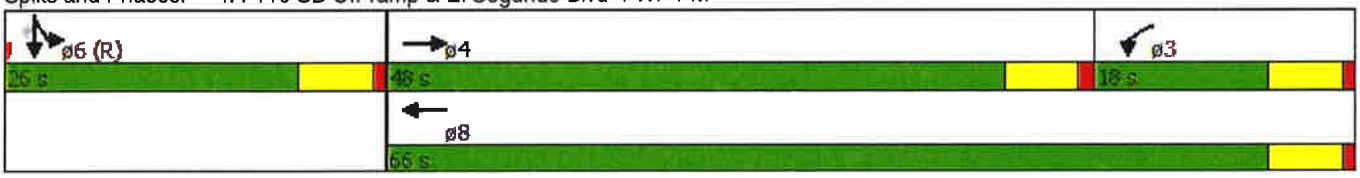
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1719	662	212	1055	0	0	0	0	524	0	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.958									0.933	0.850
Flt Protected				0.950						0.950	0.973	
Satd. Flow (prot)	0	4778	0	1736	4988	0	0	0	0	1649	1509	1475
Flt Permitted				0.950						0.950	0.973	
Satd. Flow (perm)	0	4778	0	1736	4988	0	0	0	0	1649	1509	1475
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		139									107	107
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		802			783			340			320	
Travel Time (s)		18.2			17.8			7.7			7.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1868	720	230	1147	0	0	0	0	570	0	503
Shared Lane Traffic (%)										35%		32%
Lane Group Flow (vph)	0	2588	0	230	1147	0	0	0	0	370	361	342
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Minimum Split (s)		22.0		10.0	22.0					22.0	22.0	22.0
Total Split (s)		48.0		18.0	66.0					26.0	26.0	26.0
Total Split (%)		52.2%		19.6%	71.7%					28.3%	28.3%	28.3%
Maximum Green (s)		42.0		12.0	60.0					20.0	20.0	20.0
Yellow Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Walk Time (s)		5.0			5.0					5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		42.0		12.0	60.0					20.0	20.0	20.0
Actuated g/C Ratio		0.46		0.13	0.65					0.22	0.22	0.22
v/c Ratio		1.15		1.02	0.35					1.03	0.88	0.85
Control Delay		96.5		106.5	7.6					93.8	48.4	44.2
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		96.5		106.5	7.6					93.8	48.4	44.2
LOS		F		F	A					F	D	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		96.5			24.1						62.7	
Approach LOS		F			C						E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 92			
Actuated Cycle Length: 92			
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Green			
Natural Cycle: 140			
Control Type: Pretimed			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 69.5		Intersection LOS: E	
Intersection Capacity Utilization 94.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: I-110 SB Off-ramp & El Segundo Blvd- FWP PM



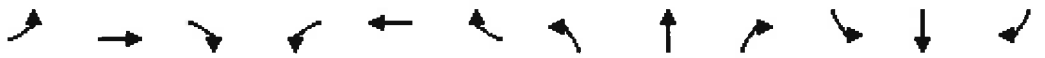


Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	2588	230	1147	370	361	342
v/c Ratio	1.15	1.02	0.35	1.03	0.88	0.85
Control Delay	96.5	106.5	7.6	93.8	48.4	44.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.5	106.5	7.6	93.8	48.4	44.2
Queue Length 50th (ft)	~767	~167	118	~294	194	169
Queue Length 95th (ft)	#883	#343	146	#512	#408	#362
Internal Link Dist (ft)	722		703		240	
Turn Bay Length (ft)						
Base Capacity (vph)	2256	226	3253	358	411	404
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.15	1.02	0.35	1.03	0.88	0.85

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

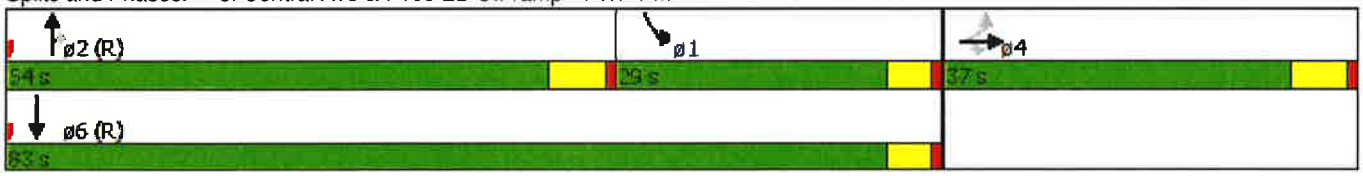


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	560	262	485	0	0	0	0	1098	471	505	984	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frt		0.973	0.850						0.850			
Flt Protected	0.950	0.988								0.950		
Satd. Flow (prot)	1633	1583	1461	0	0	0	0	4940	1538	3335	3438	0
Flt Permitted	0.950	0.988								0.950		
Satd. Flow (perm)	1633	1583	1461	0	0	0	0	4940	1538	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9	124						157			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	609	285	527	0	0	0	0	1193	512	549	1070	0
Shared Lane Traffic (%)	20%		17%									
Lane Group Flow (vph)	487	497	437	0	0	0	0	1193	512	549	1070	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Minimum Split (s)	22.0	22.0	22.0					22.0	22.0	9.0	22.0	
Total Split (s)	37.0	37.0	37.0					54.0	54.0	29.0	83.0	
Total Split (%)	30.8%	30.8%	30.8%					45.0%	45.0%	24.2%	69.2%	
Maximum Green (s)	31.0	31.0	31.0					48.0	48.0	24.0	78.0	
Yellow Time (s)	5.0	5.0	5.0					5.0	5.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0					1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0					6.0	6.0	5.0	5.0	
Lead/Lag								Lead	Lead	Lag		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0	5.0					5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0	11.0					11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0					0	0		0	
Act Effct Green (s)	31.0	31.0	31.0					48.0	48.0	24.0	78.0	
Actuated g/C Ratio	0.26	0.26	0.26					0.40	0.40	0.20	0.65	
v/c Ratio	1.16	1.20	0.93					0.60	0.72	0.82	0.48	
Control Delay	134.6	148.8	59.3					30.1	27.3	57.4	11.5	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	134.6	148.8	59.3					30.1	27.3	57.4	11.5	
LOS	F	F	E					C	C	E	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		116.4						29.3			27.1	
Approach LOS		F						C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 54.6		Intersection LOS: D	
Intersection Capacity Utilization 85.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Central Ave & I-105 EB Off-ramp - FWP PM





Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	487	497	437	1193	512	549	1070
v/c Ratio	1.16	1.20	0.93	0.60	0.72	0.82	0.48
Control Delay	134.6	148.8	59.3	30.1	27.3	57.4	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	134.6	148.8	59.3	30.1	27.3	57.4	11.5
Queue Length 50th (ft)	~562	~609	315	316	281	254	245
Queue Length 95th (ft)	#826	#893	#574	375	448	#349	302
Internal Link Dist (ft)		575		502			478
Turn Bay Length (ft)							
Base Capacity (vph)	421	415	469	1976	709	667	2234
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.16	1.20	0.93	0.60	0.72	0.82	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

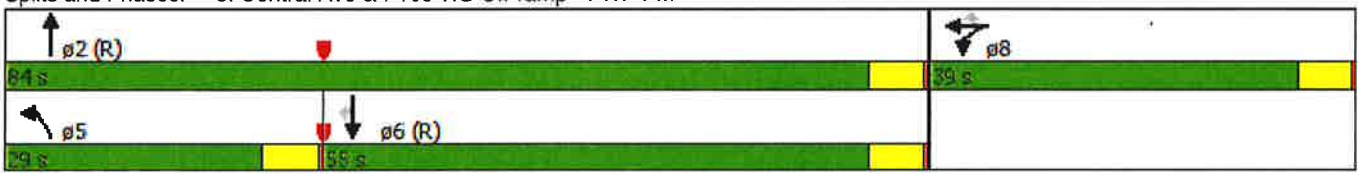
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	330	0	585	474	1153	0	0	1169	666
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950	0.950		0.950					
Satd. Flow (prot)	0	0	0	1633	1633	1538	3335	3438	0	0	3438	1538
Flt Permitted				0.950	0.950		0.950					
Satd. Flow (perm)	0	0	0	1633	1633	1538	3335	3438	0	0	3438	1538
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						80						
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			745			582			558	
Travel Time (s)		14.9			16.9			13.2			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	359	0	636	515	1253	0	0	1271	724
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	179	180	636	515	1253	0	0	1271	724
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Minimum Split (s)				21.5	21.5	21.5	9.5	21.5			21.5	21.5
Total Split (s)				39.0	39.0	39.0	29.0	84.0			55.0	55.0
Total Split (%)				31.7%	31.7%	31.7%	23.6%	68.3%			44.7%	44.7%
Maximum Green (s)				33.5	33.5	33.5	23.5	78.5			49.5	49.5
Yellow Time (s)				5.0	5.0	5.0	5.0	5.0			5.0	5.0
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	0.5
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	5.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Walk Time (s)				5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)				11.0	11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)				0	0	0		0			0	0
Act Effct Green (s)				33.5	33.5	33.5	23.5	78.5			49.5	49.5
Actuated g/C Ratio				0.27	0.27	0.27	0.19	0.64			0.40	0.40
v/c Ratio				0.40	0.41	1.33	0.81	0.57			0.92	1.17
Control Delay				39.9	39.9	196.0	58.6	14.0			46.6	127.9
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				39.9	39.9	196.0	58.6	14.0			46.6	127.9
LOS				D	D	F	E	B			D	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					139.7			27.0			76.1	
Approach LOS					F			C			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 123			
Actuated Cycle Length: 123			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 140			
Control Type: Pretimed			
Maximum v/c Ratio: 1.33			
Intersection Signal Delay: 71.1		Intersection LOS: E	
Intersection Capacity Utilization 77.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Central Ave & I-105 WB Off-ramp - FWP PM





Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	179	180	636	515	1253	1271	724
v/c Ratio	0.40	0.41	1.33	0.81	0.57	0.92	1.17
Control Delay	39.9	39.9	196.0	58.6	14.0	46.6	127.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.9	39.9	196.0	58.6	14.0	46.6	127.9
Queue Length 50th (ft)	147	148	~734	244	333	597	~823
Queue Length 95th (ft)	234	235	#1013	#326	404	#770	#1106
Internal Link Dist (ft)		665			502	478	
Turn Bay Length (ft)							
Base Capacity (vph)	444	444	477	637	2194	1383	618
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.41	1.33	0.81	0.57	0.92	1.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

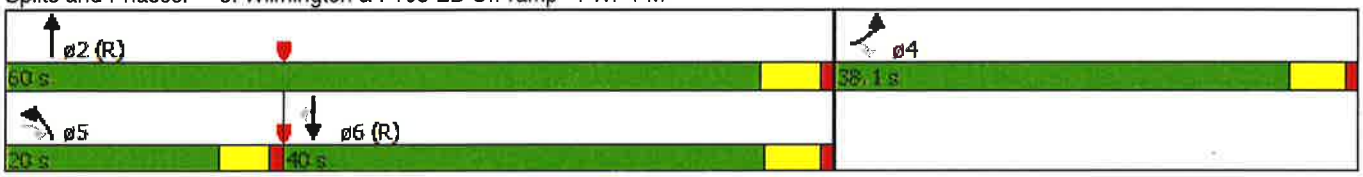


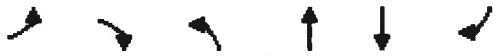
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	364	380	669	1547	955	529
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	120			0
Storage Lanes	1	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.95	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1719	4940	3438	2707
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1719	4940	3438	2707
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		21				575
Link Speed (mph)	30			30	30	
Link Distance (ft)	1070			942	903	
Travel Time (s)	24.3			21.4	20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	396	413	727	1682	1038	575
Shared Lane Traffic (%)						
Lane Group Flow (vph)	396	413	727	1682	1038	575
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4 5				6
Minimum Split (s)	38.1		8.7	21.4	21.1	21.1
Total Split (s)	38.1		20.0	60.0	40.0	40.0
Total Split (%)	38.8%		20.4%	61.2%	40.8%	40.8%
Maximum Green (s)	33.0		15.3	54.6	34.9	34.9
Yellow Time (s)	4.1		3.7	4.4	4.1	4.1
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1		4.7	5.4	5.1	5.1
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Walk Time (s)	7.0			5.0	5.0	5.0
Flash Dont Walk (s)	26.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effct Green (s)	33.0	53.0	15.3	54.6	34.9	34.9
Actuated g/C Ratio	0.34	0.54	0.16	0.56	0.36	0.36
v/c Ratio	0.69	0.49	2.71	0.61	0.85	0.43
Control Delay	35.3	15.8	800.8	15.8	37.2	3.0

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	15.8	800.8	15.8	37.2	3.0
LOS	D	B	F	B	D	A
Approach Delay	25.4			252.7	25.0	
Approach LOS	C			F	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 98.1			
Actuated Cycle Length: 98.1			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 2.71			
Intersection Signal Delay: 138.6		Intersection LOS: F	
Intersection Capacity Utilization 96.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Wilmington & I-105 EB Off-ramp - FWP PM





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	396	413	727	1682	1038	575
v/c Ratio	0.69	0.49	2.71	0.61	0.85	0.43
Control Delay	35.3	15.8	800.8	15.8	37.2	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	15.8	800.8	15.8	37.2	3.0
Queue Length 50th (ft)	253	173	~930	291	373	0
Queue Length 95th (ft)	383	270	#1196	348	476	45
Internal Link Dist (ft)	990			862	823	
Turn Bay Length (ft)			120			
Base Capacity (vph)	578	840	268	2749	1223	1333
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.49	2.71	0.61	0.85	0.43

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

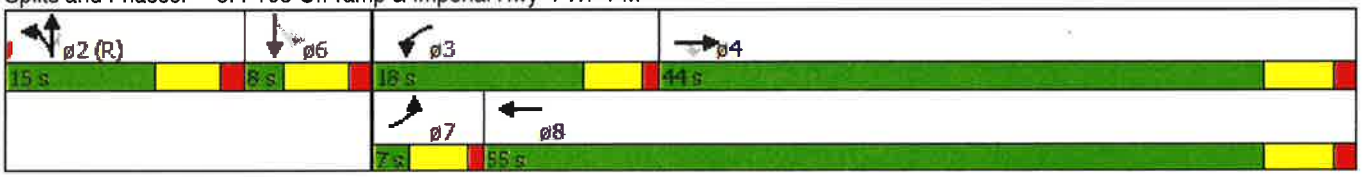
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	2010	652	659	1044	4	820	16	309	10	24	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	340		0	0		0	0		0
Storage Lanes	1		1	2		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.81	0.81	0.97	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.987	0.850		0.999				0.850		0.940	
Flt Protected	0.950			0.950			0.950	0.954			0.992	
Satd. Flow (prot)	1719	5787	1246	3335	4935	0	1633	1640	1538	0	1687	0
Flt Permitted	0.950			0.950			0.950	0.954			0.970	
Satd. Flow (perm)	1719	5787	1246	3335	4935	0	1633	1640	1538	0	1650	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28	510		1				230		30	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1132			1053			585			490	
Travel Time (s)		25.7			23.9			13.3			11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	2185	709	716	1135	4	891	17	336	11	26	30
Shared Lane Traffic (%)			28%				49%					
Lane Group Flow (vph)	76	2384	510	716	1139	0	454	454	336	0	67	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Minimum Split (s)	8.7	21.9	21.9	8.7	21.9		21.6	21.6	21.6	21.6	21.6	
Total Split (s)	7.0	44.0	44.0	18.0	55.0		15.0	15.0	15.0	8.0	8.0	
Total Split (%)	8.2%	51.8%	51.8%	21.2%	64.7%		17.6%	17.6%	17.6%	9.4%	9.4%	
Maximum Green (s)	2.3	38.1	38.1	13.3	49.1		9.4	9.4	9.4	2.4	2.4	
Yellow Time (s)	3.7	4.4	4.4	3.7	4.4		4.1	4.1	4.1	4.1	4.1	
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.7	5.9	5.9	4.7	5.9		5.6	5.6	5.6		5.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	2.3	38.1	38.1	13.3	49.1		9.4	9.4	9.4		2.4	
Actuated g/C Ratio	0.03	0.45	0.45	0.16	0.58		0.11	0.11	0.11		0.03	
v/c Ratio	1.65	0.91	0.61	1.37	0.40		2.52	2.51	0.90		0.89	
Control Delay	402.5	28.5	5.0	211.2	10.4		721.5	715.3	41.5		108.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	402.5	28.5	5.0	211.2	10.4		721.5	715.3	41.5		108.0	
LOS	F	C	A	F	B		F	F	D		F	
Approach Delay		34.0			87.9			535.5			108.0	
Approach LOS		C			F			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 2.52			
Intersection Signal Delay: 152.8		Intersection LOS: F	
Intersection Capacity Utilization 94.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: I-105 Off-ramp & Imperial Hwy- FWP PM

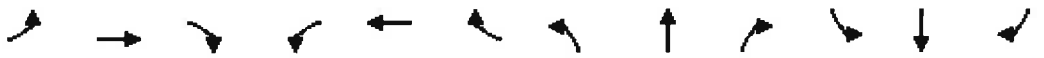


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	76	2384	510	716	1139	454	454	336	67
v/c Ratio	1.65	0.91	0.61	1.37	0.40	2.52	2.51	0.90	0.89
Control Delay	402.5	28.5	5.0	211.2	10.4	721.5	715.3	41.5	108.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	402.5	28.5	5.0	211.2	10.4	721.5	715.3	41.5	108.0
Queue Length 50th (ft)	~71	421	0	~317	135	~516	~516	66	24
Queue Length 95th (ft)	#174	#499	86	#446	169	#744	#744	#253	#119
Internal Link Dist (ft)		1052			973		505		410
Turn Bay Length (ft)	100			340					
Base Capacity (vph)	46	2609	839	521	2851	180	181	374	75
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.65	0.91	0.61	1.37	0.40	2.52	2.51	0.90	0.89

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

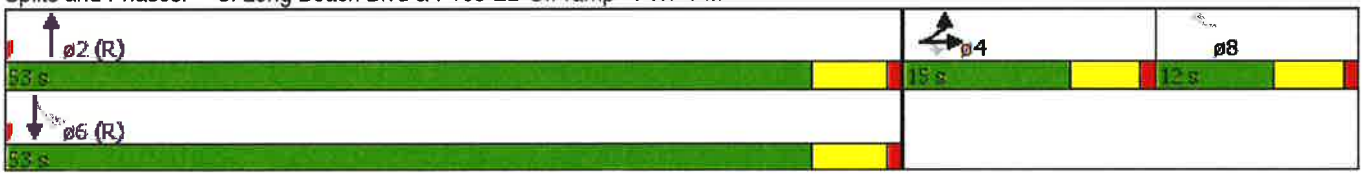


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	358	1	235	0	0	15	0	1081	4	15	1004	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		110	0		0	0		0	180		0
Storage Lanes	1		1	0		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.865		0.999				
Flt Protected	0.950	0.953								0.950		
Satd. Flow (prot)	1633	1638	1538	0	0	1565	0	4935	0	1719	3438	0
Flt Permitted	0.950	0.953								0.204		
Satd. Flow (perm)	1633	1638	1538	0	0	1565	0	4935	0	369	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			222			102		1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		817			156			598			555	
Travel Time (s)		18.6			3.5			13.6			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	389	1	255	0	0	16	0	1175	4	16	1091	0
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	194	196	255	0	0	16	0	1179	0	16	1091	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	Perm			Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4			8				6		
Minimum Split (s)	21.1	21.1	21.1			21.1		21.4		21.4	21.4	
Total Split (s)	15.0	15.0	15.0			12.0		53.0		53.0	53.0	
Total Split (%)	18.8%	18.8%	18.8%			15.0%		66.3%		66.3%	66.3%	
Maximum Green (s)	9.9	9.9	9.9			6.9		47.6		47.6	47.6	
Yellow Time (s)	4.1	4.1	4.1			4.1		4.4		4.4	4.4	
All-Red Time (s)	1.0	1.0	1.0			1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Lost Time (s)	5.1	5.1	5.1			5.1		5.4		5.4	5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0			11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0			0		0		0	0	
Act Effct Green (s)	9.9	9.9	9.9			6.9		47.6		47.6	47.6	
Actuated g/C Ratio	0.12	0.12	0.12			0.09		0.60		0.60	0.60	
v/c Ratio	0.96	0.97	0.66			0.07		0.40		0.07	0.53	
Control Delay	92.3	94.6	16.7			0.6		9.1		7.9	10.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0			0.0		0.0		0.0	0.0	
Total Delay	92.3	94.6	16.7			0.6		9.1		7.9	10.8	
LOS	F	F	B			A		A		A	B	
Approach Delay		63.1						9.1			10.8	
Approach LOS		E						A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 21.5		Intersection LOS: C	
Intersection Capacity Utilization 51.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 EB Off-ramp - FWP PM





Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	194	196	255	16	1179	16	1091
v/c Ratio	0.96	0.97	0.66	0.07	0.40	0.07	0.53
Control Delay	92.3	94.6	16.7	0.6	9.1	7.9	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.3	94.6	16.7	0.6	9.1	7.9	10.8
Queue Length 50th (ft)	124	125	18	0	124	4	185
Queue Length 95th (ft)	#283	#285	#107	0	157	14	245
Internal Link Dist (ft)		737			518		475
Turn Bay Length (ft)			110			180	
Base Capacity (vph)	202	202	384	228	2936	219	2045
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.97	0.66	0.07	0.40	0.07	0.53

Intersection Summary

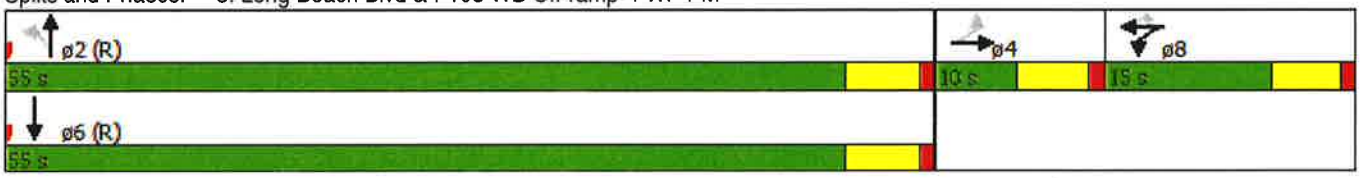
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	0	10	311	10	1080	17	1160	0	0	1332	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		140	150		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Frt		0.965			0.853	0.850					0.998	
Flt Protected		0.964		0.950			0.950					
Satd. Flow (prot)	0	1683	0	1719	1466	1461	1719	4940	0	0	4930	0
Flt Permitted		0.712		0.950			0.141					
Satd. Flow (perm)	0	1243	0	1719	1466	1461	255	4940	0	0	4930	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102			116	116					6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			573			493			550	
Travel Time (s)		4.9			13.0			11.2			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	0	11	338	11	1174	18	1261	0	0	1448	24
Shared Lane Traffic (%)						50%						
Lane Group Flow (vph)	0	43	0	338	598	587	18	1261	0	0	1472	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	Perm	Perm	NA			NA	
Protected Phases		4		8	8			2			6	
Permitted Phases	4					8	2					
Minimum Split (s)	21.1	21.1		21.1	21.1	21.1	31.4	31.4			21.4	
Total Split (s)	10.0	10.0		15.0	15.0	15.0	55.0	55.0			55.0	
Total Split (%)	12.5%	12.5%		18.8%	18.8%	18.8%	68.8%	68.8%			68.8%	
Maximum Green (s)	4.9	4.9		9.9	9.9	9.9	49.6	49.6			49.6	
Yellow Time (s)	4.1	4.1		4.1	4.1	4.1	4.4	4.4			4.4	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0			1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)		5.1		5.1	5.1	5.1	5.4	5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)		4.9		9.9	9.9	9.9	49.6	49.6			49.6	
Actuated g/C Ratio		0.06		0.12	0.12	0.12	0.62	0.62			0.62	
v/c Ratio		0.25		1.59	2.11	2.08	0.11	0.41			0.48	
Control Delay		3.5		316.6	532.3	518.4	8.4	8.3			8.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay		3.5		316.6	532.3	518.4	8.4	8.3			8.8	
LOS		A		F	F	F	A	A			A	
Approach Delay		3.5			479.1			8.3			8.8	
Approach LOS		A			F			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 2.11			
Intersection Signal Delay: 174.5		Intersection LOS: F	
Intersection Capacity Utilization 83.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Long Beach Blvd & I-105 WB Off-ramp- FWP PM





Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	43	338	598	587	18	1261	1472
v/c Ratio	0.25	1.59	2.11	2.08	0.11	0.41	0.48
Control Delay	3.5	316.6	532.3	518.4	8.4	8.3	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.5	316.6	532.3	518.4	8.4	8.3	8.8
Queue Length 50th (ft)	0	~294	~548	~533	4	126	155
Queue Length 95th (ft)	1	#483	#798	#783	16	158	193
Internal Link Dist (ft)	135		493			413	470
Turn Bay Length (ft)				140	150		
Base Capacity (vph)	171	212	283	282	158	3062	3058
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	1.59	2.11	2.08	0.11	0.41	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

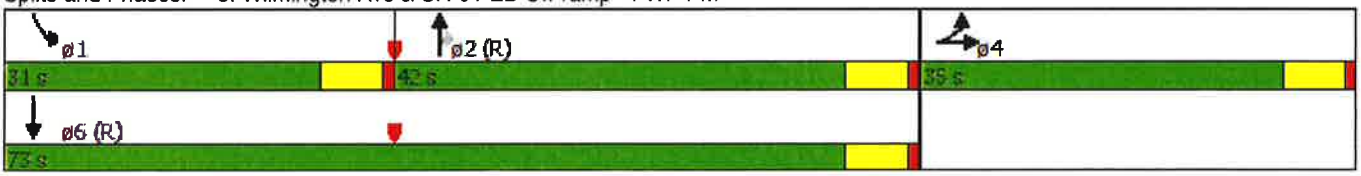
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	488	198	548	0	0	0	0	716	262	330	1021	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.95	1.00
Frt		0.898							0.850			
Flt Protected	0.950	0.996								0.950		
Satd. Flow (prot)	1564	2946	0	0	0	0	0	3438	2707	3335	3438	0
Flt Permitted	0.950	0.996								0.950		
Satd. Flow (perm)	1564	2946	0	0	0	0	0	3438	2707	3335	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102							285			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	530	215	596	0	0	0	0	778	285	359	1110	0
Shared Lane Traffic (%)	12%											
Lane Group Flow (vph)	466	875	0	0	0	0	0	778	285	359	1110	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases									2			
Minimum Split (s)	22.0	22.0						22.0	22.0	10.0	22.0	
Total Split (s)	35.0	35.0						42.0	42.0	31.0	73.0	
Total Split (%)	32.4%	32.4%						38.9%	38.9%	28.7%	67.6%	
Maximum Green (s)	29.0	29.0						36.0	36.0	25.0	67.0	
Yellow Time (s)	5.0	5.0						5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0						6.0	6.0	6.0	6.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Walk Time (s)	5.0	5.0						5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0						11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0						0	0		0	
Act Effct Green (s)	29.0	29.0						36.0	36.0	25.0	67.0	
Actuated g/C Ratio	0.27	0.27						0.33	0.33	0.23	0.62	
v/c Ratio	1.11	1.28dr						0.68	0.26	0.47	0.52	
Control Delay	115.9	68.9						34.6	3.7	38.1	12.6	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	115.9	68.9						34.6	3.7	38.1	12.6	
LOS	F	E						C	A	D	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		85.2						26.3			18.8	
Approach LOS		F						C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 108			
Actuated Cycle Length: 108			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 43.9		Intersection LOS: D	
Intersection Capacity Utilization 69.1%		ICU Level of Service C	
Analysis Period (min) 15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilmington Ave & SR-91 EB Off-ramp - FWP PM





Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	466	875	778	285	359	1110
v/c Ratio	1.11	1.28dr	0.68	0.26	0.47	0.52
Control Delay	115.9	68.9	34.6	3.7	38.1	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	115.9	68.9	34.6	3.7	38.1	12.6
Queue Length 50th (ft)	~487	~370	291	0	132	252
Queue Length 95th (ft)	#750	#545	374	38	187	314
Internal Link Dist (ft)		510	324			339
Turn Bay Length (ft)						
Base Capacity (vph)	419	865	1146	1092	771	2132
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.11	1.01	0.68	0.26	0.47	0.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

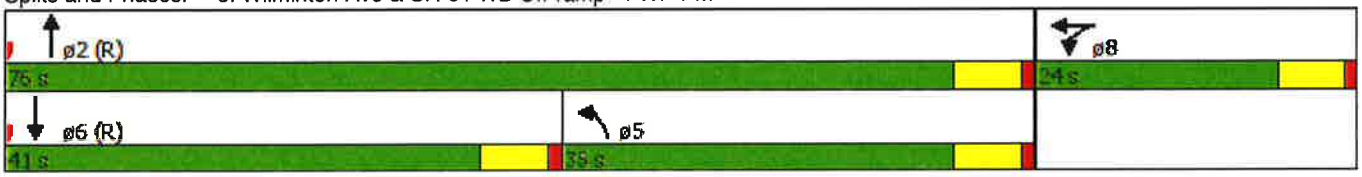
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	215	910	223	355	865	0	0	1100	728
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.91	0.91
Frt					0.971						0.940	
Flt Protected				0.950	0.999		0.950					
Satd. Flow (prot)	0	0	0	1564	3195	0	1719	3438	0	0	4644	0
Flt Permitted				0.950	0.999		0.950					
Satd. Flow (perm)	0	0	0	1564	3195	0	1719	3438	0	0	4644	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					24						118	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		590			580			404			419	
Travel Time (s)		13.4			13.2			9.2			9.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	234	989	242	386	940	0	0	1196	791
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	0	0	0	211	1254	0	386	940	0	0	1987	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases												
Minimum Split (s)				22.0	22.0		10.0	22.0			22.0	
Total Split (s)				24.0	24.0		35.0	76.0			41.0	
Total Split (%)				24.0%	24.0%		35.0%	76.0%			41.0%	
Maximum Green (s)				18.0	18.0		29.0	70.0			35.0	
Yellow Time (s)				5.0	5.0		5.0	5.0			5.0	
All-Red Time (s)				1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0			6.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)				18.0	18.0		29.0	70.0			35.0	
Actuated g/C Ratio				0.18	0.18		0.29	0.70			0.35	
v/c Ratio				0.75	2.11		0.78	0.39			1.27dr	
Control Delay				56.9	529.5		44.7	6.8			111.7	
Queue Delay				0.0	0.0		0.0	0.0			0.0	
Total Delay				56.9	529.5		44.7	6.8			111.7	
LOS				E	F		D	A			F	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					461.4			17.8			111.7	
Approach LOS					F			B			F	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 2.11
Intersection Signal Delay: 192.9 Intersection LOS: F
Intersection Capacity Utilization 98.2% ICU Level of Service F
Analysis Period (min) 15
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Wilminton Ave & SR-91 WB Off-ramp - FWP PM



Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	211	1254	386	940	1987
v/c Ratio	0.75	2.11	0.78	0.39	1.27dr
Control Delay	56.9	529.5	44.7	6.8	111.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	529.5	44.7	6.8	111.7
Queue Length 50th (ft)	170	~844	270	136	~646
Queue Length 95th (ft)	#313	#1014	#437	174	#764
Internal Link Dist (ft)		500		324	339
Turn Bay Length (ft)					
Base Capacity (vph)	281	594	498	2406	1702
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	2.11	0.78	0.39	1.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.