I-105 EXPRESSLANES PROJECT

District 7, Los Angeles County, California

SCH#2018031037
LA–105 PM R0.5/R18.1
LA–110 PM R13.8/R14.8
EA 31450

FINAL ENVIRONMENTAL PROJECT REPORT/ENVIRONMENTAL ASSESSMENT WITH FINDING OF NO SIGNIFICANT IMPACT AND SECTION 4(F) *DE MINIMIS* FINDING

APRIL 2021

Prepared by:
The State of California, Department of Transportation and The Los Angeles County Metropolitan Transportation Authority

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

07-LA-105 PM R0.5/R18.1
07-LA-110 PM R13.8/R14.8
EA 31450 / EFIS 0715000122
SCH# 2018031037

LA -105 Construct a continuous managed lanes facility on Interstate 105, West of I-405 in the City of Los Angeles to East of I-605 to Studebaker Road in the City of Norwalk (Postmiles 105-R0.5/R18.1 and 110- R13.8/R14.8)

Final Environmental Impact Report/Environmental Assessment with Finding of No Significant Impact and Section 4(f) *De Minimis* Finding

Submitted Pursuant to: (State) Division 13, California Public Resources Code (Federal) 42 USC 4332(2)(C), 49 USC 303, and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation

Responsible Agencies: California Transportation Commission, Los Angeles County Metropolitan Transportation Authority, Regional Water Quality Control Board, California Department of Fish and Wildlife, Office of Historic Preservation
Cooperating Agencies: United States Army Corps of Engineers

April 21, 2021
Date

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CALIFORNIA DEPARTMENT OF TRANSPORTATION
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

FOR

I-105 ExpressLanes Project

The California Department of Transportation (Caltrans) has determined that Alternative 3 - Convert Existing HOV Lane to Two ExpressLanes (Non-Standard Lane and Shoulder Widths) - will have no significant impact on the human environment. This FONSI is based on the attached Environmental Impact Report / Environmental Assessment (EIR/EA) which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached EA.

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Ronald Kosinski — April 21, 2021

Ronald Kosinski
Deputy District Director
District 7, California Department of Transportation

Date

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Summary

California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 USC 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding (MOU) pursuant to 23 USC 327 (NEPA Assignment MOU) with Federal Highway Administration (FHWA). The National Environmental Policy Act (NEPA) Assignment MOU became effective October 1, 2012 and was renewed on December 23, 2016 for a term of five years. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and Caltrans assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

California Department of Transportation (Caltrans), as assigned by FHWA, is the lead agency under NEPA and is the lead agency under California Environmental Quality Act (CEQA). Caltrans, in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), proposes to provide continuous managed lanes in the eastbound and westbound directions of Interstate 105 (I-105) in Los Angeles County from the terminus of the existing high-occupancy vehicle (HOV) lanes west of Interstate 405 (I-405) in the City of Los Angeles and east of Interstate 605 (I-605) to Studebaker Road in the City of Norwalk. The project limits include allowance for the installation of a new overhead tolling system and signage.

The purpose of the project is to improve existing congestion, and thus enhance traffic operations and mobility on I-105. The proposed improvements along the I-105 corridor will accomplish the following objectives:

- Enhance operations and improve trip reliability and travel times within the corridor
- Improve the traffic flow by reducing the congested areas and therefore, offering motorists a faster and reliable commute
- Sustain and manage mobility within the corridor to include other transportation options such as ExpressLanes

The project is needed to help address the deficiencies on I-105 within the project limits. The deficiencies are summarized below:

- Current daily traffic demand on some sections of I-105 exceeds capacity due to heavy traffic on both weekdays and weekends
- The existing traffic of the mixed flow and HOV lanes of the I-105 exceeds the capacity of the interstate, thus, future operating conditions will be further deteriorated
- According to the 2016 California High-Occupancy Vehicle Lane Degradation Determination Report (Caltrans, 2017) and the 2016 California High-Occupancy Vehicle Lane Degradation Action Plan (Caltrans, 2017) the existing I-105 HOV facilities are degraded and the travel speed is below 45 miles per hour for more than 10% of the time within a 180-day period.

The project seeks to convert the existing HOV lanes to ExpressLanes addressing existing degradation of the HOV lanes by deploying dynamic pricing as a means to optimize existing capacity thereby offering greater travel time reliability and enhanced mobility choice to travelers. Dynamic pricing allows for the adjustment of toll rates in real-time based on actual traffic conditions. Prices in the ExpressLanes will be higher with increased congestion, and lower when traffic is light. Based on the conceptual analysis and preliminary engineering studies, two Build Alternatives are proposed in addition to a "No-Build" Alternative.

- **Alternative 1 – No-Build Alternative**: Existing Conditions. The No-Build Alternative does not include any improvements to the existing configurations for I-105
- **Alternative 2 – Build Alternative:** Convert Existing HOV Lane to One ExpressLane (Standard Lane and Shoulder Widths)
- **Alternative 3 – Build Alternative:** Convert Existing HOV Lane to Two ExpressLanes (Non-standard Lane and Shoulder Widths)

Considerations were given to the project purpose and need; complexity of the project; public comments and concerns; inputs from local, regional, state, and federal agencies, PDT, and stakeholders; project funding as well as environmental, social, and economic impacts. The PDT reached a conclusion to recommend Alternative 3 as the preferred alternative because it can achieve better travel times, total throughput, congestion reduction, and better satisfied the purpose and need of the Project. A full alternative description can be found in the project alternatives section of Chapter 1.

Joint NEPA/CEQA Document

The proposed project is subject to state and federal environmental review requirements. Project documentation has been prepared in compliance with both CEQA and NEPA. Caltrans is the lead agency under CEQA. In addition, FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the MOU dated December 23, 2016 and executed by FHWA and Caltrans. Caltrans is the lead agency under NEPA.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, often a "lower level" document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

Project Impacts

Table S-1 summarizes the effects of the Build Alternatives in comparison with the No-Build Alternative. The proposed avoidance and minimization measures to reduce the effects of the Build Alternatives are also presented. A complete description of potential effects and recommended measures is provided in the specific sections in Chapter 2 and Chapter 3.

Table S-1: Summary of Impacts and Avoidance, Minimization, and/or Mitigation Measures Under CEQA

Affected Resources	Potential Impacts			Avoidance and Minimization Measures
	Alternative 1	Alternative 2	Alternative 3	

Land Use	No Impact	No Impact	Less Than Significant Impact	Restore TCE parcels to their original use after project completion.
Parks and Recreational Facilities	No Impact	No Impact	Less Than Significant Impact	Temporary closure of Fir Street during construction. Detour Ricardo Lara Park access to other side of block.
Growth	No Impact	No Impact	No Impact	No avoidance, minimization, and/or mitigation measures are needed.
Community Character and Cohesion	No Impact	No Impact	No Impact	Caltrans will provide a Notice to Vacate to any relocated homeless individuals.
Relocations and Real Property Acquisitions	No Impact	No Impact	Less Than Significant Impact	Prepare TMP to minimize disruptions to businesses and residents from project construction.
Environmental Justice	No Impact	Less Than Significant Impact	Less Than Significant Impact	Metro will continue utilizing Low-Income Assistance Plans and Programs. During the development of Final Design (PS&E) Caltrans & Metro will consider and incorporate measures that support equity, environmental justice and community values by minimizing construction impacts to those who may be directly impacted
Utilities/Emergency Services	No Impact	Less Than Significant Impact	Less Than Significant Impact	Contact emergency and utility services of construction schedules.
Traffic and Transportation Pedestrian and Bicycle Facilities	No Impact	Less Than Significant Impact	Less Than Significant Impact	Ramp Intersection improvement measures to be incorporated and inform local transportation authorities of construction schedule.
Visual/Aesthetics	No Impact	Less Than Significant Impact	Less Than Significant Impact	Incorporate sweeping round poles, consolidate signages, and match existing concrete structures/railing/landscape design, where feasible. Replaced lighting will be LED fixtures.
Cultural Resources	No Impact	Less Than Significant Impact	Less Than Significant Impact	Develop a Programmatic Agreement with a Historic Properties Treatment Plan. Construction activities will cease, and proper personnel will be contacted if cultural materials / human remains are discovered.
Hydrology and Floodplain	No Impact	Less Than Significant Impact	Less Than Significant Impact	No avoidance, minimization, and/or mitigation measures are needed.
Water Quality and Stormwater Runoff	No Impact	Less Than Significant Impact	Less Than Significant Impact	Project will prepare a SWPPP, Construction Site BMPs, dewatering plan, and any groundwater dewatering will comply with NPDES dewatering permit requirements.
Geology/Soils/Seismics/Topography	No Impact	No Impact	Less Than Significant Impact	No Avoidance, Minimization, and/or Mitigation measures.
Hazardous Waste/Materials	No Impact	Less Than Significant Impact	Less Than Significant Impact	Project will prepare an ADL site investigation, Health and Safety Plan, ACM/LBP survey, conduct soil/groundwater sampling, and Work Plan. Treated wood waste will be handled, stored, transported, and disposed of. Should construction occur near existing monitoring wells, contact DTSC.

Air Quality	No Impact	Less Than Significant Impact	Less Than Significant Impact	Control fugitive dust emissions. Use soil binders, gravel pads, and ESAs around sensitive air receptors. Install mulch as soon as practical. Wash trucks leaving construction sites and maintain/clean/store construction equipment and vehicles. Cover all transported loads of soils and wet materials. Remove dust and mud deposits on paved, public roads.
Noise	No Impact	Less Than Significant Impact	Less Than Significant Impact	Incorporate all acoustically feasible and reasonable soundwalls approved by benefitted receivers.
Energy	No Impact	Less Than Significant Impact	Less Than Significant Impact	Where feasible, reuse existing rail, steel, and lumber. Recycle asphalt. Use newer more energy-efficient equipment. Haul waste when trucks are full and combine small dozer operations where possible.
Natural Communities	No Impact	Less Than Significant Impact	Less Than Significant Impact	Utilize stormwater and erosion control BMPs and existing pull outs and parking lots for staging/storing. Create a tree replacement plan and obtain permits.
Wetlands and Other Water	No Impact	Less Than Significant Impact	Less Than Significant Impact	No work adjacent to bed, bank, and channels during the rainy season.
Plant Species	No Impact	Less Than Significant Impact	Less Than Significant Impact	Utilize stormwater and erosion control BMPs and existing pull outs and parking lots for staging/storing. Create a tree replacement plan and obtain permits.
Animal Species	No Impact	Less Than Significant Impact	Less Than Significant Impact	Minimize vegetation removal or loud machinery during the bird nesting season, otherwise contact District Biologist.
Threatened and Endangered Species	No Impact	Less Than Significant Impact	Less Than Significant Impact	No avoidance, minimization, and/or mitigation measures are needed.
Invasive Species	No Impact	Less Than Significant Impact	Less Than Significant Impact	Invite District Biologist to pre-construction meeting and do not use invasive species for erosion control.
Cumulative Impacts	No Impact	Less Than Significant Impact	Less Than Significant Impact	No avoidance, minimization, and/or mitigation measures are needed.
Climate Change	No Impact	Less Than Significant Impact	Less Than Significant Impact	Contractor would comply with all Caltrans standard construction BMPs.
Greenhouse Gas Emissions	No Impact	Less Than Significant Impact	Less Than Significant Impact	Contractor would comply with all Caltrans standard construction BMPs
Mineral Resources	No Impact	No Impact	No Impact	No avoidance, minimization, and/or mitigation measures are needed.
Recreation	No Impact	No Impact	Less Than Significant Impact	All access to parks and recreation facilities will be maintained or provided, coordination with facility owners, ensure implementation of measures for other resources such as traffic, AQ and noise.
Tribal Cultural Resources	No Impact	No Impact	No Impact	No avoidance, minimization, and/or mitigation measures are needed.
Wildfire	No Impact	No Impact	No Impact	No avoidance, minimization, and/or mitigation measures are needed.
Agriculture and Forest Resources	No Impact	No Impact	No Impact	No avoidance, minimization, and/or mitigation measures are needed.

Coordination with Public and Other Agencies

Caltrans filed a Notice of Preparation (NOP) for the Draft EIR/EA with the State Clearinghouse on March 7, 2018. The filing on the NOP began a 30-day scoping period that extended through April 16, 2018. Four scoping meetings were held in March of 2018. Additional information about public scoping can be found in Chapter 4.

The Draft Environmental Document was released for public review and comment between May 22, 2020 and July 27, 2020. During that time, two virtual public hearings were held.

Table S-2: Permits and Approvals Needed

Agency	Permit/Approval	Status
Federal Highway Administration (FHWA)	Concurrence with project's conformity to Clean Air Act and other requirements	FHWA issued a project level conformity determination on February 24, 2021
U.S. Army Corps of Engineers (USACE)	Section 404/408 Permits	To be obtained during PS&E
Regional Water Quality Control	Section 401 Certification Permit	To be obtained during PS&E
Regional Water Quality Control Board	Notification for National Pollutant Discharge Elimination System Permit	To be obtained during PS&E
California Department of Fish and Wildlife	Section 1600 Permit	To be verified and obtained during PS&E
Los Angeles County Flood Control District	Encroachment Permit	To be obtained during PS&E
State Historic Preservation Officer (SHPO)	Concurrence on findings with respect to historic resources and Section 106 requirements	Concurrence on Finding of Effect and Project Programmatic Agreement on April 20, 2021

After consideration of the comments from the public and reviewing agencies during the draft environmental document circulation, the Final EIR/EA has been prepared. The Final EIR/EA includes responses to comments received on the Draft EIR/EA and identifies the preferred alternative in section 1.7. Caltrans is also issuing a Finding of No Significant Impact (FONSI). A Notice of Availability (NOA) of the FONSI is being sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

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Chapter 1 – Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans), in cooperation with Los Angeles County Metropolitan Transportation Authority (Metro), proposes to enhance operations, improve traffic flow, manage mobility, and expand the ExpressLanes System within the Interstate 105 (I-105) corridor. The project traverses the cities of El Segundo, Inglewood, Hawthorne, Los Angeles, Lynwood, South Gate, Paramount, Downey, Norwalk, and unincorporated areas of Los Angeles County.

This project is included in the federally-adopted 2019 Federal Transportation Improvement Program (FTIP) and it is included in the 2017 California Federal Statewide Transportation Improvement Program (FSTIP). It is also shown on the adopted Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) and is planned to be carried over into the modeling for SCAG's 2020 RTP/SCS. Metro prepared a comprehensive ExpressLanes Strategic Plan (2017) for Los Angeles County and this project was identified as a Tier 1 (near-term) project, the first set of ExpressLanes routes to be constructed as part of the larger planned ExpressLanes system.

Caltrans, as assigned by the Federal Highway Administration (FHWA), is the lead agency under both the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA).

1.2 Background

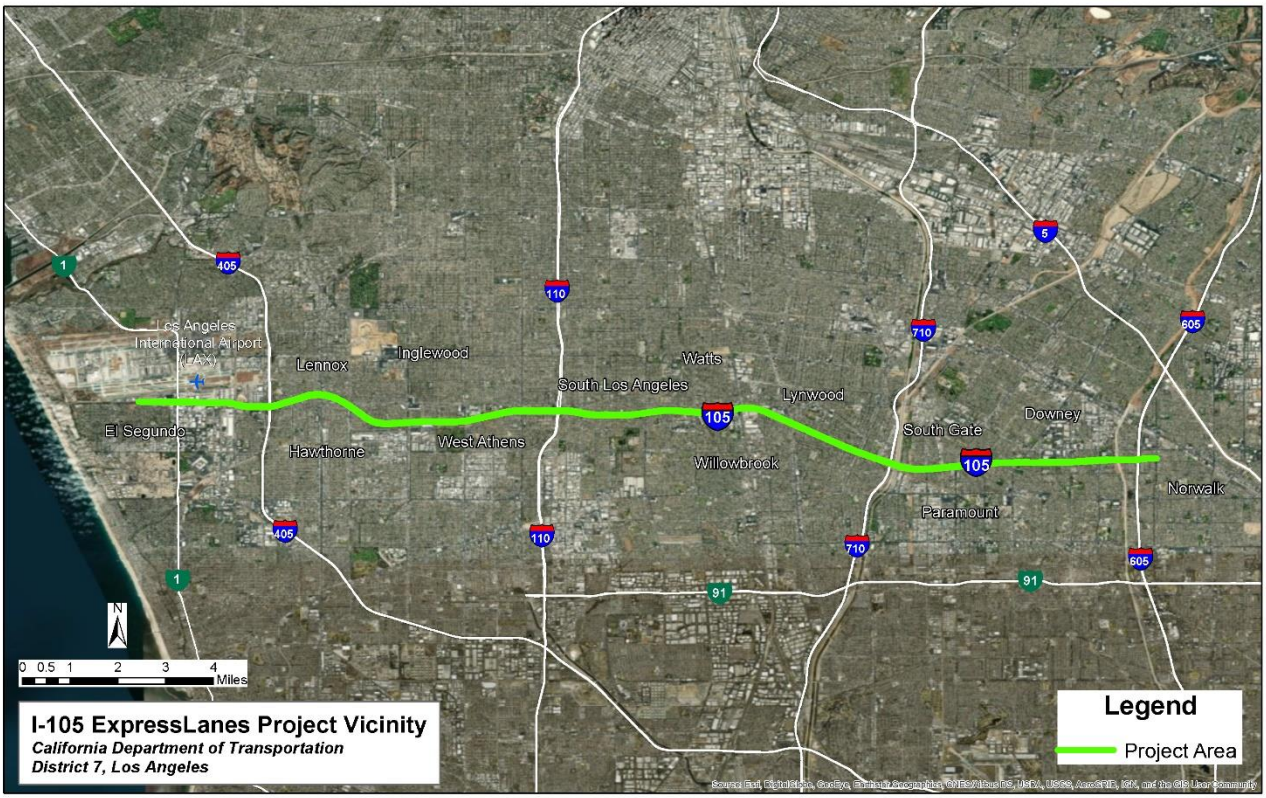
The I-105 freeway (Glenn Anderson Freeway, also referred to as the Century Freeway) is a pivotal east-west commuter corridor in the southern part of Los Angeles County, California, which currently runs from the City of El Segundo (west of I-405) to the City of Norwalk (east of I-605), connecting the I-405, I-110, and the freight heavy I-710 and I-605 freeways. The I-105 freeway provides a direct link to the Los Angeles International Airport (LAX) and access to job centers along the corridors that are in multiple jurisdictions. The I-105 corridor is designated as part of the National Highway System and California Freeway and Expressway System and has been recognized as an essential link in a multi-modal transportation network. I-I05 is also on the National Network for Surface Transportation Assistance Act Trucks and Subsystem of Highway for the Movement of Extra Legal Permit Loads.

Within the limits of the proposed project, I-105 currently has three 12-foot general-purpose lanes and one 12-foot High Occupancy Vehicle (HOV) lane in each direction, with 12-foot auxiliary lanes between ramps at various locations. Standard 10-foot inside and outside shoulders are maintained throughout a majority of the corridor in both directions. The Metro Green Line Light Rail Transit (LRT) corridor runs in the median of I-105 for 10 miles of the 18 mile corridor, providing rapid transit through south Los Angeles towards LAX. Stations are in place at several interchanges along the I-105 corridor, providing easy access to bus corridors along local roadways. In addition, there are several local roadways paralleling I-105 that provide alternative routes to commuters wishing to avoid peak hour congestion on the freeway.

An HOV lane, also known as a carpool or diamond lane is a traffic management strategy to promote and encourage ridesharing, thereby alleviating congestion and maximizing the people-carrying capacity of highways. ExpressLanes, also known as High Occupancy Toll (HOT) lanes are designated lanes that allow other vehicles, often vehicles that do not qualify for the existing carpool policy, the use of available capacity in the HOV lane for a toll during specified times. The toll charges change dynamically in response to existing congestion levels and available capacity in the HOV lane. HOV lanes and ExpressLanes are two specific types of managed lanes.

The I-105 corridor general purpose lanes currently experience recurring congestion and heavy demand during peak commute hours that exceed the freeway's maximum operational capacity. In addition, sections of the eastbound and westbound I-105 HOV lanes are classified as degraded as defined by federal standards because speeds on the HOV lanes operate at less than 45 miles per hour (mph) during peak periods for more than 10% of the time. See figure 1-1 for Project Vicinity Map.

Figure 1-1: Project Vicinity Map



1.3 Purpose and Need

The project purpose is a set of objectives the project intends to meet. The project need is the transportation deficiency that the project was initiated to address and is the transportation problem that Caltrans is responding to. The statement of need, together with the purpose, allows the agency to focus the range of alternatives.

Purpose

The purpose of the project is to improve existing congestion, and thus enhance traffic operations and mobility on I-105. The proposed improvements along the I-105 corridor will accomplish the following objectives:

- Enhance operations and improve trip reliability and travel times within the corridor.
- Improve the traffic flow by reducing the congested areas and therefore, offering the motorists a faster and reliable commute.

- Sustain and manage mobility within the corridor to include other transportation options such as ExpressLanes.

Need

The project is needed to address deficiencies on I-105 within the project limits, which are summarized below:

- Current daily traffic demand on some sections of I-105 exceeds capacity due to heavy traffic on both weekdays and weekends

- The existing traffic of the mixed flow and HOV lanes of the I-105 exceeds the capacity, thus, future operating conditions will be further deteriorated

- According to the 2016 California High-Occupancy Vehicle Lane Degradation Determination Report (Caltrans, 2017) and the 2016 California High-Occupancy Vehicle Lane Degradation Action Plan (Caltrans, 2017), the existing I-105 HOV facilities are degraded and the travel speed is below 45 mph during peak periods.

Existing Deficiencies

A Current Conditions Technical Memorandum (WSP, 2019) which evaluated the current operations along the I-105 corridor was completed in support of the project.

The I-105 corridor serves 62,000 to 117,000 Annual Average Daily Traffic (AADT) in the general purpose lanes in each travel direction. In the I-105 HOV lanes, the eastbound direction carries 11,000 to 22,000 daily traffic volumes, while the westbound carries 5,000 to 20,000 daily traffic volumes. The highest demands for both the general purpose lanes and HOV lanes occur near the Crenshaw Boulevard interchange and the entire eastbound section between I-405 and I-605. There are several areas along the I-105 corridor that are currently operating at oversaturated conditions, typically worse in the eastbound direction due to the following bottlenecks:

- The most severe bottleneck on the corridor occurs just west of the I-710 Interchange between the Long Beach Boulevard on-ramp and the I-710 off-ramps. This bottleneck typically overwhelms the upstream bottlenecks at Wilmington Avenue and the queuing contributes to congestion on the I-110 Southbound to Eastbound I-105 Connector Ramp. The vehicular demand exceeds the capacity with a demand/capacity ratio of 1.21 for the entirety of the PM peak hour at this location and operates at a Level of Service (LOS) F.

- There are two major bottlenecks east of the I-710 Interchange. During both AM and PM peak periods, the I-605 Northbound Connector Ramp forms a major bottleneck at the eastern end of the corridor. This bottleneck is caused by the vehicle demand exceeding the available capacity of the northbound connector ramp, the queuing from the heavy congestion, and the slower speeds along the northbound I-605 mainline (at the connector on-ramp). Interactions between the Paramount Boulevard on-ramp and the Lakewood Boulevard off-ramp also form a major bottleneck east of the I-710 Interchange and operate at a LOS F during AM and PM peak hours. The bottleneck is caused by the additional volume merging onto the corridor from the on-ramp and the resulting weaving conflict. There is not enough capacity on the roadway to accommodate for the additional demand from the on-ramp merge traffic and additional weaving.

- West of the I-110 freeway at Crenshaw Boulevard is the third most congested location on the corridor. The auxiliary lane from the Hawthorne Boulevard/Imperial Highway on-ramp to the

Crenshaw Boulevard/120th Street off-ramps ends, causing a bottleneck that leads to a drop in overall capacity. There are also two closely spaced high volume on-ramps (>10,000 AADT) at West 120th Street and the Eastbound on-ramp from Northbound Crenshaw Boulevard. There is a moderate bottleneck near the I-405 Southbound on-ramp during the PM peak period due to the high volume connector ramp that carries more than 30,000 AADT. This bottleneck is overwhelmed by the Crenshaw Boulevard on-ramp bottleneck downstream.

- Bottlenecks in the Westbound direction of the I-105 are less restrictive and congested than the Eastbound direction. The most congested Westbound bottleneck occurs at the Crenshaw Boulevard on-ramp due in part to its high ramp flows and operates at a LOS F in the AM peak hour. The second biggest bottleneck in this direction occurs at the interaction between the connector ramps from the Southbound I-710 on-ramps to the Long Beach Boulevard off-ramps. The volume of vehicles transitioning onto the I-105 mainline from the on-ramp causes congestion in the area, primarily due to the merging of 2 lanes into 1 lane west of the Long Beach Boulevard off-ramp. The ramps operate at a LOS F for both AM and PM peak hours.

Travel speed for the Eastbound section between I-405 and I-605 is below 30 mph during the PM peak period, while travel speed for the Westbound section between Bellflower Boulevard and Crenshaw Boulevard is below 40 mph during the AM peak period.

The HOV analysis identified multiple locations with HOV lanes operating at LOS F. This is caused by congestion in the mainline traffic and by the HOV lane bottlenecks. HOV congestion is typically worse in the Eastbound direction also due to the following bottlenecks:

- The most severe bottleneck on the corridor occurs in the Eastbound facility just east of the I-110 Interchange. This bottleneck occurs because the I-110 ExpressLanes Direct Connector Ramp traffic merges with the I-105 HOV lane traffic and the facility capacity cannot handle the additional demand from the ramp.

- Likewise, the main bottleneck in the Westbound direction exists where the ExpressLanes Direct Connector Ramp merges with the HOV lane. The volume of vehicles merging from two lanes into one exceeds the capacity of the HOV lane.

- Another major bottleneck is on the Eastbound facility that occurs between the Hawthorne Boulevard on-ramp and Crenshaw Boulevard/120th Street off-ramp at the HOV ingress/egress location. Due to the congestion on the mainline, traffic on the HOV lane must reduce their speed to match the mainline traffic and exit, while the slow traffic from the mainline enters the HOV lane.

The results of the existing peak hour performance analysis performed on the current ramp and adjacent arterial intersections located within the project limits showed about half of all intersections studied (23 in the AM peak period and 27 in the PM peak period) have LOS D or worse. LOS D is considered the threshold for acceptable level of service.

The proposed improvements to the I-105 corridor are needed in order to address the identified problems and deficiencies. The proposed improvements would increase the capacity of the managed lanes to allow for more flexibility in the traffic movement and higher efficiencies, enabling the corridor to maximize productivity and travel reliability.

1.4 Independent Utility and Logical Termini

FHWA regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that the project (1) have logical termini and be long enough to address environmental matters on a broad scope, (2) be usable

and be a reasonable expenditure even if no additional transportation improvements in the area are made, and (3) not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Logical Termini

To meet the FHWA criteria for logical termini, this project must have rational end points and be long enough to address environmental matters. The eastern terminus of the project is at Studebaker Road in the City of Norwalk and the western terminus of the project is at Imperial Highway/Sepulveda Boulevard in the City of Los Angeles. The length of the proposed project encompasses a 17.6 mile long section of the I-105 corridor. The I-105 corridor intersects I-110, which already contains an established ExpressLanes system. The connectors between I-105 and I-110 has been included in the projects limits to address connectivity from the proposed I-105 ExpressLanes to the existing I-110 ExpressLanes. Based on the above discussion, the project meets the criteria for logical termini.

Independent Utility

To meet the FHWA criteria for independent utility, this project must be usable even if no additional improvements in the area are made. The I-105 ExpressLanes corridor will be run independently from other ExpressLanes corridors and the funding generated on I-105 will be allocated separately from other ExpressLanes corridors to be used within the corridor. The proposed upgrade to the existing facilities would be a cost-effective and reasonable use of existing funds. The proposed project would benefit the local community even if additional improvements are not made to I-105 in the future.

Restriction of Consideration of Alternatives

Approval of the proposed action would not restrict consideration of alternatives for this or other reasonably foreseeable transportation improvements. The proposed project is being designed in coordination with the local and regional transportation authorities in the area. Continuous coordination will avoid potential conflicts with alternatives for this project and for other planned area transportation improvements.

1.5 Project Description

This section describes the proposed project to improve traffic conditions on I-105 starting at Imperial Highway/Sepulveda Boulevard Intersection west of I-405 in the City of Los Angeles and terminating at Studebaker Road located east of I-605 in the City of Norwalk, and on I-110 from the I-105 separation in the City of Los Angeles, to 103rd Street in the City of Los Angeles. This proposed project will reduce congestion, encourage carpooling and transit, improve trip reliability, minimize degradation of the general purpose lanes, increase person throughput, and apply technology to help manage traffic. The improvements include converting existing HOV lanes to Express lanes or adding an additional Express lane in each direction.

Existing Facilities

Within the project limits, the Caltrans operated I-105 spans 18.1 miles and is designed as a six-lane highway, with auxiliary lanes between most on-ramps and off-ramps, an HOV lane in each direction, and an exclusive median transit way for the Metro Green LRT. The width of the I-105 right-of-way spans roughly 320-feet, with additional space in portions of the corridor to accommodate interchanges and transit stations. The general purpose and HOV lane widths are typically 12-feet, with 10-foot wide interior and exterior shoulders.

The I-105 corridor runs parallel to Imperial Highway and State Route 91 (SR-91). The corridor directly links commuters to LAX and functions as a major-collector distributor route for the north-south routes of I-405, I-110, I-710, I-605, as well as local streets. An existing HOV Direct Connector currently connects the I-105 HOV to the I-110 ExpressLanes and provides direct ExpressLanes connectivity into downtown Los Angeles. I-105 traverses the South Bay and Gateway Cities of El Segundo, Hawthorne, Inglewood, Los Angeles, Lynwood, South Gate, Paramount, Downey, and Norwalk, and the unincorporated communities of Westmont, West Athens, Willowbrook and Lennox in Los Angeles County. The Metro Green Line LRT corridor runs in the median of I-105 for the majority of the route. The Metro Green LRT is owned and maintained by Metro while the I-105 corridor is owned and maintained by Caltrans.

In addition to the I-105 corridor, the project limits also include one mile on I-110, from PM 13.8 to PM 14.8. The I-110 is primarily designed as a six-lane highway, which includes a 7-story ramp that connects the I-105 HOV lanes to the I-110 northbound ExpressLanes.

1.6 Project Alternatives

This section includes all alternatives that are considered for further evaluation, based on the criteria that each alternative: (1) meets the purpose and need, (2) avoids environmental impacts, and (3) is feasible (per CEQA Guidelines Section 15126.6(f)(1)).

Two Build Alternatives are proposed in addition to a “No-Build” Alternative.

- **Alternative 1 – No-Build Alternative: Existing Conditions**
  The No-Build alternative does not include improvements to the existing lanes within I-105.

- **Alternative 2 – Build Alternative: Convert Existing HOV Lane to One ExpressLane (Standard Lane and Shoulder Widths)**
  This build alternative would convert the existing HOV lane, from Imperial Highway/Sepulveda Boulevard Intersection to Studebaker Road, to an ExpressLane in each direction. The freeway would be restriped within the existing footprint to accommodate one 12-foot wide ExpressLane with a 4-foot wide buffer separating the ExpressLane from the 12-foot general purpose lanes. Dynamic pricing would be deployed to address existing degradation of the HOV lane. This alternative also proposes improvements to the I-110 corridor from PM R13.8 to R14.8 to place associated signage for this build alternative. Roadway widening up to 8 feet would be required in some locations to accommodate three new merge lane locations, an additional 12-foot weave lane at ingress/egress locations, and to improve stopping sight distances at curves. The I-105 mainline roadway would be widened over Central Avenue in the westbound direction, which would require Central Avenue to be reprofiled to maintain standard vertical clearance for vehicles. Eleven existing ramps, seven interchanges, eleven bridge structures, forty-two retaining walls, and eight sound walls would need to be realigned/widened/converted to accommodate outside widening proposed in this build alternative.

- **Alternative 3 – Build Alternative: Convert Existing HOV Lane to Two ExpressLanes (Non-standard Lane and Shoulder Widths)**
  This build alternative would convert the existing HOV lane, from Imperial Highway/Sepulveda Boulevard Intersection to Studebaker Road, to an 11-foot ExpressLane in each direction. A second 11-foot ExpressLane in each direction would be added by utilizing non-standard lane and shoulder widths. The freeway would be widened and restriped to accommodate the two ExpressLanes with a 2-foot wide buffer separating the ExpressLane from the general purpose lanes. The general-purpose lanes would typically be 11-foot wide for the 2 inside lanes and 12-foot wide for the outside lanes. However, standard 12-foot general purpose lanes would be provided where it is feasible. Dynamic pricing would be deployed to address existing degradation of the HOV lane. This alternative also proposed improvements to the I-110 corridor from PM R13.8 to R14.8 to place associated signage for this build alternative. Roadway widening up to 25 feet would be needed to accommodate the second ExpressLane configuration, five new merge lane locations, five new/extended auxiliary lanes, 12-foot weave lanes at ingress/egress locations, avoid existing maintenance gates to Metro Green Line LRT, and improve or maintain existing stopping sight distances at curves. Central Avenue, Fir Street, Bullis Road, and Harris Avenue would need to be reprofiled to maintain vertical clearance and the sidewalks would be upgraded to ADA compliance. In addition, Imperial Highway would need to be reconstructed between Mona Boulevard and Fernwood Avenue to accommodate the roadway widening. Twenty-seven existing ramps, seven interchanges, twenty bridge structures, seventy-nine retaining walls, and fifteen existing/new sound walls would need to be realigned/widened/converted to accommodate outside widening by this build alternative.

Comparison of Alternatives

This section will evaluate the alternatives based on how each alternative addresses the purpose and need in consideration to environmental impacts. The No-Build Alternative will provide a baseline for comparison with the Build Alternatives.

Alternative 1 – No-Build Alternative: Existing Conditions

Under the No-Build Alternative, no additional travel lanes or ramp improvements would occur. Additional land areas would not be impacted, and existing and projected traffic congestion would not be alleviated beyond construction of other projects in approved regional transportation plans. The No-Build Alternative does not include any of the features considered during the conceptual analysis and preliminary engineering stage of the project. Consequently, the alternative does not address the current or future traffic demand. The No-Build Alternative does not meet the established purpose and need of the project outlined in the Purpose and Need section. However, it does provide insight on the future conditions of the area in the event no improvements are installed and serves as a baseline for comparison against the other alternatives.

Alternative 2 – Build Alternative: Convert Existing HOV Lane to One ExpressLane (Standard Lane and Shoulder Widths)

Under the Build Alternative 2, no additional travel lanes would be constructed. Additional land areas would be impacted with the 8 feet roadway widening. Eleven ramps, eleven structures, eight noise barriers, forty-two retaining walls, and seven system interchanges would be modified by this build alternative. Existing and projected traffic congestions would be alleviated as this alternative would enhance operations and improve trip reliability and travel times within the corridor. This alternative would reduce the congested areas and improve traffic flow to provide motorists with a faster and reliable commute and sustain and manage mobility within the corridor to include other transportation options. The escalated cost estimate for this build alternative is $473,644,408.

Alternative 3 – Build Alternative: Convert Existing HOV Lane to Two ExpressLanes (Non-standard Lane and Shoulder Widths)

Under the Build Alternative 3, one additional travel lane would be constructed in each direction. Additional land areas would be impacted with the 25 feet roadway widening. Twenty-two ramps, twenty structures, fifteen noise barriers, seventy-nine retaining walls, fourteen TCEs, and seven system interchanges would be modified by this build alternative. Existing and projected traffic congestions would be alleviated as this alternative would enhance operations and improve trip reliability and travel times within the corridor. The alternative would reduce the congested areas and improve traffic flow to provide motorists with a faster and more reliable commute. It will also sustain and manage mobility within the corridor to include other transportation options. The escalated cost estimate for this build alternative is $763,430,753.

This project contains a number of standardized project measures which are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

Common Design Features of the Build Alternatives

Under the Build Alternatives, the existing HOV lane would be converted to an ExpressLane in each direction. The ExpressLanes would address the degradation of the existing HOV lanes by utilizing dynamic pricing to optimize existing capacity thereby offering greater travel time reliability and enhanced mobility choice to travelers. Dynamic pricing allows for the adjustment of toll rates in real-time based on actual traffic conditions. Prices in the ExpressLanes will be higher with increased congestion, and lower when traffic is light. ExpressLanes would require single occupant vehicles to pay a toll while vehicles that meet the current carpool policy could utilize the facility toll free. Trucks, other than 2-axle light duty trucks, would not be allowed to utilize the ExpressLanes and clean air vehicles would receive a 15% toll discount. Clear air vehicles are defined as zero emission vehicles or transitional zero emission vehicles which display a DMV-issued clean air vehicle decal.

The Build Alternatives would also require various toll infrastructure including toll gantries with transponder readers, and high-speed digital cameras to: verify transactions, read license plates, and automatically collect tolls from customers as part of an electronic toll collection program. Signage will be posted within the corridor to notify commuters of the approaching ExpressLanes and to indicate the current tolls at ingress/egress points and travel time to selected destinations. Complete closed-circuit television coverage of the entire ExpressLanes Facility will be recorded to provide security and video surveillance for tolling equipment which will enable quick response times to breakdowns and other incidents. Fiber optics will be used to link the electronic infrastructure to a centralized toll operations office.

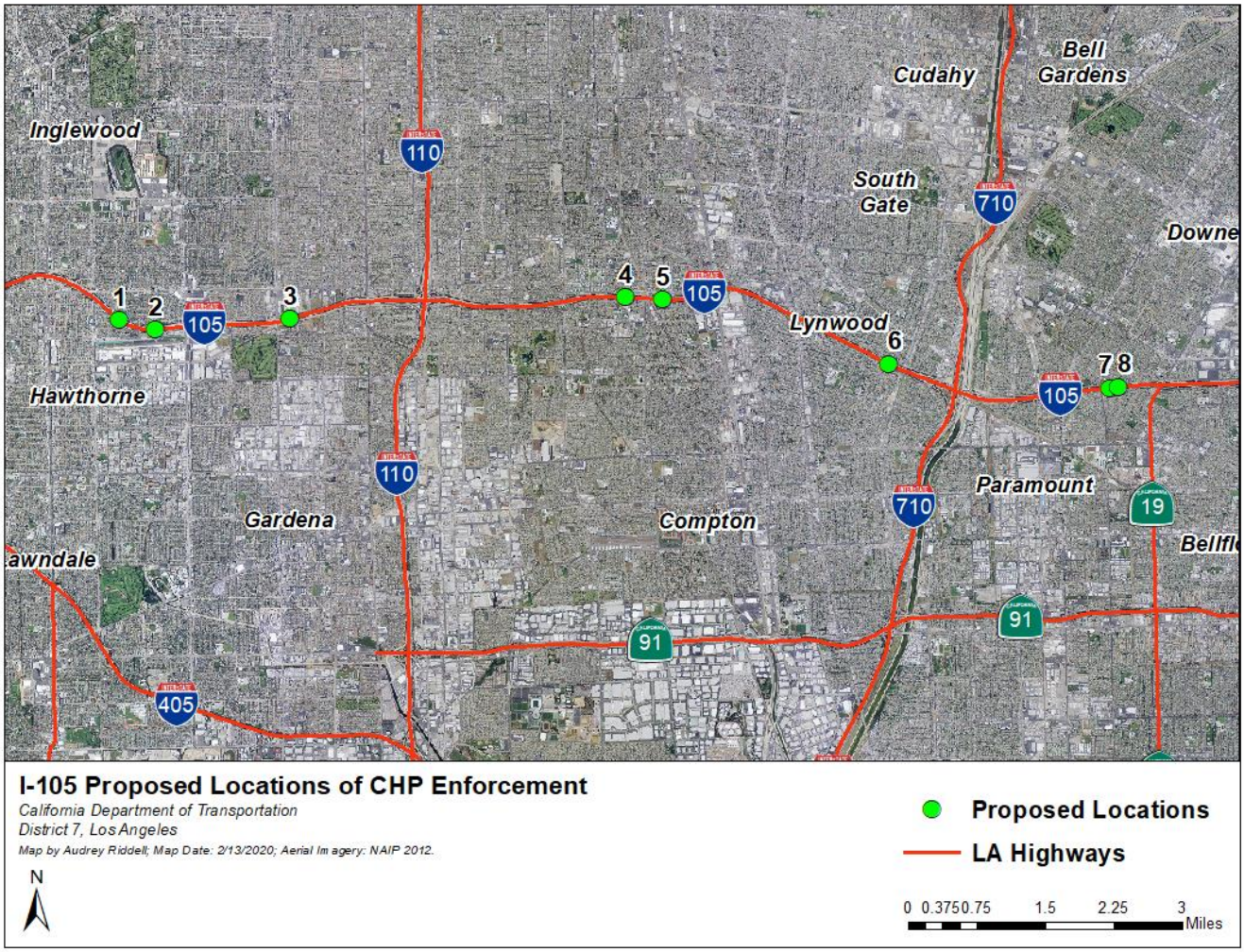
A weaving lane between the first general purpose lane and the closest ExpressLane is proposed in each direction at most ingress/egress locations to provide a dedicated lane for speed adjustments between the high speed through traffic in the ExpressLanes and the slower speed of the general purpose lanes during heavily congested peak periods.

In general, the existing ingress/egress locations on the I-105 HOV lane will be maintained for the I-105 ExpressLanes.

Maintenance Vehicle Pullouts (MVPs) are being considered at designated locations where there is a need to access toll gantries and changeable message signs.

There are 29 existing California Highway Patrol (CHP) Observation Areas along I-105 within the project limits. Eight additional observation areas have been incorporated into the build alternatives to help ensure traffic laws are enforced. Toll enforcement is an essential element of any successful express lane system to ensure customers are charged the appropriate toll based on vehicle occupancy and minimize toll evasion. Toll violations are currently enforced within the Los Angeles Metro jurisdiction through both visual observation by the CHP and the Electronic Toll Collection (ETC) system. The ETC system is intended to both identify vehicles that do not have a transponder as well as the declared transponder switch setting. CHP is anticipated to be contracted to conduct supplemental enforcement services on the I-105 Express facility including toll infractions, HOV eligibility occupancy infractions, buffer crossing infractions, speeding, and other moving violations. Figure 1-2 below identifies the proposed observations areas.

Figure 1-2: Proposed CHP Observation Areas



Under either build alternative, the project is expected to yield mobility benefits to commuters and freight traffic alike, through reduced travel times, increased vehicle and passenger throughput, and reduced delays through active traffic management to optimize freeway speeds throughout the corridor.

Local Improvements

Central Avenue would need to be improved due to mainline roadway widening of 11 feet. The existing Central Avenue undercrossing has a non-standard vertical clearance of 14 feet 10 inches.

Bike, Pedestrian, and Sustainability Improvements

Replace sidewalks, ADA ramps, and bikeway connections in accordance with local City standards, to accommodate the reprofiling of Central Avenue. Reprofiling involves adjusting vertical clearance under crossings by altering the slope of the approach street.

Ramp Metering

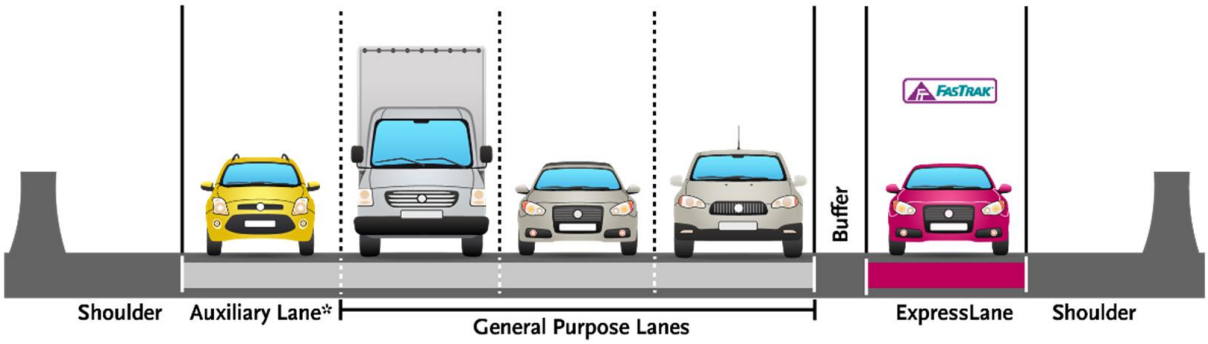
Incorporation of ramp metering on all ramps and interchanges impacted by the project build alternative is anticipated.

Unique Features of Build Alternatives

Under Build Alternative 2, the ExpressLane (12 feet), general purpose lanes (12 feet), Auxiliary lanes (12 feet), and Buffers (4 feet) would all be constructed with standard conditions. Non-standard 4 foot inside shoulders and 10-foot outside shoulders, would be implemented where site constraints exist. Where necessary, outside shoulders would be removed to provide full structural sections. New merge lanes approximately 300 feet in length would be proposed at 3 locations: Eastbound I-105/Paramount Avenue on-ramp, Eastbound I-105/Bellflower Boulevard on-ramp, and Westbound I-105/Bellflower Boulevard on-ramp. No new auxiliary lanes or extension of current auxiliary lanes are proposed under this alternative. The ExpressLanes would offer discounts for HOV + Clear Air Vehicles.

Figure 1-3 shows the Cross Section for Alternative 2.

Figure 1-3: Cross Section for Alternative 2

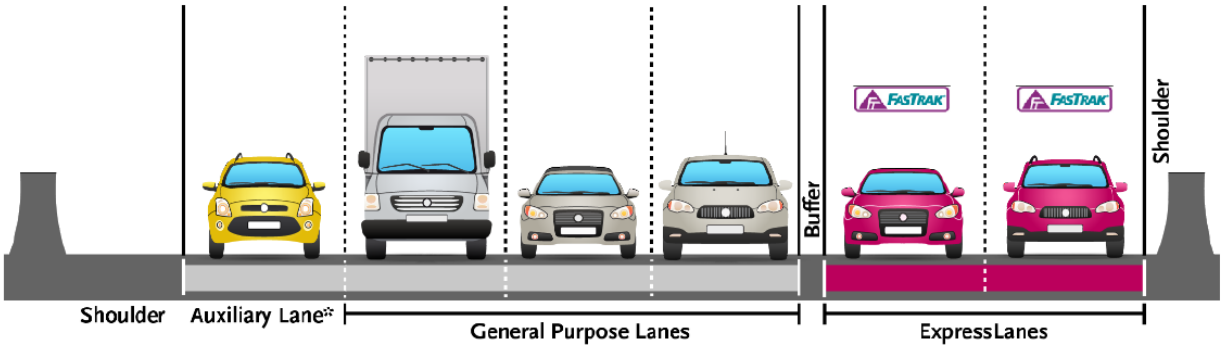


Under Build Alternative 3, a second ExpressLane would be added in each direction (total of 2 tolled ExpressLanes per direction). The ExpressLanes would be 11 feet wide. The general purpose lanes would typically consist of two (2) 11-foot inside lanes and a 12-foot outside lane, except the segments 13,500-feet west of the I-105/I-110 Interchange and 9,100 feet east of the I-105/I-110 Interchange, where three (3) 12-foot general purpose lanes are feasible. The auxiliary lanes would be 12 feet wide. The buffers would be 2 feet, the inside shoulder 2-4 feet, but the outside shoulder would typically be a standard 10 feet design. New merge lanes are proposed at 5 locations: Eastbound I-105/Wilmington Avenue on-ramp, Eastbound I-105/Bellflower Boulevard on-ramp, Eastbound I-105/Paramount Boulevard on-ramp, Westbound I-105/Lakewood Boulevard on-ramp, and Westbound I-105/Wilmington Avenue on-ramp. New Auxiliary Lanes, approximately 1,000 feet in

length, are proposed at: Westbound I-105/Northbound I-110 ExpressLanes Connector, and Southbound I-110/Eastbound I-105 ExpressLanes Connector. Extension of 2,800 feet at the existing auxiliary lanes is proposed from Northbound I-710/Westbound I-105 connector to Westbound I-105/Long Beach Boulevard off-ramp and 1,800 feet extension is proposed at Long Beach Boulevard on-ramp/Eastbound I-105 to Eastbound I- 105/Southbound I-710 Connector.

Figure 1-4 shows the Cross Section for Alternative 3.

Figure 1-4: Cross Section for Alternative 3



Widening

Both build alternatives would require widening at some locations to accommodate the ingress lane and improve or maintain stopping sight distances at curves. Alternative 2 will require widening up to 8 feet to the outside for the 1 proposed ExpressLane and Alternative 3 will require up to 25 feet to the outside for the dual ExpressLanes. The widening proposed in Alternative 3 would also accommodate an additional 12-foot auxiliary lane at on-ramps and ExpressLanes direct connectors.

Ramps

Certain ramps within the corridor are proposed to be modified under both build alternatives as a result of realignment, widening, or installation of ramp metering. The realignment of ramps is required to accommodate outside widening for the ExpressLanes and some ramps will be widened to correspond with anticipated traffic forecasts. Alternative 2 would modify eleven ramps and Alternative 3 would modify twenty-seven ramps. The locations and proposed changes of the ramps are listed in Table 1-1.

Table 1-1: Ramp Improvements for Build Alternatives

Location	Post Mile (Approx.)	Alternative 2		Alternative 3	
		Ramp Improvements	Ramp Metering	Ramp Improvements	Ramp Metering

			Existing	Proposed*		Existing	Proposed*
Imperial Hwy WB Off-Ramp (near California St)	R000.13						
Imperial Hwy EB On-Ramp (near California St)	R000.134						
Sepulveda Blvd WB On-Ramp	R000.295						
Sepulveda Blvd EB Off-Ramp	R000.37						
Sepulveda Blvd EB On-Ramp	R000.451						
Sepulveda Blvd WB Loop Off-Ramp	R000.48						
Sepulveda Blvd WB Off-Ramp	R000.66						
Imperial Hwy EB On-Ramp (near Nash St.)	R000.889			X			X
N Nash St WB Off-Ramp	R000.99						
Atwood Way EB On-Ramp	R001.164		X			X	
N&S405-W105 Connector	R001.695						
E105-S405 Connector	R001.77						
Imperial Hwy EB On-Ramp (Near La Cienega Blvd)	R001.909		X			X	
Imperial Hwy WB Off-Ramp (near La Cienega)	R001.94						
N405-E105 Connector	R002.291		X			X	
W105-N&S405 Connector	R002.52						
S405-E105 Connector	R002.531		X			X	
S Prairie Ave EB Off-Ramp	R003.21						
Hawthorne Blvd EB On-Ramp	R003.49		X			X	
Imperial Hwy EB On-Ramp (near Prairie Ave)	R003.49		X			X	
Imperial Hwy WB On-Ramp (near Prairie Ave)	R003.49		X			X	
Hawthorne Blvd WB Off-Ramp	R003.64						

S Prairie Ave WB Off-Ramp	R003.70						
W 120th St EB Off-Ramp	R004.35	X			X		
Crenshaw Blvd WB On-Ramp	R004.57		X		X	X	
W 120th St EB On-Ramp	R004.60		X		X	X	
Crenshaw Blvd WB Loop On-Ramp	R004.75		X		X	X	
Crenshaw Blvd WB Off-Ramp	R004.89				X		
Crenshaw Blvd EB On-Ramp	R004.93		X		X	X	
Vermont Ave WB On-Ramp	R006.58		X			X	
Vermont Ave EB Off-Ramp	R006.60				X		
Vermont Ave WB Off-Ramp	R006.90						
S Hoover St EB On-Ramp	R007.13		X			X	
S110-W105 Connector (HOV)	R007.23						
E105-N110 Connector (HOV)	R007.23						
S110-W105 Connector	R007.40		X		X	X	X
N&S110-E105 Connector	R007.40		X**		X	X**	X
E105-N&S110 Connector	R007.40				X		
N110-W105 Connector	R007.43						
S110-E105 Connector (HOV)	R007.62						
W105-N&S110 Connector	R007.75						
W105-N110 Connector (HOV)	R007.97						
Central Ave WB On-Ramp	R008.75	X	X	X	X	X	X
Central Ave EB Off-Ramp	R008.75	X			X		
Central Ave EB On-Ramp	R009.10	X	X	X	X	X	X
Central Ave WB Off-Ramp	R009.10	X			X		
Wilmington Ave EB Off-Ramp	R009.60				X		
Wilmington Ave EB On-Ramp	R009.79		X			X	
Imperial Hwy WB On-Ramp (near Wilmington Ave)	R010.03		X			X	

Imperial Hwy WB Off-Ramp (near Wilmington Ave)	R010.19						
Long Beach Blvd WB On-Ramp	R011.37		X			X	
Long Beach Blvd EB Off-Ramp	R011.45				X		
Long Beach Blvd WB Loop On-Ramp	R011.52		X			X	
Long Beach Blvd EB Loop On-Ramp	R011.65		X		X	X	X
Long Beach Blvd EB On-Ramp	R011.65		X		X	X	X
Long Beach Blvd WB Off-Ramp	R011.65				X		
N710-W105 Connector	R013.02		X			X	
E105-N&S710 Connector	R013.10				X		
S710-W105 Connector	R013.25		X			X	
Garfield Ave EB Off-Ramp	R013.76						
N710-E105 Connector	R013.85		X		X	X	X
S710-E105 Connector	R013.85		X		X	X	X
Garfield Ave WB On-Ramp	R014.03		X			X	
W105-N&S710 Connector	R014.10				X		
Paramount Blvd EB On-Ramp	R014.85	X	X	X	X	X	X
Paramount Blvd WB Off-Ramp	R014.85				X		
Lakewood Blvd WB On-Ramp	R015.55		X		X	X	X
Lakewood Blvd EB Off-Ramp	R015.65	X			X		
Lakewood Blvd EB Loop On-Ramp	R015.71		X			X	
Lakewood Blvd EB On-Ramp	R015.93		X			X	
Lakewood Blvd WB Off-Ramp	R015.93						
Bellflower Blvd WB On-Ramp	R016.40	X	X	X		X	
Bellflower Blvd EB Off-Ramp	R016.40	X					
Bellflower Blvd EB On-Ramp	R016.85	X	X	X		X	
Bellflower Blvd WB Off-Ramp	R016.85	X					

N&S605-W105 Connector	R017.42						
E105-N&S605 Connector	R017.44						
Norwalk Metro Station Off-Ramp	R017.67						
Imperial Hwy WB On-Ramp (near Hoxie Ave)	R017.72		X	X		X	X
Hoxie Ave WB On-Ramp	R017.88			X			X
Hoxie Ave EB On-Ramp	R017.95			X			X
Hoxie Ave WB Off-Ramp	R017.95						
Total		11	35	9	27	35	14

Notes: * Existing ramp metering to be relocated and/or upgrade to latest equipment requirements.
**Ramps metered separately before joining.
Ave = Avenue; Blvd = Boulevard; E = East; EB = Eastbound; Hwy = Highway; N = North; S = South; W = West; WB = Westbound

Structures

Both build alternatives require several bridge structures in the project area to be rebuilt or widened. Alternative 2 proposes eleven structures to be modified and Alternative 3 proposes twenty structures to be modified, as described in Table 1-2.

Table 1-2: Structures Widened for Build Alternatives

Bridge Name	Post Mile	Bridge No.	Alternative 2							Alternative 3						
			Westbound (Left)			Eastbound (Right)			Average Width of Widening (Feet)	Westbound (Left)			Eastbound (Right)			Average Width of Widening (Feet)
			Rebuild/New	Outside Widening	Median Widening	Rebuild/New	Outside Widening	Median Widening		Rebuild/New	Outside Widening	Median Widening	Rebuild/New	Outside Widening	Median Widening	
Dominguez Channel	R004.16	53 2518					X		EB 7.3		X			X	8.4	WB 16.3 / EB 10.3
Yukon Ave UC	R004.23	53 2598					X		EB 6.8		X			X	7.5	WB 16.5 / EB 10.0
Hoover Street UC	R007.05	53 2528												X		EB 6.3
Main St UC	R007.79	53 2410R												X		EB 6.3
San Pedro St UC	R008.04	53 2476									X			X	5.5	WB 14.0 / EB 14.0
Avalon Blvd UC	R008.29	53 2477									X			X	1.3	WB 11.3 /

																EB 10.5
Stanford Ave UC	R008.46	53 2478		X					WB 5.4		X			X	2.6	WB 17.0 / EB 12.3
Central Ave UC	R008.94	53 2480		X					WB 6.1		X			X	11.2	WB 15.0 / EB 13.3
Compton Creek	R008.98	53 2483		X					WB 5.5		X			X	10.5	WB 14.8 / EB 13.0
Success Ave UC	R009.21	53 2484		X			X		WB 3.3 / EB 1.0		X			X	10.8	WB 14.8 / EB 13.0
Compton Ave UC	R009.38	53 2485					X		EB 4.3		X			X	4.5	WB 8.3 / EB 10.3
Willowbrook OH	R009.78	53 2487L									X				12.2	WB 14.0
Alameda St Viaduct	R010.25	53 2490									X				15.0	WB 11.8
State St UC	R011.10	53 2662									X				7.0	WB 8.0
Long Beach Blvd UC	R011.56	53 2493												X		EB 10.3
Fir/Spruce St UC	R011.91	53 2494		X					WB 4.7		X			X	21.0	WB 23.3 / EB 12.4
Bullis Rd UC	R012.07	53 2495		X					WB 7		X			X	21.7	WB 23.3 / EB 14.3
Gertrude Dr UC	R012.30	53 2496		X					WB 8.1		X			X	13.0	WB 14.8 / EB 12.8

Harris Ave UC	R012.58	53 2497		X					WB 7.6		X			X	15.0	WB 15.3 / EB 5.0
Atlantic Ave UC	R012.88	53 2452												X		EB 9.5

Noise Barriers

The rebuilding of new noise barriers is proposed under both build alternatives. Alternative 2 proposes four new soundwalls and Alternative 3 proposes five new sound walls to be constructed. Table 1-3 lists the anticipated sound walls and the maximum length of extension for Alternative 2 and Alternative 3, respectively.

Table 1-3: Anticipated Sound Wall Impacts within the Project Limits

Location	Post Mile	Alternative 2				Alternative 3			
		Rebuild/New	Extension	Removal	Maximum Length of Extension (Feet)	Rebuild/New	Extension	Removal	Maximum Length of Extension (Feet)
EB I-105 between W 118th St & Yukon Ave S	R003.91	R			1754	R*			1754
WB I-105 between Doty Ave & S Cherry Ave	R003.95					R*			2310
WB I-105 between S Main St & S Central Ave	R007.77	R*			6017	R			6019
EB I-105 between S Main St & S San Pedro St	R007.78					R			1357
EB I-105 between West of S Avalon Blvd & Stanford Ave	R008.26					R			1108
EB I-105 between S Central Ave Off & On Ramps	R008.77					R*			1645
WB I-105 between S Central Ave & East of Compton Ave	R009.01	N			2519	N*			2519
EB I-105 between S Central Ave On Ramp & S Wilmington Ave Off Ramp	R009.06	R			2440	R			2929
WB I-105 Imperial Hwy On Ramp	R009.90	N			1911	N			1911
EB I-105 between Imperial Hwy On Ramp & Alameda St	R009.95	N			3313	N			3313
WB I-105 between Long Beach Blvd Off-Ramp & Fir St	R011.52	N			2128	N			2128
EB I-105 between Long Beach Blvd & Spruce St	R011.64					R			892
EB I-105 between Spruce St & Bullis Rd	R011.89					R			896
WB I-105 between Spruce St & Atlantic Ave	R011.91	R			4690	R			4830
EB I-105 between Bullis Rd & Atlantic Ave	R012.06					N*			4489

Retaining walls

Retaining wall improvements are required for both build alternatives in the proposed locations to minimize and avoid extensive right-of-way acquisition. Alternative 2 proposes forty-two new and rebuild retaining walls and Alternative 3 proposes seventy nine new and rebuild retaining walls. Table 1-4 lists the anticipated retaining wall impacts and maximum length of extension for Alternative 2 and Alternative 3, respectively. Those marked as "N" are combination Retaining Wall & Sound Wall.

Table 1-4: Anticipated Retaining Wall Impacts within the Project Limits

Location	Post Mile	Alternative 2			Alternative 3		
		Rebuild/ New	Type	Max Length (Feet)	Rebuild/ New	Type	Max Length (Feet)
EB I-105 West of Inglewood Ave	R002.46	N	1	94	N	1	94
EB I-105 East of Inglewood Ave	R002.75	N	1	94	N	1	94
EB I-105 West of Hawthorne Blvd	R002.88	N	1	94	N	1	94
WB I-105 Between Inglewood Blvd & Hawthorne Blvd	R002.92	R	1	308			
WB I-105 at Hawthorne Blvd	R003.03	N	Tie-Back	284			
EB I-105 between Prairie Ave OC & Dominguez Channel	R003.87				R	1	184
WB I-105 between Prairie Ave OC & Dominguez Channel	R003.88				R	1	307
WB I-105 West of Dominguez Channel	R004.02				N*	1	544
EB I-105 between Prairie Ave OC & Dominguez Channel	R004.04				N*	1	349
WB I-105 between Dominguez Channel & Yukon Ave UC	R004.16				N*	1	332
WB I-105 East of Yukon Ave	R004.24				N*	1	844
EB I-105 West of Crenshaw Blvd	R004.58	N	1	94	N	1	94
WB I-105 West of Van Ness Ave	R005.14				N	1	491
EB I-105 West of Van Ness Ave	R005.20	N	1	94	N	1	94
EB I-105 at Van Ness Ave OC	R005.22				N	1	105
WB I-105 at Van Ness Ave OC	R005.23				N	Tie-back	76
WB I-105 between Van Ness Ave OC & Wilton Place OC	R005.24				N	1	1,260
WB I-105 between Van Ness Ave OC & Normandie Ave OC	R005.34	R	1	308			
WB I-105 at Wilton Pl OC	R005.48				N	Tie-back	51
WB I-105 between Wilton Place OC & Western Ave OC	R005.49				N	1	1,253
WB I-105 at Western Ave OC	R005.73				N	Tie-back	99

WB I-105 between Western Ave OC & Normandie Ave OC	R005.75				N	1	2,652
WB I-105 between Western Ave OC & Normandie Ave OC	R006.04	N	1	308			
WB I-105 at Normandie Ave OC	R006.27				N	Tie-back	77
WB I-105 between Normandie Ave OC & Budlong Ave OC	R006.27				N	1	1,246
EB I-105 at Normandie Ave	R006.24				N	Tie-back	87
WB I-105 East of Normandie Ave	R006.29	N	1	94			
EB I-105 at Budlong Ave OC	R006.51				N	Tie-back	88
WB I-105 East of Budlong Ave	R006.57				N	1	199
WB I-105 between Budlong Ave OC & Vermont Ave OC	R006.59				R	1	308
EB I-105 between Budlong Ave OC & Vermont Ave OC	R006.63				R	1	571
WB I-105 between Budlong Ave OC & Vermont Ave OC	R006.72				N	1	135
EB I-105 at Vermont Ave OC	R006.74				N	Tie-back	198
WB I-105 at Vermont Ave OC	R006.74				N	Tie-back	178
WB I-105 between Vermont Ave OC & Hoover St UC	R006.77				N	1	209
WB I-105 East of Vermont Ave	R006.80	N	1	94			
EB I-105 East of Hoover St	R007.10	N	1	94	N	1	94
WB I-105 East of Main St	R007.86	N	1	94	N	1	94
EB I-105 East of Main St	R007.94	N	1	94			
WB I-105 West of Stanford Ave	R008.34	N*	1	242			
WB I-105 Central Ave WB On-Ramp	R008.60	N	1	340			
EB I-105 between Central Ave Off-Ramp & Central Ave UC	R008.78				N*	1	699
WB I-105 Central Ave WB On-Ramp	R008.78				N*	1	206
WB I-105 between Central Ave On-Ramp & Central Ave UC	R008.83	N	1	439	N	1	408
WB I-105 Central Ave On_Ramp	R008.87				N*	1	94
WB I-105 between Central Ave UC & Compton Creek	R008.94	N	1	161	N	1	144
EB I-105 between Central Ave UC & Compton Creek	R008.94				N*	1	291
WB I-105 between Compton Creek & Central Ave Off-ramp	R009.00				N	1	52
EB I-105 between Compton Creek & Central Ave On-Ramp	R009.01				N*	1	386
WB I-105 between Compton Creek & Central Ave Off- Ramp	R009.04	N	1	362			435

EB I-105 between Success Ave & Compton Ave	R009.23	N	1	300			
EB I-105 between Success Ave UC & Compton Ave UC	R009.31				N	1	328
EB I-105 between Success Ave & Compton Ave	R009.35	N	1	177			
EB I-105 between Willowbrook OH & Mona Blvd UC	R009.98				N	1	690
EB I-105 East of Wilmington Ave On-Ramp	R010.04	N	1	94			
WB I-105 between Alameda St Viaduct & State St UC	R010.93				N	1	624
EB I-105 between State St UC & Long Beach Blvd UC	R011.16				R	1	308
EB I-105 East of Harris Ave	R012.62	N	1	94			
EB I-105 between Harris Ave UC & Atlantic Ave UC	R012.73				R	1	308
WB I-105 West of I-710	R013.23	N	1	94	N	1	94
EB I-105 between Garfield Ave Off-Ramp & NB I-710/EB I-105 Connector	R013.66				N	5	825
EB I-105 at SB I-710/EB I-105 Connector adjacent to NB I-710 / EB I- 105 connector	R013.81				N	5	392
EB I-105 at SB I-710 / EB I-105 Connector adjacent to EB I-105 Garfield Ave Off-Ramp	R013.89				N	5	608
EB I-105 West of Garfield Ave	R014.06	N	1	94	N	1	337
EB I-105 at Garfield Ave OC	R014.13				N	1	88
EB I-105 between Garfield Ave OC & Paramount Blvd OC	R014.14				R	1	2,618
WB I-105 between Garfield Ave OC & Paramount Blvd OC	R014.16				N	1	2,550
EB I-105 between Garfield Ave OC & Paramount Blvd OC	R014.55	R	1	308			
EB I-105 at Paramount Blvd OC	R014.64	N	Tie-Back	202	N	Tie-back	96
EB I-105 between Paramount Blvd OC & Merkel Ave OC	R014.66				N	1	955
EB I-105 On-Ramp from Paramount Blvd	R014.78				R	5	739
WB I-105 Off-Ramp to Paramount Blvd	R014.87				R	1	459
EB I-105 On-Ramp from Paramount Blvd (at Merkel Ave OC)	R014.93				N	1	97
WB I-105 Off-Ramp to Paramount Blvd (at Merkel Ave OC)	R014.96				N	1	109
EB I-105 between Merkel Ave OC & Downey Ave OC	R015.05				N	1	228
WB I-105 between Merkel Ave OC & Downey Ave OC	R015.05				N	1	181
EB I-105 at Downey Ave OC	R015.08	N	Tie-Back	117	N	Tie-back	76
WB I-105 at Downey Ave	R015.08				N	Tie-back	75

EB I-105 between Downey Ave OC & Laureldale Ave OC	R015.10				N	1	1,221
EB I-105 between Downey Ave & Gardendale	R015.17	R	1	308			
WB I-105 between Downey Ave OC & Gardendale St OC	R015.10				R	1	690
EB I-105 between Downey Ave & Gardendale ST OC	R015.30	N	1	138			
WB I-105 at Gardendale St OC	R015.32				N	Tie-back	159
EB I-105 at Laureldale Ave OC	R015.33	N	Tie-Back	77	N	Tie-back	57
EB I-105 between Laureldale Ave & Gardendale St OC	R015.34	N	1	213	N	1	220
WB I-105 between Gardendale St OC & Lakewood Blvd On-Ramp	R015.35				N	1	657
EB I-105 at Gardendale St OC	R015.38	N	Tie-Back	160	N	Tie-back	140
EB I-105 between Gardendale St OC & Barlin Ave OC	R015.41	N	1	212	N	1	567
EB I-105 at Barlin Ave OC	R015.52				N	Tie-back	83
WB I-105 On-Ramp from Lakewood Blvd	R015.56				R	1	165
EB I-105 Between Lakewood Blvd Off-Ramp & Lakewood Blvd On- Ramp	R015.60				N	1	176
WB I-105 West of Ardis Ave	R016.19	R	1	308			
WB I-105 at Ardis Ave	R016.39	N	Tie-Back	94			
WB I-105 at Bellflower Blvd	R016.54	R	1/Tie-Back	1301/130			
EB I-105 at Bellflower Blvd	R016.64	R	1	160			
WB I-105 between Dunrobin Ave & Woodruff Ave OC	R017.05	R	1	308	R	1	348
EB I-105 between Dunrobin Ave & Woodruff Ave OC	R017.12	N	Tie-Back	140	R	1	307
WB I-105 between Woodruff Ave OC & San Gabriel River	R017.23				N	5	318
WB I-105 between Woodruff Ave OC & San Gabriel River	R017.29	N	1	94			
WB I-105 East of San Gabriel River	R017.60	N	1	94	N	1	94

Right-of-Way

Both build alternatives will require temporary encompassing of properties adjacent to the project area for construction, known as temporary construction easements (TCEs). Alternative 2 will require 1 TCE while Alternative 3 will require 7 TCEs. In addition to temporary occupancy of these properties, Alternative 3 will also require 1 partial permanent acquisition and 1 aerial easement. The affected properties are listed in Table 1-5.

Table 1-5: Affected Properties for Build Alternatives

Location	Alternative 2	Alternative 3		
	Temporary Construction Easements	Temporary Construction Easements	Partial Permanent Acquisition	Aerial Easement
Arthur Avenue Utility and Pedestrian Overcrossing	X	X		
Dominguez Channel		X		
Central Avenue		X		
Imperial Highway adjacent to westbound I-105 at Alameda Street Viaduct		X	X	X
Fir Street		X		
Harris Street		X		
Westbound I-105 between Prairie Avenue Overcrossing and Yukon Avenue Overcrossing		X		

Interchanges

In order to convert the HOV lanes to ExpressLanes, system interchanges within the corridor are proposed to be impacted. Both build alternatives would impact 7 system interchanges and are described in Table 1-6.

Table 1-6: Interchange Improvements for Build Alternatives

Location	Post Mile (Approx.)	Alternative 2 Interchange Improvements	Alternative 3 Interchange Improvements
I-405/I-105 IC	R002.10	Convert HOV lane to ExpressLane	Convert HOV lane to ExpressLane
I-110/I-105 IC	R007.40	Convert HOV lane to ExpressLane	Convert HOV lane to 2 ExpressLanes
W105-N110 Connector	R007.40	Convert HOV Connector to ExpressLane Connector	Convert HOV Connector to ExpressLanes Connector
S110-E105 Connector	R007.40	Convert HOV Connector to ExpressLane Connector	Convert HOV Connector to ExpressLanes Connector
E105-N110 Connector	R007.40	Convert HOV Connector to ExpressLane Connector	Convert HOV Connector to ExpressLanes Connector
S110-W105 Connector	R007.40	Convert HOV Connector to ExpressLane Connector	Convert HOV Connector to ExpressLanes Connector
I-710/I-105 IC	R013.45	Convert HOV lane to ExpressLane	Convert HOV lane to 2 ExpressLanes
I-605/I-105 IC	R017.80	Convert HOV lane to ExpressLane	Convert HOV lane to 2 ExpressLanes

Local Improvements

In addition to the local improvements listed under the common design features of the build alternatives section, Build Alternative 3 also proposes to reconstruct Imperial Highway, between Mona Boulevard and Fernwood Avenue to accommodate widening on the Westbound side of the Alameda Street Viaduct and the subsequent construction of bents and footings to support the structure widening. Fir Street would be reprofiled to a height of 15 feet 5 inches to accommodate mainline widening by 21 feet 6 inches at Fir Street. Bullis Road would be reprofiled to maintain the existing vertical clearance of 15 feet to accommodate mainline widening by 21 feet 6 inches at Bullis Road. Harris Avenue would be

reprofiled to maintain the existing vertical clearance of 15 feet to accommodate mainline widening by 15 feet at Harris Avenue.

Bike, Pedestrian, and Sustainability Improvements

In addition to the common design features of the build alternatives section, Build Alternative 3 proposes to replace sidewalks, ADA ramps, and bikeway connections in accordance with local City standards. These improvements will accommodate the reconstruction of Imperial Highway, reprofiling of Dominguez Channel Walkway, Central Avenue, Fir Street, Bullis Road, and Harris Avenue.

Utilities

The build alternatives would impact utilities within the study area. Alternative 2 would impact 4 utilities and Alternative 3 would impact 19 utilities. Table 1-7 lists the utility owners, type and location for both build alternatives.

Table 1-7: Utilities Owners, Type and Location for Build Alternatives

Location	Utility Owner	Wet (W) / Dry (D)	Utility Type	Utility Conflict Description	Alt 2	Alt 3
Bullis Rd UC	LACSD	W	Sewer	Remained-in-Place	X	X
Bullis Rd UC	SCE	D	Electrical	Remained-in-Place; Pothole to confirm depth	X	X
Bullis Rd UC	Standard Oil	W	Oil	Remained-in-Place; High Priority	X	X
Bullis Rd UC	City of Lynwood	W	Water	Remained-in-Place	X	X
Bullis Rd UC	PT&T	D	Telecom	Remained-in-Place; Pothole to confirm depth	X	X
Bullis Rd UC	SCG	D	Gas	Remained-in-Place; Pothole to confirm depth	X	X
Bullis Rd UC	Standard Oil	W	Oil	Remained-in-Place; High Priority	X	X
Bullis Rd UC	Standard Oil	W	Oil	Remained-in-Place; High Priority	X	X
Bullis Rd UC	Standard Oil	W	Oil	Remained-in-Place; High Priority	X	X
Central Ave UC	Pacific Bell	D	Telecom	Remained-in-Place; Pothole to confirm depth		X
Central Ave UC	SCG	D	Gas	Remained-in-Place; Pothole to confirm depth		X
Central Ave UC	Shell	D	Gas	Remained-in-Place; Pothole to confirm depth		X
Central Ave UC	SCG	D	Gas	Remained-in-Place; Pothole to confirm depth		X
Central Ave UC	SCG	D	Gas	Remained-in-Place; Pothole to confirm depth; High Priority		X
Central Ave UC	LACSD	W	Sewer	Remained-in-Place		X
Central Ave UC	LACDWP	W	Water	Remained-in-Place		X

Doty Ave	Pacific Bell	D	Telecom	Remained-in-Place; Pothole to confirm depth		X
Doty Ave	SCWC	W	Water	Remained-in-Place		X
Downey Ave OC	SCWC	W	Water	Remained-in-Place	X	X
Downey Ave OC	LACSD	W	Sewer	Remained-in-Place	X	X
Downey Ave OC	PT&T	D	Telecom	Remained-in-Place; Pothole to confirm depth	X	X
Downey Ave OC	LACSD	W	Sewer	Remained-in-Place	X	X
Downey Ave OC	PT&T	D	Telecom	Remained-in-Place; Pothole to confirm depth	X	X
Downey Ave OC	SCG	D	Gas	Remained-in-Place; Pothole to confirm depth	X	X
Downey Ave OC	PT&T	D	Telecom	Remained-in-Place; Pothole to confirm depth	X	X
Downey Ave OC	SCWC	W	Water	Remained-in-Place	X	X
Downey Ave OC	SCG	D	Gas	Remained-in-Place; Pothole to confirm depth	X	X
Façade Ave	LACSD	W	Sewer	Remained-in-Place	X	X
Façade Ave	LACSD	W	Sewer	Remained-in-Place	X	X
Grevillea Ave	Pacific Bell	D	Telecom	Remained-in-Place; Pothole to confirm depth	X	
Grevillea Ave	SCG	D	Gas	Remained-in-Place; Pothole to confirm depth	X	
Grevillea Ave	LACSD	W	Sewer	Remained-in-Place	X	
Harris Ave UC	SCE	D	Electrical	Remained-in-Place; Pothole to confirm depth	X	X
Harris Ave UC	Rogers Cable	D	Telecom	Remained-in-Place; Pothole to confirm depth	X	X
Harris Ave UC	City of Lynwood	W	Water	Remained-in-Place	X	X
Harris Ave UC	City of Lynwood	W	Sewer	Remained-in-Place	X	X
Paramount Blvd	Pacific Bell	D	Telecom	Remained-in-Place; Pothole to confirm depth	X	X
Paramount Blvd	SCG	D	Gas	Remained-in-Place; Pothole to confirm depth	X	X
Paramount Blvd	SCE	D	Electrical	Remained-in-Place; Pothole to confirm depth	X	X
Paramount Blvd	LACSD	W	Sewer	Remained-in-Place	X	X
WB I-105 at Truro Ave	SCE	D	Electrical	Remained-in-Place; Pothole to confirm depth	X	
WB I-105 at Truro Ave	LACSD	W	Sewer	Remained-in-Place	X	
WB I-105 at Truro Ave	SCWC	W	Water	Remained-in-Place	X	X

Transportation System Management and Transportation Demand Management Alternatives

Transportation Demand Management (TDM) focuses on strategies that result in more efficient use of transportation resources, such as ridesharing, telecommuting, park-and-ride programs, pedestrian improvements, alternative work schedules, and congestion pricing in an effort to improve overall mobility. This project would provide a continuous managed lane along the I-105 and provide a direct connector to the I-110 ExpressLanes, which will contribute to regional efficiencies toward reducing vehicle trips. The ExpressLanes continues to allow carpoolers and buses to travel toll free, resulting in improved transit performance. Metro will also continue to encourage carpooling and transit use on the ExpressLanes, by providing incentives and rewards through Metro's Transit Rewards and Carpool Loyalty programs.

Transportation Systems Management (TSM) strategies increase the efficiency of existing facilities by accommodating a greater number of vehicle trips on a facility without increasing the number of general purpose lanes. The proposed project has TSM features that will encourage transit use and ridesharing by allowing HOVs to have ExpressLanes use-priority over single occupancy vehicles (SOV). Increased use by HOVs would increase the efficiency of I-105 by maintaining the current number of general purpose lanes while also allowing more people to travel through the system. Although TSM measures alone could not satisfy the purpose and need of the project, TSM measures have been incorporated into the build alternatives with the inclusion of vehicle detection systems to monitor traffic speed, density, enforcement, incident management, and other subsystems to maintain acceptable traffic flow in the express lanes, which would benefit transit and HOVs.

Access to Navigable Rivers

California Streets and Highways Code Section 84.5 states that during the design hearing process relating to state highway projects that include the construction by the Department of a new bridge across a navigable river, there shall be included full consideration of, and a report on, the feasibility of providing a means of public access to the navigable river for public recreational purposes.

The project will not construct any new bridges across a navigable river.

1.7 Identification of a Preferred Alternative

After careful consideration, the PDT recommended Alternative 3 as the Preferred Alternative for the Project with design modifications that include providing standard-width general purpose lanes eastbound and westbound for 13,500-feet West of the I-105/I-110 Interchange and 9,100-feet East of the I-105/I-110 Interchange. During the alternative evaluation, considerations were given to the Project purpose and need; complexity of the project; public comments and concerns; inputs from local, regional, state, and federal agencies, PDT, and stakeholders; project funding as well as environmental, social, and economic impacts. The evaluation criteria established for recommending the Preferred Alternative are as follows:

- Enhance and optimize operations
- Improve trip reliability and travel times
- Reduce congestion on general purpose and HOV lanes
- Sustain and manage mobility
- Maximize throughput
- Minimize environmental impacts and right-of-way acquisition; and
- Address peak period traffic demand that exceeds capacity in the general purpose and HOV lanes

A *Preferred Alternative Recommendation Criteria Matrix and Environmental Effects* was developed in August 2020 to present a comparison of the mobility benefits provided by each of the build alternatives under consideration; the No-Build alternative was also shown to provide the baseline for the comparison. Scores were assigned to each criterion and for each alternative then totaled up. Of the 3 alternatives, build Alternative 3 scored the highest with 24 points, compared to Alternative 2, which scored 20. The no-build scored 19 points.

Based on the rationale above, the PDT reached a conclusion that Alternative 3 is preferable to Alternative 2 because it would better satisfy the need and purpose of the Project. While both Build Alternatives achieve significant portions of the Project's stated purpose, Alternative 3 achieves better travel times, total throughput, and congestion reduction compared to Alternative 2. Alternative 3 has only marginal increased environmental impacts compared to Alternative 2 and would be less than significant under CEQA. As a result, the PDT recommended Alternative 3 as the Preferred Alternative to move forward to the next project development phase.

Design Modifications for the Preferred Alternative

During the alternative evaluation process in Summer 2020, it was concluded that it was feasible to provide standard width for the general purpose lanes on the eastbound and westbound of the corridor, along a 13,500-foot segment just west of the I-105/I-110 Interchange and along a 9,100-foot segment just east of this Interchange. This design modification resulted in an additional 2-foot widening of the above described segments. To accommodate this additional 2-foot widening, ramps and structures within these segments would require additional improvements and widening.

1.8 Alternatives Considered but Eliminated from Further Discussion Prior to Draft Environmental Impact Report/Environmental Assessment (EIR/EA)

This section includes all alternatives that were considered during the project development process, but were eliminated from further consideration, and the issues supporting the elimination. Eliminating the alternatives from further evaluation included whether or not the alternatives: (1) failed to meet the most basic project objectives, (2) were infeasible (per CEQA Guidelines Section 15126.6(f)(1), or (3) were unable to avoid significant environmental impacts.

Operational Alternative Single ExpressLane 2+ occupancy policy.

This operational alternative would convert the existing HOV lane to an ExpressLane, with standard lanes and shoulder widths in both the East Bound and West Bound direction. The I-105 HOV lane currently operates with an HOV2+ occupancy policy and is classified as degraded. Due to the high volume of HOV2+ vehicles currently using the HOV lane, Metro has determined that conversion of the single HOV lane into a single ExpressLane while maintaining the current occupancy policy would not result in any mobility benefits nor would it address HOV degradation.

Reason for Elimination

This operational alternative was screened based on the policy not addressing HOV degradation and the forecasted HOV vehicle demand. Future projected vehicle demands exceeded the HOV/ExpressLane capacity and keeping the current policy would only worsen degradation. As a result, the HOV2+ occupancy policy was excluded from further analysis for the single ExpressLanes alternative.

Dual HOV Alternative

This alternative would establish two HOV lanes in each direction, restricted for use by only vehicles with two or more persons per vehicle, qualified Clean Air Vehicles, and transit buses. This alternative was brought up for consideration during the public circulation and review of the environmental document for this project. The Project Team considered this proposed scenario by conceptualizing the configuration of reducing the existing HOV lane to an 11-foot lane and adding a second HOV lane in each direction. The second lane would be 11 or 12 feet wide depending on segments and would be accommodated by utilizing non-standard lane and shoulder widths, widening, and restriping. Furthermore, this alternative would not include tolling infrastructure and ExpressLanes signage and pavement markings. The footprint of this rejected alternative is similar to the footprint of Alternative 3: Two ExpressLanes or Dual HOT Alternative.

Reason for Elimination

This alternative was eliminated for the following reasons:

Regional and system planning: The Dual HOV lanes-only implementation is not included in relevant approved transportation plans, in particular the 2020 Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), whereas the I-105 ExpressLanes Project is included in the RTP/SCS. In addition, the Region is planning a network of Express lanes as a way to manage congestion that would include the I-110, I-10, I-105, I-405, and I-605. Implementation of Dual HOV lanes along the I-105 would mean that no ExpressLanes would be implemented along this corridor thus would cause a missing link in the ExpressLanes system and therefore, may cause a disruption to the members of traveling public who use this system.

Purpose and Need: One of the three objectives in the purpose of the project is to sustain and manage mobility within the corridor to include other transportation options such as ExpressLanes. The Dual HOV Alternative would not involve an ExpressLane, and therefore does not meet this objective of the Project's Purpose.

Financial feasibility: The Dual HOV alternative does not currently have an identified funding plan. The 2016 voter-approved Measure M identified $175 million for Express (HOT) Lane implementation along the I-105, not HOV lanes. In addition, the I-105 ExpressLanes was awarded a $150 million Solutions for Congested Corridors grant in December 2020. An HOV alternative would not provide an option for generating revenues to support project implementation and therefore is not eligible for TIFIA financing and would have no ability to support bonding. As a result, the Dual HOV project would be financially infeasible.

Corridor performance: In comparing the Dual HOV Alternative with the similarly configured Dual HOT Alternative (Alt. 3), both alternatives would add roadway capacity and thus improve performance compared to the No Build Alternative (Alt. 1). However, the Dual HOT Alternative outperforms the Dual HOV Alternative with regards to vehicle throughput, managed lane utilization, and travel time reduction for the general-purpose lanes. In addition, in the future, the Dual HOV Alternative would not have as much flexibility to maximize the utilization of the roadway capacity as Dual HOT Alternative.

Alternative 4: Convert existing High Occupancy Vehicle (HOV) lane to 2 High Occupancy Toll (HOT) lanes, with standard lanes and shoulder widths.

This alternative would widen the I-105 freeway by 12 feet to add two standard ExpressLanes in both the EB and WB direction. A profile view of Alternative 4 is provided in Figure 1-5. The widening of the freeway would require installation of new fiber optics and relevant equipment under the new shoulders, mainline retaining wall reconstruction, relocation of the drainage system, relocation of dewatering and control wells, reconstruction/widening of almost all interchanges and overcrossings, widening under crossings, relocations and reconstruction of sound walls, and right-of-way acquisitions.

Reason for Elimination

This alternative was eliminated due to various significant environmental impacts. Fifty-four structures would need to be widened or modified and thirty-six structures would need to be reconstructed. In addition, fifty-four on and off ramps will be impacted and require reconfiguration. Approximately, thirty-two residential buildings and 2 large commercial/industrial parcels would need to be entirely acquired. An agreement with Union Pacific Railroad (UPRR) would be needed to relocate tracks between Budlong Avenue and Vermont Avenue. Right-of-way acquisition would be needed at an estimated cost of $50 to $100 million. Figures 1-5 and 1-6 provide examples of the potential impact of Alternative 4. During the scoping period, comments received from the public and agencies indicated support for dropping Alternative 4 from further evaluation due to right-of-way impacts.

Figure 1-5: Alternative 4 Profile View

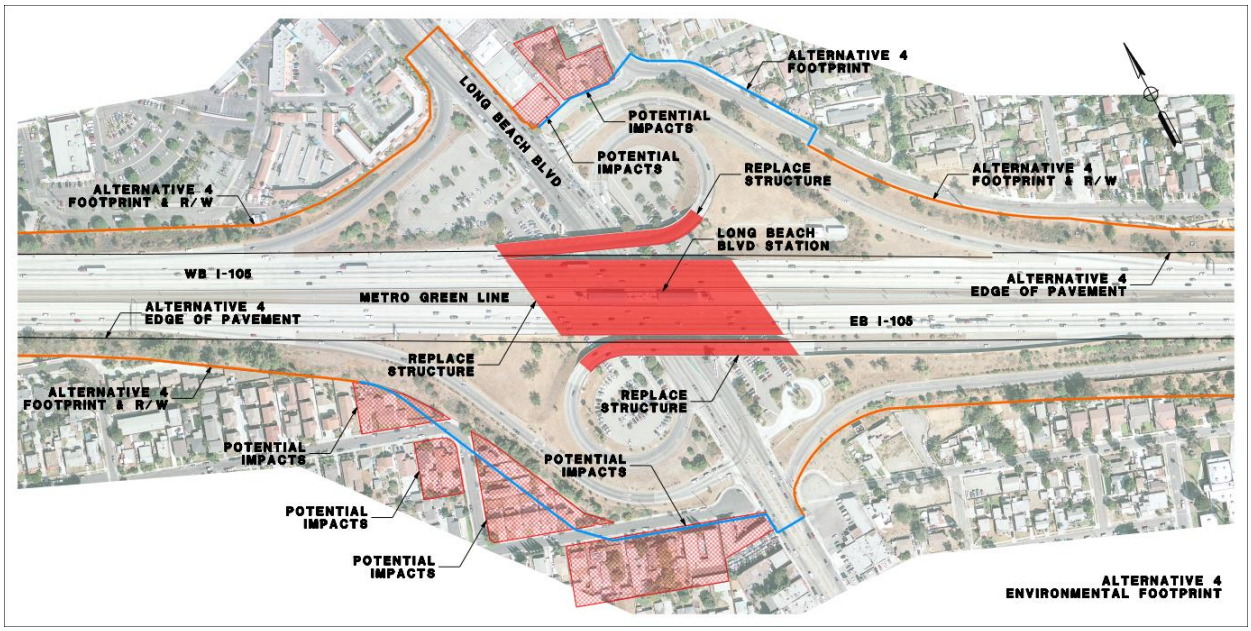
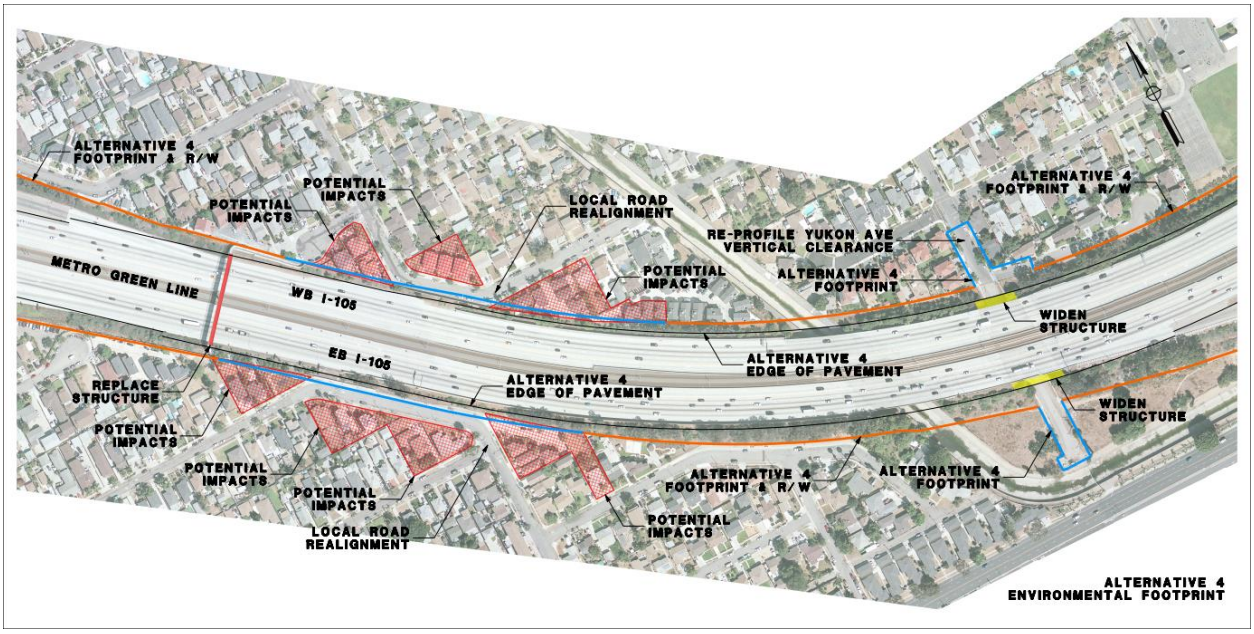


Figure 1-6: Alternative 4 Potential Impacts in the City of Hawthorne



Reversible Lanes Alternative

The project is required to demonstrate that reversible lanes were considered when submitting a capacity-increasing project or a major street or highway lane realignment project by Caltrans or a regional transportation planning agency to the CTC for approval, per Assembly Bill (AB) 2542, signed into law on September 23, 2016 and effective as of January 1, 2017 (Senate Rules Committee, Office of Senate Floor Analysis, Senate Floor Analysis AB 2542, 2016).

The purpose of AB 2542 is "to encourage the use of reversible lanes when they are the best option. Reversible lanes reduce congestion and prevent unnecessary road expansions. Road expansions can exacerbate our infrastructure backlog and have detrimental effects on the environment." As described by the California Senate Floor Analysis on AB 2542, "Reversible lanes add peak-direction capacity to a two-way road and decrease congestion by utilizing available lane capacity from the other (off-peak) direction. The lanes are particularly beneficial where the cost to increase capacity is especially expensive (e.g., bridges, dense urban areas)."

Reversible flow lanes are most appropriate on facilities that experience large directional traffic imbalances. Reversible facilities are best suited for long-distance trips with limited intermediate access needs along the affected route to minimize traffic disruptions (Freeway Management and Operations Handbook, FHWA, 2011). All freeway reversible lanes must be separated by "Jersey" barriers in a high-speed roadway setting. They are typically constructed in the median of freeway facilities and may be one, two, or more lanes wide.

Potential benefits of the reversible lanes include a reduction in capital cost of construction because reversible lanes would be implemented within the existing freeway median; and a reduction in environmental impacts because the idea would be mostly constructed within the existing freeway right-of-way.

Permits and Approvals Needed

The following permits, licenses, agreements, and certifications (PLACs) are required for project construction:

Table 1-8: Regulatory Agencies Requiring PLACs

Agency	PLAC	Status
Federal Highway Administration (FHWA)	Air Quality Conformity Determination	FHWA issued a project level conformity determination on February 24, 2021
California Transportation Commission (CTC)	CTC Application for Toll Facility	The CTC approved tolling for the project on October 9, 2019
State Historic Preservation Office	Concurrence on Finding of Effect with Programmatic Agreement	Concurrence on Finding of Effect with Programmatic Agreement received on March 10 and April 20, 2021
Regional Water Quality Control Board	Section 401 Permit	Apply during early PS&E
Regional Water Quality Control Board	National Pollutant Discharge Elimination System	Apply during early PS&E
United States Army Corps of Engineers	Section 404/408 Permit	Apply during early PS&E
California Department of Fish and Wildlife	Section 1600 Permit	Apply during PS&E
Los Angeles County Flood Control District	Encroachment Permit	Apply during early PS&E

Chapter 2 – Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

This chapter discusses project impacts on human, physical, and biological environments within the study area defined for each environmental resource. Analysis of each environmental factor includes discussion of the regulatory setting, affected environment, environmental consequences, and avoidance/minimization/mitigation measures for the build alternatives and the No-Build alternative. The regulatory setting language explains why we analyze issues the way we do in an environmental document. The affected environment portion will describe the existing social, economic, and environmental setting within the project limits. Environmental consequences will discuss the impacts of each build alternative and the No-Build alternative, which will include permanent, temporary, direct, and indirect impacts. Avoidance, minimization, and/or mitigation measures will discuss the effects of the project after consideration of standard measures and project features.

A separate section is provided to describe potential cumulative impacts, and recommended mitigation measures.

For CEQA, the environmental conditions existing in 2017, when the traffic volumes and speeds were collected, serves as the baseline for impact analysis evaluated in this environmental document. For NEPA, the No-Build alternative serves as the baseline for determining the project's impacts.

Topics Considered but Determined Not to be Relevant

As part of the scoping and environmental analysis carried out for the project, the following environmental issues were considered but no adverse impacts were identified. As a result, there is no further discussion about these issues in this document.

Timberlands. The project is located in an urban area. There are no timberlands within the project limits.

Coastal Zone. The project is not within a coastal zone and is not within the jurisdiction of the California Coastal Commission. The project will have no effect to coastal resources.

Wild and Scenic Rivers. No designated wild and scenic rivers are in the project area.

Paleontology. The proposed project will not result in impacts to paleontological resources. The project area has already been disturbed and paleontology is not anticipated to be an issue on this project.

Wildfire. The proposed project is in an urban area and along an existing transportation corridor. It is not located within or near a very high fire hazard severity zone. Wildfire is not anticipated to be an issue for the proposed project.

Section 2.1 Human Environment

Section 2.1.1 Land Use

This section addresses potential impacts to existing and planned land uses in the project area that could result from implementation of the project alternatives. Land use for each city may be found in the Community Impacts Assessment (CIA) completed in September of 2019 by Caltrans.

2.1.1.1 Existing and Future Land Use

The General Plan of each respective city is maintained by the city itself or by the Los Angeles County Department of Regional Planning. General plans outline permitted land uses and development densities or intensities for each city, and they provide a roadmap for how existing neighborhoods, commercial centers, business districts, transportation uses, and open spaces will be conserved. They also direct how growth will be managed to protect the qualities that distinguish each city.

Several general plans were reviewed in order to identify the land use goals/policies and current development trends that could be impacted by the proposed project. First, each city's General Plan and the Los Angeles County General Plan were reviewed. Then, any regional plans for the area and state plans for California were examined for consistency.

Transportation and development projects are in various phases of planning in the project vicinity and are identified and described in Table 2-1. Most of the projects listed are in planning or have been proposed but have not begun construction, with the exception of Metro's Crenshaw/LAX Line, which is currently in construction and expected to be completed Summer 2020. Bicycle and pedestrian projects are not listed here.

Table 2-1: Transportation and Development Projects in the Project Vicinity

Project	Jurisdiction	Description	Status
Crenshaw/LAX Transit Project	Metro, City of LA, Inglewood, El Segundo, LA County	The Metro Crenshaw/LAX Line will extend from the existing Metro Exposition Line at Crenshaw and Exposition Boulevards, travelling 8.5 miles to the Metro Green Line	In construction
Green Line Improvements	Metro, Downey, El Segundo, Hawthorne, City of LA, Lynwood, Manhattan Beach, Norwalk, Paramount, South Gate, LA County	Miscellaneous capital and operational improvements to existing Metro Green LRT. Improvements include adding tail tracks and crossovers at the Redondo Beach Station and extending station platforms to allow for 3-car trains at several stations	In Planning
Green Line/Lakewood Station	Metro, Downey	Transit Center and Park-and-Ride Lot for Connection to the Metro Green LRT at Lakewood Station. Expansion with 230 Parking Spaces are proposed to be added	In Planning
I-105 Ramp Signalization	Downey	Improve signals at the EB and WB ramps at I-105 and Clark Ave	In Planning
I-105 Ramp Improvements	Downey, Lynwood, Norwalk, Paramount, South Gate, LA County	Install auxiliary lanes to eliminate the bottlenecks between Route 605 and Route 110	In Planning
I-105/Artesia Blvd. Ramp Improvements	Long Beach, Paramount	Street improvement, signal modification, pedestrian signal, auxiliary lane, and etc. on WB ramps and EB off-ramps at I-105 and Artesia Blvd	In Planning

Project	Jurisdiction	Description	Status
I-105/Garfield Ave. Ramp Improvements	Paramount	Improve ramp metering and pedestrian signals at EB and WB off- and on-ramps at I-105 and Garfield Ave	In Planning
I-710 HOV Lanes	Compton, Long Beach, Lynwood, Paramount	I-710 HOV Lanes from SR-91 to I-105, PM 13.00 to 15.70	In Planning
I-105/I-605 HOV Direct Connector	Norwalk	I-105/I-605 HOV direct connector at PM 17.82	In Planning
I-110/I-105 HOV Connectors	City of LA	Add HOV connectors from NB I-110 to EB and WB I-105	In Planning
I-105/I-405 HOV Connectors	Hawthorne	HOV Connectors from I-105 WB to NB and SB I-405	In Planning
I-405 Express Lanes	City of LA, Hawthorne, Lawndale, Redondo Beach, Torrance	Add Express Lanes on I-405 between I-110 and I-105	In Planning
I-405/I-105/SR-90 Metering	Culver City, Hawthorne, Inglewood, City of LA, LA County	Add connector metering and ramp metering between I-105 and SR-90 interchanges on NB and SB I-405. PM R21.18/25.94	In Planning
I-105 Auxiliary Lane	Lawndale	Add auxiliary lane on WB I-105 from Wilton Place to Hawthorne Blvd. PM 3.05/5.48	In Planning
I-105 Auxiliary Lane	El Segundo, Hawthorne, City of LA, LA County	Add auxiliary lane on EB I-105 from Nash Ave. to Van Ness Ave. PM 0.99/5.23	In Planning
I-405 Auxiliary Lane	Hawthorne, LA County	Add northbound auxiliary lane from south of El Segundo Blvd. to I-105	In Planning
I-405 Auxiliary Lane	City of LA, Culver City	Add auxiliary lanes from SR-90 to I-105	In Planning
I-105 Integrated Corridor Management	Caltrans	Integrated Corridor Management on I-105 from terminus to I-605	In Planning
I-605 Corridor Improvement Project	Baldwin Park, El Monte, City of Industry, Pico Rivera, South El Monte, Whittier, Downey, Norwalk, Sante Fe Springs, LA County	Facilitate improvements in freeway operations, safety, mobility, throughput, and travel times through widening of the freeway mainline and improvements to interchanges and confluence areas at Interstate 105 (I-105), Interstate 5 (I-5), State Route 60 (SR-60), and Interstate 10 (I-10).	In Planning
West Santa Ana Branch (WSAB)	LA County, Vernon, City of La, Huntington Park, Bell, Cudahy, South Gate, Downey, Paramount, Bellflower, Cerritos, & Artesia	New light rail transit (LRT) line that will connect southeast LA County to downtown Los Angeles. Projects combined may contribute to an effect but further evaluation will need to be done during subsequent phase of the WSAB project, where project details are refined with supporting environmental reports.	In Planning

Project	Jurisdiction	Description	Status
Telegraph Rd. Improve Critical Movements	Commerce	Project includes consideration of lane width widening from I-105 to Imperial Hwy to better accommodate buses and trucks, access management, parking restrictions, and grade separating railroad tracks where feasible	In Planning
Central Ave. Corridor Improvements	Compton, LA County	Analyze for efficient vehicle movement along the corridor, which provides primary connectivity between SR-91 and I-105 freeways	In Planning
I-105/Bellflower Operational Improvements	Downey	Ramps improvements and pedestrian marking improvements at I-105 and Bellflower. Improve signals and left turn pockets to WB on-ramp and EB off-ramp	In Planning
I-105/Avalon Operational Improvements	Undefined – Gateway	I-105/Avalon: At EB and WB ramps, improve signals, pedestrian crossing, and ramp metering improvements	In Planning
I-105/Alameda Street Signal and Channelization	Lynwood, LA County	I-105/Alameda Street: EB and WB signal and channelization	In Planning
I-105/Long Beach Blvd. Operational Improvements	Lynwood	I-105/Long Beach Blvd: EB and WB ramps widen and install auxiliary lane and improve left turn pockets at Long Beach Blvd	In Planning
I-105/Paramount Pedestrian Enhancement	South Gate	I-105/Paramount: Pedestrian enhancement and signal modifications at the EB and WB on and off-ramps and left turn pockets	In Planning
I-105 Transportation Management System (TMS)	Downey, Lynwood, Norwalk, Paramount, South Gate, LA County	Upgrade TMS on I-105 from I-110 to I-605, PM 7.2/17.9	In Planning
I-105 TMS	Hawthorne, City of LA, LA County	Upgrade TMS from Imperial Hwy to I-110, Post Mile 0.0/7.264	In Planning
I-105 Advanced Traffic Management (ATM) and TMS Improvements	Downey, El Segundo, Hawthorne, City of LA, Lynwood, Norwalk, Paramount, South Gate, LA County	ATM and TMS improvements along I-105 between I-605 and Route 1	In Planning
I-405 and I-105 Corridor Refinements	Hawthorne, Lawndale, City of LA, Redondo Beach, Torrance, LA County	Corridor Refinements on I-405 from I-110 and I-105 and I-105 from I-405 to Crenshaw	In Planning
Imperial Hwy Capacity Enhancement	Downey, Lynwood, South Gate, LA County	Evaluate widening to 3 lanes on Imperial Hwy through Lynwood to tie into the 3 lanes on either side of the city – or	In Planning

Project	Jurisdiction	Description	Status
		consider widening between Fernwood Ave. and Long Beach Blvd	
Aviation Blvd. Capacity Enhancement	City of LA	From Arbor Vitae St. to Imperial Hwy, widen and restripe to accommodate three through lanes in each direction	In Planning
Imperial Hwy Widening	City of LA	Between Sepulveda Blvd. and Pershing Dr., widen to provide three continuous lanes through lanes in each direction	In Planning
Imperial Hwy/Alameda St. Intersection Improvement	Lynwood, LA County	Add second right-turn lane SB at Imperial Hwy and Alameda St. Intersection	In Planning
Imperial Hwy Operational Improvements	LA County	ITS and/or Operational Improvements on Imperial Hwy from Sundale Ave. to Budlong Ave	In Planning
Prairie Ave. Operational Improvements	LA County	ITS/Communications with Motorists Program on Prairie Ave., Imperial Highway to Redondo Beach Boulevard	In Planning
Imperial Hwy Operational Improvements	LA County	ITS/Communications with Motorists on Imperial Hwy from Sundale Avenue to Vermont Ave	In Planning
Imperial Hwy Operational Improvements	Hawthorne, Inglewood, LA County	Traffic Signal Synchronization (TSSP) on Imperial Highway from Sundale Ave. to Budlong Ave	In Planning

2.1.1.2 Consistency with State, Regional, and Local Plans and Programs

This section is based on data from the U.S. Census Bureau and State, Los Angeles County, and Cities & census-designated places of Norwalk, Downey, South Gate, Paramount, Lynwood, Los Angeles, Inglewood, Hawthorne, and El Segundo and the unincorporated communities of West Athens, Willowbrook and Lennox in Los Angeles County. Demographic data for the study area was reviewed for socioeconomic characteristics, such as race, ethnicity, household income and employment, age, and housing characteristics. County, city, and tract-level data are primarily provided by the 2012-2016 American Community Survey (ACS) and Southern California Association of Governments (SCAG). Information provided by local planning departments, general plans, and data from the Bureau of Labor Statistics and ACS were utilized for socioeconomic analysis.

The collected data was organized into spreadsheets and graphs and evaluated in figures and through GIS analysis to better understand the socioeconomic impacts of the project. Census tracts affected by the project were compared to the demographic characteristics of the populations of Los Angeles County and to the city in which they were located in as reference populations in order to identify potential impacts.

The study area is defined based on census tracts adjacent to or encompassing the project footprint, as they are the communities near the project area that may potentially be affected by the project. They are census tracts 9800.28, 6200.01, 9800.13, 6022, 6016, 6021.03, 6021.04, 6017, 6020.02, 6025.09, 6005.02, 6027, 6028.01, 2412.02, 2413, 2414, 2410.01, 2410.02, 5407, 5406, 5404, 5403, 5405.01, 5402.03, 5417, 5401.02, 5418.01, 5400, 5418.02, 5537,01, 5362, 5536.01, 5536.02, 5535.03, 5517, 5534, 5518, 5519, and 5520.01. This spans the cities / unincorporated communities & census-designated places of El Segundo, Lennox, Hawthorne, Inglewood, West Athens, Los Angeles, Willowbrook, Lynwood, South Gate, Paramount, Downey, and Norwalk in Los Angeles County.

Table 2-2: City of Norwalk Land Use Designations

Norwalk (source: Norwalk General Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Low Density Residential	3,117	45.50%
Medium Density Residential	12	.18%
High Density Residential	272	3.97%
Residential Subtotal	**3,401**	**49.64%**
Neighborhood Commercial	66	.96%
Professional Office	88	1.28%
General Commercial	242	3.53%
Commercial Subtotal	**396**	**5.78%**
Light Industrial	171	2.5%
Heavy Industrial	141	2.06%
Industrial Subtotal	**312**	**4.55%**
Specific Plan Area/Planned Unit Development	**82**	**1.2%**
Open Space/Public Schools/Public Facilities	**700**	**10.22%**
Institutional	**53**	**.77%**
Undesignated	**1,907**	**27.84%**
TOTAL	**6,581**	**100%**

On the north side of I-105, land use is designated residential and Open Space/Public Schools/Public Facilities. The residential designations consist of single family residential and multi-family High Density Residential (23-30 units per acre). On the south side, land use is also residential and Open Space/Public Schools/Public Facilities, but the residential designations here consist solely of single family residential. See Figure 2-2: City of Norwalk General Plan Land Use Map for a more detailed look at the land use designation in Norwalk.

Figure 2-1: City of Norwalk General Plan Land Use Map

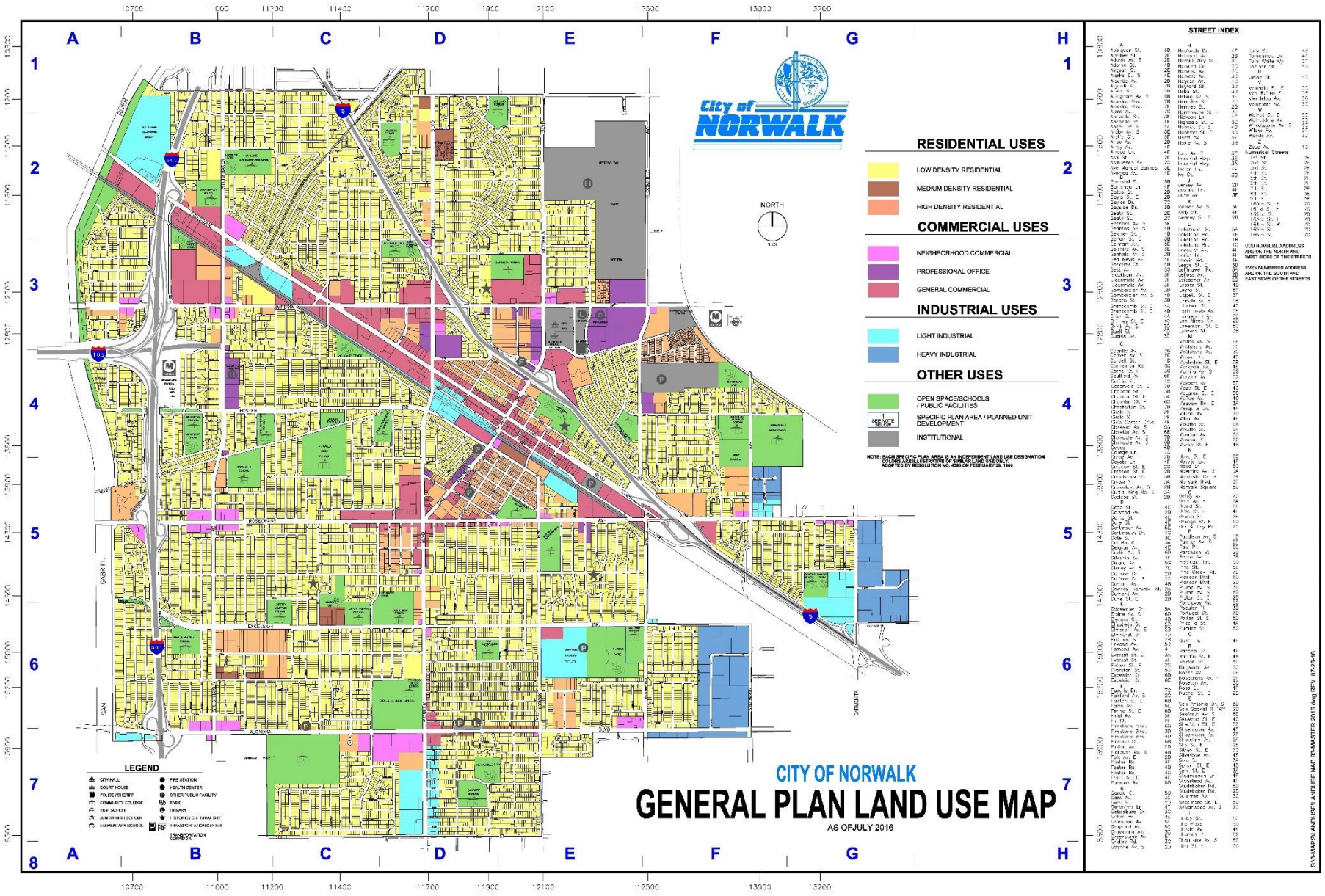


Table 2-3: City of Downey Land Use Designations

Downey (source: Downey General Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Low Density Residential	3,188	51%
Low/Medium Density Residential	187	3%
Medium Density Residential	414	7%
Residential Subtotal	**3789**	**61%**
Neighborhood Commercial	103	2%
Professional Office	163	3%
General Commercial	372	6%
Commercial Subtotal	**638**	**11%**
General Manufacturing	229	4%
Commercial Manufacturing	304	5%
Manufacturing Subtotal	**533**	**9%**
Open Space	**516**	**8%**
Schools (including Mixed Use- School)	**348**	**6%**
Public	**104**	**2%**
Mixed Use (not including Mixed Use- School)	**301**	**5%**
TOTAL	**6,229**	**100%**

Land use in Downey north of I-105 is designated residential, mixed use, open space, and school. The residential component is comprised of Low Density Residential (1-8.9 units per acre), Low/Medium Density Residential (9-17 housing units per acre), and Medium Density Residential (18-24 units per acre). On the south side of I-105, land use designations include commercial, residential, open space, and school. The commercial component is solely neighborhood commercial, which is small scale commercial development oriented only toward the immediate neighborhood. The residential land use in this area consists of Low Density Residential (1-8.9 units per acre), Low/Medium Density Residential (9-17 housing units per acre), and Medium Density Residential (18-24 units per acre).

Figure 2-2: City of Downey General Plan Land Use Map

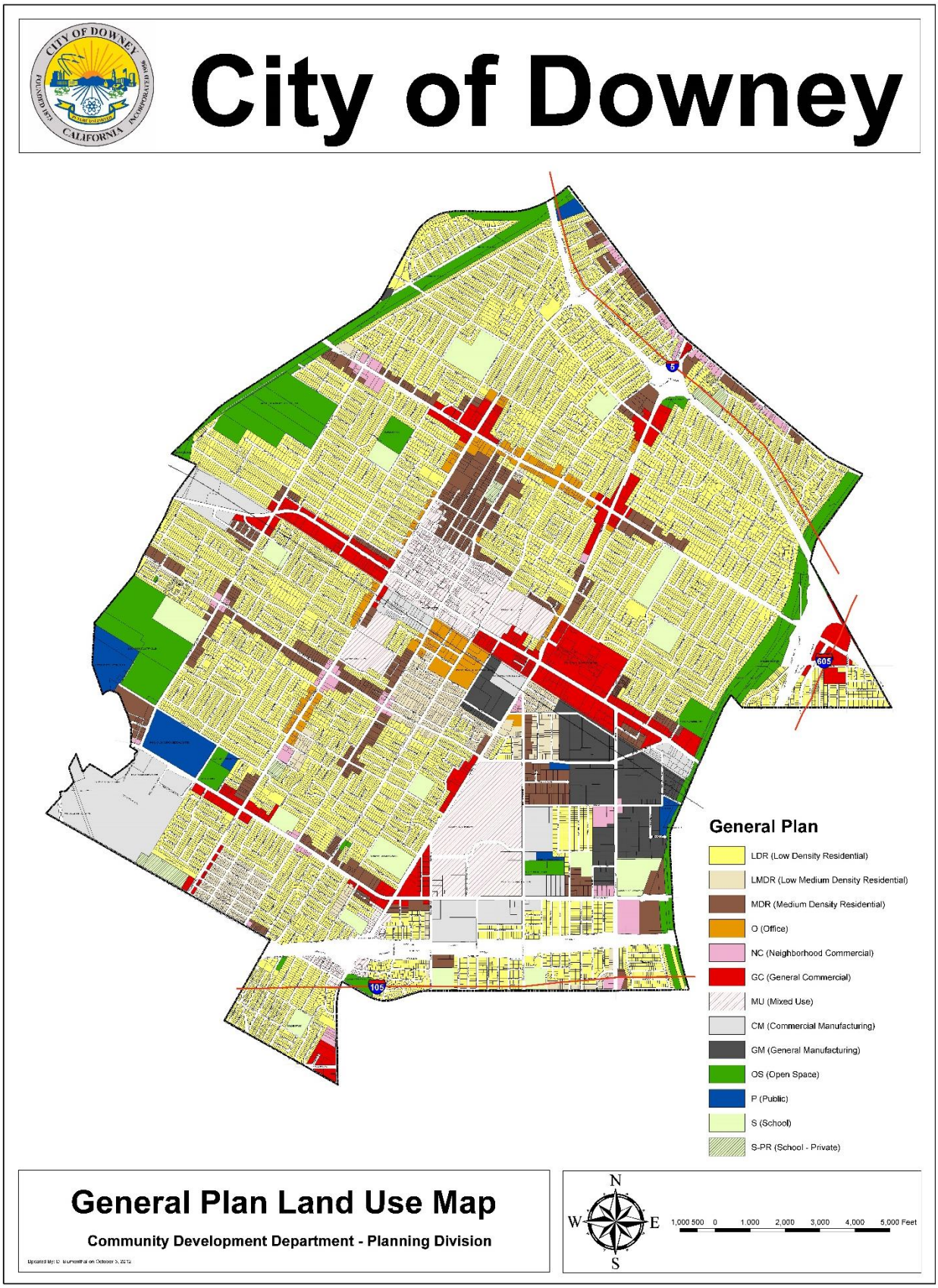


Table 2-4: City of Paramount Land Use Designations

Paramount (source: Paramount General Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Single Family Residential	694.5	24.8%
Multiple Family Residential	797.7	28.5%
Commercial (retail and office)	221.6	7.9%
Industrial (manufacturing)	584.5	20.9%
Business Park (Light industrial and business park)	60	2.1%
Public/Quasi Public	438.6	15.75
TOTAL	**2,796.9**	**100%**

On the north side of I-105, development with performance standards is planned with residential, commercial, and manufacturing land uses. Planned development with performance standards is meant to be development with superior design and quality through creative application of the city's zoning criteria. The Commercial land use is comprised of general commercial and commercial manufacturing. The residential land use consists of Single Family Residential and Multiple Family Residential. Lastly, the Industrial (manufacturing) land use is made up of light manufacturing, which is defined to be devoid of nuisance factors, hazard, or exceptional demands upon public facilities. Designated on the south side of I-105 is planned development with performance standards, residential, and manufacturing land uses. The residential areas include Single Family Residential and Multiple Family Residential. The Industrial (manufacturing) land is made up of light manufacturing (devoid of nuisance factors, hazard or exceptional demands upon public facilities) and heavy manufacturing (involves some noise, bulk handling of products manufactured, treated, processed, or assembled on the premises).

Figure 2-3: City of Paramount Zoning Map

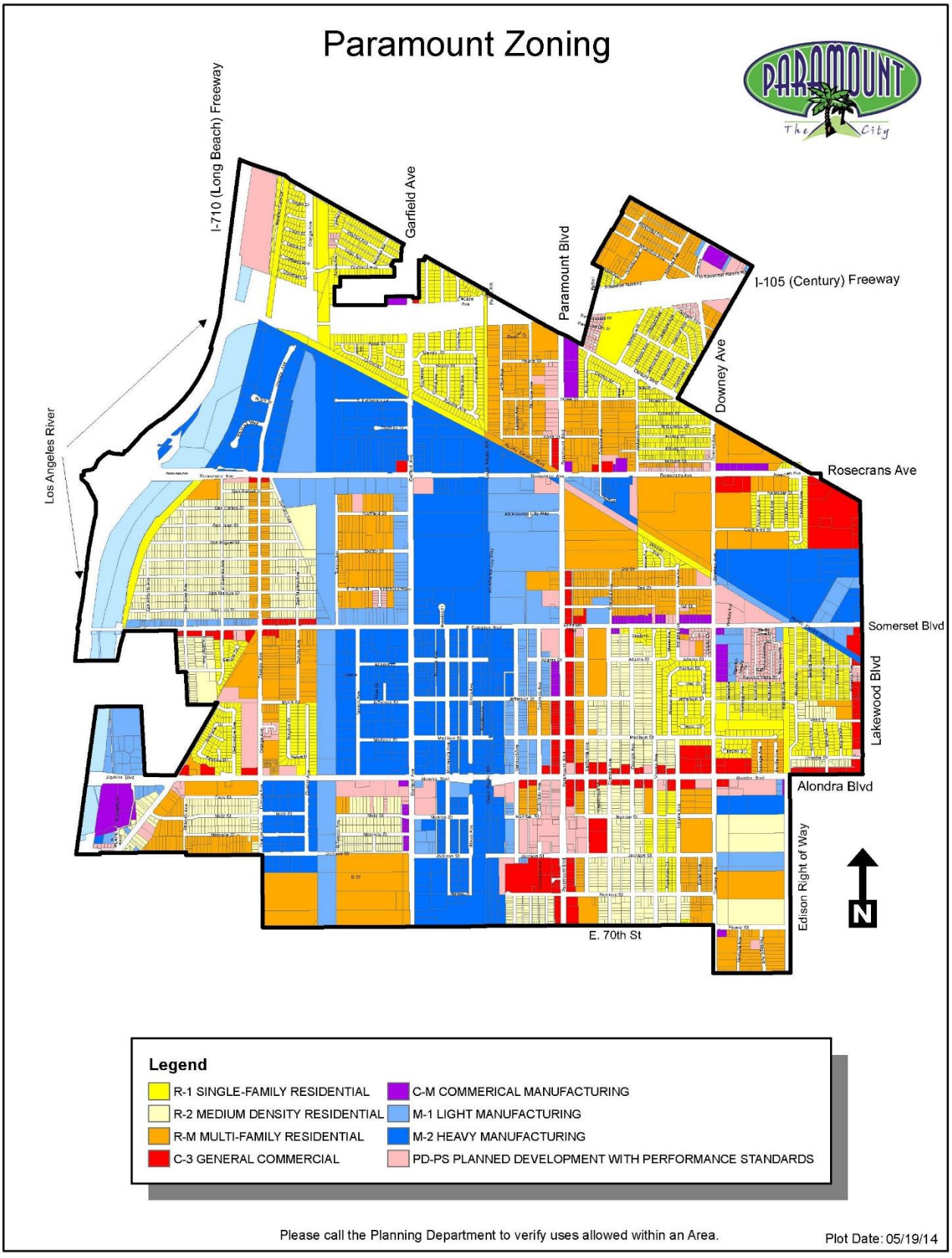


Table 2-5: City of South Gate Land Use Designations

South Gate (source: South Gate General Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Residential	1966	41.0%
Commercial	308	6.4%
Industrial	762	15.9%
Parks	166	3.4%
Schools	109	2.3%
Civic/Institutional	99	2.1%
Vacant	80	1.7%
Public Works, Water Bodies, Easements	342	7.1%
Transportation	968	20.2%
TOTAL	**4800**	**100%**

On the north side of I-105, the City has designated residential and mixed-use land uses, with the residential area consisting only of neighborhood low density (up to 5 units per acre). On the south side of I-105, land is singularly mixed-use. Please see Figure 2-4: City of South Gate Specific Plan for City of South Gate Boundary.

Figure 2-4: City of South Gate Specific Plan

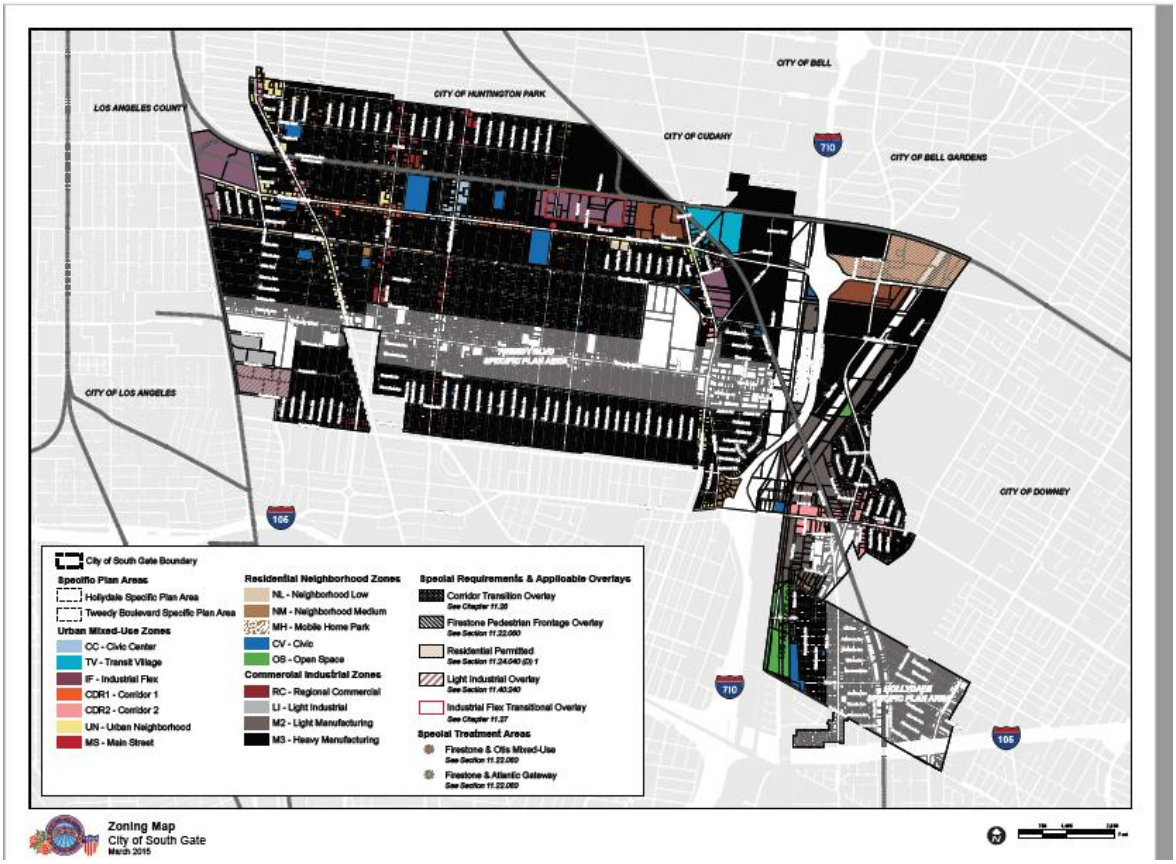


Table 2-6: City of Lynwood Land Use Designations

Lynwood (source: Lynwood General Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Single Family Residential	773	24.73%
Multifamily Residential	530	16.95%
Mobile Homes	3	0.09%
Retail Commercial	207	6.62%
Industrial	218	6.97%
Schools	131	4.19%
Government	11	0.35%
Parks	46	1.47%
Institutional	24	0.77%
Streets/Highways	1,037	33.17%
Railroad	18	0.56%
Vacant	128	4.09%
TOTAL	**3,126**	**100.00%**

Industrial, residential, open space, commercial, and specific plan area land uses are designated on the north side of I-105. The residential land use consists of Multi Family Residential (up to 17 units per

acre) and townhouse (up to 14 units per acre). The commercial areas consist only of heavy commercial, which are defined as retail centers that serve community-wide needs and neighborhood needs. On the south side of I-105, there are industrial, residential, commercial, and open space land uses. The residential areas are comprised of Single Family Residential (0-7 units per acre), townhouse (up to 14 units per acre), and Multi Family Residential (up to 17 units per acre). The commercial areas consist only of medium commercial, which provides for retail centers that serve community-wide needs, and heavy commercial.

Figure 2-5: City of Lynwood Zoning Map

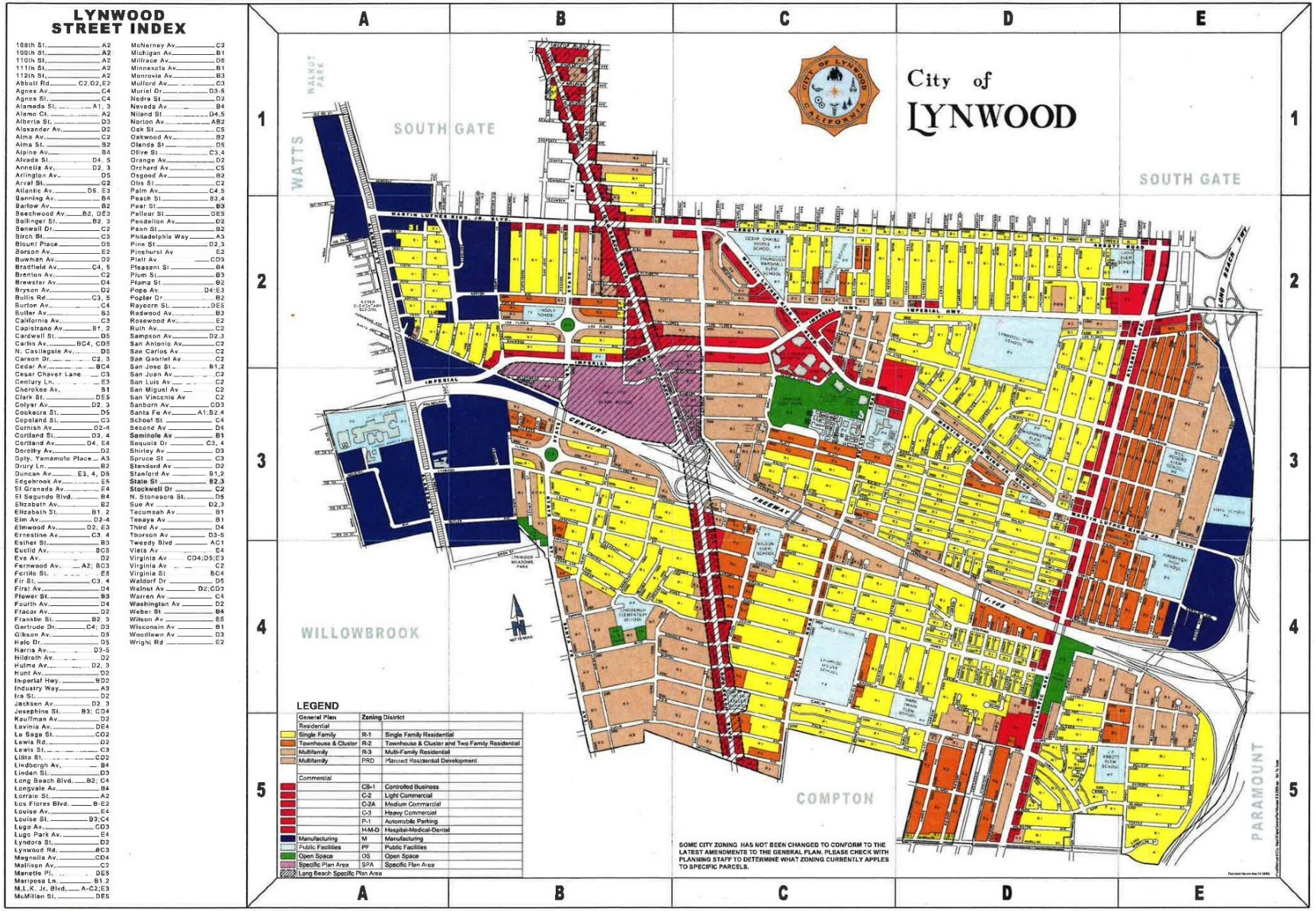


Table 2-7: Willowbrook Community Land Use Designations

Willowbrook (source: Willowbrook TOD Specific Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Residential (9 dwelling units per acre)	57.44	18.41%
Residential (18 dwelling units per acre)	25.23	8.09%
Residential (30 dwelling units per acre)	24.12	7.73%
General Commercial	3.61	1.16%
Mixed Use	18.86	6.04%
Light Industrial	1.07	0.34%
Public and Semi-Public	82.40	26.41%
Parks and Recreation	8.49	2.72%
Total Net Acres	**221.22**	**70.9%**
Right-of-Way	90.76	29.09%
TOTAL	**311.98**	**100.00%**

Willowbrook is an unincorporated area of Los Angeles County. According to the Willowbrook Transit Oriented District (TOD) Specific Plan, the north side of I-105 is a mix of commercial, residential, and light manufacturing land uses. The commercial zones are comprised of restricted business (commercial services, retail sales of new goods, and genuine antiques), neighborhood business (rentals, outdoor advertising, and tailor shops), and general commercial (secondhand stores). The Residential areas include two family residences and limited multiple residences (apartments). On the south side, land use is a mix of residential, commercial, mixed use, and light manufacturing. The commercial zone is comprised solely of neighborhood business (commercial services, retail sales of new goods, and genuine antiques), and the Residential areas include two family residences and limited multiple residences (apartments). The Mixed Use zone consists of a combination of Residential, General Commercial, and Light Industrial uses.

Figure 2-6: Willowbrook Community Zoning Map

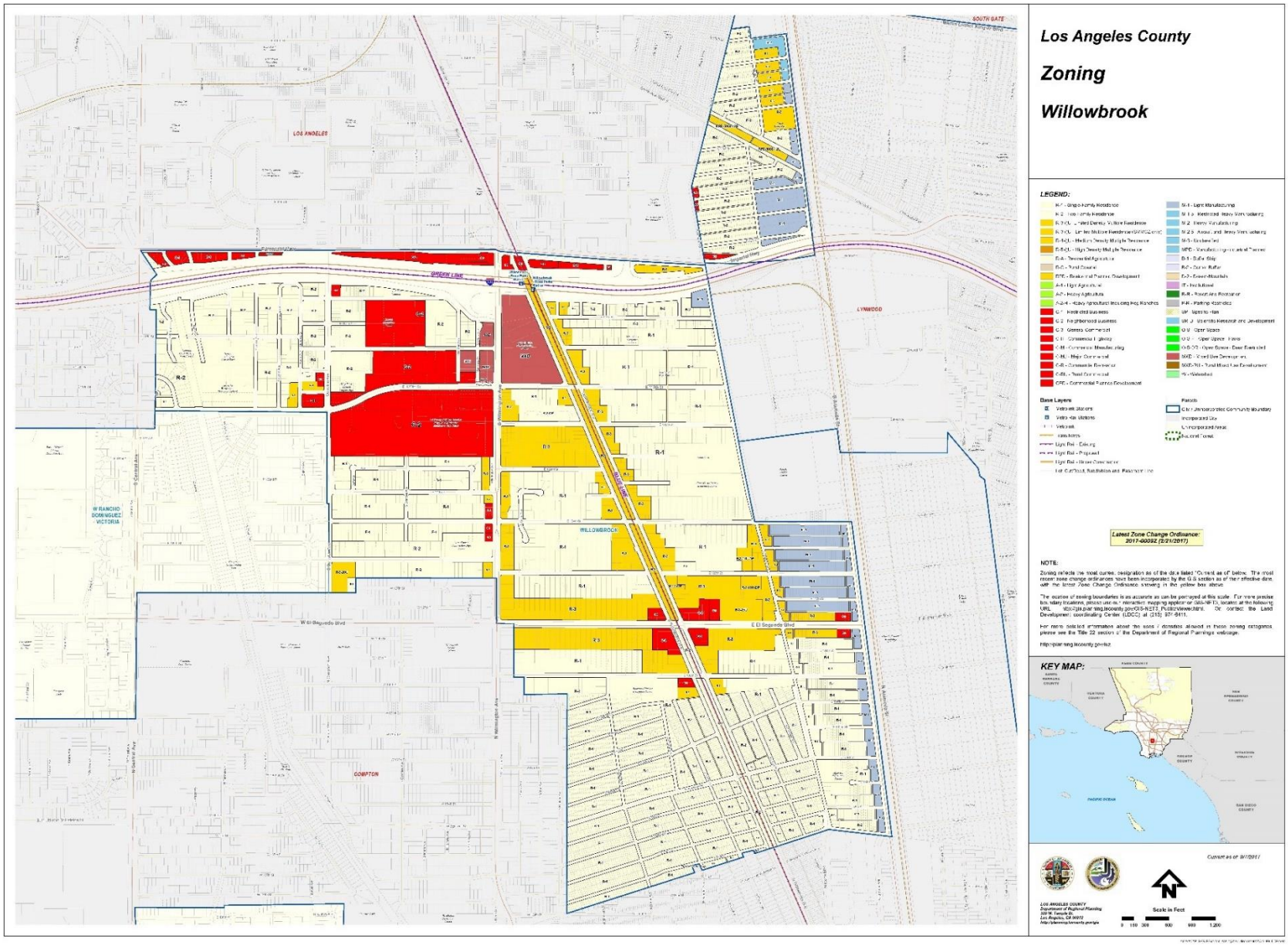


Table 2-8: City of Los Angeles Land Use Designations

South Los Angeles (source: South Los Angeles Community Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Single Family Residential (Low)	2,146	24.9%
Multiple Family Residential (Low Medium I, Low Medium II, Medium, & High Medium)	1.967	22.8%
Commercial (Neighborhood, General, Highway/Limited, & Community)	863	10%
Industrial (Commercial, Limited, & Light)	275	3.2%
Open Space/Public Facilities	754	8.7%
Streets	2,261	30.4%
TOTAL	**8,626**	**100.0%**

In the area that I-105 traverses the city, the City of Los Angeles has developed a Community Plan for both South Los Angeles and Southeast Los Angeles. On the north side of I-105, there are residential and commercial land uses. The residential zone is comprised of Single Family Low (4-12 units per acre) density and Multiple Family Medium (30-55 units per acre) density designations. The commercial areas consist solely of General Commercial, which are districts with a diversity of retail sales and serves, office, and auto-oriented uses. On the south side of I-105 are open space and residential land uses. The residential zone is comprised of Single Family Low (4-12 units per acre) density and Multiple Family Medium (30-55 units per acre) density designations.

Figure 2-7: City of Los Angeles General Plan Land Use Map (South Los Angeles Community Plan)

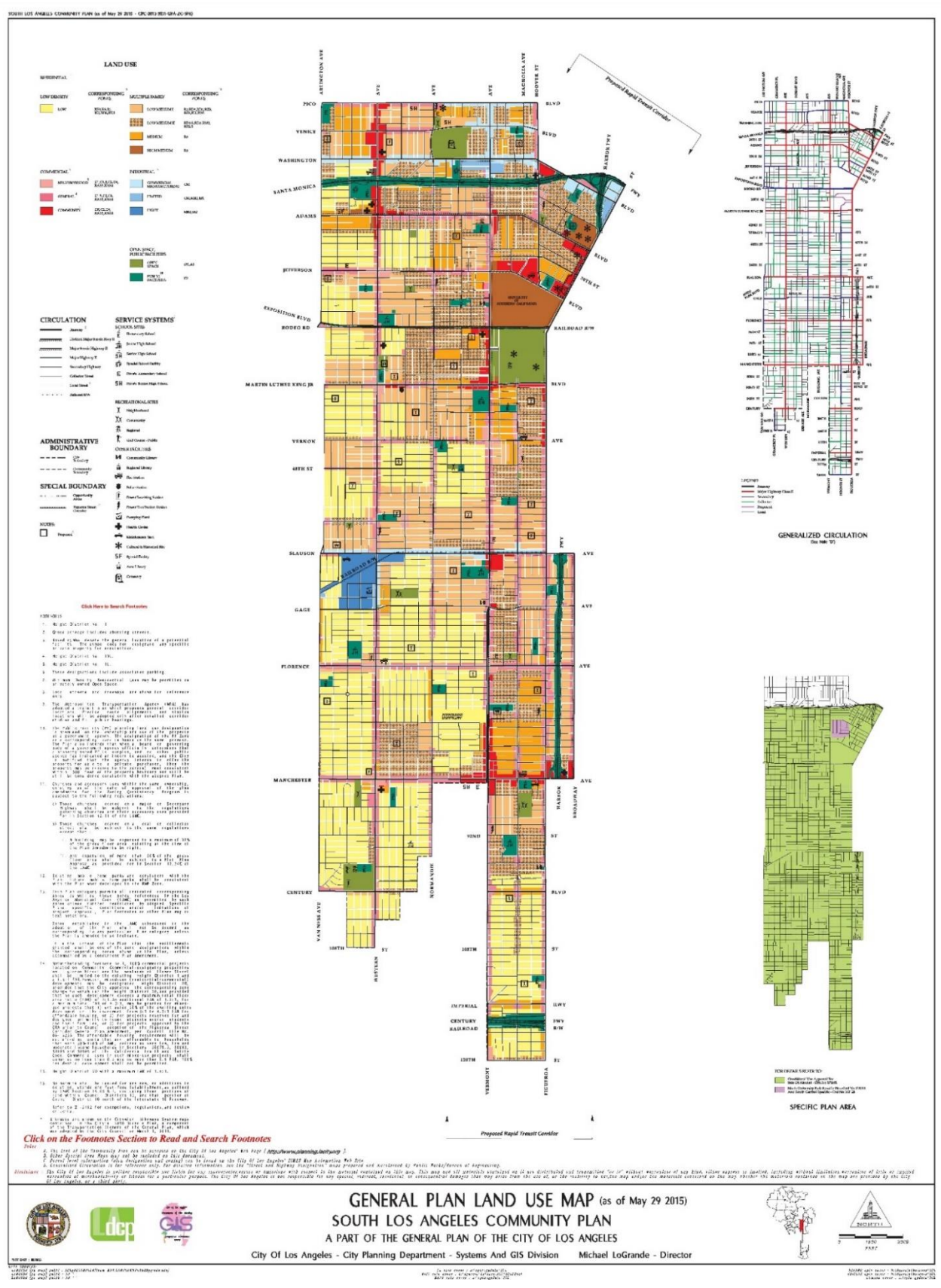


Table 2-9: Southeast Los Angeles Land Use Designations

Southeast Los Angeles (source: Southeast Los Angeles Community Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Single Family Residential (Low)	864	8.7%
Multiple Family Residential (Low Medium I, Low Medium II, Medium, & High Medium)	3,403	34.4%
Commercial (Neighborhood, General, Highway/Limited, & Community)	635	6.4%
Industrial (Commercial, Limited, & Light)	1,462	14.8%
Open Space/Public Facilities	935	9.5%
Streets	2,588	26.2%
TOTAL	**9,887**	**100.00%**

In the Southeast Los Angeles Community Plan, the north side of I-105 is designated residential, commercial, industrial, and public facility land use. The residential areas are comprised of Single Family Low (4-12 units per acre) density, Multiple Family Low Medium I (10-17 units per acre) density, and Multiple Family Medium (30-55 units per acre) density. The commercial areas include Neighborhood Commercial, which are pedestrian-oriented districts that provide local identity and commercial activity, and General Commercial, which are the same as in South Los Angeles above. The Industrial areas consist of commercial manufacturing. Designated on the south side of I-105 are residential and commercial land uses. The residential includes Single Family Low (4-12 units per acre) density, Multiple Family Low Medium I (10-17 units per acre) density, Multiple Family Low Medium II (18-29 units per acre) density, and Multiple Family Medium (30-55 units per acre) density. The commercial areas here are also Neighborhood Commercial use.

Figure 2-8: Southeast Los Angeles General Plan Land Use Map

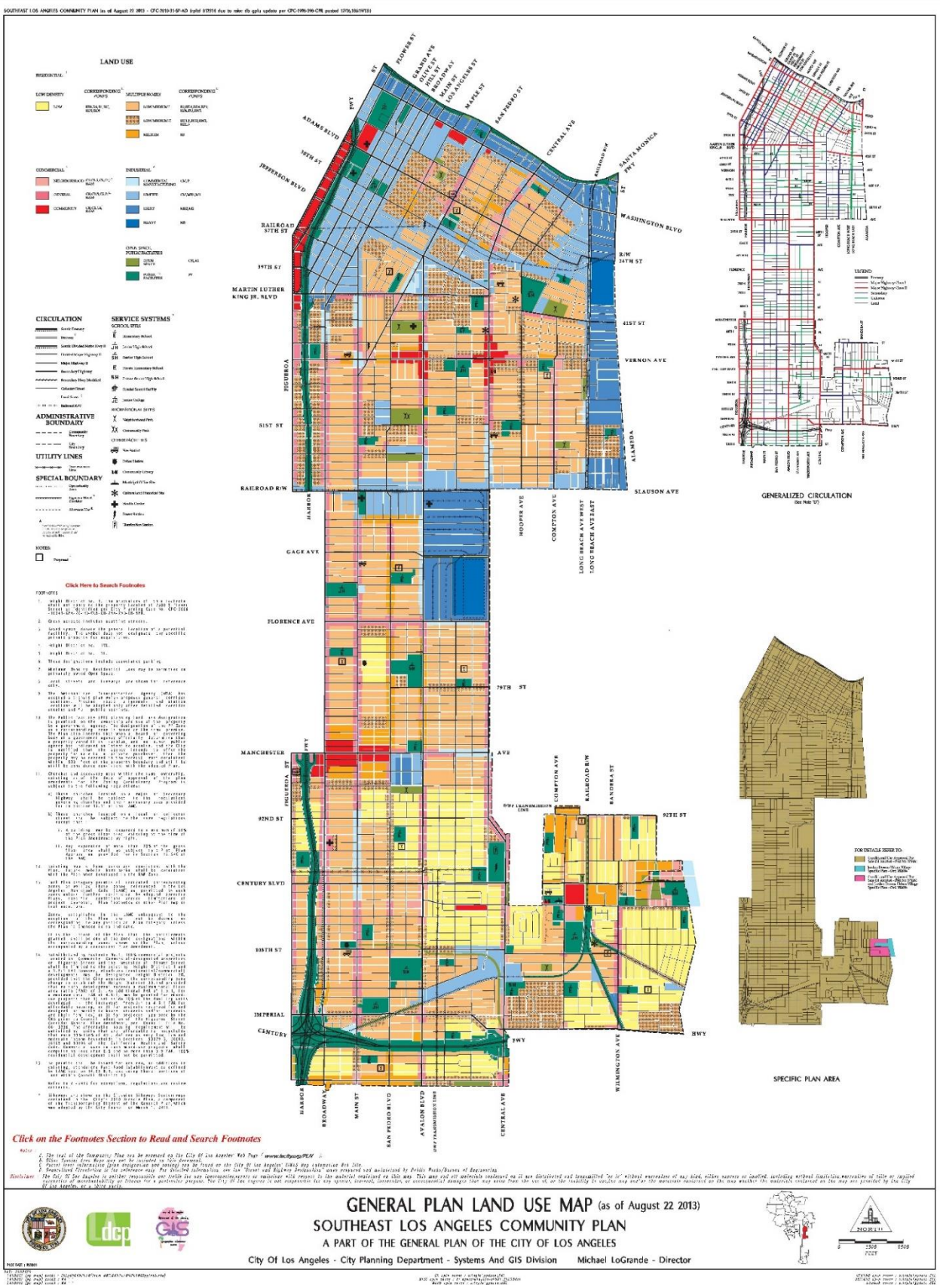


Table 2-10: West Athens Land Use Designations

West Athens (source: West Athens-Westmont TOD Specific Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Single Family Residence	167	35.3%
Two Family Residence	80	16.8%
Limited Density Multiple Residence	18	3.9%
Residential Planned Development	7	1.4%
Neighborhood Commercial	11	2.3%
Mixed Use Development 1	27	5.6%
Mixed Use Development 2	23	4.9%
Civic Center	22	4.7%
Public/Institutional	83	17.5%
Buffer Strip	35	7.4%
TOTAL	**473**	**100.0%**

West Athens is an unincorporated area of Los Angeles County. According to the Westmont TOD Specific Plan, the north side of I-105 is a mix of residential, public, and mixed-use designations. The residential areas include Single Family Residence, Two Family Residence, Limited Density Multiple Residence (apartments), and Residential Planned Development (single family residences). The public space zone consists of a Public/Institutional area in addition to a Civic Center. The mixed-use zone includes a combination of residential, commercial, and limited light industrial land uses. The south side of I-105 is designated a mix of commercial, residential, and mixed-use. The commercial zone is comprised solely of Neighborhood Commercial (rentals, outdoor advertising, and tailor shops), and the residential areas consist of Single Family Residence, Two Family Residence, Limited Density Multiple Residence (apartments), and Residential Planned Development (single family residences), similar to the north side. Also similar to the north side, the mixed-use zone includes a combination of residential, commercial, and limited light industrial land uses.

Figure 2-9: West Athens-Westmont R-2 Zoning Map

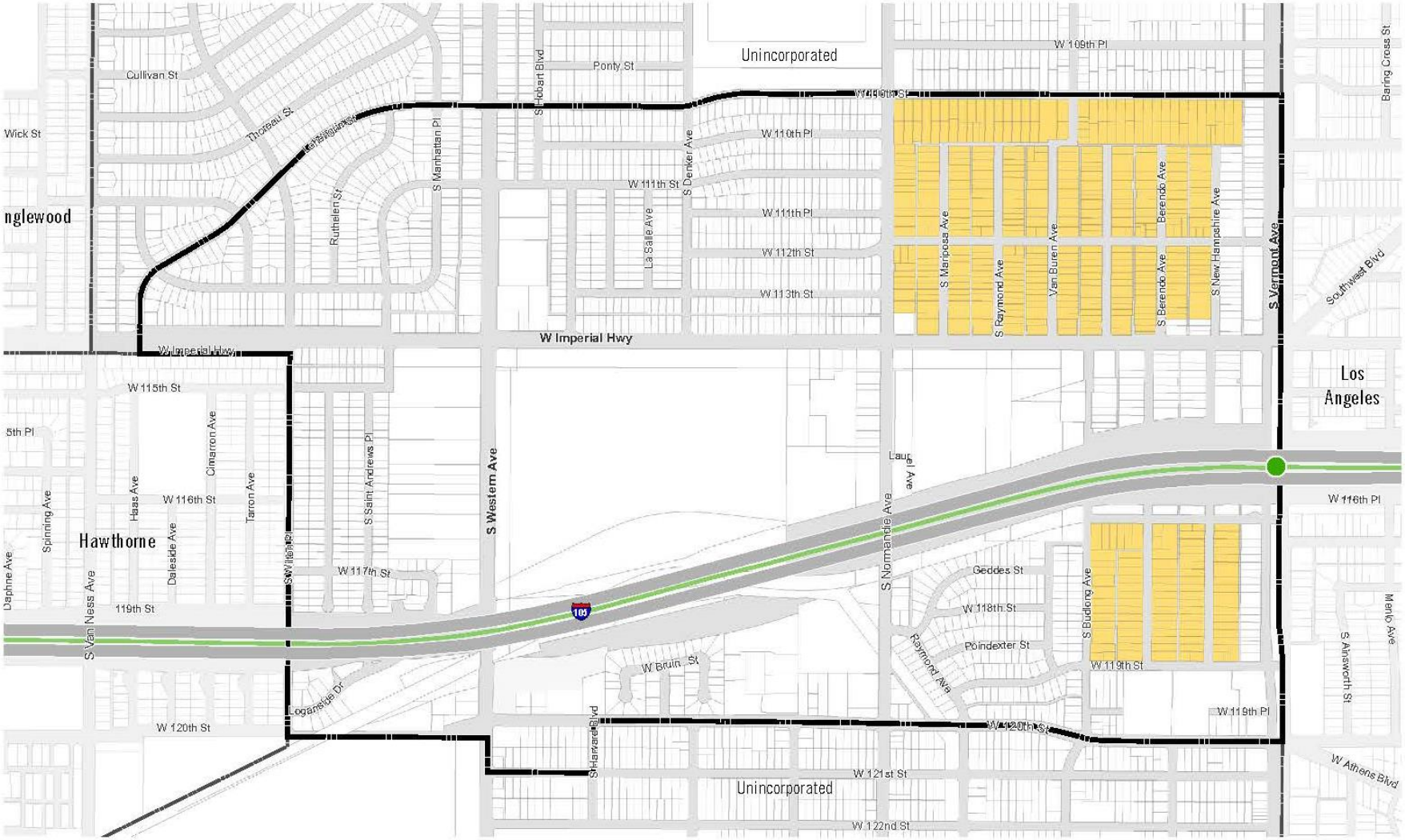


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Table 2-11: City of Inglewood Land Use Designations

Inglewood (source: Inglewood General Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Single Family Residential	1,613	28.2%
Two Family Residential	327	5.7%
Multiple Family Residential	707	12.4%
Commercial	351	6.1%
Industrial	235	4.1%
Public/Semi-Public	1,152	20.1%
Rights-of-Way	1,337	23.4%
TOTAL	**5,722**	**100.0%**

Land uses on the north side of I-105 are designated Commercial and residential land uses. The Commercial areas consist mostly of airport commercial, facilities that provide additional commercial uses that are appropriate for and/or dependent upon close proximity to the Los Angeles International Airport. The residential areas are Single Family Residential (0-6 units per acre). Very little of the City of Inglewood extends to the south of I-105, but land use there is also Low Density (0-6 units per acre) Residential.

Figure 2-10: City of Inglewood General Plan Land Use Map

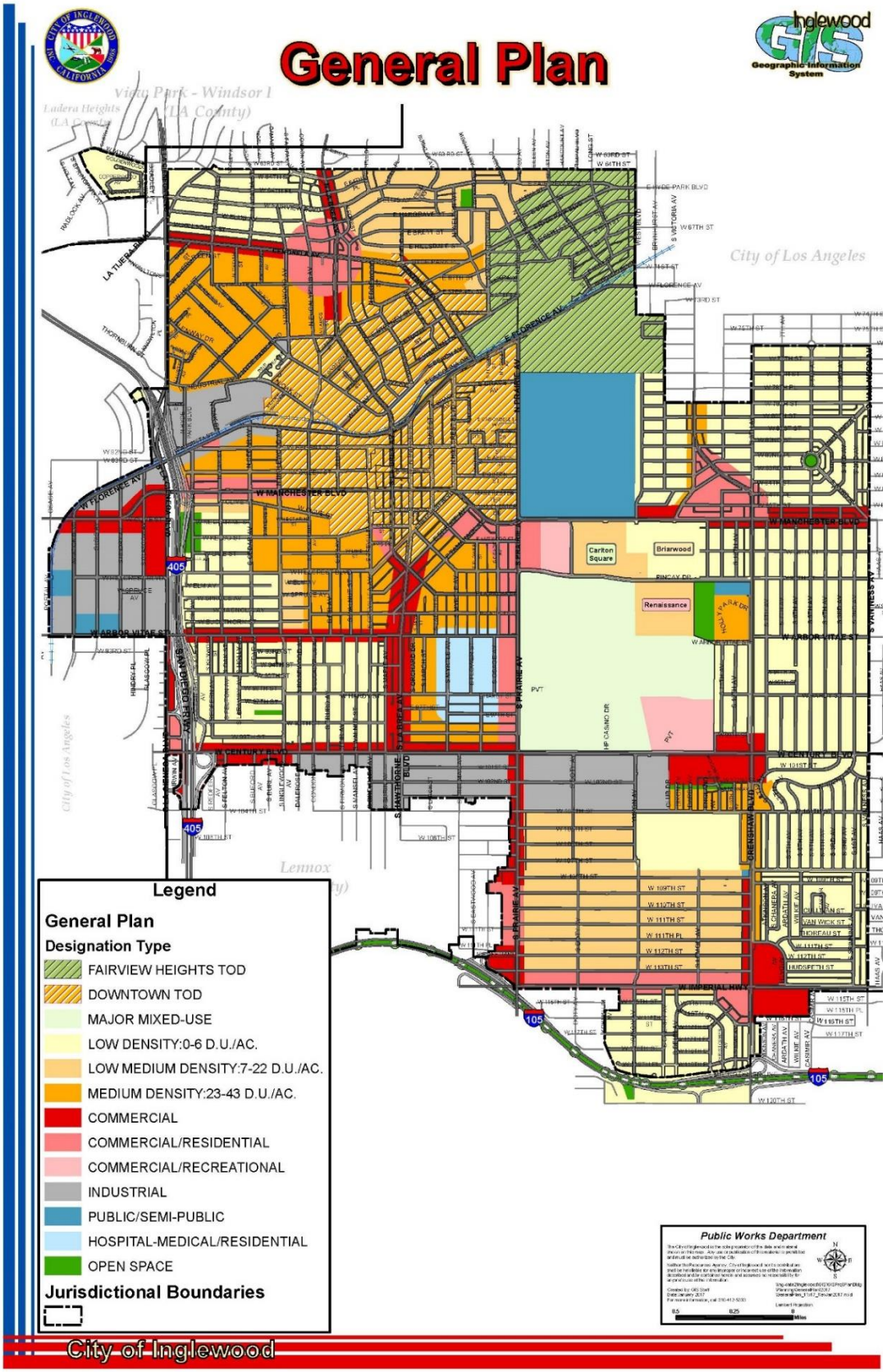


Table 2-12: City of Hawthorne Land Use Designations

Hawthorne (source: Hawthorne General Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Low Density Residential	589	18.3%
Medium Density Residential	111	3.5%
High Density Residential	536	16.7%
Commercial (Local, General, and Regional)	426	13.3%
Industrial (Light & General)	330	10.3%
Open Space	62	1.9%
Public Facilities	203	6.3%
Specific Plans	1,035	32.2%
TOTAL	**3,212**	**100.0%**

The north side of I-105 is designated residential, Commercial, Industrial, and Public Facilities land uses. The residential areas are comprised of single family Low Density Residential (4-12 units per acre), multiple family Low-Medium Density I (10-17 units per acre), and multiple family Medium Density Residential (30-55 units per acre). The commercial areas include areas called Neighborhood Commercial, which are pedestrian-oriented districts that provide a local identity and commercial activity, and areas called General Commercial, which are districts with a diversity of retail sales and services, office, and auto-oriented uses. The industrial areas consist of commercial manufacturing uses.
On the south side of I-105, residential and commercial land uses are designated. The residential uses include single family Low Density, multiple family Low-Medium Density, and multiple family Medium Density designations. Commercial areas consist of Neighborhood Commercial.

Figure 2-11: City of Hawthorne Zoning Map

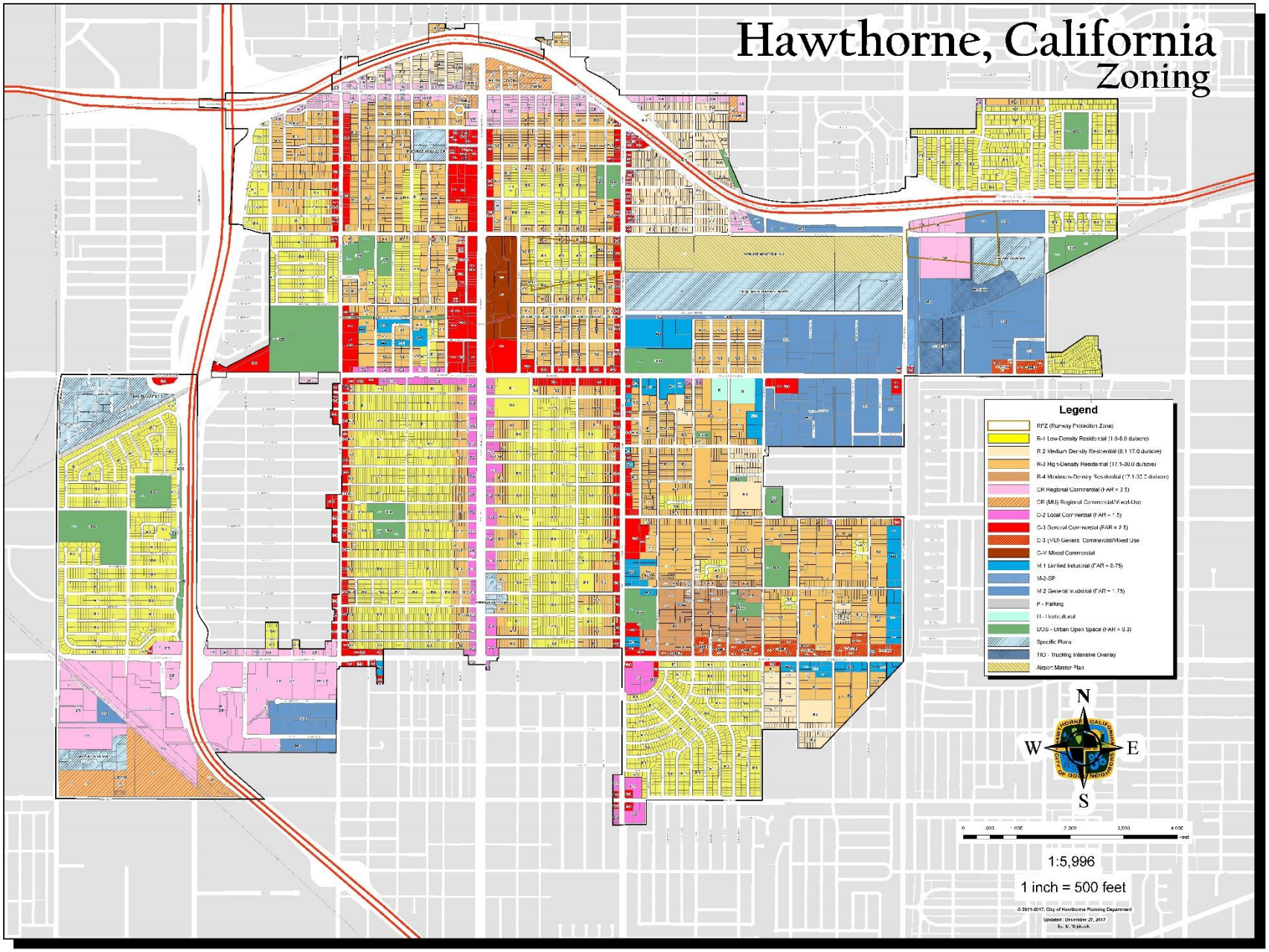


Table 2-13: Lennox Land Use Designations

Lennox (source: Lennox Community Parks and Recreation Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Low Density Residential	385.23	54.64%
High Density Residential (unlimited, limited, & two-family residence)	145.22	20.60%
Commercial/Institutional	145.04	20.57%
Industrial (heavy, light, & restricted heavy manufacturing)	21.47	3.05%
Open Space	8.09	1.15%
TOTAL	**705.04**	**100.0%**

Lennox is an unincorporated area of Los Angeles County. According to the county's Vision Lennox Plan, the north side of I-105 is designated a mix of residential and commercial land uses. The commercial zones are comprised only of neighborhood businesses (Zone C-1 uses (commercial), rentals, outdoor advertising, and tailor shops). The residential areas are single family residences only.

Figure 2-12: Lennox Land Use and Zoning Maps

Land Uses

- 1 - Low Density Residential (1 to 6 du/ac)
- 2 - Low/Medium Density Residential 6 to 12 du/ac)
- C - Major Commercial
- I - Major Industrial
- O - Open Space
- P - Public & Semi Public Facilities
- TC - Transportation Corridor

Zoning Designations

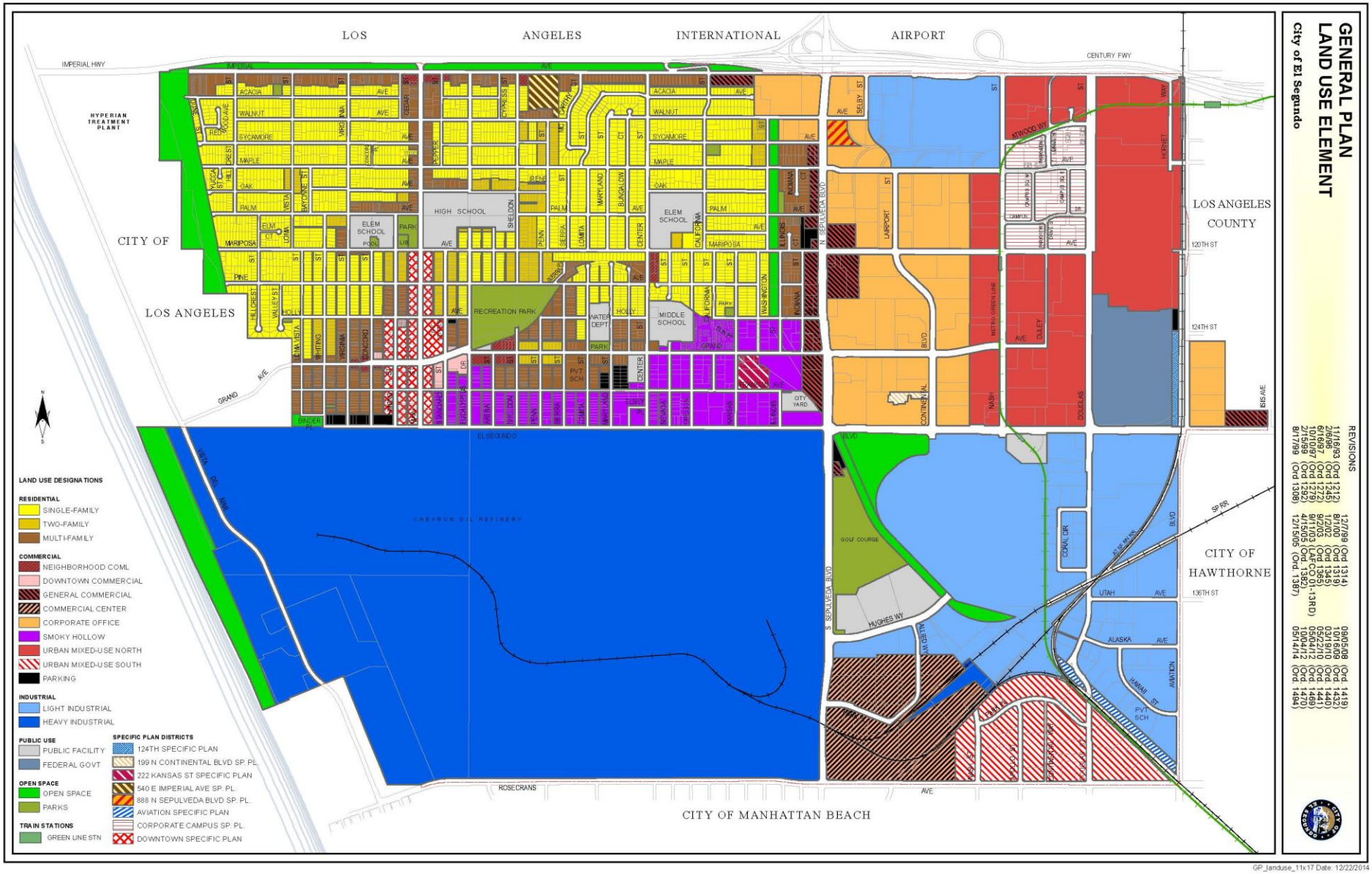
- B-1
- C-1
- C-2
- C-2-DP
- C-3
- C-3-DP
- C-M
- C-M-DP
- M-1
- M-1-DP
- M-1.5
- M-2
- MDP
- R-1
- R-2
- R-3
- R-3-P
- RPD

Table 2-14: City of El Segundo Land Use Designations

El Segundo (source: El Segundo General Plan)		
Land Use Designation	*Acres*	*Percentage of City*
Low Density Residential	NA	NA
High Density Residential (unlimited, limited, & two-family residence)	NA	NA
Commercial/Institutional	NA	NA
Industrial (heavy, light, & restricted heavy manufacturing)	NA	NA
Open Space	NA	NA
TOTAL	**NA**	**NA**

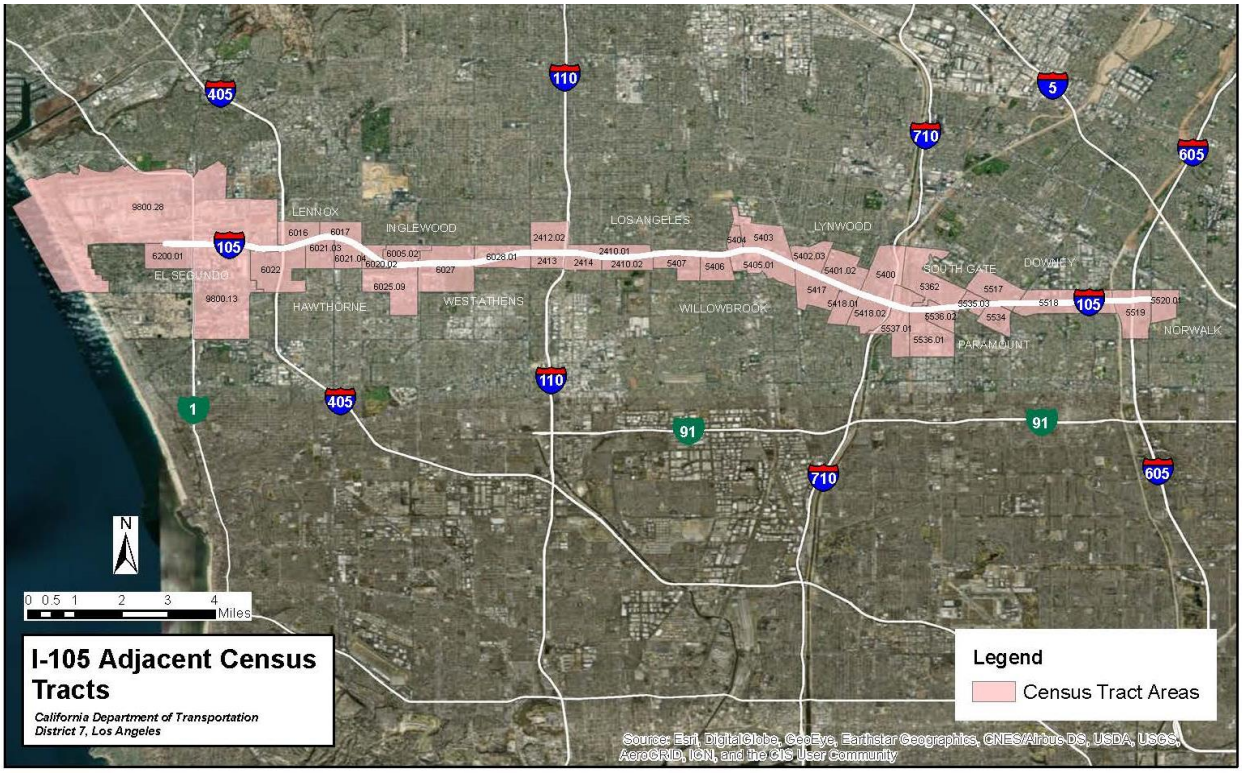
El Segundo lies to the south of I-105. In the area near the interstate, it has Commercial/Institutional and Industrial land uses designated. The commercial areas consist of corporate offices and urban mixed-use, and the Industrial area is Heavy Industrial.

Figure 2-13: City of El Segundo Land Use Element Map



The study area is located within a highly developed urban portion of the greater Los Angeles area. It includes transportation facility, industrial site, commercial property, residential development, and public facility land uses. The proposed project alternatives would be constructed predominantly within the existing transportation facilities and no changes to existing or planned uses are anticipated. Where right-of-way acquisitions would occur for Alternative 3, only slivers of non-transportation parcels would be required and use of the parcels would be otherwise unaffected. No relocations are anticipated for either build alternative.

Figure 2-14: Adjacent Census Tracts



2.1.1.3 Environmental Consequences

This section assesses and discusses the consistency of the alternatives with the applicable state, regional, and local land use, transportation, and habitat conservation plans and programs adopted for the area. This project does not change any of the current land uses in the project area. As the potential change is limited to additional lanes within the existing freeway ROW, the proposed project would not open new areas to development or lead to changes in land use or density. The exception to this statement are the portions of construction that require Temporary Construction Easements (TCE) or partial acquisition for Alternative 3. TCEs will be strictly temporary and cause no permanent effect. The parcels affected by TCEs are described below in table 2-15.

Table 2-15: Alternative 3 Right-of-Way Impacts

ROW Impact				Parcel		
Sheet	No.	Type	Area of ROW Impact (sq. ft.)	APN	Total Parcel Area (sq. ft.)	Type
ROW-1	1.1	TCE	9,712	4048-004-901	35,787	Government
	1.2	TCE	7,427	4048-004-900	82,914	Government
ROW-2	2.1	TCE	568	6084-031-042	7,368	Commercial
ROW-3	3.1	TCE	105	6067-022-041	3,117	Residential
	3.2	TCE	194	6067-022-039	3,109	Residential
	3.3	TCE	206	6067-022-040	3,005	Residential
	3.4	TCE	213	6067-022-038	2,900	Residential
	3.5	TCE	221	6067-022-037	2,801	Residential
	3.6	TCE	227	6067-022-036	2,691	Residential
	3.7	TCE	234	6067-022-035	2,582	Residential
	3.8	TCE	504	6067-022-048	4,700	Residential
	3.8	Partial Acquisition	44	6067-022-048	4,700	Residential
	3.9	TCE	4,788	6067-022-046	24,392	Industrial
	3.9	Partial Acquisition.	5,837	6067-022-046	24,392	Industrial
	3.10	Aerial Easement	1,553	6169-032-917	26,158	ACTA
ROW-4	4.1	TCE	4,755	6169-001-900	62,463	Commercial
	4.1	Partial Acquisition	1,242	6169-001-900	62,463	Commercial
	4.2	TCE	10,728	6169-002-005	42,170	Industrial
	4.2	Partial Acquisition	3,899	6169-002-005	42,170	Industrial

The project is consistent with all state, regional, and local planning goals and policies. It does not conflict with any city's goals for their region, in fact only improving on the current condition of the existing freeway and thereby improving circulation. Many local plans contain policies to discourage I-105 freeway traffic from spilling out onto local streets, including those of El Segundo, Hawthorne, Norwalk, and Downey. Plans like those of Los Angeles City, Lynwood South Gate, and South Los Angeles seek to improve traffic flow and highway infrastructure on I-105, while the Westchester-Playa Del Rey Transportation Element specifically calls for increasing traffic capacity on existing freeways. Although Alternative 2 is not designed to increase freeway capacity, both build alternatives would improve traffic operations, thereby decreasing travel time and congestion on both the mainline freeway and local streets.

The proposed project is expected to help achieve these goals and policies and contribute to better circulation on and off the mainline freeway.

2.1.1.4 Avoidance, Minimization, and/or Mitigation Measures

Project Alternative 2 would not require any right-of-way so no Avoidance, Minimization, and/or Mitigation measures are proposed. Alternative 3 would have no permanent changes to any parcel's overall land use, however parcels for TCEs are required. The impacts of construction on land use in the form of TCEs will be strictly temporary.

Even though it is not anticipated, if any relocation become necessary, the provisions of the Uniform Act and the 1987 Amendments as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by the United States Department of Transportation (March 2, 1989) would be followed. An independent appraisal of the affected property will be obtained, and an offer for the full appraisal would be made.

RW1 - Parcels that require TCEs for Alternative 3 will be restored to their original use after project completion, after which TCEs are no longer necessary.

2.1.2 Parks and Recreational Facilities

2.1.2.1 Regulatory Setting

The Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409) prohibits local and state agencies from acquiring any property which is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

2.1.2.2 Affected Environment

Several parks and recreational facilities are located within a 0.5-mile radius of the project area projected by the Park Preservation Act. Tables 2-16 below list those parks and recreational facilities with their location, size, and distance from I-105. Community centers are also included.

Table 2-16: Parks and Recreational Facilities within Proximity of the Project Area

City/Area	Park/Recreation Facility Name	Address	Size (Acres)	Distance from I-105 Freeway
Lennox	Lennox Park	10828 S Condon Ave, Lennox, CA 90304	5.64	~0.2 miles
Lennox	Lennox Community Garden	South Inglewood Avenue and West 112th Street Lennox, CA 90304	0.12	~0.1 miles
Norwalk	New River Park	13432 Halcourt Ave, Norwalk, CA 90650	4.83	~0.5 miles
	Robert White Park	12120 Hoxie Ave, Norwalk, CA 90650	4.78	~0.5 miles

	Vista Verde Park	11459 Ratliffe St, Norwalk, CA 90650	6.53	~0.5 miles
	San Gabriel River Mid Trail	NA	N/A	Crosses under I-105
Downey	Golden Park	8840 Golden St, Downey, CA 90242	7.4	~0.4 miles
	Independence Park	12334 Bellflower Blvd, Downey, CA 90242	12.5	~0.3 miles
Paramount	All-American Park	13330 Orizaba Ave, Paramount, CA 90723	6.78	~0.1 miles
	Paramount Park	14400 Paramount Blvd, Paramount, CA 90723	8.04	~0.5 miles
South Gate	Hollydale Regional Park	5400 Monroe Ave, South Gate, CA 90280	48.04	~0.5 miles
	Hollydale Community Center	12221 Industrial Ave, South Gate, CA 90280	N/A	~0.2 miles
Lynwood	Yvonne Burke-John D. Ham Park	11832 Atlantic Ave, Lynwood, CA 90262	8.91	< 0.1 miles
	Ricardo Lara Linear Park	3850 Fernwood Ave, Lynwood, CA 90262	12.89	< 0.1 miles
	Lynwood Park	11301 Bullis Rd, Lynwood, CA 90262	32.68	~0.2 miles
Lynwood	Rose Park	Flower Street and State Street	1.57	~0.1 miles
	Carnation Park	Los Flores Blvd. and State Street	1.5	~0.3 miles
	Lucy Avalos Community Center	5121 Lavinia Ave, Lynwood, CA 90262	N/A	~0.1 miles
	Lynwood Senior Citizen Center	11329 Ernestine Ave, Lynwood, CA 90262	N/A	~0.4 miles
	Lynwood Youth Center	11409 Birch St, Lynwood, CA 90262	N/A	~0.2 miles
	Lynwood Community Center	11301 Bullis Rd, Lynwood, CA 90262	N/A	~0.4 miles
Willowbrook	George Washington Carver Park	1400 E 118th St, Los Angeles, CA 90059	7.07	~0.3 miles

	Mona Park	2291 E 121st St, Compton, CA 90222	7.6	~0.4 miles
	Faith and Hope Park	2247 E 119th St, Los Angeles, CA 90059	.45	~0.3 miles
	Earvin Magic Johnson Park	905 E El Segundo Blvd, Los Angeles, CA 90059	103.59	~0.5 miles
	Watts-Willowbrook Boys and Girls Club	1339 E 120th St, Los Angeles, CA 90059	N/A	~0.4 miles
	Athens Park	12603 S Broadway, Los Angeles, CA 90061	18.72	~0.5 miles
Los Angeles	Serenity Park	11300 Monitor Ave, Los Angeles, CA 90059	1.13	~0.3 miles
	Compton Creek Walking Path	E 118th St & Slater St, Los Angeles, CA 90059	2.07	~0.1 miles
	111th Place Neighborhood Park	207 E 111th Pl Los Angeles, CA 90061	.09	~0.5 miles
	William Nickerson Recreation Center	11251 Compton Ave, Los Angeles, CA	4.33	~0.3 miles
	Imperial Courts Recreation Center	2250 E. 114th St, Los Angeles, CA 90059	2.43	~0.3 miles
	109th Street Recreation Center	1464 E 109th St, Los Angeles, CA 90059	3.18	~0.5 miles
	Los Angeles River Bike Path	Along the Los Angeles River	N/A	Crossing underneath the I-105 Freeway
	Martin Luther King Jr. Fitness Garden	11833 Wilmington Avenue Los Angeles, CA 90059	0.36	~0.1 miles
	San Gabriel River Trail			Crosses under I-105
	Los Angeles River Trail			Crosses under I-105

West Athens	Chester Washington Golf Course	1818 Charlie Sifford Dr, Los Angeles, CA 90047	125.39	~0.1 miles
Inglewood	Center Park	3704 W 111th St, Inglewood, CA 90303	1.94	~0.5 miles
Hawthorne	Holly Park	2150 W 120th St, Hawthorne, CA 90250	10.94	~0.1 miles
	118th Street Mini Park	3834 W 118th St Hawthorne, CA 90250	.15	<0.1 miles
	Moneta Gardens Community Center	11802 York Ave, Hawthorne, CA 90250	N/A	~0.2 miles
El Segundo	Sycamore Park	1414 E Sycamore Ave El Segundo, CA 90245	.77	~0.2 miles
	Independence Park	Washington St & Sycamore Avenues, El Segundo, CA 90245	.55	~0.2 miles
	Constitution Park	E Maple Ave & Washington St, El Segundo, CA 90245	1.02	~0.3 miles
	Washington Park	E Maple Ave, El Segundo, CA 90245	2.74	~.05 miles
	Campus El Segundo Athletic Fields	2201 E Mariposa Ave, El Segundo, CA 90245	5.44	~.04 miles
	El Segundo Dog Park	E Imperial Ave, El Segundo, CA 90245	N/A	~.02 miles

2.1.2.3 Environmental Consequences

This project will affect facilities that are protected by the Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409). The Park Preservation Act prohibits local and state agencies from acquiring any property which is in use as a public park at the time of

acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

There are parks and recreational facilities within the project vicinity that are protected by Section 4(f) of the Department of Transportation Act of 1966. However, this project will not result in a "use" of these facilities as defined by Section 4(f). Please see Appendix A, Section 4(f), for additional details.

Ricardo Lara Linear Park is a publicly owned park located at 3850 Fernwood Avenue, Lynwood, California, and is subject to protection under the requirements of Section 4(f). The park features a one-mile long walking trail which spans 5 separate blocks. Block 1 has two dog parks: one for small dogs and one for big dogs. Block two has 3 exercise stations. Block three has two children's playground and open space. Block four has a community garden with raised garden beds, benches, and a space for outdoor classes. Block five has open space and bioswales to filter stormwater runoff.

During construction at Fir Street, the overhead crossing will be widened, which will require Fir Street to be reprofiled to keep standard vertical clearance. As a result of the reprofiling, the curb lines will need to be realigned to keep ADA ramps consistent. The street will be temporarily closed for a couple of months and access to the Ricardo Lara Linear Park would be detoured to the other side of the block. The construction activities would not result in any permanent adverse physical impacts in that area and would not interfere with the protected activities, features, or attributes of that portion of the park on a permanent basis.

2.1.2.4 Avoidance, Minimization, and/or Mitigation Measures

Project Alternative 2 would not require any right-of-way at parks and recreational centers so no Avoidance, Minimization, and/or Mitigation measures are proposed. Alternative 3 would need inclusion of the following measure.

PR1 **-** Alternative 3 would require temporary closure of Fir Street during the overcrossing widening and reprofiling of Fir Street to keep standard vertical clearance. Access to the park would be detoured to the other side of the block.

2.1.3 Growth

2.1.3.1 Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 Code of Federal Regulations [CFR] 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project's potential to induce growth. The CEQA Guidelines (Section 15126.2[d]) require that environmental documents "…discuss the ways in which the proposed project could foster

economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment..."

2.1.3.2 Methodology

The relationship between land use, development, transportation projects, and growth is complex, and they will all influence each other in different ways and to different degrees. Any one of these factors or combination of them may affect population and economic growth, desirability of certain locations, costs and availability of developable land, physical and regulatory constraints, transportation availability, and costs of utility services. Transportation agencies play a role in land use changes by providing infrastructure that may increase access to new locations. Conversely, new development somewhere may generate travel to and from that location, creating a need for new transportation facilities.

In 2006, Caltrans, FHWA, and the U.S. EPA developed a guidance document entitled *Guidance for Preparers of Growth-Related, Indirect Impact Analyses*. The guidance was prepared to address California's specific challenges relating to growth-related impacts, and it focuses on the influence that transportation projects may have on the location, rate, type, or amount of growth. The growth-related impacts of the proposed project alternatives were assessed using this guidance. It provides a two-phase approach, the first phase of which is called "first-cut screening". If the first phase results in a determination that further analysis is required, then a more detailed growth-related analysis is conducted. The growth analysis was conducted in the CIA and may be read in Chapter 3, Growth. The analysis and findings will be summarized here. First-cut screening is conducted to help identify the likely growth potential effect and whether further analysis is necessary. The following section will lay out the information needed to establish the baseline for growth, such as growth trends in the area.

2.1.3.3 Affected Environment

The region of I-105 studied in the CIA includes the cities and unincorporated areas that I-105 traverses: Norwalk, Downey, South Gate, Paramount, Lynwood, Los Angeles, Inglewood, Hawthorne, and El Segundo. SCAG performed an analysis on population, household, and employment growth projections in the cities and published the data in its 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Its findings are summarized below in the following tables for Population Growth Projections, Household Growth Projections, and Employment Growth Projections.

No data was available from SCAG for Willowbrook, West Athens, and Lennox individually as they are unincorporated. However, as they generally follow the same geographic patterns, land use designations, and similar demographic and employment patterns (refer to the Community Character and Cohesion and Environmental Justice sections of this document for comparisons), the analysis conducted was based on the assumption that their growth projections would follow similar trends to their surrounding cities along the freeway.

Table 2-17: Population Growth Projections

City	2012	2020		2035		2040	
	Population	Population	% Change	Population	% Change	Population	% Change
Norwalk	105,900	106,100	0.19%	106,200	0.09%	106,300	0.38%

Downey	112,500	114,400	1.69%	119,000	5.78%	121,700	8.18%
South Gate	94,700	99,300	4.86%	107,300	13.31%	111,800	18.06%
Paramount	54,500	54,900	0.73%	56,900	4.40%	58,000	6.42%
Lynwood	70,300	71,800	2.13%	74,300	5.69%	76,100	8.25%
Willowbrook	N/A						
Los Angeles	3,845,500	4,017,000	4.46%	4,442,500	15.52%	4,609,400	19.86%
West Athens	N/A						
Hawthorne	85,300	85,600	0.35%	86,500	1.41%	87,000	1.99%
Inglewood	110,900	120,800	8.93%	126,500	14.07%	129,000	16.32%
Lennox	N/A						
El Segundo	16,700	16,800	0.60%	17,000	1.80%	17,300	3.59%

Table 2-18: Household Growth Projections

City	2012	2020		2035		2040	
	Household	Household	% Change	Household	% Change	Household	% Change
Norwalk	27,100	27,100	0.00%	27,200	0.37%	27,200	0.37%
Downey	33,900	35,000	3.24%	36,400	7.37%	37,300	10.03%
South Gate	23,200	25,200	8.62%	27,200	17.24%	28,300	21.98%
Paramount	13,900	14,100	1.44%	14,600	5.04%	14,800	6.47%
Lynwood	14,700	15,200	3.40%	15,800	7.48%	16,200	10.20%
Willowbrook	N/A						
Los Angeles	1,325,500	1,441,400	8.74%	1,618,900	22.14%	1,690,300	27.52%
West Athens	N/A						
Hawthorne	28,600	29,000	1.40%	29,700	3.85%	30,000	4.90%
Inglewood	36,000	40,400	12.22%	42,400	17.78%	43,300	20.28%
Lennox	N/A						
El Segundo	7,100	7,200	1.41%	7,200	1.41%	7,400	4.23%

Table 2-19: Employment Growth Projections

City	2012	2020		2035		2040	
	Employment	Employment	% Change	Employment	% Change	Employment	% Change
Norwalk	24,100	25,600	6.22%	26,700	4.30%	27,300	13.28%
Downey	47,500	50,100	5.47%	51,900	9.26%	53,000	11.58%
South Gate	20,400	22,100	8.33%	23,200	13.73%	24,000	17.65%
Paramount	19,600	21,000	7.14%	21,800	11.22%	22,300	13.78%
Lynwood	9,200	9,900	7.61%	10,500	14.13%	10,900	18.48%
Willowbrook	N/A						

Los Angeles	1,696,400	1,899,500	11.97%	2,104,100	24.03%	2,169,100	27.86%
West Athens	N/A						
Hawthorne	27,200	29,600	8.82%	31,100	14.34%	32,100	18.01%
Inglewood	31,100	34,800	11.90%	36,400	17.04%	37,400	20.26%
Lennox	N/A						
El Segundo	38,400	42,100	9.64%	44,100	14.84%	45,400	18.23%

2.1.3.4 Environmental Consequences

The objectives of a first-cut screening are to screen for growth-related impacts early and consider the potential of the project to contribute to those impacts. This must be done by contextualizing the geographic area in which the impacts may occur, and then considering whether the potential impacts would affect any areas of the concern. The results are then documented.

The guidance emphasizes that early communication, coordination, and involvement among federal, state, and local agencies will help to avoid conflict and delay. These efforts will allow for the early consideration of avoidance and minimization opportunities, if needed, to reduce growth-related effects to resources of concern.

To achieve these objectives, a variety of interrelated factors are weighed, including: population, household growth data, employment growth data, geographic location, city planning goals, local development goals, and future projects planned in the area. The timeframe for a growth-related impact analysis is 20 years, as the timeframe associated with most RTPs is 20 years. SCAG's RTP/SCS also has a 20-year outlook. With this combined data, the following four questions are asked.

How, if at all, does the project potentially change accessibility?

None of the proposed project alternatives would add or remove accessibility to any location. In all alternatives, accessibility to, from, and along the freeway will remain unchanged. The addition of an ExpressLane or lanes will only affect freeway operation.

How, if at all, do the project type, project location, and growth-pressure potentially influence growth?

According to traffic studies performed for this project (Available at the Caltrans District 7 Office), I-105 often operates at maximum capacity during peak travel hours. The introduction of ExpressLanes to the freeway is not expected to draw new travel to I-105 for prospective commuters; rather, it is intended to decrease travel time for commuters already using I-105.

Furthermore, the addition of ExpressLanes is not expected to induce new construction, as most adjacent areas are built out and no development would be contingent on the existence of ExpressLanes. Therefore, the project type and location will not potentially influence growth. The growth pressure in the area is not expected to be affected by implementation of an ExpressLane network or freeway operations in general.

Is project-related growth "reasonably foreseeable"? If there is project-related growth, how, if at all, will that impact resources of concern?

"Reasonably foreseeable" events as defined by the CEQ are those that are likely to occur or are probable, rather than those that are merely possible. Effects that are possible but not probable are excluded from NEPA analysis. Based on the previous two answers, growth related to the proposed project is not reasonably foreseeable. Accessibility or ease of accessibility on and off the freeway are unchanged, and the project is not expected to induce or reduce travel to the area.

If there is project-related growth, how, if at all, will that affect resources of concern?

For the proposed project, no project-related growth is reasonably foreseeable. Resources of concern will not be affected by growth as a result of this project and it is anticipated that this project will have no impacts to growth in the surrounding environment.

2.1.3.5 Avoidance, Minimization, and/or Mitigation Measures

The first-cut screening for the proposed projects concluded that growth-related impacts are not reasonably foreseeable as per CEQ definitions for the addition of ExpressLanes to I-105. Therefore, no avoidance, minimization, and/or mitigation measures are necessary.

2.1.4 Community Character and Cohesion

2.1.4.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). The Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

2.1.4.2 Affected Environment

The proposed project spans a total length of 17.6 miles, crossing 12 cities and unincorporated areas of Los Angeles County. Each of these cities is comprised of its own neighborhoods and has its own unique characteristics, but there are some similarities that stretch across the tracts adjacent to the highway. The full demographic characteristics data and summary for each city may be found in the CIA completed in December of 2019, including data for population, age, income, household size, and race. These characteristic totals may exceed 100% due to multiple

responses to some questions being allowed. The CIA was prepared as a comprehensive study of community impacts, including community character and cohesion. Employment in the cities trend toward similar categories with some exceptions, and household sizes and average residency tend to be quite high compared to the Los Angeles County average. Almost all cities have high minority populations, and several city demographics demonstrate high ethnic homogeneity.

By first building a community profile of social and economic characteristics where the project would be built, or the "affected environment", the potential effects of the proposed project may then be predicted and analyzed. For this project, the community profiles for each city were built based primarily on each city's general plan and census data from the 2012-2017 American Community Survey conducted by the U.S. Census Bureau, and also supplemented by regional data gathered by SCAG, aerial maps from Google Maps, and self-reported statistics on www.nextdoor.com. Site visits were also conducted.

Norwalk

The City of Norwalk is enclosed by 116th St. to the south, the San Gabriel River to the west, Florence Ave. to the north, and Carmelita Road to the east. The city is comprised of 32 different neighborhoods, according to Nextdoor. Data gathered in 2017 indicates that 62.98% (17,155 households are owner-occupied) of residents own homes while 37.02% (10,083 households are renter-occupied) rent (SCAG). Within a half-mile radius of I-105, three schools (DD Johnston Elementary School, New River Elementary School, and Corvallis Middle School), one hospital (Coast Plaza Hospital), and three parks (New River Park, Robert White Park, and Vista Verde Park exist. Coast Plaza Hospital and Costco are nearby job centers. Tables 2-20 and 2-21 below summarize the city's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-20: Norwalk Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	106,404	10,105,722
Median Age	34.9	36
Residents 65 years and older	12,127 (11.40%)	1,264,984 (12.5%)
Median Income	63,669	$61,015
Total Households	27,238	3,506,903
Average Household Size	3.81	3.025
Individuals Below Poverty Level	13.9%	17.00%

Table 2-21: Norwalk Racial Composition

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	74,886	70.38%	4,893,579	48.42%
White	54,384	51.11%	5,539,772	54.82%
Black or African American	4,796	4.51%	938,238	9.28%
Asian	15,287	14.37%	1,621,548	16.05%
American Indian and Alaska Native	1,448	1.36%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	385	0.36%	54,214	0.54%
Two or More Races	3,059	2.87%	219,180	2.17%

Downey

The City of Downey is enclosed between the San Gabriel river to the east, Foster Rd. to the south, Rio Hondo to the northwest, and Telegraph Rd. to the northeast. The city is comprised of 31 separate neighborhoods/communities according to Nextdoor. As per data gathered in 2017, approximately 50.82% (16,616 owner-occupied households) of residents own homes, while 49.18% (16,080 renter-occupied households) rent. Within a half-mile radius of I-105, there are six schools (Lewis Elementary School, Carpenter Elementary School, EW Ward Elementary, Columbus High School, A L Gauldin Elementary School, and Sussman Middle School), two emergency services (Kaiser Permanente Downey Medical Center and Downey Fire Department Station #2), and three parks (Golden Park, Downey Cemetery, and Independence Park). Kaiser Permanente Downey Medical Center is the city's largest employer, and several other important job centers are located within the half mile, including the Downey Promenade Mall, the Los Angeles County Office of Education, and the Los Angeles County Probation Department. Tables 2-22 and 2-23 below summarize the city's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-22: Downey Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	113,358	10,105,722
Median Age	34.6	36
Residents 65 years and older	12,611 (11.12%)	1,264,984 (12.5%)
Median Income	$68,162	$61,015
Total Households	32,696	3,506,903
Average Household Size	3.445	3.025
Individuals Below Poverty Level	10.7%	17.00%

Table 2-23: Downey Racial Composition

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	83,937	74.05%	4,893,579	48.42%
White	73,852	65.15%	5,539,772	54.82%
Black or African American	4,883	4.31%	938,238	9.28%
Asian	9,513	8.39%	1,621,548	16.05%
American Indian and Alaska Native	753	0.66%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	641	0.57%	54,214	0.54%
Two or More Races	3,166	2.79%	219,180	2.17%

South Gate

South Gate is enclosed by I-105 to the south, Alameda St. to the west, Santa Ana St. to the north, and Paramount Blvd. to the east. The 105 runs through the very southeastern tip of South Gate. The city is comprised of 15 separate neighborhoods according to Nextdoor. 43.52% (10,254 owner-occupied households) of South Gate residents owned a home while 56.47% (13,303 renter-occupied households) rented in 2017. There are no emergency services located within a half-mile of I-105, but there are two schools, Kid Town USA Preschool and Kindergarten and Hollydale Elementary, and one park, Hollydale Regional Park. Hollydale Community Center is also situated near I-105. Tables 2-24 and 2-25 below summarize the city's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-24: South Gate Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	95,420	10,105,722
Median Age	31.6	36
Residents 65 years and older	8,653 (9.07%)	1,264,984 (12.5%)
Median Income	$47,281	$61,015
Total Households	23,557	3,506,903
Average Household Size	4.08	3.025
Individuals Below Poverty Level	19.3%	17.00%

Table 2-25: South Gate Racial Composition

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	90,884	95.25%	4,893,579	48.42%
White	59,282	62.13%	5,539,772	54.82%
Black or African American	1,487	1.56%	938,238	9.28%
Asian	860	0.90%	1,621,548	16.05%
American Indian and Alaska Native	878	0.92%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	256	0.27%	54,214	0.54%
Two or More Races	1,924	2.02%	219,180	2.17%

Paramount

Paramount City is enclosed by 70th St. to the south, I-710 to the west, I-105 to the north, and Lakewood Blvd. to the east. The city is comprised of eight separate neighborhoods according to Nextdoor. As of 2017, approximately 38.94% (5,584 owner-occupied households) of Paramount residents own a home while 61.06% (8,755 renter-occupied households) rent. Paramount High School, Roosevelt Elementary School, Harry Wirtz Elementary School, and Howard Tanner Elementary School are located within a half mile of I-105. Paramount Park and All-American Park are located within this radius as well, and Castle Medals Aerospace and LACO STEEL serve as major job centers within the area. Tables 2-26 and 2-27 below summarize the city's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-26: Paramount Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	55,020	10,105,722
Median Age	30.8	36
Residents 65 years and older	4,285 (7.79%)	1,264,984 (12.5%)
Median Income	$49,064	$61,015
Total Households	14,339	3,506,903
Average Household Size	3.83	3.025
Individuals Below Poverty Level	20.3%	17.00%

Table 2-27: Paramount Racial Composition

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	44,829	81.48%	4,893,579	48.42%
White	30,821	56.02%	5,539,772	54.82%
Black or African American	5,385	9.79%	938,238	9.28%
Asian	1,984	3.61%	1,621,548	16.05%
American Indian and Alaska Native	803	1.46%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	736	1.34%	54,214	0.54%
Two or More Races	1,462	2.66%	219,180	2.17%

Lynwood

Lynwood is enclosed by E McMillan St to the south, Alameda St. to the west, Abbott Rd. to the north, and I-710 to the east. The city is comprised of 6 separate neighborhoods according to Nextdoor. According to the 2017 census, 42.40% (6,495 owner-occupied households) of residents own a home while 57.64% (8,838 renter-occupied households) rent. Lynwood shows a degree of community cohesion higher than other cities around I-105 with a high density of community and economic centers and services.

Within half a mile of I-105, there are 12 schools: Mario Antonio Firebaugh High School, Janie P Abbott Elementary School, Hosler Middle School, Lincoln Elementary School, Wilson Elementary School, Rosa Parks Elementary School, Mark Twain Elementary School, Will Rodgers Elementary School, Vista High Continuation School, Lindbergh Elementary School, Washington Elementary School, and Lynwood Middle School. There are also several emergency services: two fire stations (Los Angeles County Fire Department Stations 147 and 148), one hospital (St. Francis Medical Center), and one police station (LA County Sheriff Department). Five parks can be found within the half mile radius: Yvonne Burke-John D. Ham Park, Ricardo Lara Linear Park, Lynwood Park, Rose Park, and Carnation Park, and five community centers: Lucy Avalos Community Center, Lynwood Senior Citizen Center, Lynwood Youth Center, Lynwood Library and Lynwood Community Center. Several important job centers include the Century Regional Correction Facility, the Imperial Shopping Center, St. Francis Medical Center, and the LA County Sheriff Department. Tables 2-28 and 2-29 below summarize the city's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-28: Lynwood Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	71,350	10,105,722
Median Age	29.3	36
Residents 65 years and older	4,940 (6.92%)	1,264,984 (12.5%)
Median Income	$45,839	$61,015

Total Households	15,333	3,506,903
Average Household Size	4.51	3.025
Individuals Below Poverty Level	22.7%	17.00%

Table 2-29: Lynwood Racial Characteristics

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	62,808	88.03%	4,893,579	48.42%
White	41,843	58.64%	5,539,772	54.82%
Black or African American	6,151	8.62%	938,238	9.28%
Asian	977	1.37%	1,621,548	16.05%
American Indian and Alaska Native	838	1.17%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	295	0.41%	54,214	0.54%
Two or More Races	1,036	1.45%	219,180	2.17%

Willowbrook

The unincorporated area of Willowbrook is enclosed by East Rosecrans Ave. to the south, S. Figueroa St. to the west, I-105 to the north, and Alameda St. to the east. The 2017 census reports that 40.90% (2,049 owner-occupied households) of the population owns and 59.10% (2,961 renter-occupied households) rent. Four schools, Carver Elementary School, Lincoln Elementary School, 122nd Street Elementary School, and King Drew Magnet High School, may be found within a half mile of I-105. A fire station (Los Angeles County Fire Station 41) and two medical facilities (Martin Luther King Jr. Community Hospital and Augustus Hawkins Mental Health Center) are located within the area. There are four parks: George Washington Carver Park, Faith and Hope Park, Earvin Magic Johnson Park and Mona Park, and one community center, the Watts-Willowbrook Boys & Girls Club. The Willowbrook Library is also located within the area. The medical centers and Kenneth Hahn Plaza serve as job centers for the radius area. Tables 2-30 and 2-31 below summarize the city's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-30: Willowbrook Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	22,654	10,105,722
Median Age	26.6	36
Residents 65 years and older	1,238 (5.46%)	1,264,984 (12.5%)
Median Income	$40,279	$61,015
Total Households	5,010	3,506,903

Average Household Size	4.59	3.025
Individuals Below Poverty Level	25.0%	17.00%

Table 2-31: Willowbrook Racial Characteristics

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	16,694	73.69%	4,893,579	48.42%
White	9,676	42.71%	5,539,772	54.82%
Black or African American	5,428	23.96%	938,238	9.28%
Asian	61	0.27%	1,621,548	16.05%
American Indian and Alaska Native	227	1.00%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	189	0.83%	54,214	0.54%
Two or More Races	188	0.83%	219,180	2.17%

Los Angeles

The City of Los Angeles overlaps with I-105 Freeway on two separate stretches. The first segment (eastern segment) is between the unincorporated areas of West Athens and Willowbrook. The second segment (western segment) sits between I-405 and SR-1. As of 2017, 36.81% (502,165 owner-occupied households) of Los Angeles residents own homes while 63.19% (862,062 renter-occupied households) rent, according to SCAG. Within a half mile of I-105 there are eight schools residing in Los Angeles including 112th Street Elementary, 116th Street Elementary, 118th Street Elementary, Alliance Jack H. Skirball Middle School, Samuel Gompers Middle School, Ascension Catholic School, Lovelia P Flournoy Elementary, Figueroa Street Elementary, Ritter Elementary, Amino Locke Charter High School and Grape Street Elementary. All of these schools are found within the eastern segment. There are five parks: Serenity Park, 111th Place Neighborhood Park, William Nickerson Recreation Center, Imperial Courts Recreation Center, and 109th Street Recreation Center. LAX and FedEx Shipping Center serve as major job centers. Tables 2-32 and 2-33 below summarize the city's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-32: Los Angeles City Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	3,949,776	10,105,722
Median Age	35.2	36
Residents 65 years and older	462,838 (11.72%)	1,264,984 (12.5%)
Median Income	$54,501	$61,015
Total Households	1,364,227	3,506,903
Average Household Size	2.88	3.025
Individuals Below Poverty Level	20.4%	17.00%

Table 2-33: Los Angeles City Racial Composition

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	1,922,879	48.68%	4,893,579	48.42%
White	2,172,210	55.00%	5,539,772	54.82%
Black or African American	394,126	9.98%	938,238	9.28%
Asian	520,216	13.17%	1,621,548	16.05%
American Indian and Alaska Native	57,995	1.47%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	15,095	0.38%	54,214	0.54%
Two or More Races	138,635	3.51%	219,180	2.17%

West Athens

The unincorporated area of West Athens is enclosed by W. El Segundo Blvd. to the south, Van Ness Ave. to the west, Imperial Hwy to the north, and Vermont Ave. to the east. According to the 2017 census, 51.70% (1,445 owner-occupied households) of the West Athens population owns while 48.30% (1,350 renter-occupied households) rent. There are five schools in West Athens within a half mile of I-105, which are Animo Western Charter Middle School, Amino Phillis Wheatley Cahrter Middle School, Los Angeles Southwest College, Middle College High School and West Athens Elementary School. Chester Washington Golf Course is the single park in the half-mile radius. The Department of Public Social Services and the Los Angeles County Probation Department serve as important job centers here. Tables 2-34 and 2-35 below summarize West Athen's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-34: West Athens Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	8,746	10,105,722
Median Age	38.4	36
Residents 65 years and older	1,088 (12.44%)	1,264,984 (12.5%)
Median Income	$45,110	$61,015
Total Households	2,795	3,506,903
Average Household Size	3.115	3.025
Individuals Below Poverty Level	19.7%	17.00%

Table 2-35: West Athens Racial Composition

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	3,797	43.41%	4,893,579	48.42%
White	1,418	16.21%	5,539,772	54.82%
Black or African American	4,773	54.57%	938,238	9.28%
Asian	82	0.94%	1,621,548	16.05%
American Indian and Alaska Native	83	0.95%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	0	0.00%	54,214	0.54%
Two or More Races	160	1.83%	219,180	2.17%

Inglewood

The City of Inglewood is enclosed by I-105 Freeway to the south, La Cienega Blvd. to the west, W. 64th to the north, and S. Van Ness Ave. to the east. The city is comprised of 21 distinct neighborhoods according to Nextdoor. As of 2017, 35.83% (13,072 owner-occupied households) of Inglewood residents own a home while 64.18% (23,409 renter-occupied households) rent. Worthington Elementary, Bennet/Kew Elementary, Environmental Charter Middle School, and Today's Fresh Start Charter School are the four schools located within half a mile of I-105. Center Park is the single park located in the area. Crenshaw Imperial Branch Library is also located in the radius. A major job center in the area is the Crenshaw Imperial Plaza Shopping Center. Tables 2-36 and 2-37 below summarize the city's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-36: Inglewood Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	111,006	10,105,722
Median Age	34.5	36
Residents 65 years and older	12,722 (11.46%)	1,264,984 (12.5%)
Median Income	$46,389	$61,015
Total Households	36,481	3,506,903
Average Household Size	3.05	3.025
Individuals Below Poverty Level	20.1%	17.00%

Table 2-37: Inglewood Racial Composition

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	57,105	51.44%	4,893,579	48.42%
White	32,450	29.23%	5,539,772	54.82%
Black or African American	48,791	43.95%	938,238	9.28%
Asian	2,487	2.24%	1,621,548	16.05%
American Indian and Alaska Native	2,474	2.23%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	405	0.36%	54,214	0.54%
Two or More Races	4,137	3.73%	219,180	2.17%

Hawthorne

The city of Hawthorne is enclosed by Marine Ave. to the south, S. Aviation Blvd. to the west, I-105 Freeway to the north, and Crenshaw Blvd. to the east. The city is comprised of 17 distinct neighborhoods according to Nextdoor, though the City of Hawthorne website breaks down the city into 12 distinct neighborhoods. As of 2017, 26.54% (7,827 owner-occupied households) of Hawthorne residents own a home while 73.46% (21,661 renter-occupied households) rent. There are two schools in Hawthorne within a half mile of I-105: Cimarron Avenue Elementary and York Elementary School. Los Angeles County Fire Department Station 162 is the only emergency service near the freeway. Two parks, Holly Park and 118th Street Mini-Park, and one community center, Moneta Gardens Community Center, are located within the area. Tables 2-38 and 2-39 below summarize the city's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-38: Hawthorne Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	87,425	10,105,722
Median Age	33.0	36
Residents 65 years and older	7,837 (8.96%)	1,264,984 (12.5%)
Median Income	$47,636	$61,015
Total Households	29,488	3,506,903
Average Household Size	3.075	3.025
Individuals Below Poverty Level	17.0%	17.00%

Table 2-39: Hawthorne Racial Composition

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	47,909	54.80%	4,893,579	48.42%
White	33,759	38.61%	5,539,772	54.82%
Black or African American	25,136	28.75%	938,238	9.28%
Asian	8,264	9.45%	1,621,548	16.05%
American Indian and Alaska Native	4,873	5.57%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	925	1.06%	54,214	0.54%
Two or More Races	8,057	9.22%	219,180	2.17%

Lennox

The unincorporated area of Lennox is enclosed by I-105 Freeway to the south, La Cienega Blvd. to the west, Century Blvd. to the north, and S. Prairie Ave. to the east. The homeowner to renter ratio is 24.00% (1,540 owner-occupied households) to 71.00% (3,771 renter-occupied households). Within a half mile of the 105 there are five schools in Lennox, including Animo Leadership High School, Moffet Elementary, Lennox Academy, Lennox Middle School, and Buford Elementary. The Los Angeles County Fire Department Station 18 is located in the radius as well. Lennox Park and Lennox Library are situated here, but there are no major job centers near I-105 in Lennox. Tables 2-40 and 2-41 below summarize Lennox's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-40: Lennox Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	21,537	10,105,722
Median Age	29.0	36
Residents 65 years and older	1,240 (5.76%)	1,264,984 (12.5%)
Median Income	$41,022	$61,015
Total Households	5,311	3,506,903
Average Household Size	4.18	3.025
Individuals Below Poverty Level	27.6%	17.00%

Table 2-41: Lennox Racial Composition

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	20,103	93.34%	4,893,579	48.42%
White	10,240	47.55%	5,539,772	54.82%
Black or African American	737	3.42%	938,238	9.28%
Asian	448	2.08%	1,621,548	16.05%
American Indian and Alaska Native	432	2.01%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	0	0.00%	54,214	0.54%
Two or More Races	437	2%	219,180	2.17%

El Segundo

The City of El Segundo is enclosed by Rosecrans Ave. to the south, the Pacific Ocean to the west, Imperial Hwy to the north, and S. Aviation Blvd. to the east. I-105 Freeway terminates at the northeastern corner of the city. As of the 2017 census, 44.56% (2,958 owner-occupied households) of El Segundo residents own a home while 55.44% (3,680 renter-occupied households) rent. A single school, Center Street Elementary School, is located within a half-mile radius of the freeway, and there is one fire station (El Segundo Fire Station #2). There are six parks within the half-mile: Sycamore Park, Independence Park, Constitution Park, Washington Park, Campus El Segundo Athletic Fields, and El Segundo Dog Park. El Segundo is particularly aerospace and business-focused, housing job centers such as Northrop Grumman, Boeing Satellite Systems, and AT&T Entertainment Group near I-105. No community services, grocery stores, or houses of worship are found in this area, in contrast to the other cities along the freeway. Tables 2-42 and 2-43 below summarize the city's demographic characteristics and racial composition as compared to Los Angeles County's totals.

Table 2-42: El Segundo Demographic Characteristics

Demographic Characteristic	City Total	Los Angeles County Total
Total Population	16,929	10,105,722
Median Age	38.7	36
Residents 65 years and older	1,923 (11.4%)	1,264,984 (12.5%)
Median Income	$92,942	$61,015
Total Households	6,638	3,506,903
Average Household Size	2.575	3.025
Individuals Below Poverty Level	8.7%	17.00%

Table 2-43: El Segundo Racial Composition

Race	City Total	City Percentage	Los Angeles County Total	Los Angeles County Total
Latino or Hispanic	3,024	17.86%	4,893,579	48.42%
White	14,115	83.38%	5,539,772	54.82%
Black or African American	682	4.03%	938,238	9.28%
Asian	2,220	13.11%	1,621,548	16.05%
American Indian and Alaska Native	497	2.94%	157,517	1.56%
Native Hawaiian and Other Pacific Islander	281	1.66%	54,214	0.54%
Two or More Races	1,406	8.31%	219,180	2.17%

A high density of minority and low-income populations exist in the area surrounding I-105. Impacts and disproportionate impacts on these particular communities will be discussed in detail in the Environmental Justice section later in this chapter, as required by Executive Order 12898. Employment in the census tracts along I-105 trends toward manufacturing, retail, health care, and transportation/warehousing (generally in order of magnitude). In almost every city along I-105 these are the four categories of employment with the highest percentage of employees per city, though there are a few exceptions. In Willowbrook, construction also has a comparable percentage. In Hawthorne and Lennox, accommodation and food services make up the larger percentages as well. El Segundo stands out with professional, scientific, technical, and educational services as one of its largest categories. Tables with employment category data per city are available from the U.S. Census Bureau ACS 5-Year Estimate, or summarized in section 4.2 Economic Conditions of the CIA.

2.1.4.3 Environmental Consequences

Community character and cohesion are often subtle qualities that can be hard to identify through numbers alone, especially for someone that does not live in and is not familiar with the community. However, there are certain qualities that tend to indicate a higher degree of

community cohesion. For example, longer average residency tenures, larger households, home ownership, ethnic homogeneity, and evidence of community activity could individually or collectively contribute to a feeling of connectedness and community.

Several of these qualities are present in the corridor. Household size tends to be greater than 3.0 for all cities; only Los Angeles City and El Segundo are less than 3.0, and Los Angeles City covers a far greater area than that surrounding the corridor. Household size is in fact greater than 4.0 in some (South Gate, Lynwood, Willowbrook, and Lennox), and average residency tends to be longer than Los Angeles County for these cities as well. In many cities, a large percentage of a single ethnicity is present, indicating high ethnic homogeneity; all cities except El Segundo have a high to extremely high Latino or Hispanic population, while West Athens and Inglewood have high Black or African American populations.

The proposed project is not expected to have an impact on the surrounding neighborhoods and communities, nor is it expected to change the character of the community or its cohesion because only existing freeway facilities would be affected and no reasonably foreseeable indirect effects on communities would occur as a result of ExpressLanes. Essentially, I-105 as a transportation facility would remain the same. Some construction (approximately 2,200 feet) would be required to Imperial Highway between Mona Blvd. and Fernwood Ave., but after construction operations in the area would also remain the same.

Access to all community facilities and features would be preserved, and the community's aesthetic character and quality would not change. No new roads or freeways would be built, and no existing neighborhoods would be divided in any way. Property value or taxes are not anticipated to change as a result of any alternative.

The Traffic Study Report indicates that vehicle volumes will remain mostly unchanged for the Build Alternatives in 2027 and 2047, so no additional travel to or through the area is expected to be generated as a result of the proposed project. Based on this information and result, the proposed project is not anticipated to direct traffic away or toward community facilities and businesses. No parking spaces will be lost as a result of the project alternatives. Thus, there will no effects to business activities and patronage within the communities.

If homeless individuals will need to be relocated from the right of way prior to construction of the proposed project, Caltrans will provide A Notice to Vacate which provides advance notice of the date on which belongings will be removed, information on where belongings will be stored and for how long, and information on community services available.

2.1.4.4 Avoidance, Minimization, and/or Mitigation Measures

The proposed project would primarily affect the existing I-105 freeway and make minor realignments off the freeway. Effectively, all routes, structures, and facilities would remain the same, and the community's relationship with any existing or affected structures would not change. The proposed project is not anticipated to have any effect on population, housing, community facilities, or economic conditions in any area along the corridor. In the event homeless individuals will need to be relocated:

Com1 - If homeless individuals will need to be relocated from the right of way prior to construction of the proposed project, Caltrans will provide A Notice to Vacate which provides advance notice of the date on which belongings will be removed,

information on where belongings will be stored and for how long, and information on community services available.

2.1.5 Relocations and Real Property Acquisition

2.1.5.1 Regulatory Setting

Caltrans' Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of the RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex.

2.1.5.2 Affected Environment

Since no relocations or full parcel acquisitions were necessary for the proposed project, a Relocation Impact Report was not prepared. However, a Community Impact Assessment was completed by Caltrans in December of 2019. The report covers all easements and partial acquisitions of each alternative.

I-105 traverses several cities, each with their own community characteristics. In general, the study area is comprised of residential, commercial, and industrial neighborhoods that house several community facilities such as parks, schools, community centers, and churches.

The areas of partial acquisitions for both build alternatives will be located within industrial and commercial zones. No residential parcel will be partially acquired by the proposed project.

2.1.5.3 Environmental Consequences

The following Table 2-44 discloses all right-of-way impacts.

Table 2-44: Right-of-Way Impacts

ROW Impact			Parcel		
No.	Type	Area of ROW Impact (sq. ft.)	APN	Total Parcel Area (sq. ft.)	Type
1.1	TCE	9,712	4048-004-901	35,787	Government
1.2	TCE	7,427	4048-004-900	82,914	Government
2.1	TCE	568	6084-031-042	7,368	Commercial
3.1	TCE	105	6067-022-041	3,117	Residential
3.2	TCE	194	6067-022-039	3,109	Residential
3.3	TCE	206	6067-022-040	3,005	Residential
3.4	TCE	213	6067-022-038	2,900	Residential

3.5	TCE	221	6067-022-037	2,801	Residential
3.6	TCE	227	6067-022-036	2,691	Residential
3.7	TCE	234	6067-022-035	2,582	Residential
3.8	TCE	504	6067-022-048	4,700	Residential
3.8	Partial Acquisition	44	6067-022-048	4,700	Residential
3.9	TCE	4,788	6067-022-046	24,392	Industrial
3.9	Partial Acquisition	5,837	6067-022-046	24,392	Industrial
3.10	Aerial Easement	1,553	6169-032-917	26,158	ACTA
4.1	TCE	4,755	6169-001-900	62,463	Commercial
4.1	Partial Acquisition	1,242	6169-001-900	62,463	Commercial
4.2	TCE	10,728	6169-002-005	42,170	Industrial
4.2	Partial Acquisition	3,899	6169-002-005	42,170	Industrial

For Alternative 2, there will be no relocations or real property acquisition as a part of the proposed project.

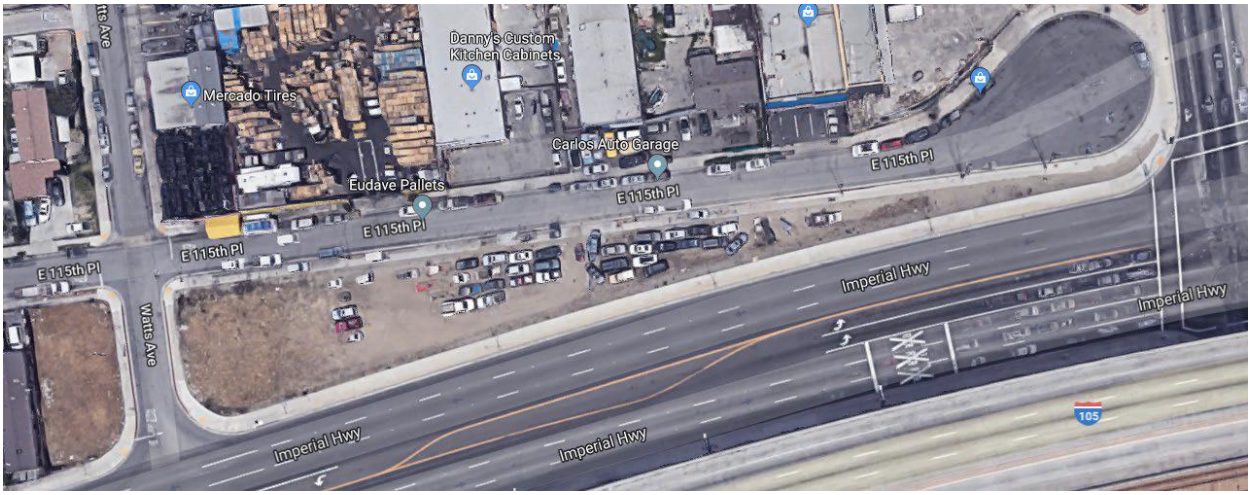
For Alternative 3 there will be fourteen TCEs which will be temporary during construction only. Four partial acquisitions will also be required. The parcels are Industrial, Commercial, located at the Imperial Highway at 115th Place and Philadelphia Way.

TCEs will remain during construction only, and any effects on properties will be reverted after construction is finished. TCEs will be required on government, residential, industrial, and miscellaneous type properties. For the properties that will be affected by partial acquisition, business operation will be unaffected by during and after construction.

Even though it is not anticipated, if any relocation become necessary, the provisions of the Uniform Act and the 1987 Amendments as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by the United States Department of Transportation (March 2, 1989) would be followed. An independent appraisal of the affected property will be obtained, and an offer for the full appraisal would be made.

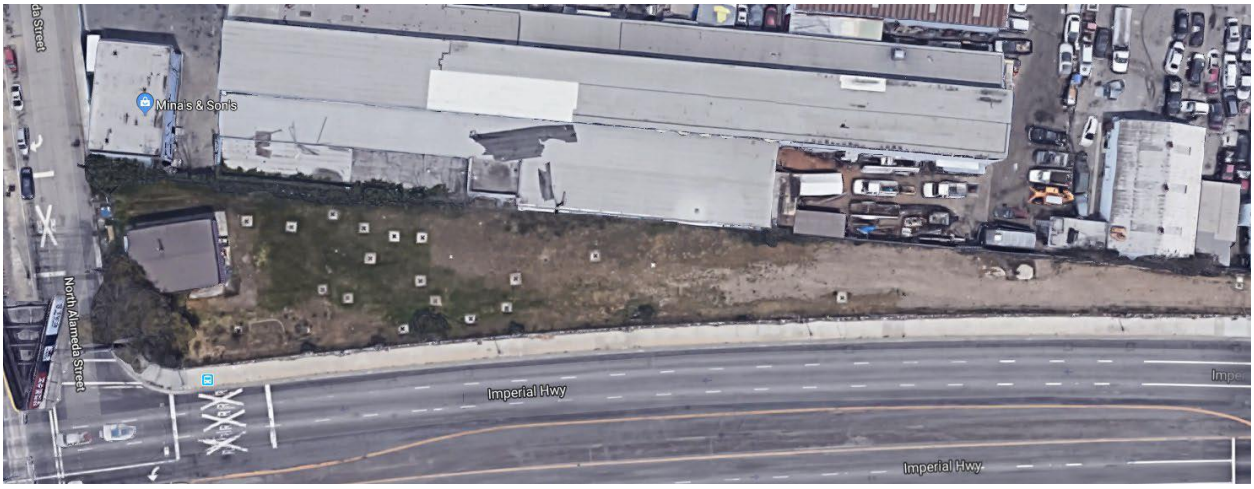
The partial acquisition listed under 3.9 is located within a dirt area across the street from several businesses located at Imperial Hwy and Alameda St. The area is currently used to store vehicles from a nearby auto garage. According to the Los Angeles County Assessor's Office, the parcel has no known owner and is classified as vacant land. Build Alternative 3 would acquire a sliver for the realignment of the Imperial Highway, but most of the parcel would remain. Figure 2-15 displays the dirt area.

Figure 2-15 3.9 Partial Acquisition



Partial Acquisition 4.1 & 4.2 occur across Alameda Street, east of an auto repair shop and auto parts store. The parcel is a vacant, grassy area separated by a chain link fence from the two businesses. There is a building of unknown purpose within the grassy area, but it is outside the boundaries of the planned partial acquisition. Figure 2-16 displays the grassy area.

Figure 2-16: 4.1 and 4.2 Partial Acquisition



2.1.5.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures are recommended for both build alternatives. With inclusion of these measures into the project, it is anticipated that this project will have no impacts to Relocations and Real Property Acquisition resources.

RW-1: A Transportation Management Plan (TMP) will be prepared during the design phase of the project to minimize disruptions to businesses and residents from project construction.

2.1.6 Environmental Justice

2.1.6.1 Regulatory Setting

All projects involving a federal action (funding, permit, or land), must comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President William J. Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2017, this was 24,600 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964, and related statutes, have also been included in this project. Caltrans' commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director, which can be found in Appendix G of this document.

2.1.6.2 Affected Environment

To determine whether environmental justice populations are present, an analysis was conducted using data from the 2017 American Community Survey conducted by the U.S. Census Bureau. Three major groups were identified for the study focus: racial minorities, low income individuals, and elderly populations, who can often be indicators of fixed (often low) incomes.

The methodology used in the CIA organized resident populations by census tract in each city or unincorporated area. Each focus category of the census tract (racial minorities, low income, and age over 65) was then compared to a reference population. For this study, the reference population is the city or unincorporated area the census tract is located in. For race demographics, the category "Race alone or in combination with one or more other races" was used. Elderly populations are defined in this analysis as individuals over the age of 65.

As an example, census tract 5519 located in Norwalk has a Black or African American population percentage of 5.7%, higher than Norwalk's overall Black or African American population percentage of 4.5%. Therefore, a disproportionate minority share is present in census tract 5519, and it is marked as an environmental justice population. The majority of the census tracts adjacent to the project area have high proportions of minority or low-income residents.

Each city's and unincorporated area's disproportionate minority populations are outlined below in the following tables. Every city the project traverses contains at least one census tract with environmental justice population, but not every census tract traversed by the project does.

Norwalk

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**

5519	Black: 5.7% (4.5%) Asian: 18.4% (14.4%)	Over 65: 14.7% (11.4%)	Lower than city rate
5520.01	Hispanic or Latino: 71.2% (70.4%)	Lower than city average	Lower than city rate

Downey

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**
5517	Black: 4.4% (4.31%) Hispanic or Latino: 80.7% (73.7%)	Lower than city average	Lower than city rate
5518	Black: 4.7% (3.8%) Asian: 15.3% (7.1%)	Lower than city average	Lower than city rate
5534	Asian: 9.5% (8.4%)	Lower than city average	14.6% (10.7%)

South Gate

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**
5362	Black: 2.9% (1.56%) Asian: 3.7% (0.90%)	Lower than city average	19.2% (19.3%)

Paramount

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**
5536.01	Black: 11.9% (9.79%) Native Hawaiian and Other Pacific Islander: 3.7% (1.34%)	Lower than city average	Lower than city rate
5536.02	Black: 19.1% (9.8%) Native Hawaiian and Other Pacific Islander: 3.2% (1.24%)	Lower than city average	Lower than city rate
5537.01	Hispanic or Latino: 95.2% (81.48%)	Equal to city average	21.7% (20.3%)

Lynwood

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**
5400	American Indian and Alaska Native: 1.5% (1.17%) Asian: 2.0% (1.37%) Hispanic or Latino: 93.7% (88.03%)	8.6% (6.92%)	Lower than city rate
5401.02	Black: 12.1% (8.62%) American Indian and Alaska Native: 2.5% (1.17%)	7.9% (6.92%)	Lower than city rate
5402.03	Black: 12.7% (8.62%) American Indian and Alaska Native: 2.1% (1.17%) Hispanic or Latino: 85.4% (88.03%)	Lower than city average	23.4% (22.7%)
5403	Hispanic: 98.8% (88.03%) American Indian and Alaska Native: 1.8% (1.17%) Asian: 1.5% (1.37%)	Lower than city average	Lower than city rate
5405.01	Black: 11.1% (8.62%) Asian: 1.5% (1.37%)	Lower than city average	Lower than city rate
5417	Black: 11.6% (8.62%) American Indian and Alaska Native: 2.2% (1.17%) Asian: 1.8% (1.37%)	9.4% (6.92%)	Lower than city rate
5418.01	Black: 13.4% (8.62%) American Indian and Alaska Native: 1.4% (1.17%)	Lower than city average	31.2% (22.7%)
5418.02	Black: 13.6% (8.62%) Asian: 1.9% (1.37%)	Lower than city average	Lower than city rate

Willowbrook

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**
5406	Black: 40.0% (23.96%) American Indian and Alaska Native: 1.0% (1.0%)	6.7% (5.46%)	27.3% (25.0%)

5407	Black: 30.7% (23.96%) Asian: 1.6% (0.27%)	Lower than city average	Lower than city rate

Los Angeles

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**
2410.01	Black: 26.2% (9.98%) Hispanic or Latino: 72.6% (48.68%)	Lower than city average	30.5% (20.4%)
2410.02	Black: 39.8% (9.98%) Hispanic or Latino: 59.4% (48.68%)	Lower than city average	22.3% (20.4%)
2412.02	Black: 36.8% (9.98%) Native Hawaiian and Other Pacific Islander: 2.0% (0.38%) Hispanic or Latino: 59.6% (48.68%)	Lower than city average	40.0% (20.4%)
2413	Black: 55.0% (9.98%)	Lower than city average	24.3% (20.4%)
2414	Black: 32.2% (9.98%) Hispanic or Latino: 64.4% (48.68%)	Lower than city average	35.1% (20.4%)
2426	Black: 29.7% (9.98%) Native Hawaiian and Other Pacific Islander: 1.2% (0.38%) Hispanic or Latino: 69.5% (48.68%)	Lower than city average	66.4% (20.4%)
2427	Black: 23.3% (9.98%) Hispanic or Latino: 77.3% (48.68%)	Lower than city average	36.6% (20.4%)
2431	Black: 28.7% (9.98%) Hispanic or Latino: 69.9% (48.68%) Native Hawaiian and Other Pacific Islander: 1.1% (0.38%)	Lower than city average	50.9% (20.4%)

5404	Black: 19.7% (9.98%) Hispanic or Latino: 81.8% (48.68%)	Lower than city average	33.5% (20.4)

West Athens

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**
6027	Black: 73.6% (54.57%)	14.2% (12.44%)	Lower than city rate
6028.01	Hispanic or Latino: 63.2% (43.41%)	Lower than city average	32.2% (19.7%)

Hawthorne

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**
6016	Hispanic or Latino: 94.1% (54.8%)	Lower than city average	31.3% (17.0%)
6017	Hispanic or Latino: 89.0% (54.8%)	Lower than city average	27.5% (17.0%)
6020.02	Hispanic or Latino: 78.2.3% (54.8%)	Lower than city average	19.9% (17.0%)
6021.03	Hispanic or Latino: 68.3% (54.8%)	9.4% (8.96%)	Lower than city rate
6021.04	Hispanic or Latino: 67.8% (54.8%)	Lower than city average	18.6% (17.0%)
6022	Asian: 10.1% (9.45%)	Lower than city average	20.1% (17.0%)
6025.09	Asian: 12.3% (9.45%) American Indian and Alaska Native: 6.9% (5.57%) Hispanic or Latino: 64.6% (54.8%)	9.1% (8.96%)	Lower than city rate
6027	Black: 73.6% (28.75%) American Indian and Alaska Native: 12.6% (5.57%) Asian: 11.6% (9.45%)	13.3% (8.96%)	Lower than city rate

Inglewood

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**
6005.02	Black: 50.7% (43.95%) Asian: 2.5% (2.24%)	15.8% (11.46%)	Lower than city rate
6017	Hispanic or Latino: 91.9% (51.44%) American Indian and Alaska Native: 6.7% (2.23%)	Lower than city average	40.0% (20.1%)
6021.04	Hispanic or Latino: 67.8% (51.44%) American Indian and Alaska Native: 5.5% (2.23%)	Lower than city average	Lower than city rate

Lennox

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**
6016	Hispanic or Latino: 94.1% (93.34%) Asian: 4.2% (2.08%)	9.9% (5.76%)	31.3% (27.6%)
6017	Black: 5.9% (3.42%)	Lower than city average	Lower than city rate

El Segundo

Census Tract Number	**Disproportionate Minority Shares** (City %)	**Share of Population Over 65 Years Old** (City %)	**Poverty Rate (City Median Poverty Rate)**
6200.01	Black: 6.3% (4.03%) American Indian and Alaska Native: 6.1% (2.94%) Native Hawaiian and Other Pacific Islander: 4.3% (1.66%) Hispanic or Latino: 19.0% (17.86%)	12.4% (11.4%)	Lower than city rate
6201.01	Asian: 15.3% (13.11%)	11.6% (11.4%)	10.3% (8.7%)

2.1.6.3 Environmental Consequences

One important note to make while considering the data presented in the Affected Environment section above is that the specific populations studied here do not necessarily represent all users of I-105 that could be affected by the proposed build alternatives. Many drivers on I-105 do not live directly adjacent to the freeway, so their demographic data is not captured specifically in this environmental justice analysis. However, economic discussion will address all low-income users similarly regardless of their geographic locations and environmental justice population statuses. The demographic data gathered will be most useful for analysis of physical effects of the proposed project on those census tracts. Therefore, this section will be divided into two sub-sections, one for economic or traffic impacts to users of the facility and one for physical or indirect impacts to the facility's surrounding communities.

2.1.6.4 Impacts to Users of I-105

Economic impacts of the project implementation would be felt most by current users of HOV lanes and drivers interested in using ExpressLanes. Users who cannot or do not use HOV lanes or who do not have interest in using ExpressLanes would continue using the general-purpose lanes, which would be functionally and operationally unaffected by the proposed alternatives. Anticipated effects to traffic flow and operation on I-105's general purpose lanes are beneficial for the most part, and the existing I-105 would remain in operation at a level that is the same or better than current conditions. In this sense, non-HOV and HOT users would be unaffected.

In 2006 Morallos found in "Social equity issues with tolling and pricing" for the Federal Highway Administration that evidence from successfully operating projects from the Congestion Pricing Pilot Program (renamed the Value Pricing Pilot [VPP] Program) demonstrated that the most valued feature in tolling and pricing projects is the additional choice to use priced lanes. Other studies have shown that "lower income individuals face the greatest financial harm when they are denied adequate travel choices. Lack of choice to pay a toll in exchange for reliable travel times can result in lost wages or late fees for daycare that could have been avoided" (FHWA). Another important consideration in evaluating congestion pricing and its equity implications is the use of the revenue generated by that pricing. Toll revenues can be used to compensate those who might otherwise be disadvantaged by the introduction of them. Toll revenues may be used to finance highway improvements, particularly in the corridor where the tolls are levied, or to pay for improvements in transit service. State law requires that revenues generated by the ExpressLanes be spent in the corridor in which they are generated. This could include debt service, operations, and maintenance. Metro intends to use the toll revenue to increase transit service in the corridor, as was done for the I-10 and I-110 ExpressLanes. Currently, the Metro J (Silver) Line, Foothill Transit, Gardena Transit, and Torrance Transit receive almost $8 million annually in net toll revenue to increase transit service on the I-10 and I-110 freeways. Similar benefits could be seen along the I-105 corridor as well with the implementation of the project.

According to the 2019 statistics presented earlier, non-low income users make up the majority (97.15%) of ExpressLane accounts. This group of users is receiving the direct benefit of access to the ExpressLane, but they are also the group paying the most in tolls and funding a higher percentage of these services in the corridor. In this sense, situational equity is generally improved when the benefits are being paid for by those who choose to drive. All income groups benefit from the time savings, congestion relief in both future HOT and general-purpose lanes, and trip reliability provided by the project.

However, it is undeniable that in the context of an individual driver, an additional cost is created in the implementation of the ExpressLanes for original HOV lane users and that this additional cost has the potential to create economic hardship. A financial burden is also introduced that would be larger to low income drivers. The Low-Income Assistance Plan (LIAP) was created to relieve this burden, and Metro regularly conducts outreach to inform the public of the existence and availability of this assistance plan. Metro will also continue to consider implementing additional measures to assist low income drivers.

The largest area of concern for the individual from an economic standpoint is whether the introduction of a tolling system to I-105, previously a non-toll road with HOV lanes, would cause disproportionate impacts to low income users and environmental justice populations. Single drivers using the proposed ExpressLanes would pay a toll through a required transponder to use them, and vehicles that meet the qualifications for carpooling would need to indicate so using the transponder. In order to preserve equity, toll facility usage should be available at an equal opportunity to all drivers, and the introduction of such a facility should not cause a disproportionate effect on any group. The additional cost requirement for both single and carpool drivers could certainly be prohibitive for these groups. The transponder itself would cost $25 to aquire and $1 a month to maintain and would be an impact to low income users. There is also the option for toll free travel in the express lanes. Alternative 3 maintains the existing HOV 2+ occupancy policy for toll free travel, whereas Alternative 2 assumes an increase in occupancy policy to HOV 3+ for toll free travel.

In recognition of these concerns, a Low-Income Impact Analysis was completed for the I-10/I-110 ExpressLanes project. It made five recommendations based on the findings of income-based equity impacts of congestion pricing. Firstly, Metro should establish a "low-income" threshold of $35,000 per year (this was the number for 2009, when the study was completed), along with a potential alternative threshold about $10,000 higher. The current thresholds are shown below. It also suggested Metro consider providing toll credits and consider accommodating the needs of low-income commuters who might not have bank or credit card accounts. Potential performance measures and survey approaches were also recommended to continue analysis and view performance metrics.

To implement these recommendations, Metro completed a report in March of 2010 titled “ExpressLanes Final Low-Income Assessment Report,” in which its proposed Low-Income Assistance Plan and Transit Rewards Program were outlined and discussed. It is available online and analyzes the effects of toll lanes on low-income drivers and riders.

The Low-Income Assessment Report identified two barriers to ExpressLane use by low-income drivers. The first would be the requirement to open an account and obtain a transponder, and the second would be the need to provide a credit card to open the account. To address these two barriers, Metro offers a Low Income Assistance Plan. The Low Income Assistance Plan (LIAP) defines low income as twice the Federal poverty level. LIAP participants are provided a $25 credit upon opening the account, and the monthly $1 account maintenance fee is waived. Additionally, Metro provides the option of opening a cash account that does not require the driver to have a credit card. For cash accounts, there is no minimum account balance. More details are available at metroexpresslanes.net.

Figure 2-17: Low-Income Assistance Plan Eligibility

LOW-INCOME ASSISTANCE PLAN ELIGIBILITY	
HOUSEHOLD SIZE	INCOME THRESHOLD**
1	$24,280
2	$39,920
3	$41,560
4	$50,200
5	$58,840
6	$66,940
7	$76,140
8	$84,760
FOR EACH ADDITIONAL PERSON, ADD	$8,640
**THIS THRESHOLD IS TWICE THE 2019 FEDERAL POVERTY LEVEL.	

The Transit Rewards Program also exists to provide transit credit for frequent transit riders, many of whom live in low-income households. Frequent transit riders can earn a $5 toll credit by taking 16 one-way trips on routes operating on the I-10 El Monte Busway and/or I-110 Transitway. While this program does not directly address low-income households, it could still be beneficial for low-income drivers. The qualifying transit lines are as follows:

On I-110:
Metro Lines 460, 550 and Metro Silver Line
Gardena Line 1X
Torrance Line 4
LADOT Commuter Express 438 and 448

On I-10:

Metro Lines 485, 487, 489 and Metro Silver Line
Foothill Lines 481, 493, 495, 497, 498, 499, 699 and Foothill Silver Streak

More details about these lines and future updates are available at:
https://www.metroexpresslanes.net/en/about/transit.shtml.

Currently, Metro's LIAP maintains about 16,200 active accounts on average, which is 2.85% of all ExpressLane accounts. Overall, based on recent internal data, LIAP users took nearly 1.3 million trips during the first 11 months of 2019. This represents 4.3% of all trips and more than 5.8% of HOV2 or HOV3 trips. In 2019, each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of this 87 trip average, 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This data shows that LIAP users are making more of their "share" of total trips compared to standard users, and that LIAP account holders are more likely to be single occupant drivers than standard accounts are.

This could indicate that having access to a LIAP account does indeed effectively address the cost-related barriers of the ExpressLanes. Some other possible explanations are that people with lower incomes have less flexibility in the time they travel, or that low-income individuals place higher value on reliable travel methods when they need it. A combination of these and other reasons is likely. Regardless, the participation and type of participation in the LIAP shows that ExpressLanes do provide a benefit to low income drivers, as they choose to utilize the ExpressLanes as single drivers, and in fact use them as single occupants a higher rate than standard users do.

With the application of these two programs to the proposed project's operation and use once completed, Alternative 3 would not have disproportionate and adverse effects.

Impacts to Surrounding Communities of I-105

Almost every census tract along I-105 qualifies as an environmental justice population under the methodology used in the CIA. Typically, impacts that tend to be disproportionate for highway projects are relocations and temporary or partial acquisitions for construction easements. As both Build Alternatives involve limited road widening, this area of concern is greatly lessened. For Alternative 2, all new construction would remain within Caltrans' existing right-of-way, and there would be no expansion of the freeway into surrounding properties or land uses. For Alternative 3, the required partial acquisitions do not involve relocation of homes or any residential structures and would not disproportionately affect any one group, and they are not anticipated to cause an adverse impact.

As a whole entity from the perspective of an adjacent resident, the I-105 would not change functionally or operationally. There would be no permanent change in access, parking, or available routes, and the proposed project would not have any new effects on community topics such as cohesion, economic vitality, employment, safety, or accessibility. Because accessibility would be unaffected, access to jobs and community services would not be impacted. There would be no adverse change in traffic or routes along I-105 to any environmental justice population locations or to any businesses located in or owned by such, and business activity will be unaffected. Property value is not anticipated to change as a result of the proposed project, and no agricultural land will be converted to transportation uses.

There may be temporary impacts on business activity during construction, as there is the possibility that lanes or ramps will need to be temporarily closed. However, detours and signage would be provided if this were the case, and any of these lane changes would be strictly temporary. A Traffic Management Plan (TMP) will be developed if necessary in the next phase of the project.

Other environmental impacts caused by the proposed project would not cause disproportionate impacts on any segment of the population, and both beneficial and adverse impacts would be felt equally along all corridor populations. For targeted discussion on impacts to these other subject areas, please refer to the relevant chapters in this document or Chapter 3 for a summary.

2.1.6.5 Avoidance, Minimization, and/or Mitigation Measures

Based on the above discussion and analysis, the build alternatives will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of EO 12898.

The following measures are recommended for both build alternatives. With inclusion of these measure into the project, it is anticipated that this project will have no adverse impacts to low income communities.

EJ1 - Metro currently has policies in place to allow for all groups to have equal opportunity to access and use the ExpressLanes for I-10 and I-110. It is recommended that these policies will continue to be in place and apply to the ExpressLanes on I-105 in order to minimize financial burdens on low-income drivers. As discussed in section 4.2.1.5, Toll Projects, the Low-Income Assistance Plan provides a $25 credit and waives the monthly maintenance fees, thus relieving financial stress caused by this new requirement. Frequent transit riders can also take advantage of the Transit Rewards Program to earn monetary credits toward ExpressLane tolls. The Carpool Loyalty Program allows carpoolers the opportunity to win toll credits for future SOV travel on the ExpressLanes.

EJ2 - When conducting outreach, make sure communities know the above policies and Low-Income Assistance Plan are available. Outreach efforts would be made to notify members of the public of their existence and the qualifications required to use them.

EJ3- During the development of Final Design (PS&E) Caltrans & Metro will consider and incorporate measures that support equity, environmental justice and community values by minimizing construction impacts to those who may be directly impacted.

2.1.7 Railroads

The Union Pacific Railroad (UPRR) runs parallel to the Eastbound I-105, at approximately Post Mile 6.5, between Budlong Avenue and Vermont Avenue. The UPRR, runs perpendicular to the I-105 as a Railroad Overhead, at approximately Post Mile 14.4. The Alameda Corridor Transpiration Authority (ACTA), as part of the Southern Pacific Transportation corridor (Alameda corridor), runs perpendicular to I-105 and Imperial Highway, at approximately Post Mile 10.6, adjacent to Alameda Street. The Los Angeles County Metropolitan Transportation Authority (Metro) Green Line Rail Transit corridor runs parallel to/in the median of the I-105 for the majority of the route, from approximately Post Mile 1.8 to Post Mile 18.0.

2.1.7.1 Affected Environment

No impacts to UPRR facilities are anticipated as part of the Project for Build Alternative 2 or 3; facilities to Remain-In-Place.

Impacts to the ACTA corridor (Alameda corridor) include modification of existing aerial easement for reconstruction of Imperial Highway to accommodate widening on the westbound side of the Alameda Street Viaduct. No impacts to ACTA facilities are anticipated as part of the Project for Build Alternative 2 or 3; facilities to Remain-In-Place.

Impacts to the Metro Green Line Rail Transit corridor include addition of various tolling equipment to be placed on the existing median barrier.

2.1.7.2 Environmental Consequences

A Construct and Maintenance Agreement for the Alameda corridor will be required between Caltrans and ACTA for various modifications of the Project (e.g., aerial easement for reconstruction of Imperial Highway at Alameda Street). An updated Operations and Maintenance Agreement for the Metro Green Line Rail Transit corridor, previously executed August 12, 1995, will be required between Caltrans and Metro for various transit modifications of the Project (i.e., tolling equipment placed on median barrier).

2.1.7.3 Avoidance, Minimization and/or Mitigation Measures

The following measures are recommended for both build alternatives. With inclusion of these measures into the project, it is anticipated that the project will have no adverse impacts to railroad facilities.

RR1 - A traffic management plan will be put in place for the duration of construction to minimize the effects of delay or closures.

RR2 - All railroad owners will be contacted before construction and made aware of construction schedules and potential work around railroad facilities.

2.1.8 Utilities/Emergency Services

2.1.8.1 Affected Environment

No separate report was prepared for utilities, but a Utility Conflict Matrix and Cost Estimate Analysis was prepared for both Build Alternatives of the proposed project on August 30, 2019. The matrices list all utility conflicts anticipated and the associated resolutions and costs of avoiding or relocating them. For this project, the recommended action for utility conflicts was to protect rather than relocate for all utilities except two. Both underground and above ground utility relocations are anticipated with the proposed project. No service disruptions are anticipated as a result of the proposed project. Location of Utilities will be performed during the PS&E phase of the project for underground utilities in the project vicinity that may be in close proximity or conflict with proposed improvements. Relocation and addition of towers are not anticipated for the existing overhead electrical lines.

2.1.8.2 Environmental Consequences

The two utilities that will need to be relocated are the City of Paramount water line on Facade Ave. and the Los Angeles County Sanitation District’s sewer line on Arthur Ave. All other utilities occurring in the project area will be protected in place. Both utilities to be relocated are expected to be relocated within the bridge, and no disruptions of service are anticipated. Coordination

with utility companies shall be carried out during the PS&E and construction phases of the project.

Table 2-45 lists the anticipated impacts to utilities for Build Alternative 2.

Table 2-45: Anticipated Impacts to Utilities – Build Alternative 2

#	Utility Owner	Utility Type	Size and/or Material	Utility Conflict Location	Utility Conflict Description
1.1	Southern California Edison	Electrical	Duct	WB I-105 at Truro Ave	Conflict with Pavement Widening/ Reconstruction
1.2	Los Angeles County Sanitation District	Sewer	27"		
1.3	Southern California Water Coalition	Water	12" DI in 22"		
2.1	Pacific Bell	Telecom	18-4" Ducts in 30" Steel Casing	Grevillea Ave	Conflict with Pavement Widening/ Reconstruction/ Retaining Wall
2.2	Southern California Gas	Gas	2"	Grevillea Ave	Conflict with Pavement Widening/ Reconstruction
2.3	Los Angeles County Sanitation District	Sewer	30"		
3.1	Los Angeles County Sanitation District	Sewer	15" VCP	Bullis Rd	Conflict with Bridge Abutment
3.2	Southern California Edison	Electrical	UG		
3.3	Standard Oil	Oil	6"		
3.4	City of Lynwood	Water	12"		
3.5	Pacific Telephone and Telegraph	Telecom	4 DU		
3.6	Southern California Gas	Gas	4"		
3.7	Standard Oil	Oil	6"		
3.8	Standard Oil	Oil	6"		
3.9	Standard Oil	Oil	8"		
4.1	Southern California Edison	Electrical	Duct	Harris Ave	Conflict with Reprofiling
4.2	Rogers Cable	Telecom	UG		
4.3	City of Lynwood	Water	12"		
4.4	City of Lynwood	Sewer	8" VCP		
5.1	Los Angeles County Sanitation District	Sewer	8"	Façade Ave	Conflict with Reprofiling
5.2	Los Angeles County Sanitation District	Sewer	8" VCP	Façade Ave	Conflict with Bridge
5.3	City of Paramount	Water	10"		
5.4	Los Angeles County Sanitation District	Sewer	12" VCP	Arthur Ave	Conflict with Bridge
6.1	Pacific Bell	Telecom	12 DU	Paramount Blvd	Conflict with Bridge Abutment/ Retaining Wall
6.2	Southern California Gas	Gas	4" in 8" Casing		
6.3	Southern California Edison	Electrical	4-5" Ducts ED UG		
6.4	Los Angeles County Sanitation District	Sewer	8"		
7.1	Southern California Water Coalition	Water	6"	Downey Ave	Conflict with Bridge
7.2	Los Angeles County Sanitation District	Sewer	8"		
7.3	Pacific Telephone and Telegraph	Telecom	6 MCD		
7.4	Los Angeles County Sanitation District	Sewer	8"		
7.5	Pacific Telephone and Telegraph	Telecom	UG		
7.6	Southern California Gas	Gas	2"		
7.7	Pacific Telephone and Telegraph	Telecom	UG		
7.8	Southern California Water Coalition	Water	2"		
7.9	Southern California Gas	Gas	2"		

Table 2-46 lists the anticipated impacts to utilities for Build Alternative 3.

Table 2-46: Anticipated Impacts to Utilities – Build Alternative 3

#	Utility Owner	Utility Type	Size and/or Material	Utility Conflict Location	Utility Conflict Description
1.1	Pacific Bell	Telecom	2 DU	Doty Ave	Conflict with Pavement Widening / Reconstruction
1.2	Southern California Water Coalition	Water	8"		
2.1	Pacific Bell	Telecom Duct	Conduit	Central Ave	Conflict with Repaving
2.2	Southern California Gas	Gas	3"		
2.3	Shell	Gas	4"		
2.4	Southern California Gas	Gas	2"		
2.5	Southern California Gas	Gas	30"H		
2.6	Los Angeles County Sanitation District	Sewer	8"		
2.7	Los Angeles County Department of Public Works	Water	8" CI		
3.1	Los Angeles County Sanitation District	Sewer	15" VCP	Bullis Rd	Conflict with Bridge Abutment
3.2	Southern California Edison	Electrical	UG		
3.3	Standard Oil	Oil	6"		
3.4	City of Lynwood	Water	12"		
3.5	Pacific Telephone and Telegraph	Telecom	4 DU		
3.6	Southern California Gas	Gas	4"		
3.7	Standard Oil	Oil	6"		
3.8	Standard Oil	Oil	6"		
3.9	Standard Oil	Oil	8"		
4.1	Southern California Edison	Electrical	Duct	Harris Ave	Conflict with Reprofiling
4.2	Rogers Cable	Telecom	UG		
4.3	City of Lynwood	Sewer	12"		
4.4	City of Lynwood	Sewer	8" VCP		
5.1	Los Angeles County Sanitation District	Sewer	8"	Façade Ave	Conflict with Reprofiling
5.2	Los Angeles County Sanitation District	Sewer	8" VCP	Façade Ave	Conflict with Bridge
5.3	City of Paramount	Water	10"		
5.4	Los Angeles County Sanitation District	Sewer	12" VCP	Arthur Ave	Conflict with Bridge
6.1	Pacific Bell	Telecom	12 DU	Paramount Blvd	Conflict with Bridge Abutment / Retaining Wall
6.2	Southern California Gas	Gas	4" IN 8" Casing		
6.3	Southern California Edison	Electrical	4-5" Ducts ED UG		
6.4	Los Angeles County Sanitation District	Sewer	8"		
7.1	Southern California Water Coalition	Water	6"	Downey Ave	Conflict with Bridge
7.2	Los Angeles County Sanitation District	Sewer	8"		
7.3	Pacific Telephone and Telegraph	Telecom	6 MCD		
7.4	Los Angeles County Sanitation District	Sewer	8"		
7.5	Pacific Telephone and Telegraph	Telecom	UG		
7.6	Southern California Gas	Gas	2"		
7.7	Pacific Telephone and Telegraph	Telecom	UG		
7.8	Southern California Water Coalition	Water	2"		
7.9	Southern California Gas	Gas	2"		

Travel time may be affected negatively during construction on the freeway and ramps, but any delay caused by construction will be minimized by the TMP, which will be developed in detail during the next phase of the project. The TMP will strategize management of the project's work zone impacts on traffic safety and control. It will include transportation operations, such as signal retiming, use of intelligent transportation systems (ITS), and speed enforcement, and public information components, such as radio advertisements, variable message signs, and other communication with the public. Table 2-47 lists emergency services adjacent to I-105

Table 2-47: Emergency Services Adjacent to I-105

City	Emergency Service	Address	Distance from I-105
Norwalk	Coast Plaza Hospital	13100 Studebaker Rd, Norwalk, CA 90650	~0.1 mile
Downey	Kaiser Permanente Downey Medical Center	9333 Imperial Hwy, Downey, CA 90242	~0.3 mile
	Downey Fire Department Station #2	9556 Imperial Hwy, Downey, CA 90242	~0.2 mile
South Gate	None	None	None
Paramount	None	None	None
Lynwood	Los Angeles County Fire Department Station 147	3161 E Imperial Hwy, Lynwood, CA 90262	~0.3 mile
	Los Angeles County Fire Department Station 148	4264 Martin Luther King Jr Bl, Lynwood, CA 90262	~0.4 mile
	St Francis Medical Center	3630 E Imperial Hwy, Lynwood, CA 90262	~0.5 mile
	Los Angeles County Sheriff Department	11703 Alameda St, Lynwood, CA 90262	~0.1 mile
Willowbrook	Los Angeles County Fire Department Station 41	1815 E 120th St, Los Angeles, CA 90059	~0.3 mile
	Martin Luther King Jr. Community Hospital	1680 E 120th St, Los Angeles, CA 90059	~0.5 mile
	Augustus Hawkins Mental Health Center	1720 E 120th St, Los Angeles, CA 90059	~0.4 mile
Los Angeles	None	None	None
West Athens	Los Angeles County Sheriff Station	1310 W Imperial Hwy, Los Angeles, CA 90044	~0.3 mile
Inglewood	None	None	None
Hawthorne	Los Angeles County Fire Department Station 162	12151 Crenshaw Blvd, Hawthorne, CA 90250	~0.2 mile
Lennox	Los Angeles County Fire Department Station 18	4518 Lennox Blvd, Lennox, CA 90304	~0.4 mile
El Segundo	El Segundo Fire Station #2	2261 E Mariposa Ave, El Segundo, CA 90245	~0.5 mile

2.1.8.3 Avoidance, Minimization, and/or Mitigation Measures

The following measures are recommended for both build alternatives. With inclusion of these measures into the project, it is anticipated that this project will have no adverse impacts to utilities and emergency services.

Uti1 - A traffic management plan will be put in place for the duration of construction to minimize the effects of delays or closures.

Uti2 - All emergency and utility services will be contacted before construction and made aware of construction schedules and any road closures ahead of time.

2.1.9 Traffic and Transportation/Pedestrian and Bicycle Facilities

Caltrans, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). The FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to the Federal-aid projects, including Transportation Enhancement Activities.

2.1.9.1 Affected Environment

The following discussion and summary are based on information from the Final Project Report completed by Caltrans in April 2021, the Traffic Study Report, overhead surveys based on satellite images from Google Maps and Google Earth, and field surveys.

The Traffic Study Report was completed for Metro in January 2021 by WSP. The Traffic Study Report's study area covered the entirety of I-105 and a 1-mile buffer around the area, which traverses multiple cities and contains multiple transportation facilities, including the freeway itself and the Metro Green Line, a light rail transit way that exists in the median of I-105. This study area includes the entirety of I-105's GP and HOV lanes, ramps (merge and diverge), weaving sections, and ramp terminus and arterial intersections.
The traffic operations analysis was performed for four scenarios:

- 2017 Existing Conditions,
- 2027 and 2047 Alternative 1 Conditions (No-Build Conditions),
- 2027 and 2047 Alternative 2 Conditions (Convert Existing HOV lane to One ExpressLane, Standard Lanes and Shoulder Widths), and

- 2027 and 2047 Alternative 3 Conditions (Convert Existing HOV lane to Two ExpressLanes, Non-Standard Lanes and Shoulder widths)

In this Affected Environment section, first all transportation facilities affected will be introduced with a brief description, including bicycle and pedestrian facilities (see *Existing Facilities*). Next, an overview of current traffic conditions will be summarized based on the findings and reports from the Traffic Study Report (see *Existing Traffic Conditions*). In the following Environmental Consequences section, traffic forecasts will be summarized, and traffic impacts will be discussed.

Existing Facilities

I-105 Freeway: Interstate 105, also known as the Glenn Anderson Freeway or Century Freeway, runs east-west through Los Angeles County from SR-1 near El Segundo and LAX to a small distance east of I-605 in Norwalk. It is a six-lane facility almost 19 miles long with auxiliary lanes between most on- and off-ramps with 12-foot lane widths for general purpose and HOV lanes and 10-foot shoulder widths (typically). I-105 is intersected by SR-1, I-405, I-110, I-710, and I-605 and runs parallel to Imperial Highway for the most part, crossing both Los Angeles and San Gabriel Rivers. The majority of the Metro Green Line is located within its median, running through nearly the entire length of the freeway.

Imperial Highway: The Imperial Highway runs parallel and adjacent to I-105 along much of the project area, crossing 41 miles across Los Angeles, Orange, Riverside, San Diego, and Imperial Counties. It begins near LAX at Vista Del Mar in Los Angeles and ends at the Anaheim city line at Via Escola. From SR-39 to SR-91 it is maintained by Caltrans, but local jurisdictions maintain the rest.

Metro Green Line: The Metro Green Line is a light-rail facility 20 miles long owned and operated by Metro. It runs between Redondo Beach and Norwalk and is fully grade-separated, running mostly in the median of I-105. The Metro Green Line stops at 14 stations and connects to several other transit lines, including the Silver Line (busway), the Metro Blue Line (light rail), or Metro Express 460 (bus).

Other Transit: Several bus lines serve the area around I-105 and allow
The Metro Local 115 bus runs from Playa Del Rey to Norwalk along stretches of Manchester Blvd. and Firestone Blvd. The Metro Local 117 runs from LAX to Downey along stretches of Century Blvd., Tweedy Blvd., and Imperial Highway. Metro Local 120 runs from LAX to Whittier along Imperial Highway.

Bicycle and Pedestrian Facilities: No bicycle or pedestrian access is allowed on freeway facilities except at designated transit locations. The Metro Green line is located within the median of I-105, but it is separated from the freeway by barrier and will not have any work performed outside that barrier.

Two bike paths and trails traverse or intersect the project area and are listed as follows. The San Gabriel River Mid Trail runs under I-105 at the east end of the freeway alongside the San Gabriel River. Ricardo Lara Linear Park in Lynwood is located on Fernwood Ave., which runs parallel to I-105 from Bullis Road to Atlantic Ave. A bike path project is proposed along the length of the linear park along the north side of I-105. Neither of these facilities will be affected by the proposed project.

Parking: Parking is not available in the project area. The project primarily affects the freeway, where there is no parking; for areas where work is planned on ramps, shoulders, or expansion areas off Imperial Highway or I-105, no parking is permitted. No new parking will be created nor will existing parking be removed by the proposed project.

Existing Traffic Conditions

For reference, tables for general purpose lanes, HOV lanes, and Highway Capacity Manual (HCM) intersection performance criterion are provided below. Some of these metrics use LOS as a measurement. LOS is a qualitative measure based on the quantities below that indicates traffic service quality for motor vehicles: a peak hour volume density of passenger cars per mile per lane. Locations that exceed LOS "D" are considered deficient. It is important to note that even for LOS "F", there are distinctions to be made within the category. As an example, delays of 81 seconds per vehicle and 120 seconds per vehicle would both be considered LOS "F", but represent a noticeably different quality of traffic for drivers.

Table 2-48: Freeway General Purpose Lanes Performance Criteria

Performance Criteria Methodology	
GP Lanes	Criteria based on LOS using peak hour volume density (passenger cars per mile per lane) as the measurement. Locations that exceed LOS 'E' are considered deficient.
Performance Threshold	
LOS	**Density (pc/mi/ln)**
A	≤11
B	> 11 - 18
C	> 18 - 26
D	> 26 - 35
E	> 35 - 45
F	>45 or any component V/C ratio > 1.00

Source: HCM 6th Edition

Table 2-49: HOV Lane Performance Criteria

Performance Criteria Methodology	
HOV Lanes	Criteria based on maximum peak hour demand for LOS C or better. Deficiencies identified as locations that exceed LOS C.
Performance Threshold	
Number of Lanes	**Maximum Demand (veh/hr)**
1 Lane	≤ 1,600
2 Lanes	≤ 3,200
LOS	**Density (pc/mi/ln)**
A	≤11
B	> 11 - 18
C	> 18 - 26
D	> 26 - 35
E	> 35 - 45
F	>45 or any component V/C ratio > 1.00

Source: HCM 6th Edition and Caltrans HOV Guidelines (2018) - states that 1,650 vehicles per hour represents the maximum desired HOV volume for one (1) lane and represents LOS C conditions. Planning studies in Caltrans have used 1,600 vph as the maximum desired HOV volume for one (1) HOV lane.

Table 2-50: Merge, Diverge, and Weaving Performance Criteria

Performance Criteria Methodology			
Merge, Diverge, and Weaving Segments	Criteria based on LOS using peak hour volume density (passenger cars per mile per lane) as the measurement. Deficiencies identified as locations that exceed LOS 'E'.		
Performance Thresholds			
Merge and Diverge Segments		**Weaving Segments**	
LOS	**Density (pc/mi/ln)**	**LOS**	**Density (pc/mi/ln)**
A	≤10	A	≤10
B	>10-20	B	>10 – 20
C	>20-28	C	>20 – 28
D	>28-35	D	>28 – 35
E	>35	E	>35 – 43
F	Demand exceeds capacity	F	>43, or demand exceeds capacity

Source: HCM 6th Edition (Exhibit 13-6, Exhibit 14-3)

Table 2-51: HCM Intersection Performance Criteria

Performance Criteria Methodology		
Intersections	Criteria based on LOS using intersection control delay (average seconds per vehicle) as the measurement. Locations that exceed LOS 'D' are considered deficient.	
Performance Thresholds		
LOS	**Control Delay - Signalized (sec/veh)**	**Control Delay - Stop Control (sec/veh)**
A	≤10	≤10
B	>10 – 20	>10 - 15
C	>20 – 35	>15 - 25
D	>35 – 55	>25 - 35
E	>55 – 80	>35 - 50
F	>80	>50

Source: HCM 6th Edition

Data collected in the Traffic Study Report is organized first by general purpose and HOV lane, then by eastbound and westbound. Each of the general purpose freeway lanes directions has data for mainline segments, merge/diverge/weave segments, and ramps. The tables below report this data in vehicle volume and LOS at AM and PM peak hours. LOS determinations here are based on the 2016 HCM (FREEVAL), where segments are not saturated. F* denotes saturated conditions where vehicles are in queue. F** denotes saturated conditions where demand exceeds or is at near capacity, causing bottleneck to occur. Deficient locations (those exceeding LOS "D") are highlighted as red text and bolded.

Table 2-52: Eastbound General Purpose Mainline: 2017 Current Conditions

Location	Segment Analysis	AM Peak Hour Volume	AM Peak Hour LOS	PM Peak Hour Volume	PM Peak Hour LOS
Btwn I-405 & Hawthorne Blvd/Prairie Ave off-ramp	Basic	5189	C	3483	F*
Btwn Prarie Ave off-ramp & on-ramp	Basic	5075	D	4012	F*
Btwn Prarie Ave & Crenshaw Blvd/120th St	Basic	5032	D	4500	F*
Btwn Crenshaw Blvd & Vermont Ave	Basic	6233	D	6251	F*
Btwn Normandie OC & Vermont off-ramp	Basic	6233	C	6251	F*
Btwn I-110 off-ramp & Hoover St on-ramp	Basic	3755	C	2414	F*
Btwn Central Ave off-ramp & on-ramp	Basic	4640	D	3073	F*
Btwn Wilmington Ave off-ramp & on-ramp	Basic	4773	D	4269	F*
Btwn Wilmington Ave & Long Beach Blvd	Basic	5266	D	4697	F*
Btwn Long Beach Blvd off-ramp & on-ramp	Basic	4282	C	4065	F*
Btwn Long Beach Blvd & I-710	Basic	5793	D	5241	F*
Btwn I-710 off-ramp & on-ramp	Basic	3725	C	2916	C
Btwn Garfield Ave & Grove St	Basic	2830	B	2206	B

Btwn Grove St OC & Paramount Blvd OC	Basic	4793	F*	4548	F*
Btwn Paramount Blvd & Lakewood Blvd	Basic	4583	D	4197	F*
Btwn Lakewood Blvd & Bellflower Blvd	Basic	4105	C	3676	F*

Notes: LOS based on 2016 HCM (FREEVAL) where segments are not saturated.
Btwn = between
F denotes saturated conditions where vehicles are in queue based on INRIX speed contours.*
*F** denotes saturated conditions where demand exceeds or is at near capacity causing bottleneck to occur, based on* INRIX speed contours.

Table 2-53: Eastbound General Purpose Merge/Diverge/Weave Segments: 2017 Current Conditions

Location	Segment Analysis	AM Peak Hour Volume	AM Peak Hour LOS	PM Peak Hour Volume	PM Peak Hour LOS
Imperial Hwy on-ramp	Merge	3451	C	2578	F*
I-405 NB on-ramp	Merge	3240	C	2578	F*
I-405 SB on-ramp	Merge	5189	C	3547	F**
Prairie Ave off-ramp	Diverge	5189	D	3547	F*
Hawthorn Blvd/Imperial Hwy on-ramp to Crenshaw/120th off-ramp	Weave	5838	D	4890	F*
Crenshaw Blvd/120th St on-ramp	Merge	5873	D	5186	F*
Crenshaw Blvd/120th St on-ramp (NB)	Merge	6233	D	6119	F**
Vermont Ave off-ramp	Diverge	6233	C	6119	F*
I-110 off-ramp	Diverge	5556	C	5041	F*
Hoover St on-ramp	Merge	4427	C	2485	F*
I-110 on-ramp to Central Ave off-ramp	Weave	5757	C	4168	F*
Central Ave on-ramp to Wilmington Ave off-ramp	Weave	5533	D	4001	F*
Wilmington Ave on-ramp	Merge	5613	D	4643	F**
Long Beach Blvd off-ramp	Diverge	5266	D	4643	F*
SB Long Beach Blvd on-ramp	Merge	5043	D	4704	F*
NB Long Beach Blvd on-ramp	Merge	5793	C	5271	F*
I-710 off-ramp	Diverge	5793	E	5271	F**
Garfield Ave off-ramp	Diverge	3725	C	2987	B
I-710 NB on-ramp	Merge	4045	F*	3624	F*
I-710 SB on-ramp	Merge	4793	F*	4670	F*
Paramount Blvd on-ramp	Merge	5214	F*	4878	F**
Lakewood Blvd off-ramp	Diverge	4854	F**	4329	F*
SB Lakewood Blvd on-ramp	Merge	4798	C	4357	F*
NB Lakewood Blvd on-ramp	Weave	5015	C	4492	F*
Bellflower Blvd on-ramp	Merge	4665	C	4535	F*
I-605 off-ramp	Diverge	4665	C	4535	F**

Table 2-54: Westbound General Purpose Mainline: 2017 Current Conditions

Location	Segment Analysis	AM Peak Hour Volume	AM Peak Hour LOS	PM Peak Hour Volume	PM Peak Hour LOS
Btwn Bellflower Blvd & Lakewood Blvd	Basic	5258	C	5373	C
Btwn Lakewood Blvd off-ramp & on-ramp	Basic	4794	F*	4598	F*
Btwn Paramount Blvd off-ramp & on-ramp	Basic	5060	D	4729	D
Btwn Paramount Blvd & I-710	Basic	5060	C	4729	C
Btwn I-710 off-ramp & Garfield Ave on-ramp	Basic	1591	F*	1184	B
Btwn I-710 off-ramp & SB on-ramp	Basic	2343	F*	1766	F*
Btwn I-710 NB on-ramp & Gertrude Dr UC	Basic	4835	F*	5435	F*
Btwn Gertrude Dr UC & Long Beach Blvd	Basic	4835	F*	5435	F*
Btwn Long Beach Blvd off-ramp & on-ramp	Basic	3968	F*	4310	F*
Btwn State St UC & Alameda St	Basic	5040	F*	5291	D
Btwn Imperial Hwy off-ramp & on-ramp	Basic	4187	F*	4199	C
Btwn Imperial Hwy & Central Ave	Basic	5343	F*	5357	D
Btwn Central Ave off-ramp & on-ramp	Basic	4874	D	4619	D
Btwn Stanford Ave UC & Avalon Blvd UC	Basic	5854	C	5771	C
Btwn Avalon UC & San Pedro St UC	Basic	5854	F*	5771	C
Btwn I-110 off-ramp & Hoover St on-ramp	Basic	3134	F*	3315	C
Btwn Vermont Ave off-ramp & on-ramp	Basic	4030	F*	4301	C
Btwn Vermont Ave & Crenshaw Blvd	Basic	6551	F*	6315	C
Btwn Crenshaw Blvd off-ramp & on-ramp	Basic	5421	F*	4463	D
Btwn Prairie Ave/Hawthorne Blvd off-ramp & Imperial Hwy on-ramp	Basic	6679	F**	4720	D
Btwn Imperial Hwy & I-405	Basic	6008	F*	4865	B
Btwn I-405 off-ramp & La Cienega Blvd	Basic	4698	F*	1476	A

Table 2-55: Westbound General Purpose Merge/Diverge/Weave Segments: 2017 Current Conditions

Location	Segment Analysis	AM Peak Hour Volume	AM Peak Hour LOS	PM Peak Hour Volume	PM Peak Hour LOS
I-605 on-ramp	Merge	6192	D	5891	C
Bellflower Blvd off-ramp	Diverge	6192	D	5891	C
Bellflower Blvd on-ramp to Lakewood Blvd off-ramp	Weave	5761	F*	5932	F*
Lakewood Blvd on-ramp	Merge	5754	F**	5536	F**
Paramount Blvd off-ramp	Diverge	5754	D	5536	D
I-710 off-ramp	Diverge	5060	F*	4729	B

Garfield Ave on-ramp	Merge	2343	F*	1766	B
I-710 SB on-ramp	Merge	2984	F*	2658	F*
I-710 NB on-ramp	Merge	4835	F*	5435	F*
Long Beach Blvd off-ramp	Diverge	4835	F*	5435	F*
NB Long Beach Blvd on-ramp	Merge	4243	F*	4468	F*
SB Long Beach Blvd on-ramp	Merge	5040	F**	5291	F**
Imperial Hwy off-ramp	Diverge	5040	F*	5291	D
Imperial Hwy on-ramp	Merge	5343	F*	5357	D
Central Ave off-ramp	Diverge	5343	F**	5357	D
Central Ave on-ramp	Merge	5854	C	5771	C
I-110 off-ramp	Diverge	5854	F*	5771	C
I-110 NB on-ramp	Weave	4761	F*	5034	C
I-110 SB on-ramp	Merge	4957	F**	5530	C
Vermont Ave on-ramp	Merge	6102	F*	6131	C
Crenshaw Blvd off-ramp	Diverge	6065	F*	5847	C
NB Crenshaw Blvd on-ramp	Merge	6479	F**	5058	C
SB Crenshaw Blvd on-ramp to Prairie Ave/Hawthorne Blvd off-ramp	Weave	6867	F*	5202	C
Imperial Hwy on-ramp	Merge	6008	F*	4865	C
I-405 off-ramp	Diverge	4192	F*	2644	E

Typically, congestion is worse in the eastbound direction of the freeway. This is the result of several bottlenecks, the worst of which occurs between the Long Beach Blvd. on-ramp and I-710 off-ramps just west of the I-710 interchange. The bottlenecks at these two locations (Long Beach Blvd. on-ramp and I-710 off-ramp) cause congestion to the I-110 SB to I-105 EB connector ramp. Two other major bottlenecks occur east of the I-710 interchange: the first, where demand at the I-605 NB connector ramp exceeds capacity; the next, between Paramount Blvd. on-ramp and Lakeview Blvd. off-ramp, due to the on-ramp merge and weaving conflict with the off-ramp. The next is west of the I-110 freeway at Crenshaw Blvd., where the combination of an auxiliary lane ending and two closely-spaced, high-volume ramps create the next most congested bottleneck. These five points are the greatest contributing factors to congestion on EB I-105.

In the westbound direction, there are still major bottlenecks, but they are smaller and less congested. The worst bottleneck occurs at Crenshaw Blvd., due to high on-ramp volumes. The second largest occurs at the connector ramps from the SB I-710 ramps to the Long Beach off-ramps, where the lane drop aggravates conditions just west of the Long Beach off-ramp.

2.1.9.2 Existing Ramp Conditions

East- and westbound freeway ramp conditions were analyzed in the Traffic Study Report. Most of the ramp locations have demands that are within the available capacities except for the few locations listed below (7 maximum out of all directions and peak hours out of 39 locations) and only one location (EB I-105 at Atwood Way/Douglas Street on-ramp) is currently operating deficiently. Existing ramp conditions are shown in the tables below. Caltrans also plans to meter

most of these ramps in the near future. Additionally, the queuing analysis indicates that excessive queuing exceeding the turn bay storage capacity only occurs approximately 5% of the time at 95% queue length, and none of the ramps typically have queues extending the length of ramp. To view this data, please refer to Traffic Study Report, Section 3.3, Existing I-105 Freeway Ramps and its Appendix F for queue reports.

Eastbound Ramps exceeding available capacity:

- During AM peak hours: Central Ave. off-ramp.
- During PM peak hours: Sepulveda Blvd on-ramp (SB), Imperial Hwy on-ramp (EB), Atwood Way/Douglas St. on-ramp (SB), I-405 off-ramp (NB & SB), I-110 off-ramp (NB & SB), Central on-ramp.

Westbound Ramps exceeding available capacity:

- During AM peak hours: Sepulveda Blvd off-ramp (NB), Nash St. off-ramp (SB), Imperial Hwy on-ramp, Crenshaw Blvd. on-ramp, Vermont Ave. off-ramp, Imperial Highway on-ramp, I-710 on-ramp (NB).
- During PM peak hours: I-405 off-ramp (NB & SB), Long Beach Blvd. off-ramp, I-710 on-ramp (NB), I-710 freeway to freeway (NB & SB), I-605 on-ramp (NB & SB).

Table 2-55-1: Freeway Eastbound Ramp Conditions – Existing (2017)

Int. #	Location	Type	Number of Ramp Lanes	Existing			
				AM Peak Hour		PM Peak Hour	
				Volume	V/C	Volume	V/C
-	Sepulveda Blvd/Imperial Hwy Off	Off-Ramp	2	465	0.16	486	0.16
-	Sepulveda Blvd On (SB)	On-Ramp	2	1543	0.51	2446	0.82
-	Imperial Hwy On (EB)	On-Ramp	1	581	0.39	1174	0.78
-	Atwood Way/Douglas St On (SB)	On-Ramp	1	344	0.23	1548	1.03
-	I-405 Fwy-Fwy Off (NB & SB)	Off-Ramp	2	1274	0.35	2991	0.83
4	Imperial Hwy On	On-Ramp	1	722	0.48	629	0.42
-	I-405 Fwy-Fwy On (NB)	On-Ramp	1	1108	0.62	507	0.28
-	Fwy-Fwy On (SB)	On-Ramp	2	1949	0.54	942	0.26
9	Prairie Ave Off	Off-Ramp	1	404	0.27	584	0.39
7	Hawthorne Blvd/Imperial Hwy On	On-Ramp	2	763	0.25	898	0.30
11	Crenshaw Blvd/120th St Off	Off-Ramp	1	751	0.50	328	0.22
11	Crenshaw Blvd/120th St On	On-Ramp	1	841	0.56	750	0.50

11	Crenshaw Blvd/120th St On (NB)	On-Ramp	1	772	0.51	833	0.56
17	Vermont Ave Off	Off-Ramp	1	654	0.44	680	0.45
-	I-110 Fwy-Fwy Off (GP) (NB & SB)	Off-Ramp	2	1801	0.50	2800	0.78
-	I-110 Fwy-Fwy Off (ML) (NB)	Off-Ramp	1	734	0.41	688	0.38
-	Hoover St On	On-Ramp	1	672	0.45	233	0.16
-	I-110 Fwy-Fwy On (ML) (NB)	On-Ramp	1	162	0.09	716	0.40
-	I-110 Fwy-Fwy On (NB & SB)	On-Ramp	2	1980	0.55	1441	0.40
21	Central Ave Off	Off-Ramp	1	1457	0.97	1009	0.67
21	Central On	On-Ramp	1	893	0.60	1183	0.79
24	Wilmington Ave Off	Off-Ramp	1	887	0.59	450	0.30
24	Wilmington Ave On	On-Ramp	1	840	0.56	968	0.65
30	Long Beach Blvd Off	Off-Ramp	1	1045	0.70	480	0.32
-	Long Beach Blvd On (SB)	On-Ramp	1	761	0.51	676	0.45
-	Long Beach Blvd On (NB)	On-Ramp	1	533	0.36	486	0.32
-	I-710 Fwy-Fwy Off (NB & SB)	Off-Ramp	2	2068	0.57	2325	0.65
32	Garfield Ave Off	Off-Ramp	2	895	0.30	710	0.24
-	I-710 Fwy-Fwy On (NB)	On-Ramp	2	1215	0.34	1263	0.35
-	I-710 Fwy-Fwy On (SB)	On-Ramp	2	960	0.27	618	0.17
36	Paramount Blvd On	On-Ramp	1	663	0.44	448	0.30
39	Lakewood Blvd Off	Off-Ramp	1	1042	0.69	749	0.50
-	Lakewood Blvd On (SB)	On-Ramp	1	215	0.14	160	0.11
-	Lakewood Blvd On (NB)	On-Ramp	1	217	0.14	135	0.09
43	Bellflower Blvd Off	Off-Ramp	1	910	0.61	816	0.54
43	Bellflower Blvd On	On-Ramp	2	560	0.19	859	0.29
-	I-605 Fwy-Fwy Off (NB & SB)	Off-Ramp	4	3841	0.53	3870	0.54

-	Park And Ride Lot Off	Off-Ramp	1	133	0.09	100	0.07
-	Hoxie Ave On	On-Ramp	2	126	0.08	240	0.16

Table 2-55-2: Freeway Westbound Ramp Conditions – Existing (2017)

Int. #	Location	Type	Number of Ramp Lanes	Existing			
				AM Peak Hour		PM Peak Hour	
				Volume	V/C	Volume	V/C
-	Sepulveda Blvd Off (SB)	Off-Ramp	1	583	0.39	551	0.37
1	Sepulveda Blvd Off (NB)	Off-Ramp	2	2228	0.74	1716	0.57
-	Nash St Off (SB)	Off-Ramp	1	1328	0.89	559	0.37
-	I-405 Fwy-Fwy On (NB & SB)	On-Ramp	2	2123	0.59	1650	0.46
4	Imperial Hwy Off	Off-Ramp	1	1376	0.92	615	0.41
-	I-405 Fwy-Fwy Off (NB & SB)	Off-Ramp	3	3208	0.59	4120	0.76
8	Imperial Hwy On	On-Ramp	1	1191	0.79	532	0.35
9	Prairie Ave/Hawthorne Blvd Off	Off-Ramp	2	188	0.06	482	0.16
-	Crenshaw Blvd On (SB)	On-Ramp	1	388	0.26	144	0.10
-	Crenshaw Blvd On (NB)	On-Ramp	1	1058	0.71	595	0.40
13	Crenshaw Blvd Off	Off-Ramp	2	644	0.21	1384	0.46
16	Vermont Ave On	On-Ramp	1	1145	0.76	601	0.40
-	I-110 Fwy-Fwy On (GP) (SB)	On-Ramp	1	801	0.45	1148	0.64
16	Vermont Ave Off	Off-Ramp	1	731	0.49	733	0.49
-	I-110 Fwy-Fwy On (GP) (NB)	On-Ramp	1	1107	0.62	1124	0.62
-	I-110 Fwy-Fwy On (ML) (SB)	On-Ramp	1	708	0.39	751	0.42
-	I-110 Fwy-Fwy Off (ML) (SB)	Off-Ramp	1	332	0.18	181	0.10
-	I-110 Fwy-Fwy Off (GP) (NB & SB)	Off-Ramp	2	2892	0.80	1887	0.52
20	Central Ave On	On-Ramp	1	818	0.55	918	0.61
20	Central Ave Off	Off-Ramp	1	588	0.39	819	0.55
26	Imperial Hwy On	On-Ramp	1	1152	0.77	1003	0.67
2	Imperial Hwy Off	Off-Ramp	1	758	0.51	929	0.61

29	Long Beach Blvd On (SB)	On-Ramp	1	651	0.43	569	0.38
29	Long Beach Blvd On (NB)	On-Ramp	1	448	0.30	347	0.23
29	Long Beach Blvd Off	Off-Ramp	1	867	0.58	1125	0.75
-	I-710 Fwy-Fwy On (NB)	On-Ramp	1	1702	0.95	1407	0.78
-	I-710 Fwy-Fwy On (SB)	On-Ramp	2	641	0.18	892	0.25
31	Garfield Ave On	On-Ramp	2	752	0.25	582	0.19
-	I-710 Fwy-Fwy (NB&SB)	Off-Ramp	2	2762	0.77	2503	0.70
35	Paramount Blvd Off	Off-Ramp	1	478	0.32	587	0.39
39	Lakewood Blvd On	On-Ramp	1	567	0.38	971	0.62
39	Lakewood Blvd Off	Off-Ramp	1	685	0.46	685	0.46
42	Bellflower Blvd On	On-Ramp	1	503	0.34	559	0.37
42	Bellflower Blvd Off	Off-Ramp	1	934	0.62	533	0.36
-	I-605 Fwy-Fwy On (NB & SB)	On-Ramp	4	4814	0.67	5491	0.76
48	Imperial Hwy On	On-Ramp	1	625	0.42	411	0.27
-	Hoxie Ave On	On-Ramp	1	105	0.07	97	0.06
-	Hoxie Ave Off	Off-Ramp	1	69	0.05	52	0.03

2.1.9.3 Existing HOV Conditions

Several bottlenecks also exist for the HOV lanes of I-105 in both directions. These are also typically worse in the eastbound direction, like the general purpose lanes. The most severe occurs just east of the I-110 interchanges in the eastbound direction, where the I-110 ExpressLanes direct connector ramp traffic merges with I-105 HOV lane traffic. The I-105 HOV facility does not currently have the capacity to handle the additional demand coming from I-110. The main bottleneck in the westbound direction occurs for the same reason at the same location, where the I-110 ExpressLanes direct connector ramp merges with the HOV lane westward.

Another major bottleneck occurs on the eastbound HOV lanes between the Hawthorne Blvd. on-ramp and Crenshaw Blvd./120th Street off-ramp at the HOV ingress/egress location. Congestion on the general purpose lanes requires users exiting the HOV facility to slow down; conversely, slow traffic from the GP lanes entering the HOV lanes also causes slowdowns on the HOV facility.

Table 2-56: Eastbound HOV Lanes: 2017 Current Conditions

Location	Segment Analysis	AM Peak Hour Volume	AM Peak Hour LOS	PM Peak Hour Volume	PM Peak Hour LOS
Btwn e/o Aviation Blvd & Inglewood Ave	Access	337	A	962	F*
Btwn Inglewood Ave & Hawthorne Blvd Access	Basic	337	A	962	F*
Btwn Hawthorne Blvd & Prairie Ave	Access	640	A	1209	F*
Btwn Prairie Ave Access & Crenshaw Blvd	Basic	640	A	1209	F*
Btwn Crenshaw Blvd & Crenshaw Blvd Access	Basic	665	A	1307	F*
Btwn Crenshaw Blvd & Western Ave	Access	1134	B	1325	F*
Btwn Western Ave Access & Vermont Ave	Basic	1134	B	1325	F*
Btwn Vermont Ave & NB I-110 off-ramp	Diverge	1230	C	1296	F*
Btwn I-110 off-ramp & I-110 on-ramp	Basic	1230	C	1296	F*
Btwn I-110 on-ramp & Central Ave Access	Merge	658	A	1324	F*
Btwn w/o & e/o Central Ave	Access	510	A	1384	F*
Btwn Central Ave Access & Wilmington Ave	Basic	510	A	1384	F*
Btwn Wilmington Ave & Alameda St	Basic	1042	B	1632	F*
Btwn Alameda St & Long Beach Blvd Access	Basic	1015	B	1439	E
Btwn w/o & e/o Long Beach Blvd	Access	1011	B	1279	D
Btwn Long Beach Blvd Access & Gertrude Dr	Basic	1011	B	1279	D
Btwn Gertrude Dr & I-710	Basic	1010	B	1234	C
Btwn I-710 & Garfield Ave	Basic	1010	B	1234	C
Btwn Garfield Ave & I-710	Basic	1010	C	1234	C
Btwn I-710 & Grove St	Basic	1010	C	1234	F*
Btwn Grove St OC & Paramount Blvd OC	Basic	1245	D	1327	F*

Btwn Paramount Blvd & Downey Ave	Access	1245	D	1327	F*
Btwn Downey Ave Access & Lakewood Blvd	Basic	1199	D	1263	D
Btwn Lakewood Blvd & Bellflower Blvd Access	Basic	1546	D	1514	E
Btwn w/o & e/o Bellflower Blvd	Access	1546	F*	1514	E
Btwn Bellflower Blvd Access & I-605	Basic	1250	F**	1309	F**

Table 2-57: Westbound HOV Lanes: 2017 Current Conditions

Location	Segment Analysis	AM Peak Hour Volume	AM Peak Hour LOS	PM Peak Hour Volume	PM Peak Hour LOS
Btwn I-605 & Bellflower Blvd Access	Basic	300	A	300	A
Btwn e/o & w/o Bellflower Blvd	Access	679	B	335	A
Btwn Bellflower Blvd Access & Lakewood Blvd	Basic	679	B	335	A
Btwn Lakewood Blvd & Paramount Blvd	Basic	1295	C	1017	B
Btwn Paramount Blvd & e/o I-710	Basic	1157	C	1091	B
Btwn e/o & w/o I-710	Basic	777	D	903	B
Btwn w/o I-710 & Harris Ave Access	Basic	1255	F*	1183	D
Btwn Harris Ave & Gertrude Dr	Access	1255	F*	1183	C
Btwn Gertrude Dr Access & Long Beach Blvd	Basic	1255	F*	1183	C
Btwn Long Beach Blvd & State St	Basic	1361	F**	1092	C
Btwn State St UC & Imperial Hwy	Basic	1361	E	1092	B
Btwn Imperial Hwy & Central Ave Access	Basic	1292	E	946	B
Btwn e/o & w/o Central Ave	Access	1188	F*	791	B
Btwn Central Ave Access & Avalon Blvd	Basic	1123	F*	774	B
Btwn Avalon Blvd & I-110 off-ramp (DAR)	Diverge	818	F*	681	A
Btwn I-110 off-ramp (DAR) & I-110 on-ramp (DAR)	Basic	753	F*	613	A
Btwn I-110 on-ramp (DAR) & Vermont Ave	Merge	753	F*	613	A
Btwn Vermont Ave & Western Ave Access	Basic	1449	F*	1388	C
Btwn e/o & w/o Western Ave	Access	1421	F*	1089	C
Btwn Western Ave Access & Crenshaw Blvd	Basic	1572	F*	835	B
Btwn Crenshaw Blvd & Prairie Ave Access	Basic	1572	D	835	B
Btwn Prairie Ave & Hawthorne Blvd	Access	1572	E	835	B
Btwn Hawthorne Blvd Access & I-405	Basic	1398	C	629	A
Btwn I-405 & Aviation Blvd	Basic	825	B	329	A

2.1.9.4 Existing Intersections Conditions

Existing conditions for intersections relevant to the proposed project are shown in the following table. The delay is in seconds.

Table 2-58: Intersections: 2017 Current Conditions

Location	AM Peak Hour LOS	AM Peak Hour Delay	PM Peak Hour LOS	PM Peak Hour Delay
I-105 WB off-ramp/NB Sepulveda Boulevard	**F**	**117.8**	**E**	**60.2**
Sepulveda Boulevard/Imperial Highway	D	47.2	**E**	**70.1**
Aviation Boulevard/Imperial Highway	**E**	**78.3**	**E**	**72.6**
I-105 WB Off- and I-105 EB on-ramp/Imperial Highway	C	26.8	B	11
La Cienega Boulevard/Imperial Highway	D	38.8	D	42.9
Hawthorne Boulevard/I-105 WB off-ramp	B	13.5	B	17.5
Hawthorne Boulevard/Imperial Highway	C	29.2	D	45.2
I-105 EB on-ramp/Imperial Highway (Freeman)	C	27.4	C	27.7
Prairie Avenue/I-105 WB off-ramp	B	17.9	**F**	**123.6**
Prairie Avenue/Imperial Highway	**E**	**69.5**	**F**	**196.5**
I-105 EB Ramps/120th Street	**E**	**69.5**	D	46
Crenshaw Boulevard/Imperial Highway	D	38.2	D	46.5
Crenshaw Boulevard/I-105 WB off-ramp	C	25.5	D	36.8
Crenshaw Boulevard/120th Street	D	39.4	D	39.3
Vermont Avenue/Imperial Highway	D	48.6	**E**	**58.7**
Vermont Avenue/I-105 WB Ramps	C	26.9	B	18.3
Vermont Avenue/I-105 EB off-ramp	C	25.3	C	20.8
Vermont Avenue/120th Street	C	23.9	C	23.6
Central Avenue/Imperial Highway	**F**	**92.7**	D	43.2
Central Avenue/I-105 WB Ramps	B	19.4	C	23.3
Central Avenue/I-105 EB Ramps	C	27.2	C	23.7
Central Avenue/120th Street	D	35.1	D	35.7
Wilmington Avenue/Imperial Highway	B	16.1	B	18.1
Wilmington Avenue/I-105 EB Ramps	**E**	**67.6**	C	27.9
Wilmington Avenue/E 120th Street	B	17.3	B	16.3
I-105 WB Ramps/Imperial Highway	**F**	**165.1**	**F**	**103.4**
Mona Boulevard/Imperial Highway	D	49.6	D	41.7
Long Beach Boulevard/Imperial Highway	D	39.4	D	36.5
Long Beach Boulevard/I-105 WB off-ramp	B	14.6	B	18.8
Long Beach Boulevard/I-105 EB off-ramp	C	23.4	B	16.4
Garfield Avenue/I-105 WB on-ramp	C	20.2	B	16.7
Garfield Avenue/I-105 EB off-ramp	C	28	C	25.6
Garfield Avenue/Rosecrans Avenue	D	51.7	D	47.8
Paramount Boulevard/Imperial Highway	C	29.4	D	36.3

Paramount Boulevard/I-105 WB off-ramp	C	25.5	B	17.3
Paramount Boulevard/I-105 EB on-ramp	C	21.4	C	20.1
Paramount Boulevard/Rosecrans Avenue	D	49.6	**E**	**66.3**
Lakewood Boulevard/Imperial Highway	C	24	C	30.9
Lakewood Boulevard/I-105 EB off-ramp and WB Ramps	**F**	**152.6**	**E**	**55.1**
Lakewood Boulevard/Rosecrans Avenue	C	27.4	D	44.1
Bellflower Boulevard/Imperial Highway	C	27.9	C	27.4
Bellflower Boulevard/I-105 WB Ramps	B	18.1	B	16.9
Bellflower Boulevard/I-105 EB Ramps	B	19.8	C	20.5
Bellflower Boulevard/Rosecrans Avenue	D	37.2	C	31
Woodruff Avenue/Imperial Highway	C	33.2	D	51.5
Hoxie Avenue/Imperial Highway	D	42.7	**E**	**60.2**
Studebaker Road/Imperial Highway	**E**	**60.2**	D	50.6
Studebaker Road/I-105 WB on-ramp and EB off-ramp	**E**	**75.8**	**F**	**97.5**
Studebaker Road/Rosecrans Avenue	D	42.7	D	48.5

2.1.9.5 Existing Traffic Conditions in Vehicle Miles Traveled, Vehicles Hours Delay, and Average Travel Time

The next tables below summarize Vehicle Miles Traveled (VMT), Vehicle Hours Delay (VHD), and Average Travel Time (in minutes) for the current condition of general purpose and HOV lanes on I-105. Due to the length of the project area, this type of data is presented here and in the next section in three major segments: on I-105: from I-405 to I-110, from I-110 to I-710, and from I-710 to I-605. Numbers for each of the smaller segments listed in the LOS Mainline, Merge/Diverge/Weave, and HOV tables earlier in this section are still available in the Traffic Study Report for the highest level of detail, but they have been condensed for easier comparison between the 7 scenarios modelled.

Table 2-59: General Purpose Lanes: 2017 Current Condition Performance Measures

Performance Measure and Segment	Eastbound						Westbound					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	217,289	408,254	196,700	201,426	358,215	1,381,885	209,658	428,673	220,668	199,501	351,525	1,410,026
I-405 -- I-110	63,726	130,889	58,394	61,791	107,671	422,471	80,854	170,731	86,834	80,317	141,078	559,814
I-110 -- I-710	87,408	169,896	77,406	81,281	143,902	559,895	74,784	158,326	81,025	73,616	128,800	516,551
I-710 -- I-605	66,154	107,469	60,900	58,354	106,642	399,519	54,020	99,616	52,810	45,568	81,646	333,660
Vehicle Hours Delay (VHD)	431	2,198	5,152	3,126	112	11,019	3,993	2,132	562	409	228	7,324
I-405 -- I-110	27	661	2,327	1,299	39	4,354	1,892	1,126	73	112	138	3,341
I-110 -- I-710	208	1,142	2,206	1,360	61	4,977	1,578	833	393	254	75	3,134
I-710 -- I-605	195	394	619	467	12	1,688	523	172	96	43	16	850
Average Travel Time (Min)	20.2	34.6	47.5	30.3	16.8		36.3	29	21.6	18.1	16	
I-405 -- I-110	5.3	12.2	18.2	9.9	5.8		13	10.6	5.4	5.7	5.7	
I-110 -- I-710	6.8	12.3	18.1	11.7	6.1		15.2	12.1	8.4	7.2	5.7	
I-710 -- I-605	8.1	10.1	11.2	8.7	4.9		8.1	6.3	7.8	5.2	4.6	

Table 2-60: HOV Lanes: 2017 Current Condition Performance Measures

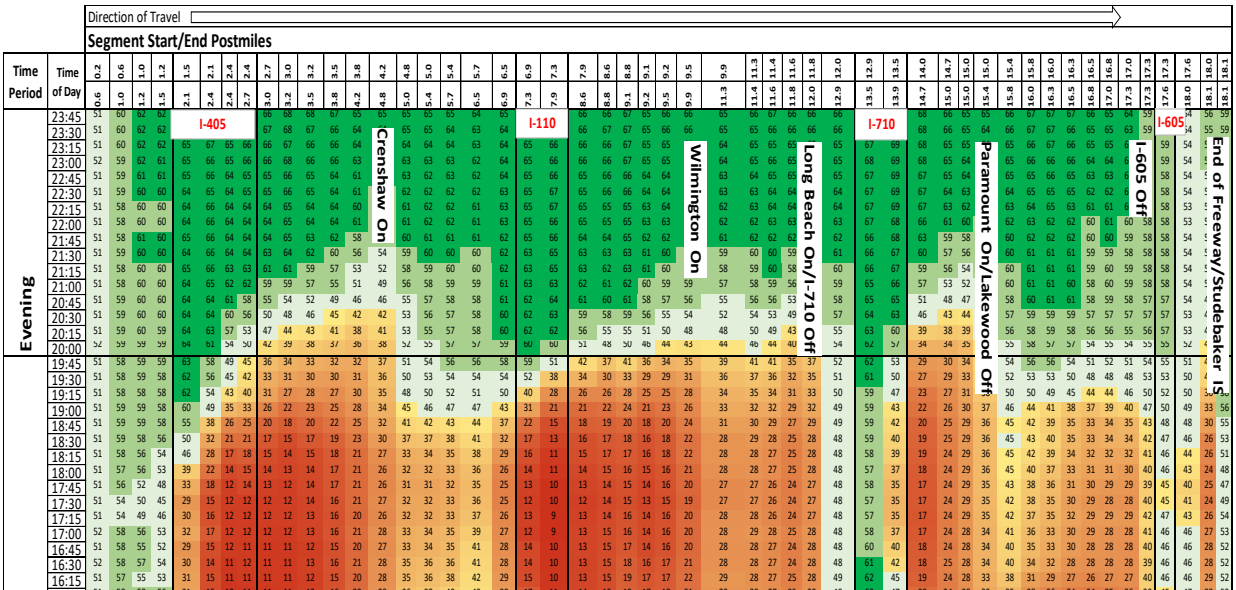
Performance Measure and Segment	Eastbound						Westbound					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	41,553	82,685	61,355	55,662	42,997	284,253	57,421	85,927	47,198	42,464	52,257	285,266
I-405 -- I-110	10,472	31,227	18,956	18,577	15,509	94,741	20,250	30,623	12,162	13,144	17,412	93,590
I-110 -- I-710	15,209	31,041	24,263	21,744	16,746	109,004	21,230	34,465	19,572	17,701	20,543	113,511
I-710 -- I-605	15,872	20,417	18,136	15,341	10,742	80,509	15,941	20,839	15,465	11,618	14,302	78,165
Vehicle Hours Delay (VHD)	147	255	1,155	704	14	2,274	1,391	359	230	160	18	2,159
I-405 -- I-110	1	99	710	383	10	1,202	557	231	0	5	4	798
I-110 -- I-710	125	127	323	225	2	802	493	121	221	136	12	983
I-710 -- I-605	21	30	122	96	2	270	341	7	9	19	2	378
Average Travel Time (Min)	18.8	31.2	43.6	29.8	16.5		32.4	27.5	18.6	16.9	15.3	
I-405 -- I-110	5.1	11.4	18.6	10.4	5.7		13.1	10.9	5.2	5.5	5.5	
I-110 -- I-710	6.3	9.7	14.0	10.7	5.9		12.6	11.1	7.0	6.4	5.4	
I-710 -- I-605	7.4	10.1	11.0	8.7	4.9		6.7	5.5	6.4	5.0	4.4	

Visual Representation of Vehicular Speed

For a more direct visual representation of freeway performance, recorded and modelled speeds from INRIX, an analytics company, were organized into speed contour diagrams. The charts below from the Traffic Study Report show vehicle speeds across I-105 starting from 5 a.m. to 12 a.m. With coloration, it is easy to see when and where most congestion occurs, and the bottlenecks previously discussed are illuminated.

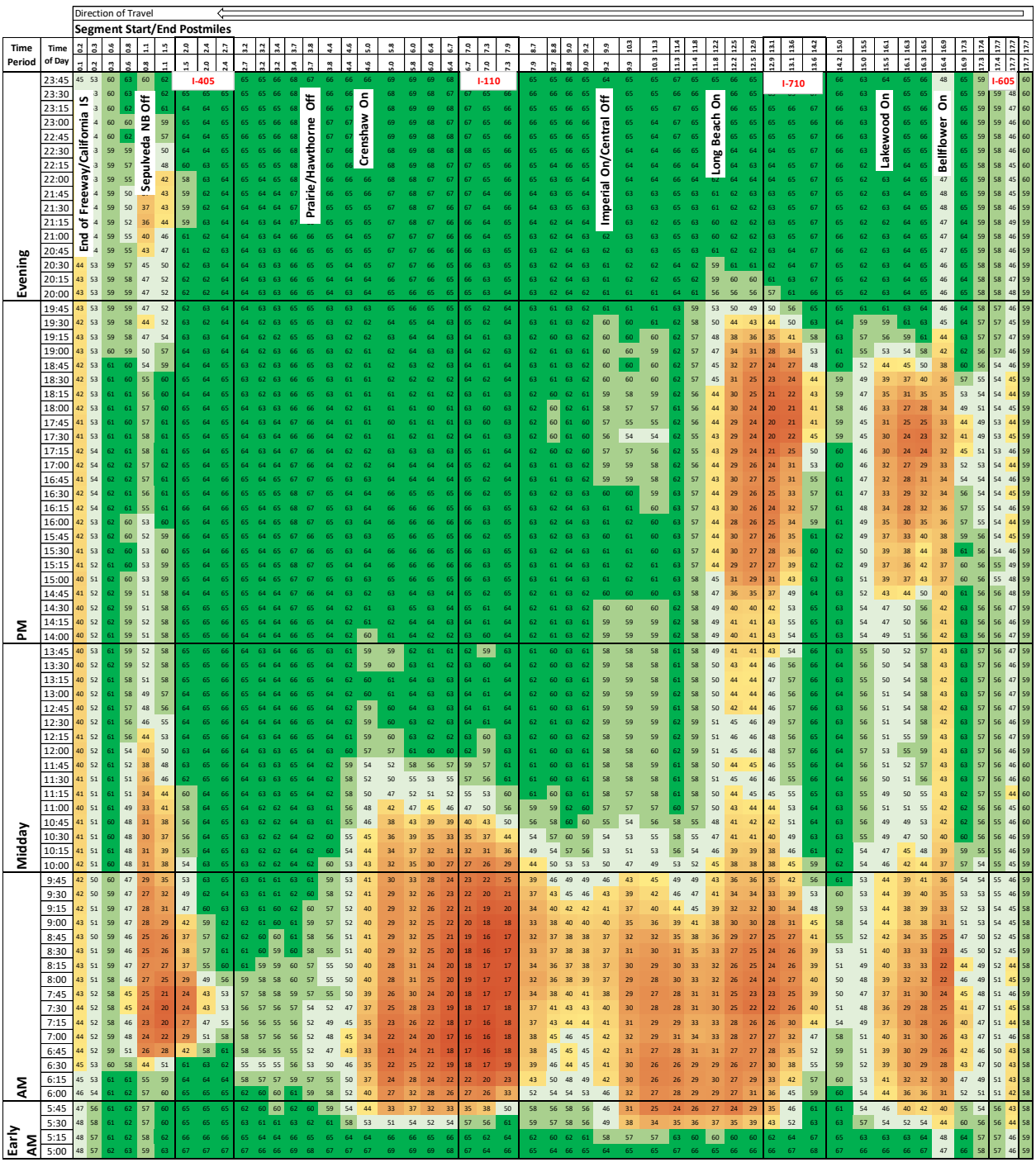
Legend: Speed in mph ≥ 65 | ≥ 55 | ≥ 45 | 45 to 0

Table 2-61: Eastbound General Purpose Lanes: Speed Contour Diagram



Source: INRIX

Table 2-62: Westbound General Purpose Lanes: Speed Contour Diagram



The two charts above show the main traffic volume travelling westbound in the morning and eastbound in the afternoon, with congestion worst in the eastbound direction in the evening. Notable bottlenecks from around the Crenshaw on-ramp and Wilmington on-ramp, with smaller ones at the eastbound Paramount on-ramp/Lakewood off-ramp, westbound Long Beach on-ramp, and Bellflower on-ramp.

Table 2-63: Eastbound HOV Lanes: Speed Contour Diagram

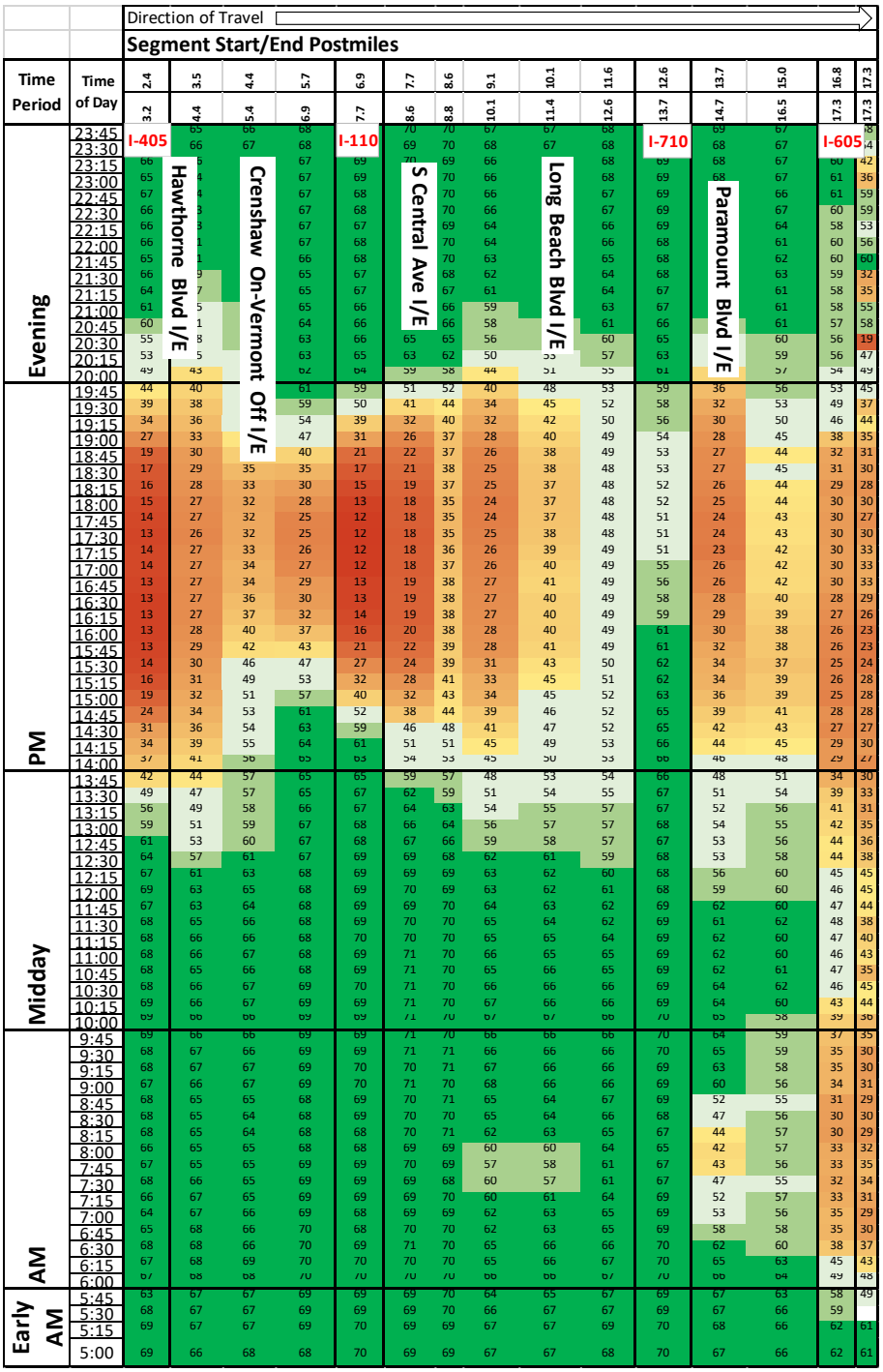
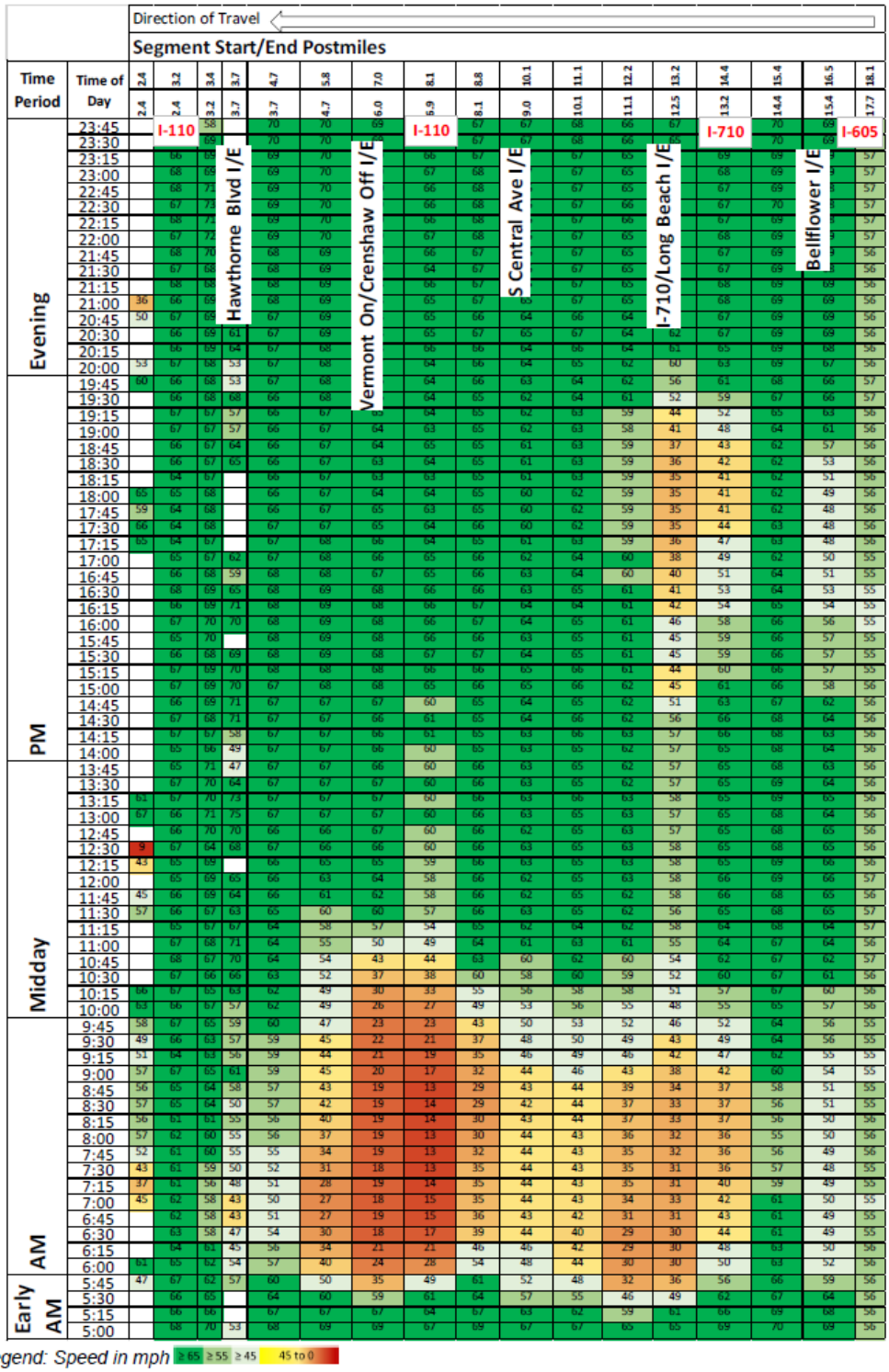


Table 2-64: Westbound HOV Lanes: Speed Contour Diagram



The HOV lanes are most congested in both directions in the afternoons, especially at connections to other freeways (I-405 and I-110 especially).

2.1.9.6 Environmental Consequences

Methodology

The analysis approach taken in the Traffic Study Report was performed according to the methodologies outlined in the 2016 Highway Capacity Manual (HCM) 6th Edition to determine peak hour LOS per freeway segment when not oversaturated. FREEVAL, a macroscopic freeway analysis tool, was used for these computations. For the HCM analysis, a truck percentage of 4% was used to the west of I-710 and 10% to the east of I-710; these percentages were based on vehicle occupancy count data provided in the Data Collection Summary memorandum (please see the Traffic Study Report for this memorandum).

For locations where a freeway segment was oversaturated (i.e. LOS F condition), FREEVAL was not used. Demand/Capacity (D/C) analysis was conducted instead as it is useful for estimating the amount of demand exceeding capacity and analyzing the magnitude of congestion from a bottleneck based on the cars queued behind the bottleneck point. It was determined that D/C analysis be used instead because FREEVAL would not be as effective, since it is unable to measure demand in a segment where roadway capacity is less than demand.

Future traffic forecasts were based on the SCAG Regional Travel Demand Model (RTDM). It produces average daily traffic volumes broken down by five time periods: AM peak (6 AM to 9 AM), Midday (9 AM to 3 PM), PM peak (3 PM to 7 PM), Evening (7 PM to 9 PM), and Night (9 PM to 5 AM) for different vehicle classes (single traveler automobiles, shared-ride vehicles, trucks, etc). The closest scenarios to the project's horizon years of 2027 Opening Year and 2047 Design Year available were SCAG's model inputs for 2026 and 2040.

In the SCAG RTDM future year scenarios, a higher automobile operating cost and higher trip reduction due to SCAG's commitment to its Travel Demand Management (TDM) programs and policies is assumed. This results in a slowdown of some vehicle travel growth that might be expected from projection population and employment growth. For this project, the Traffic Study Report uses more conservative assumptions; SCAG's 2026 trip reduction rate was used for the 2047 long range scenario. In the same vein of conservative assumption, locations where negative growth was forecast for No-Build scenarios used existing volumes for analysis instead.

For the complete data set of traffic analyses performed, please refer to the Traffic Study Report. It details the results of the project's traffic modeling in text and table form with numbers for vehicle volume, average speeds, travel delay, and LOS, and it includes accident data as well. Build Alternative 2 (single ExpressLane) forecasts use an HOV 3+ toll-free travel policy. Build Alternative 3 (two ExpressLanes) forecasts use an HOV 2+ toll-free travel policy.

Results

Results from traffic modelling will be presented here in the form of travel time comparisons and peak period performances, with LOS results for clarity. Data for vehicle volumes as shown in the previous section and traffic densities are also available in the Traffic Study Report, but travel time and speeds will most effectively show the impacts of the project on practical usage of I-105's general purpose and HOV lanes.

There will be a large amount of data presented in the following tables. For ease of reading and comparison, they will be presented in the following order:

- EB I-105
    - General Purpose Lanes
        - No-Build 2027 and 2047 scenarios
        - Build Alternatives 2 and 3 2027 scenarios
        - Build Alternatives 2 and 3 2047 scenarios
    - HOV lanes (in Alternative 1's No-Build scenarios) or ExpressLanes (Alternatives 2 and 3)
        - No-Build 2027 and 2047 scenarios
        - Build Alternatives 2 and 3 2027 scenarios
        - Build Alternatives 2 and 3 2047 scenarios
- WB I-105
    - General Purpose Lanes
        - No-Build 2027 and 2047 scenarios
        - Build Alternatives 2 and 3 2027 scenarios
        - Build Alternatives 2 and 3 2047 scenarios
    - HOV lanes (in Alternative 1's No-Build scenarios) or ExpressLanes (Alternatives 2 and 3)
        - No-Build 2027 and 2047 scenarios
        - Build Alternatives 2 and 3 2027 scenarios
        - Build Alternatives 2 and 3 2047 scenarios
- Intersections
        - No-Build 2027 and 2047 scenarios
        - 2027 comparison for all alternatives
        - 2047 comparison for all alternatives

Table 2-65: Eastbound General Purpose Lanes: No-Build Scenarios – 2027 and 2047 Performance Measures

Performance Measure and Segment	2027 No-Build Alternative 1						2047 No-Build Alternative 1					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	214,361	454,810	297,772	158,515	355,254	1,480,712	219,041	475,264	277,219	159,951	360,161	1,491,636
I-405 -- I-110	65,561	161,077	108,038	56,695	110,075	501,447	68,639	176,650	97,925	57,256	111,351	511,821
I-110 -- I-710	88,951	176,116	105,723	59,151	141,333	571,273	92,281	179,548	98,243	59,608	141,947	571,628
I-710 -- I-605	59,848	117,618	84,011	42,669	103,846	407,992	58,120	119,066	81,051	43,086	106,864	408,187
Vehicle Hours Delay (VHD)	1,102	2,224	5,032	1,744	296	10,398	1,437	3,674	6,122	1,617	328	13,178
I-405 -- I-110	132	655	1897	692	51	3426	167	1434	2451	590	54	4696
I-110 -- I-710	467	972	2318	835	134	4727	569	1457	2706	802	140	5673
I-710 -- I-605	503	596	817	217	110	2244	702	783	965	225	135	2809
Average Travel Time (Min)	18	18	29.2	23.6	14.1		19.4	20.5	34.1	22.8	14.2	
I-405 -- I-110	5	5.7	9.8	8.2	4.6		5.1	6.9	12.1	7.6	4.6	
I-110 -- I-710	7.1	7.2	13.1	10.3	5.5		7.4	8.1	15.2	10.1	5.5	
I-710 -- I-605	5.9	5.1	6.3	5.1	4		6.9	5.5	6.8	5.1	4.1	

Data for future modelled speed diagrams comes from the Traffic Study Report's travel demand model outputs. It is organized differently from the speed diagrams in the previous section, Affected Environment in order to show the speeds at specific segments more clearly according to model output results, and the time periods are identified like the SCAG models.

Table 2-66: Eastbound General Purpose Lanes: No-Build Scenarios – 2027 and 2047 Speed Contour Diagram

Eastbound General Purpose Lanes Speed Contours															
Start PM	Start Location	End PM	End Location		2027 Model No Build (Alt 1)					2047 Model No Build (Alt 1)				
					AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
R1.768	Imperial Hwy On	R2.124	I-405 junction		59	55	40	45	59	59	51	38	45	59
R2.124	I-405 junction	R2.507	NB-405 On		59	48	19	31	59	59	41	15	33	59
R2.507	NB-405 On	R2.677	SB-405 On		66	52	16	28	69	66	42	12	33	68
R2.677	SB-405 On	R3.050	Hawthorne Bl junction		61	48	11	18	68	60	34	9	24	68
R3.050	Hawthorne Bl junction	R3.343	Imperial Hwy/Freeman Av On		59	50	24	19	67	57	32	16	27	66
R3.343	Imperial Hwy/Freeman Av On	R3.859	Prarie Av On		62	52	26	31	66	60	42	19	32	66
R3.859	Prarie Av On	R4.233	120th/Crenshaw Bl Off		60	55	36	44	68	58	46	26	45	68
R4.233	120th/Crenshaw Bl Off	R4.848	120th St On		57	52	36	31	66	55	38	27	35	66
R4.848	120th St On	R5.148	Crenshaw Bl On		64	59	47	51	69	62	52	43	53	69
R5.148	Crenshaw Bl On	R5.505	Western Av junction		60	57	35	46	68	58	49	28	48	68
R5.505	Western Av junction	R6.242	Normandie Av junction		60	55	34	46	68	59	46	27	48	68
R6.242	Normandie Av junction	R6.472	Vermont Av Off		64	60	47	53	69	62	53	43	54	69
R6.472	Vermont Av Off	R6.842	I-110 Off		65	60	47	56	69	64	55	43	56	69
R6.842	I-110 Off	R7.397	I-110 junction		65	67	34	39	67	63	64	28	40	67
R7.397	I-110 junction	R7.993	I-110 On		61	64	22	31	67	58	61	19	32	67
R7.993	I-110 On	R8.626	Central Av Off		52	49	25	39	66	49	45	21	39	66
R8.626	Central Av Off	R8.915	Central Av junction		52	49	22	35	65	48	44	17	33	64
R8.915	Central Av junction	R9.211	Central Av On		50	52	19	31	64	48	46	15	32	64
R9.211	Central Av On	R9.498	Wilmington Av Off		52	54	28	41	66	50	49	24	43	66
R9.498	Wilmington Av Off	R9.918	Wilmington Av On		53	50	36	40	66	51	45	30	41	66
R9.918	Wilmington Av On	R11.271	Long Beach Bl Off		47	47	27	32	65	45	39	23	35	65
R11.271	Long Beach Bl Off	R11.435	Long Beach Bl junction		52	51	39	46	66	49	47	36	45	66
R11.435	Long Beach Bl junction	R11.689	SB Long Beach Bl On		53	49	32	44	66	50	44	30	42	66
R11.689	SB Long Beach Bl On	R12.034	NB Long Beach Bl On		51	48	31	33	65	48	42	29	33	65
R12.034	NB Long Beach Bl On	R12.393	Gertrude Dr junction		48	48	29	33	64	46	41	28	32	64
R12.393	Gertrude Dr junction	R12.872	I-710 Off		48	48	29	33	64	46	41	28	32	64
R12.872	I-710 Off	R13.129	I-710 NB/SB Off Split		60	61	50	52	67	58	59	50	50	66
R13.129	I-710 NB/SB Off Split	R13.455	I-710 junction		60	61	50	52	67	58	59	50	50	66
R13.455	I-710 junction	R14.005	NB-710 On		60	66	62	61	67	58	64	62	60	67
R14.005	NB-710 On	R14.128	SB-710 On		61	64	58	61	68	59	62	58	61	68
R14.128	SB-710 On	R14.618	Paramount Bl junction		55	59	50	56	66	52	56	49	56	66
R14.618	Paramount Bl junction	R15.048	Paramount Bl On		47	52	36	48	63	41	47	35	48	62
R15.048	Paramount Bl On	R15.374	Lakewood Bl Off		45	49	38	44	63	39	46	34	46	62
R15.374	Lakewood Bl Off	R15.681	Lakewood Bl junction		52	53	42	50	64	48	50	37	51	63
R15.681	Lakewood Bl junction	R15.843	SB Lakewood Bl On		52	53	42	50	64	48	50	37	51	63
R15.843	SB Lakewood Bl On	R16.099	NB Lakewood Bl On		59	59	52	58	67	56	58	50	58	66
R16.099	NB Lakewood Bl On	R16.264	Bellflower Bl Off		35	45	38	52	66	29	42	32	53	66
R16.264	Bellflower Bl Off	R16.607	Bellflower Bl junction		25	40	29	48	64	19	36	24	48	63
R16.607	Bellflower Bl junction	R17.041	Bellflower Bl On		30	44	33	49	64	19	37	27	49	63
R17.041	Bellflower Bl On	R17.233	I-605 Off		25	41	26	47	64	15	33	21	47	63

Direction of Travel

For Alternative 1, the No-Build future scenarios show a clear decrease in speeds for all congested segments from 2027 to 2047 by about 5 miles per hour, and up to 9 miles (from 120th St. on-ramp to Crenshaw Blvd. on-ramp).

Table 2-67: Eastbound General Purpose Lanes: Build Alternatives 2 and 3 – 2027 Performance Measures

Performance Measure and Segment	2027 Build Alternative 2						2027 Build Alternative 3					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	218,196	485,244	276,018	160,849	385,178	1,525,484	202,632	405,942	319,371	158,446	397,218	1,483,610
I-405 -- I-110	65,320	168,408	100,522	58,074	118,027	510,351	58,418	143,420	124,691	56,652	122,682	505,863
I-110 -- I-710	89,316	191,307	90,241	56,717	153,156	580,737	82,745	155,404	106,324	64,594	157,210	566,277
I-710 -- I-605	63,560	125,529	85,254	46,058	113,995	434,396	61,469	107,118	88,356	37,201	117,327	411,471
Vehicle Hours Delay (VHD)	881	2,688	7,603	2,251	273	13,696	663	1,213	4,676	713	301	7,566
I-405 -- I-110	114	699	2675	810	44	4341	66	345	1148	258	52	1869
I-110 -- I-710	409	1220	3650	1169	121	6569	289	516	2741	352	131	4029
I-710 -- I-605	358	769	1278	273	108	2786	307	353	787	103	118	1669
Average Travel Time (Min)	16.9	18.4	39.7	26.4	13.9		16.1	16	27.6	17.3	14	
I-405 -- I-110	4.9	5.7	12.4	8.6	4.5		4.7	5.1	7.2	5.8	4.5	
I-110 -- I-710	6.8	7.4	19.7	12.5	5.5		6.4	6.3	14.4	7.1	5.5	
I-710 -- I-605	5.2	5.3	7.5	5.2	4		5	4.5	6	4.4	4	

Table 2-68: Eastbound General Purpose Lanes: Build Alternatives 2 and 3 – 2027 Speed Contour Diagram

Eastbound General Purpose Lanes															
Start PM	Start Location	End PM	End Location		2027 Alternative 2					2027 Alternative 3				
					AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
0.00	California St (Begin freew	R1.768	Imperial Hwy On		60	56	36	47	60	60	59	53	57	60
R1.768	Imperial Hwy On	R2.124	I-405 junction		59	49	13	35	59	60	56	42	52	59
R2.124	I-405 junction	R2.507	NB-405 On		68	54	12	32	69	68	63	43	56	69
R2.507	NB-405 On	R2.677	SB-405 On		63	50	8	21	68	65	57	27	42	68
R2.677	SB-405 On	R3.050	Hawthorne Bl junction		61	52	17	23	67	63	61	46	48	67
R3.050	Hawthorne Bl junction	R3.343	Imperial Hwy/Freeman Av On		63	51	18	24	67	66	57	45	48	67
R3.343	Imperial Hwy/Freeman A	R3.859	Prarie Av On		61	54	28	37	68	64	58	47	53	68
R3.859	Prarie Av On	R4.233	120th/Crenshaw Bl Off		58	51	27	24	67	63	58	50	52	67
R4.233	120th/Crenshaw Bl Off	R4.848	120th St On		64	59	44	48	69	66	62	54	60	69
R4.848	120th St On	R5.148	Crenshaw Bl On		61	57	28	43	69	64	60	46	55	68
R5.148	Crenshaw Bl On	R5.505	Western Av junction		62	54	25	43	69	64	60	33	54	68
R5.505	Western Av junction	R6.242	Normandie Av junction		65	59	41	51	69	66	63	46	59	69
R6.242	Normandie Av junction	R6.472	Vermont Av Off		66	60	41	54	69	67	64	47	62	69
R6.472	Vermont Av Off	R6.842	I-110 Off		66	66	22	31	68	67	69	30	54	68
R6.842	I-110 Off	R7.397	I-110 junction		63	63	13	24	68	64	68	19	50	67
R7.397	I-110 junction	R7.993	I-110 On		55	48	17	32	67	57	53	21	49	67
R7.993	I-110 On	R8.626	Central Av Off		55	48	13	27	66	57	54	17	48	65
R8.626	Central Av Off	R8.915	Central Av junction		52	50	11	25	66	58	61	18	50	65
R8.915	Central Av junction	R9.211	Central Av On		54	52	19	35	67	58	60	25	53	67
R9.211	Central Av On	R9.498	Wilmington Av Off		55	49	23	33	67	59	59	32	55	67
R9.498	Wilmington Av Off	R9.918	Wilmington Av On		49	46	17	25	66	53	56	22	51	66
R9.918	Wilmington Av On	R11.271	Long Beach Bl Off		54	50	26	41	67	58	60	37	58	67
R11.271	Long Beach Bl Off	R11.435	Long Beach Bl junction		55	47	25	40	67	59	58	38	55	67
R11.435	Long Beach Bl junction	R11.689	SB Long Beach Bl On		53	46	24	29	66	56	56	35	50	66
R11.689	SB Long Beach Bl On	R12.034	NB Long Beach Bl On		50	45	23	29	65	53	55	33	49	65
R12.034	NB Long Beach Bl On	R12.393	Gertrude Dr junction		50	45	23	29	65	53	55	33	49	65
R12.393	Gertrude Dr junction	R12.872	I-710 Off		61	60	46	50	67	64	66	54	63	67
R12.872	I-710 Off	R13.129	I-710 NB/SB Off Split		61	60	46	50	67	64	66	54	63	67
R13.129	I-710 NB/SB Off Split	R13.455	I-710 junction		62	65	59	60	68	64	69	64	68	68
R13.455	I-710 junction	R14.005	NB-710 On		62	63	56	60	68	63	66	59	66	68
R14.005	NB-710 On	R14.128	SB-710 On		57	58	47	55	67	58	63	51	63	67
R14.128	SB-710 On	R14.618	Paramount Bl junction		49	50	29	46	64	50	59	40	58	64
R14.618	Paramount Bl junction	R15.048	Paramount Bl On		49	48	29	42	64	50	56	37	51	63
R15.048	Paramount Bl On	R15.374	Lakewood Bl Off		56	52	33	49	65	57	60	42	57	64
R15.374	Lakewood Bl Off	R15.681	Lakewood Bl junction		56	52	33	49	65	57	60	42	57	64
R15.681	Lakewood Bl junction	R15.843	SB Lakewood Bl On		61	59	49	57	67	63	64	52	62	67
R15.843	SB Lakewood Bl On	R16.099	NB Lakewood Bl On		43	44	31	51	67	46	52	40	58	67
R16.099	NB Lakewood Bl On	R16.264	Bellflower Bl Off		33	38	21	47	65	44	51	35	55	65
R16.264	Bellflower Bl Off	R16.607	Bellflower Bl junction		46	39	22	47	65	44	50	34	58	65
R16.607	Bellflower Bl junction	R17.041	Bellflower Bl On		43	35	17	46	65	42	47	32	56	64

Direction of Travel

In the eastbound direction, the project's two build alternatives show higher speeds than Alternative 1's No-Build. Comparing between Alternatives 2 and 3 in 2027, Alternative 3 shows drastically fewer time periods of heavy congestion, and many segments have improved speeds throughout.

Table 2-69: Eastbound General-Purpose Lanes: Build Alternatives 2 and 3 – 2047 Performance Measures

Performance Measure and Segment	2047 Build Alternative 2						2047 Build Alternative 3					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	237,022	484,257	230,085	170,135	411,454	1,532,952	209,227	435,659	288,980	150,725	416,823	1,499,044
I-405 -- I-110	77,166	180,572	80,005	60,299	126,743	524,785	66,233	149,720	114,078	54,355	129,689	514,075
I-110 -- I-710	95,962	179,473	72,680	67,869	161,965	577,949	85,943	170,678	86,969	60,973	164,163	568,726
I-710 -- I-605	63,894	124,211	77,400	41,967	122,746	430,218	54,681	115,261	87,932	35,397	122,972	416,243
Vehicle Hours Delay (VHD)	1,575	5,407	9,957	1,227	379	18,546	819	1,721	6,640	552	399	10,131
I-405 -- I-110	230	1898	3587	473	61	6248	90	432	1817	204	68	2,611
I-110 -- I-710	688	2276	4597	610	158	8327	339	787	3816	266	173	5,381
I-710 -- I-605	658	1234	1774	145	160	3970	390	502	1007	83	158	2,140
Average Travel Time (Min)	19.3	23.4	55.3	19.7	14.1		16.6	16.8	36.7	16.5	14.1	
I-405 -- I-110	5.3	7.5	17.9	6.8	4.6		5.3	5.3	9.2	5.5	4.6	
I-110 -- I-710	7.7	9.6	27.8	8.4	5.5		6.5	6.8	20.8	6.7	5.5	
I-710 -- I-605	6.3	6.2	9.5	4.6	4.1		4.7	4.8	6.6	4.3	4	

Table 2-70: Eastbound General-Purpose Lanes: Build Alternatives 2 and 3 – 2047 Speed Contour Diagram

Eastbound General Purpose Lanes															
Start PM	Start Location	End PM	End Location		2047 Alternative 2					2047 Alternative 3				
					AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
0.00	California St (Begin freew	R1.768	Imperial Hwy On		60	53	31	50	59	60	59	50	57	59
R1.768	Imperial Hwy On	R2.124	I-405 junction		59	43	10	39	59	60	55	35	51	59
R2.124	I-405 junction	R2.507	NB-405 On		67	43	7	41	68	68	61	27	56	68
R2.507	NB-405 On	R2.677	SB-405 On		61	36	6	31	68	63	54	16	48	68
R2.677	SB-405 On	R3.050	Hawthorne Bl junction		56	34	9	35	66	61	58	31	52	66
R3.050	Hawthorne Bl junction	R3.343	Imperial Hwy/Freeman Av On		57	31	9	36	66	65	56	32	52	66
R3.343	Imperial Hwy/Freeman Av	R3.859	Prarie Av On		54	39	14	48	68	63	57	36	56	68
R3.859	Prarie Av On	R4.233	120th/Crenshaw Bl Off		49	27	15	40	67	61	58	41	53	66
R4.233	120th/Crenshaw Bl Off	R4.848	120th St On		61	48	31	56	69	66	62	49	60	68
R4.848	120th St On	R5.148	Crenshaw Bl On		56	45	18	52	68	62	59	37	57	68
R5.148	Crenshaw Bl On	R5.505	Western Av junction		60	44	18	51	68	62	57	24	56	68
R5.505	Western Av junction	R6.242	Normandie Av junction		64	51	33	58	69	64	61	40	61	69
R6.242	Normandie Av junction	R6.472	Vermont Av Off		66	53	33	60	69	66	62	43	63	69
R6.472	Vermont Av Off	R6.842	I-110 Off	Direction of Travel	64	61	15	46	67	66	68	21	56	67
R6.842	I-110 Off	R7.397	I-110 junction		60	57	10	39	67	62	66	13	53	67
R7.397	I-110 junction	R7.993	I-110 On		51	42	12	45	66	55	51	14	53	66
R7.993	I-110 On	R8.626	Central Av Off		50	40	9	40	65	54	52	11	53	64
R8.626	Central Av Off	R8.915	Central Av junction		46	37	7	39	65	56	57	12	53	64
R8.915	Central Av junction	R9.211	Central Av On		49	44	13	47	66	57	57	18	56	66
R9.211	Central Av On	R9.498	Wilmington Av Off		50	34	15	46	66	58	55	22	57	66
R9.498	Wilmington Av Off	R9.918	Wilmington Av On		39	27	11	41	66	52	51	15	54	65
R9.918	Wilmington Av On	R11.271	Long Beach Bl Off		51	39	19	50	66	57	56	27	59	66
R11.271	Long Beach Bl Off	R11.435	Long Beach Bl junction		50	41	20	50	66	58	53	27	57	66
R11.435	Long Beach Bl junction	R11.689	SB Long Beach Bl On		46	38	19	44	65	55	52	25	52	65
R11.689	SB Long Beach Bl On	R12.034	NB Long Beach Bl On		43	36	18	44	64	52	50	23	52	64
R12.034	NB Long Beach Bl On	R12.393	Gertrude Dr junction		43	36	18	44	64	52	50	23	52	64
R12.393	Gertrude Dr junction	R12.872	I-710 Off		59	58	44	57	67	64	63	49	63	67
R12.872	I-710 Off	R13.129	I-710 NB/SB Off Split		59	58	44	57	67	64	63	49	63	67
R13.129	I-710 NB/SB Off Split	R13.455	I-710 junction		60	64	60	66	67	64	68	62	68	67
R13.455	I-710 junction	R14.005	NB-710 On		60	61	55	66	68	63	65	57	67	68
R14.005	NB-710 On	R14.128	SB-710 On		51	54	43	62	66	57	60	48	64	66
R14.128	SB-710 On	R14.618	Paramount Bl junction		35	45	22	54	63	49	54	32	60	63
R14.618	Paramount Bl junction	R15.048	Paramount Bl On		38	37	20	50	62	48	50	30	55	62
R15.048	Paramount Bl On	R15.374	Lakewood Bl Off		49	45	22	56	63	55	55	36	60	63
R15.374	Lakewood Bl Off	R15.681	Lakewood Bl junction		49	45	22	56	63	55	55	36	60	63
R15.681	Lakewood Bl junction	R15.843	SB Lakewood Bl On		58	54	42	63	66	61	61	50	64	66
R15.843	SB Lakewood Bl On	R16.099	NB Lakewood Bl On		29	34	21	58	66	43	47	34	60	66
R16.099	NB Lakewood Bl On	R16.264	Bellflower Bl Off		22	27	14	53	63	38	46	30	58	63
R16.264	Bellflower Bl Off	R16.607	Bellflower Bl junction		32	28	13	53	63	38	50	32	57	63
R16.607	Bellflower Bl junction	R17.041	Bellflower Bl On		28	25	11	51	63	35	48	31	55	63

In 2047, there seems to be a reversal in positive traffic progress. Compared to 2027, speeds overall are lower, and the difference between Alternatives 2 and 3 is even more drastic. While there are still fewer segments out of the entire freeway that are congested in Alternative 3, the model does show lower speeds in the PM peak compared to Alternative 2.

Table 2-71: Eastbound HOV Lanes: No-Build Scenarios – 2027 and 2047 Performance Measures

Performance Measure and Segment	2027 No-Build Alternative 1						2047 No-Build Alternative 1					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	45,926	114,536	93,960	45,205	45,253	344,880	33,123	130,731	87,853	35,170	41,189	328,066
I-405 -- I-110	13,330	38,870	35,020	15,898	16,014	119,132	8,240	45,635	30,964	13,028	14,239	112,106
I-110 -- I-710	17,162	39,870	28,911	16,428	14,838	117,209	12,914	46,281	27,899	12,169	14,603	113,866
I-710 -- I-605	15,434	35,796	30,029	12,878	14,401	108,538	11,968	38,815	28,991	9,973	12,347	102,095
Vehicle Hours Delay (VHD)	79	395	1,035	290	0	1,800	17	710	1,388	80	0	2,194
I-405 -- I-110	10	108	304	114	0	536	1	229	500	36	0	766
I-110 -- I-710	35	155	484	117	0	791	8	276	597	28	0	909
I-710 -- I-605	34	132	248	59	0	472	8	205	291	16	0	520
Average Travel Time (Min)	17.9	20.3	28.7	22	16		16.8	22.2	33.1	18.1	16	
I-405 -- I-110	4.9	5.5	7.3	6.9	4.7		4.7	6.2	9.6	5.5	4.7	
I-110 -- I-710	6.3	7	11.6	8.2	5.6		5.8	7.7	13.3	6.4	5.6	
I-710 -- I-605	4.6	5	6.2	5.2	4		4.2	5.4	6.6	4.4	4	

Table 2-72: Eastbound HOV Lanes: No-Build Scenarios – 2027 and 2047 Speed Contour Diagram

Eastbound Managed Lanes															
Start PM	Start Location	End PM	End Location		2027 Alternative 1					2047 Alternative 1				
					AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
R1.768	Imperial Hwy On	R3.343	Imperial Hwy/Freeman Av On		62	52	40	42	65	65	44	27	53	65
R3.343	Imperial Hwy/Freeman Av On	R4.233	120th/Crenshaw Bl Off		62	52	40	42	65	65	44	27	53	65
R4.233	120th/Crenshaw Bl Off	R5.505	Western Av junction		61	58	42	42	65	64	53	31	55	65
R5.505	Western Av junction	R6.843	I-110 Off		61	58	42	42	65	64	53	31	55	65
R6.843	I-110 Off	R6.921	NB-110 HOV Off		64	64	57	48	65	65	60	45	55	65
R6.921	NB-110 HOV Off	R7.584	SB-110 HOV On		56	56	18	37	65	63	48	17	55	65
R7.584	SB-110 HOV On	R8.915	Central Av junction		58	49	28	45	65	63	43	24	56	65
R8.915	Central Av junction	R9.305	Central Av On		58	49	28	45	65	63	43	24	56	65
R9.305	Central Av On	R9.497	Wilmington Av Off		58	49	28	45	65	63	43	24	56	65
R9.497	Wilmington Av Off	R9.872	Wilmington Av On		58	49	28	45	65	63	43	24	56	65
R9.872	Wilmington Av On	R11.435	Long Beach Bl junction		58	49	44	49	65	62	52	38	60	65
R11.435	Long Beach Bl junction	R12.876	I-710 Off		55	54	44	49	65	62	52	38	60	65
R12.876	I-710 Off	R14.645	Paramount Bl junction		55	54	44	49	65	62	52	38	60	65
R14.645	Paramount Bl junction	R15.048	Paramount Bl On		<35*	54	<35*	50	65	<35*	45	<35*	57	65
R15.048	Paramount Bl On	R15.209	Downey Av junction		<35*	52	<35*	50	65	<35*	45	<35*	57	65
R15.209	Downey Av junction	R15.526	Lakewood Bl On		<35*	52	<35*	50	65	<35*	45	<35*	57	65
R15.526	Lakewood Bl On	R16.607	Bellflower Bl junction		<35*	45	<35*	47	65	<35*	43	<35*	57	65
R16.607	Bellflower Bl junction	R17.233	I-605 Off		65	65	64	50	65	65	65	62	65	65

Direction of Travel

The No-Build scenario shows that as time passes, speeds will deteriorate heavily during the PM peak and mildly during midday. Off-peak travel hours show some increase in speed though, but all these segments were already operating at 40 miles per hour at least except for the few segments approaching the I-605 in the eastbound direction.

Table 2-73: Eastbound HOT Lanes: Build Alternatives 2 and 3 – 2027 Performance Measures

Performance Measure and Segment	2027 Build Alternative 2						2027 Build Alternative 3					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	59,001	116,289	81,746	42,255	66,241	365,532	100,684	220,397	192,000	88,121	66,224	667,427
I-405 – I-110	17,843	42,309	28,085	15,003	23,119	126,359	22,927	69,130	63,606	32,888	22,777	211,328
I-110 – I-710	21,730	38,471	28,216	14,497	22,968	125,882	38,755	78,085	66,729	30,795	22,977	237,342
I-710 – I-605	19,428	35,509	25,445	12,755	20,154	113,291	39,001	73,182	61,665	24,439	20,470	218,757
Vehicle Hours Delay (VHD)	249	310	254	142	0	956	162	316	804	236	0	1,518
I-405 – I-110	29	131	78	53	0	291	4	58	224	107	0	394
I-110 – I-710	80	98	101	50	0	330	62	128	293	84	0	567
I-710 – I-605	140	81	75	39	0	335	96	130	287	45	0	557
Average Travel Time (Min)	18	16.7	17.2	17.4	14.3		15.6	15.6	18.2	16.7	14.3	
I-405 – I-110	5.2	5.6	5.5	5.8	4.7		4.7	4.9	5.8	5.7	4.7	
I-110 – I-710	6.9	6.5	6.9	6.8	5.6		6.2	6.2	7.2	6.6	5.6	
I-710 – I-605	5.9	4.6	4.8	4.8	4		4.7	4.5	5.2	4.5	4	

Table 2-74: Eastbound HOT Lanes: Build Alternatives 2 and 3 – 2027 Speed Contour Diagram

Eastbound Managed Lanes															
Start PM	Start Location	End PM	End Location		2027 Alternative 2					2027 Alternative 3				
					AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
R1.768	Imperial Hwy On	R3.343	Imperial Hwy/Freeman Av On		60	53	53	53	65	64	63	51	53	65
R3.343	Imperial Hwy/Freeman Av On	R4.233	120th/Crenshaw Bl Off		60	53	53	53	65	64	63	51	53	65
R4.233	120th/Crenshaw Bl Off	R5.505	Western Av junction		56	60	58	52	65	64	63	61	55	65
R5.505	Western Av junction	R6.843	I-110 Off		56	60	58	52	65	64	63	61	55	65
R6.843	I-110 Off	R6.921	NB-110 HOV Off		62	64	64	57	65	64	63	63	56	65
R6.921	NB-110 HOV Off	R7.584	SB-110 HOV On		48	58	48	50	65	60	63	51	56	65
R7.584	SB-110 HOV On	R8.915	Central Av junction		54	53	53	53	65	59	57	50	54	65
R8.915	Central Av junction	R9.305	Central Av On		54	53	53	53	65	59	57	50	54	65
R9.305	Central Av On	R9.497	Wilmington Av Off		54	53	53	53	65	59	57	50	54	65
R9.497	Wilmington Av Off	R9.872	Wilmington Av On		54	53	53	53	65	59	57	50	54	65
R9.872	Wilmington Av On	R11.435	Long Beach Bl junction		51	59	54	54	65	57	59	49	57	65
R11.435	Long Beach Bl junction	R12.876	I-710 Off		51	59	54	54	65	57	59	49	57	65
R12.876	I-710 Off	R14.645	Paramount Bl junction		51	59	54	54	65	57	59	49	57	65
R14.645	Paramount Bl junction	R15.048	Paramount Bl On		<35*	54	<35*	53	65	<35*	57	<35*	60	65
R15.048	Paramount Bl On	R15.209	Downey Av junction		<35*	54	<35*	53	65	<35*	57	<35*	60	65
R15.209	Downey Av junction	R15.526	Lakewood Bl On		<35*	54	<35*	53	65	<35*	57	<35*	60	65
R15.526	Lakewood Bl On	R16.607	Bellflower Bl junction		<35*	52	<35*	52	65	<35*	58	<35*	57	65
R16.607	Bellflower Bl junction	R17.233	I-605 Off		65	65	65	65	65	57	60	53	59	65

Direction of Travel

Traffic modelling shows that the proposed ExpressLanes in both Alternatives 2 and 3 both operate very well, except for the few segments approaching the I-605 in the eastbound direction during the AM and PM peak periods. As it is with the No Build scenario, this is a result of the queuing from the congestion on the I-605. All other segments are shown to operate at 48 miles per hour or better. Compared to the No-Build scenarios, this would be a great improvement for managed lanes.

Table 2-75: Eastbound HOT Lanes: Build Alternatives 2 and 3 – 2047 Performance Measures

Performance Measure and Segment	2047 Build Alternative 2						2047 Build Alternative 3					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	58,172	125,168	86,460	41,664	46,215	357,680	99,224	231,263	186,650	78,637	47,981	643,756
I-405 -- I-110	17,690	44,233	31,347	14,907	15,273	123,450	23,539	74,803	64,421	30,424	16,545	209,732
I-110 -- I-710	21,157	41,481	29,537	14,278	16,222	122,675	44,681	93,834	73,804	31,216	19,024	262,559
I-710 -- I-605	19,325	39,454	25,576	12,479	14,721	111,556	31,004	62,626	48,425	16,997	12,412	171,465
Vehicle Hours Delay (VHD)	177	434	271	101	0	984	159	455	758	154	0	1,526
I-405 -- I-110	28	153	108	40	0	328	5	91	213	72	0	380
I-110 -- I-710	64	146	98	35	0	343	82	199	318	62	0	661
I-710 -- I-605	85	136	65	27	0	313	73	165	227	21	0	485
Average Travel Time (Min)	17	17.5	17.2	16.5	14.3		15.5	16.0	17.9	16.1	14.3	
I-405 -- I-110	5.2	5.7	5.7	5.5	4.7		5.2	5.6	6.2	6.0	5.2	
I-110 -- I-710	6.7	6.8	6.8	6.5	5.6		6.2	6.3	7.1	6.3	5.6	
I-710 -- I-605	5.2	4.9	4.7	4.6	4		4.0	4.1	4.5	3.8	3.5	

Table 2-76: Eastbound HOT Lanes: Build Alternatives 2 and 3 – 2047 Speed Contour Diagram

Eastbound Managed Lanes															
					2047 Alternative 2					2047 Alternative 3				
Start PM	Start Location	End PM	End Location		AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
R1.768	Imperial Hwy On	R3.343	Imperial Hwy/Freeman Av On		63	54	53	55	65	64	60	51	56	65
R3.343	Imperial Hwy/Freeman Av On	R4.233	120th/Crenshaw Bl Off		63	54	53	55	65	64	60	51	56	65
R4.233	120th/Crenshaw Bl Off	R5.505	Western Av junction		54	57	53	56	65	65	62	60	57	65
R5.505	Western Av junction	R6.843	I-110 Off		54	57	53	56	65	65	62	60	57	65
R6.843	I-110 Off	R6.921	NB-110 HOV Off		64	65	63	56	65	65	63	63	57	65
R6.921	NB-110 HOV Off	R7.584	SB-110 HOV On		47	50	47	56	65	61	60	51	57	65
R7.584	SB-110 HOV On	R8.915	Central Av junction	Direction of Travel	56	54	55	57	65	60	55	50	57	65
R8.915	Central Av junction	R9.305	Central Av On		56	54	55	57	65	60	55	50	57	65
R9.305	Central Av On	R9.497	Wilmington Av Off		56	54	55	57	65	60	55	50	57	65
R9.497	Wilmington Av Off	R9.872	Wilmington Av On		56	54	55	57	65	60	55	50	57	65
R9.872	Wilmington Av On	R11.435	Long Beach Bl junction		57	52	54	56	65	58	58	50	59	65
R11.435	Long Beach Bl junction	R12.876	I-710 Off		57	52	54	56	65	58	58	50	59	65
R12.876	I-710 Off	R14.645	Paramount Bl junction		57	52	54	56	65	58	58	50	59	65
R14.645	Paramount Bl junction	R15.048	Paramount Bl On		<35*	53	<35*	57	65	<35*	56	<35*	61	65
R15.048	Paramount Bl On	R15.209	Downey Av junction		<35*	53	<35*	57	65	<35*	56	<35*	61	65
R15.209	Downey Av junction	R15.526	Lakewood Bl On		<35*	53	<35*	57	65	<35*	56	<35*	61	65
R15.526	Lakewood Bl On	R16.607	Bellflower Bl junction		<35*	51	<35*	57	65	<35*	50	<35*	62	65
R16.607	Bellflower Bl junction	R17.233	I-605 Off		65	65	65	65	65	60	52	51	63	65

The same observations for ExpressLanes in 2027 hold for 2047, with some speeds changing here and there. As is with the No Build scenario, the slow speeds approaching the I-605 during the AM and PM peak periods are a result of the queuing from the congestion on the I-605. Overall, the proposed ExpressLanes would operate well in both 2027 and 2047.

Table 2-77: Westbound General Purpose Lanes: No-Build Scenarios – 2027 and 2047 Performance Measures

Performance Measure and Segment	2027 No-Build Alternative 1						2047 No-Build Alternative 1					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	209,072	388,849	267,681	154,089	343,331	1,363,023	219,626	418,234	283,068	141,731	346,062	1,408,721
I-405 -- I-110	66,353	127,711	82,551	51,425	117,616	445,656	67,337	145,987	93,864	45,802	117,853	470,843
I-110 -- I-710	79,976	160,073	102,504	58,836	141,370	542,759	88,556	171,413	106,948	55,883	142,339	565,139
I-710 -- I-605	62,743	101,065	82,626	43,828	84,345	374,608	63,734	100,834	82,256	40,046	85,870	372,740
Vehicle Hours Delay (VHD)	3,754	1,481	1,586	1,187	308	8,316	3,160	2,361	2,027	706	325	8,579
I-405 -- I-110	1,216	453	252	285	118	2,324	1,212	904	440	164	121	2,842
I-110 -- I-710	1,834	577	867	628	129	4,036	1,376	861	1,031	377	136	3,781
I-710 -- I-605	704	451	468	274	60	1,956	571	596	556	165	68	1,956
Average Travel Time (Min)	30.1	16.8	18.7	20.4	14.1		26.7	18.5	20	17.8	14.1	
I-405 -- I-110	9.9	5.4	5.3	6	4.7		9.8	6.2	5.8	5.4	4.7	
I-110 -- I-710	13.5	6.5	8.2	9	5.5		10.8	7	8.7	7.6	5.5	
I-710 -- I-605	6.7	4.9	5.2	5.4	3.9		6.1	5.3	5.5	4.8	3.9	

Table 2-78: Westbound General Purpose Lanes: No-Build Scenarios – 2027 and 2047 Speed Contour Diagram

Westbound General Purpose Lanes Speed Contours															
Start PM	Start Location	End PM	End Location		2027 Model No Build (Alt 1)					2047 Model No Build (Alt 1)				
					AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
R3.182	Prarie Av On	R2.75	I-405 Off		54	66	65	51	68	52	61	59	56	67
R3.607	Prarie Av junction	R3.182	Prarie Av On		37	60	59	46	64	35	53	50	53	63
R3.864	Prarie Av Off	R3.607	Prarie Av junction		45	64	62	50	65	42	59	58	55	65
R4.337	SB Crenshaw Bl On	R3.864	Prarie Av Off		48	59	61	54	67	46	53	57	58	66
R4.677	NB Crenshaw Bl On	R4.337	SB Crenshaw Bl On		37	54	57	46	64	35	46	52	52	64
R5.048	Crenshaw Bl Off	R4.677	NB Crenshaw Bl On		42	58	61	49	65	42	51	56	55	65
R6.02	Western Av junction	R5.048	Crenshaw Bl Off		20	51	53	50	65	18	44	49	56	65
R6.411	Vermont Av On	R6.02	Western Av junction		20	52	53	50	65	22	42	49	56	64
R6.728	SB-110 On	R6.411	Vermont Av On		22	56	58	53	65	26	47	54	58	65
R7.073	Vermont Av Off	R6.728	SB-110 On		17	55	59	54	66	24	47	54	59	66
R7.251	NB-110 On	R7.073	Vermont Av Off		18	57	59	57	68	24	51	55	61	68
R7.881	I-110 Off	R7.251	NB-110 On		21	57	63	52	68	29	54	62	57	68
R8.272	Avalon Bl junction	R7.881	I-110 Off		32	59	60	51	66	37	56	57	56	66
R8.669	Central Av On	R8.272	Avalon Bl junction		32	59	60	51	66	37	56	57	56	66
R8.909	Central Av junction	R8.669	Central Av On		32	63	60	55	65	38	60	57	59	65
R9.152	Central Av Off	R8.909	Central Av junction		30	62	61	54	66	39	60	58	59	65
R9.84	Imperial Hwy/Wilmington Av O	R9.152	Central Av Off		25	58	55	47	65	31	55	52	53	64
R10.335	Imperial Hwy/Wilmington Av O	R9.84	Imperial Hwy/Wilmington Av On		40	61	61	53	66	45	58	58	59	66
R11.202	SB Long Beach Bl On	R10.335	Imperial Hwy/Wilmington Av Off		26	55	54	47	65	32	51	51	54	65
R11.512	NB Long Beach Bl On	R11.202	SB Long Beach Bl On		48	63	63	58	68	51	60	61	62	68
R11.877	Long Beach Bl Off	R11.512	NB Long Beach Bl On		34	60	61	54	66	43	57	58	60	66
R12.402	Gertrude Dr junction	R11.877	Long Beach Bl Off		14	41	10	11	64	20	33	8	19	64
R12.815	NB-710 On	R12.402	Gertrude Dr junction		26	52	27	25	66	33	48	22	40	66
R13.128	SB-710 On	R12.815	NB-710 On		24	63	51	27	69	34	60	50	41	68
R13.607	Garfield Av On	R13.128	SB-710 On		33	68	58	45	70	40	68	57	51	69
R14.149	Garfield Av junction	R13.607	Garfield Av On		51	70	61	52	70	55	70	61	58	70
R14.615	Paramount Bl junction	R14.149	Garfield Av junction		55	64	61	59	68	58	62	59	63	68
R15.046	Paramount Bl Off	R14.615	Paramount Bl junction		48	61	55	53	67	51	58	53	59	67
R15.409	Lakewood Bl On	R15.046	Paramount Bl Off		32	43	44	37	64	39	35	38	49	63
R16.153	Lakewood Bl Off	R15.409	Lakewood Bl On		44	45	49	46	64	48	39	46	53	64
R16.255	Bellflower Bl On	R16.153	Lakewood Bl Off		21	52	34	48	67	26	49	31	54	66
R16.62	Bellflower Bl junction	R16.255	Bellflower Bl On		29	54	44	52	67	35	52	42	57	67
R16.999	Bellflower Bl Off	R16.62	Bellflower Bl junction		31	56	44	49	68	31	54	42	50	68
R17.147	I-605 On	R16.999	Bellflower Bl Off		31	56	44	48	68	31	54	42	49	68
R18.144	Studebaker Rd (Begin freeway	R17.147	I-605 On		66	69	69	65	69	66	69	69	65	69

Direction of Travel

In the No-Build scenario, the westbound general purpose lanes see some decrease in speeds but not by any great amount (around 5 miles per hour). Certain segments actually see speed improvements, such as Gertrude Dr. junction to Long Beach Blvd off-ramp or Lakewood Blvd. on-ramp to Paramount Blvd. off-ramp during the AM peak. These same segments still see deterioration during midday and the PM peak though. Considering the westbound I-105 is the less congested between the two directions, these observations are noted but not weighed very heavily, since improvements or deteriorations are not as large as those seen in the eastbound direction.

Table 2-79: Westbound General Purpose Lanes: Build Alternatives 2 and 3 – 2027 Performance Measures

Performance Measure and Segment	2027 Build Alternative 2						2027 Build Alternative 3					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	204,217	420,028	290,603	149,212	365,464	1,429,524	216,474	385,832	257,978	133,022	395,791	1,389,097
I-405 -- I-110	65,416	137,721	90,987	48,756	126,733	469,612	68,838	123,169	78,467	42,757	134,295	447,526
I-110 -- I-710	74,204	175,199	110,221	59,272	152,454	571,350	84,344	155,869	101,470	53,056	164,141	558,879
I-710 -- I-605	64,598	107,108	89,395	41,184	86,277	388,562	63,292	106,794	78,041	37,209	97,355	382,691
Vehicle Hours Delay (VHD)	5,044	1,911	2,025	742	257	9,979	3,568	1,404	1,163	409	366	6,910
I-405 -- I-110	1559	563	336	185	101	2745	1178	316	167	99	131	1892
I-110 -- I-710	2528	767	1071	392	112	4871	1942	465	651	197	167	3422
I-710 -- I-605	956	580	618	165	44	2364	448	623	344	113	68	1597
Average Travel Time (Min)	36.4	17.4	19.6	17.7	13.8		28.4	16.5	17.3	16	14	
I-405 -- I-110	11.5	5.6	5.4	5.5	4.6		9.5	5.1	5	5	4.6	
I-110 -- I-710	17.3	6.7	8.6	7.5	5.4		13.4	6.2	7.5	6.5	5.5	
I-710 -- I-605	7.5	5.1	5.5	4.7	3.9		5.6	5.2	4.8	4.5	3.9	

Table 2-80: Westbound General Purpose Lanes: Build Alternatives 2 and 3 – 2027 Speed Contour Diagram

Westbound General Purpose Lanes															
Start PM	Start Location	End PM	End Location		2027 Alternative 2					2027 Alternative 3				
					AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
2.43	NB-405/SB-405 Split	0	California St (End freeway)		64	70	70	64	70	67	70	70	67	69
R2.75	I-405 Off	R2.427	NB-405/SB-405 Split		55	65	64	57	68	58	64	65	59	68
R3.182	Prarie Av On	R2.75	I-405 Off		42	60	57	54	66	47	61	61	60	65
R3.607	Prarie Av junction	R3.182	Prarie Av On		39	63	59	55	66	50	67	66	61	65
R3.864	Prarie Av Off	R3.607	Prarie Av junction		45	59	59	58	67	50	63	65	62	67
R4.337	SB Crenshaw Bl On	R3.864	Prarie Av Off		29	54	54	51	65	42	61	63	58	64
R4.677	NB Crenshaw Bl On	R4.337	SB Crenshaw Bl On		34	57	58	55	66	47	64	65	61	65
R5.048	Crenshaw Bl Off	R4.677	NB Crenshaw Bl On		16	51	51	54	66	20	57	58	60	65
R6.02	Western Av junction	R5.048	Crenshaw Bl Off		16	49	53	54	66	19	54	56	58	65
R6.411	Vermont Av On	R6.02	Western Av junction		17	53	57	57	66	23	58	61	61	65
R6.728	SB-110 On	R6.411	Vermont Av On		13	51	59	58	67	22	58	62	63	67
R7.073	Vermont Av Off	R6.728	SB-110 On		14	55	58	61	68	21	59	62	64	68
R7.251	NB-110 On	R7.073	Vermont Av Off		16	54	63	56	69	30	61	66	61	69
R7.881	I-110 Off	R7.251	NB-110 On		27	57	59	55	67	29	58	60	58	66
R8.272	Avalon Bl junction	R7.881	I-110 Off		27	57	59	55	67	29	58	60	58	66
R8.669	Central Av On	R8.272	Avalon Bl junction		25	61	59	59	66	29	63	60	62	65
R8.909	Central Av junction	R8.669	Central Av On		22	61	59	60	67	32	67	66	66	65
R9.152	Central Av Off	R8.909	Central Av junction		18	57	53	54	66	19	63	60	62	64
R9.84	Imperial Hwy/Wilmington	R9.152	Central Av Off		31	60	59	59	66	33	66	65	66	65
R10.335	Imperial Hwy/Wilmington	R9.84	Imperial Hwy/Wilmington Av On		19	54	51	54	66	21	60	58	61	64
R11.202	SB Long Beach Bl On	R10.335	Imperial Hwy/Wilmington Av Off		44	62	61	63	68	48	66	66	67	67
R11.512	NB Long Beach Bl On	R11.202	SB Long Beach Bl On		25	59	58	60	67	37	65	65	66	66
R11.877	Long Beach Bl Off	R11.512	NB Long Beach Bl On		10	38	8	20	65	15	49	17	36	64
R12.402	Gertrude Dr junction	R11.877	Long Beach Bl Off		21	50	22	40	67	34	48	34	49	66
R12.815	NB-710 On	R12.402	Gertrude Dr junction		19	62	48	45	69	42	62	57	53	69
R13.128	SB-710 On	R12.815	NB-710 On		26	68	55	54	70	49	68	64	61	70
R13.607	Garfield Av On	R13.128	SB-710 On		48	70	59	60	70	61	70	66	65	70
R14.149	Garfield Av junction	R13.607	Garfield Av On		53	63	59	64	69	62	63	64	66	68
R14.615	Paramount Bl junction	R14.149	Garfield Av junction		45	59	53	60	68	57	59	60	63	67
R15.046	Paramount Bl Off	R14.615	Paramount Bl junction		25	39	38	50	66	48	36	50	54	64
R15.409	Lakewood Bl On	R15.046	Paramount Bl Off		37	42	46	54	66	55	41	55	59	65
R16.153	Lakewood Bl Off	R15.409	Lakewood Bl On		17	50	29	55	68	39	49	46	59	67
R16.255	Bellflower Bl On	R16.153	Lakewood Bl Off		23	52	40	58	68	48	52	52	62	67
R16.62	Bellflower Bl junction	R16.255	Bellflower Bl On		32	56	45	48	68	26	55	42	48	68
R16.999	Bellflower Bl Off	R16.62	Bellflower Bl junction		32	56	45	47	68	26	54	42	47	68
R17.147	I-605 On	R16.999	Bellflower Bl Off		66	69	69	64	69	66	68	69	58	68

Direction of Travel

In 2027, Alternative 3 shows higher speeds overall compared to Alternative 2. The number of severely congested segments also decreases. Most traffic is concentrated during the AM Peak, as previously stated; Alternative 3 performs better for most segments during most time periods.

Table 2-81: Westbound General Purpose Lanes: Build Alternatives 2 and 3 – 2047 Performance Measures

Performance Measure and Segment	2047 Build Alternative 2						2047 Build Alternative 3					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	179,555	446,550	303,147	136,116	393,800	1,459,168	211,325	404,151	258,430	129,961	406,371	1,410,238
I-405 -- I-110	55,457	153,769	100,259	43,388	134,685	487,559	69,572	129,481	75,821	42,926	139,787	457,587
I-110 -- I-710	62,183	186,455	116,762	54,625	163,142	583,167	85,223	168,141	105,744	51,733	169,091	579,932
I-710 -- I-605	61,915	106,326	86,125	38,102	95,973	388,442	56,530	106,529	76,865	35,302	97,493	372,719
Vehicle Hours Delay (VHD)	6,429	3,364	2,508	378	373	13,052	4,012	1,876	1,386	344	432	8,050
I-405 -- I-110	2169	1312	489	78	140	4188	1,396	430	153	99	164	2,242
I-110 -- I-710	3154	1158	1212	209	161	5895	2,178	715	854	163	191	4,101
I-710 -- I-605	1106	893	807	91	73	2970	438	732	379	82	78	1,709
Average Travel Time (Min)	47.7	20.1	20.8	15.7	14.1		31.6	17.4	17.9	15.6	14.2	
I-405 -- I-110	16.1	6.9	5.8	4.9	4.7		10.5	5.3	4.9	5	4.7	
I-110 -- I-710	23.3	7.4	8.9	6.5	5.5		16.3	6.6	8	6.3	5.6	
I-710 -- I-605	8.3	5.8	6.1	4.3	3.9		4.9	5.4	5	4.3	3.9	

Table 2-82: Westbound General Purpose Lanes: Build Alternatives 2 and 3 – 2047 Speed Contour Diagram

Westbound General Purpose Lanes															
Start PM	Start Location	End PM	End Location	2047 Alternative 2					2047 Alternative 3				
				AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
2.43	NB-405/SB-405 Split	0	California St (End freeway)	63	68	70	67	69	66	70	70	67	69
R2.75	I-405 Off	R2.427	NB-405/SB-405 Split	50	59	64	62	68	56	64	65	61	68
R3.182	Prarie Av On	R2.75	I-405 Off	25	50	55	61	64	45	60	60	61	64
R3.607	Prarie Av junction	R3.182	Prarie Av On	24	55	59	62	64	52	65	68	61	64
R3.864	Prarie Av Off	R3.607	Prarie Av junction	32	49	57	64	66	53	60	66	62	66
R4.337	SB Crenshaw Bl On	R3.864	Prarie Av Off	18	40	51	59	63	46	57	65	57	63
R4.677	NB Crenshaw Bl On	R4.337	SB Crenshaw Bl On	25	46	57	62	64	50	61	67	60	64
R5.048	Crenshaw Bl Off	R4.677	NB Crenshaw Bl On	10	38	47	63	65	26	53	60	60	64
R6.02	Western Av junction	R5.048	Crenshaw Bl Off	9	36	45	61	65	16	52	55	58	64
R6.411	Vermont Av On	R6.02	Western Av junction	11	44	52	63	66	20	57	60	61	65
R6.728	SB-110 On	R6.411	Vermont Av On	9	44	52	64	67	19	58	61	62	66
R7.073	Vermont Av Off	R6.728	SB-110 On	10	49	53	66	68	18	58	61	64	68
R7.251	NB-110 On	R7.073	Vermont Av Off	16	52	63	63	68	25	60	65	61	68
R7.881	I-110 Off	R7.251	NB-110 On	18	54	56	61	66	28	57	58	59	66
R8.272	Avalon Bl junction	R7.881	I-110 Off	18	54	56	61	66	28	57	58	59	66
R8.669	Central Av On	R8.272	Avalon Bl junction	17	58	55	64	65	28	61	58	62	65
R8.909	Central Av junction	R8.669	Central Av On	17	58	58	66	65	30	64	64	66	65
R9.152	Central Av Off	R8.909	Central Av junction	11	52	49	61	64	18	58	56	63	63
R9.84	Imperial Hwy/Wilmington	R9.152	Central Av Off	21	56	57	66	65	31	62	62	66	64
R10.335	Imperial Hwy/Wilmington	R9.84	Imperial Hwy/Wilmington Av On	12	49	47	62	65	19	54	54	63	64
R11.202	SB Long Beach Bl On	R10.335	Imperial Hwy/Wilmington Av Off	35	59	61	67	67	47	63	64	67	67
R11.512	NB Long Beach Bl On	R11.202	SB Long Beach Bl On	19	55	58	66	66	35	60	62	67	65
R11.877	Long Beach Bl Off	R11.512	NB Long Beach Bl On	7	28	6	31	64	14	41	12	42	63
R12.402	Gertrude Dr junction	R11.877	Long Beach Bl Off	18	45	17	49	66	32	44	29	51	66
R12.815	NB-710 On	R12.402	Gertrude Dr junction	18	58	46	50	69	40	61	55	53	69
R13.128	SB-710 On	R12.815	NB-710 On	23	67	56	59	70	48	67	63	61	70
R13.607	Garfield Av On	R13.128	SB-710 On	47	70	60	65	70	60	70	66	65	70
R14.149	Garfield Av junction	R13.607	Garfield Av On	52	60	58	67	68	61	62	64	67	68
R14.615	Paramount Bl junction	R14.149	Garfield Av junction	40	55	50	65	67	56	58	60	64	67
R15.046	Paramount Bl Off	R14.615	Paramount Bl junction	19	27	28	56	64	47	32	50	57	63
R15.409	Lakewood Bl On	R15.046	Paramount Bl Off	31	31	37	61	64	54	38	55	61	64
R16.153	Lakewood Bl Off	R15.409	Lakewood Bl On	14	46	24	61	67	38	48	46	61	66
R16.255	Bellflower Bl On	R16.153	Lakewood Bl Off	22	49	35	63	67	47	51	53	63	67
R16.62	Bellflower Bl junction	R16.255	Bellflower Bl On	30	55	42	53	68	26	52	37	53	68
R16.999	Bellflower Bl Off	R16.62	Bellflower Bl junction	30	55	42	52	68	26	52	37	52	68
R17.147	I-605 On	R16.999	Bellflower Bl Off	66	69	69	65	69	66	67	69	66	69

Direction of Travel

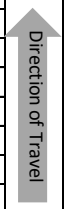
In 2047, Alternative 3 still shows even greater improvement over Alternative 2 for speeds overall. Especially during congested time periods, speeds improve on average by about 10 miles per hour across almost all segments. In 2047 there are fewer congested segments for Alternative 3 compared to Alternative 2.

Table 2-83: Westbound HOV Lanes: No-Build Scenarios – 2027 and 2047 Performance Measures

Performance Measure and Segment	2027 No-Build Alt 1						2047 No-Build Alt 1					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	62,565	102,626	71,091	18,269	50,517	305,068	61,338	122,294	75,825	24,387	51,787	335,632
I-405 -- I-110	20,171	30,827	18,042	6,622	17,425	93,086	18,891	35,715	17,464	7,888	16,797	96,756
I-110 -- I-710	30,135	50,211	36,437	8,980	22,797	148,560	26,098	57,130	38,092	11,878	22,516	155,715
I-710 -- I-605	12,259	21,588	16,612	2,667	10,296	63,422	16,349	29,449	20,269	4,620	12,474	83,161
Vehicle Hours Delay (VHD)	501	299	277	6	0	1,083	888	595	340	18	0	1,841
I-405 -- I-110	119	81	28	3	0	231	117	167	34	6	0	325
I-110 -- I-710	318	148	159	3	0	627	650	278	191	9	0	1127
I-710 -- I-605	63	70	91	0	0	225	122	150	115	3	0	390
Average Travel Time (Min)	21.3	17	17.8	14.5	14.2		27.1	18.8	18.2	14.9	14.2	
I-405 -- I-110	6.5	5.5	5.2	4.8	4.7		6.6	6.1	5.3	4.9	4.7	
I-110 -- I-710	9.4	6.6	7.2	5.7	5.6		14.6	7.3	7.4	5.8	5.6	
I-710 -- I-605	5.4	4.9	5.4	4	4		6	5.3	5.5	4.2	4	

Table 2-84: Westbound HOV Lanes: No-Build Scenarios – 2027 and 2047 Speed Contour Diagram

Westbound HOV Lanes Speed Contours															
Start PM	Start Location	End PM	End Location		2027 Model No Build (Alt 1)					2047 Model No Build (Alt 1)				
					AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
R5.048	Crenshaw Bl Off	R3.607	Prarie Av junction		45	55	58	63	65	48	47	57	61	65
R6.02	Western Av junction	R5.048	Crenshaw Bl Off		45	55	58	63	65	48	47	57	61	65
R7.166	SB-110 HOV On	R6.02	Western Av junction		46	53	58	63	65	38	50	57	62	65
R7.823	NB-110 HOV Off	R7.166	SB-110 HOV On		57	62	64	64	65	42	57	60	62	65
R7.88	I-110 Off	R7.823	NB-110 HOV Off		33	53	55	63	65	21	48	53	62	65
R8.276	Avalon Bl junction	R7.88	I-110 Off		33	53	55	63	65	21	48	53	62	65
R8.909	Central Av junction	R8.276	Avalon Bl junction		33	53	55	63	65	21	48	53	62	65
R11.582	Long Beach Bl junction	R8.909	Central Av junction		37	55	50	64	65	20	49	48	62	65
R11.876	Long Beach Bl Off	R11.582	Long Beach Bl junction		37	55	50	64	65	20	49	48	62	65
R12.402	Gertrude Dr junction	R11.876	Long Beach Bl Off		37	55	50	64	65	20	49	48	62	65
R14.148	Garfield Av junction	R12.402	Gertrude Dr junction		49	55	48	65	65	42	51	47	62	65
R16.152	Lakewood Bl Off	R14.148	Garfield Av junction		49	55	48	65	65	42	51	47	62	65
R16.256	Bellflower Bl On	R16.152	Lakewood Bl Off		49	55	48	65	65	42	51	47	62	65
R16.62	Bellflower Bl junction	R16.256	Bellflower Bl On		49	55	48	65	65	42	51	47	62	65
R17	Bellflower Bl Off	R16.62	Bellflower Bl junction		46	48	48	65	65	48	46	48	65	65
R18.042	Hoxie Av Off	R17	Bellflower Bl Off		46	48	48	65	65	48	46	48	65	65



The only major congestion that would occur on future No-Build scenarios is during the AM peak. There is a 12-17 mile per hour deterioration of AM peak congested segments from 2027 to 2047, which is quite severe. The rest of the time, traffic operates at speeds greater than 40 miles per hour, but these segments too show some slowing down from 2027 to 2047.

Table 2-85: Westbound HOT Lanes: Build Alternatives 2 and 3 – 2027 Performance Measures

Performance Measure and Segment	2027 Build Alternative 2						2027 Build Alternative 3					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	60,557	102,558	68,481	36,586	75,944	344,126	136,860	169,835	132,904	65,576	65,557	570,732
I-405 -- I-110	18,142	30,157	15,694	11,700	24,524	100,218	39,546	49,379	25,774	19,029	21,543	155,271
I-110 -- I-710	28,514	45,943	33,639	17,883	33,243	159,223	66,833	85,634	72,066	32,893	28,031	285,457
I-710 -- I-605	13,900	26,457	19,148	7,003	18,178	84,686	30,480	34,822	35,064	13,653	15,983	130,003
Vehicle Hours Delay (VHD)	221	202	160	105	0	687	518	136	257	83	0	995
I-405 -- I-110	56	49	10	34	0	149	118	35	5	16	0	174
I-110 -- I-710	112	71	77	52	0	312	287	89	181	49	0	607
I-710 -- I-605	53	82	72	20	0	226	114	12	71	18	0	214
Average Travel Time (Min)	17.6	16.1	16.3	17	14.3		17.7	14.9	15.8	15.4	14.3	
I-405 -- I-110	5.6	5.2	4.9	5.6	4.7		5.6	4.9	4.7	4.9	4.7	
I-110 -- I-710	7	6.1	6.4	6.6	5.6		7.1	6	6.5	6.1	5.6	
I-710 -- I-605	5	4.8	5	4.8	4		5	4.1	4.5	4.4	4	

Table 2-86: Westbound HOT Lanes: Build Alternatives 2 and 3 – 2027 Speed Contour Diagram

Westbound Managed Lanes															
Start PM	Start Location	End PM	End Location		2027 Alternative 2					2027 Alternative 3				
					AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
R3.607	Prarie Av junction	R2.427	NB-405/SB-405 Split		55	57	63	54	65	53	61	64	61	65
R5.048	Crenshaw Bl Off	R3.607	Prarie Av junction		55	57	63	54	65	53	61	64	61	65
R6.02	Western Av junction	R5.048	Crenshaw Bl Off		55	60	60	55	65	56	64	65	63	65
R7.166	SB-110 HOV On	R6.02	Western Av junction		62	64	64	59	65	56	64	65	63	65
R7.823	NB-110 HOV Off	R7.166	SB-110 HOV On		47	59	57	57	65	56	64	65	63	65
R7.88	I-110 Off	R7.823	NB-110 HOV Off		47	59	57	57	65	52	64	62	63	65
R8.276	Avalon Bl junction	R7.88	I-110 Off	Direction of Travel	47	59	57	57	65	52	64	62	63	65
R8.909	Central Av junction	R8.276	Avalon Bl junction		52	59	57	54	65	50	59	54	58	65
R11.582	Long Beach Bl junction	R8.909	Central Av junction		52	59	57	54	65	50	59	54	58	65
R11.876	Long Beach Bl Off	R11.582	Long Beach Bl junction		52	59	57	54	65	50	59	54	58	65
R12.402	Gertrude Dr junction	R11.876	Long Beach Bl Off		58	59	55	54	65	50	64	56	59	65
R14.148	Garfield Av junction	R12.402	Gertrude Dr junction		58	59	55	54	65	50	64	56	59	65
R16.152	Lakewood Bl Off	R14.148	Garfield Av junction		58	59	55	54	65	50	64	56	59	65
R16.256	Bellflower Bl On	R16.152	Lakewood Bl Off		58	59	55	54	65	50	64	56	59	65
R16.62	Bellflower Bl junction	R16.256	Bellflower Bl On		45	48	48	65	65	63	63	63	65	65
R17	Bellflower Bl Off	R16.62	Bellflower Bl junction		45	48	48	65	65	63	63	63	65	65

Westbound ExpressLanes in 2027 show no congested segments. Between the two alternatives, however, Alternative 2's speeds are slightly higher by 2 or 3 miles per hour, though AM Peak speeds are better for Alternative 3 near the end of the freeway (from Bellflower Blvd. off-ramp to Bellflower Blvd. on-ramp).

Table 2-87: Westbound HOT Lanes: Build Alternatives 2 and 3 – 2047 Performance Measures

Performance Measure and Segment	2047 Build Alternative 2						2047 Build Alternative 3					
	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals	AM Peak (6am-9am)	Midday (9am-3pm)	PM Peak (3pm-7pm)	Evening (7pm-9pm)	Night (9pm-6am)	Daily Totals
Vehicle Miles Traveled (VMT)	59,310	112,843	72,092	35,275	53,469	332,989	140,531	207,975	154,108	55,514	51,055	609,183
I-405 -- I-110	18,887	32,841	19,514	11,245	17,774	100,262	40,971	62,552	34,428	15,688	15,886	169,525
I-110 -- I-710	27,701	55,841	35,011	17,395	23,648	159,595	68,948	102,799	81,065	28,036	21,137	301,984
I-710 -- I-605	12,721	24,161	17,568	6,634	12,047	73,132	30,612	42,624	38,615	11,791	14,033	137,674
Vehicle Hours Delay (VHD)	178	409	156	67	0	810	601	299	436	37	0	1,372
I-405 -- I-110	57	82	20	20	0	179	133	79	31	7	0	250
I-110 -- I-710	69	191	72	34	0	366	343	188	285	22	0	837
I-710 -- I-605	51	136	64	14	0	265	125	32	121	8	0	285
Average Travel Time (Min)	17.2	17.7	16.3	16.1	14.3		18.1	15.5	16.6	14.9	14.3	
I-405 -- I-110	5.6	5.4	5	5.2	4.7		5.7	5.0	5.0	4.8	4.7	
I-110 -- I-710	6.5	6.8	6.3	6.3	5.6		7.4	6.2	6.8	5.9	5.6	
I-710 -- I-605	5.1	5.5	5	4.6	4		5.1	4.2	4.8	4.2	4.0	

Table 2-88: Westbound HOT Lanes: Build Alternatives 2 and 3 – 2047 Speed Contour Diagram

Westbound Managed Lanes															
Start PM	Start Location	End PM	End Location		2047 Alternative 2					2047 Alternative 3				
					AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)	AM Peak (6AM-9AM)	Midday (9AM-3PM)	PM Peak (3PM-7PM)	Evening (7PM-9PM)	Night (9PM-6AM)
R3.607	Prarie Av junction	R2.427	NB-405/SB-405 Split	Direction of Travel	54	54	60	57	65	53	59	60	63	65
R5.048	Crenshaw Bl Off	R3.607	Prarie Av junction		54	54	60	57	65	53	59	60	63	65
R6.02	Western Av junction	R5.048	Crenshaw Bl Off		58	56	62	61	65	55	61	64	64	65
R7.166	SB-110 HOV On	R6.02	Western Av junction		60	61	64	61	65	56	61	64	64	65
R7.823	NB-110 HOV Off	R7.166	SB-110 HOV On		55	51	61	61	65	49	61	64	64	65
R7.88	I-110 Off	R7.823	NB-110 HOV Off		55	51	61	61	65	49	60	60	64	65
R8.276	Avalon Bl junction	R7.88	I-110 Off		55	51	61	61	65	49	60	60	64	65
R8.909	Central Av junction	R8.276	Avalon Bl junction		55	53	56	57	65	49	56	51	61	65
R11.582	Long Beach Bl junction	R8.909	Central Av junction		55	53	56	57	65	49	56	51	61	65
R11.876	Long Beach Bl Off	R11.582	Long Beach Bl junction		55	53	56	57	65	49	56	51	61	65
R12.402	Gertrude Dr junction	R11.876	Long Beach Bl Off		57	56	56	57	65	49	62	52	62	65
R14.148	Garfield Av junction	R12.402	Gertrude Dr junction		57	56	56	57	65	49	62	52	62	65
R16.152	Lakewood Bl Off	R14.148	Garfield Av junction		57	56	56	57	65	49	62	52	62	65
R16.256	Bellflower Bl On	R16.152	Lakewood Bl Off		57	56	56	57	65	49	62	52	62	65
R16.62	Bellflower Bl junction	R16.256	Bellflower Bl On		40	33	45	65	65	62	62	63	65	65
R17	Bellflower Bl Off	R16.62	Bellflower Bl junction		40	33	44	65	65	62	62	63	65	65

Speeds for ExpressLanes overall remain pretty high for both alternatives in 2047, though Alternative 2 starts to show some congestion at Bellflower in the AM peak, midday, and PM peak times. Alternative 3 is predicted to have greater speeds for 2047.

The tables below tally the number of freeway segments operating at LOS E or F for general purpose and HOV/ExpressLanes (managed lanes). When totaled for 2027, Alternative 1 No-Build has 209 general purpose and HOV lanes operating at LOS E or F, Alternative 2 has 119, and Alternative 3 has 110. In 2047, Alternative 1 will have 215 general purpose and HOV lanes operating at LOS E or F, Alternative 2 will have 138, and Alternative 3 will have 117. There are a few instances where minor increases in tallies are seen: two cases for Alternative 3 in 2027, one case for Alternative 3 in 2047, and one case for Alternative 2 in 2047. However, these discrepancies are minor and do not contradict the overall trend.

Table 2-89: Peak Hour LOS E or F Freeway Segment Tally – 2027

Facility	LOS	Alt 1 (No-Build)	Alt 2 (1-Lane HOT)	Alt 3 (2-Lane HOT)
General Purpose Lanes	**E**	6 (1)	2 (2)	3 (2)
	F	55 (55)	44 (53)	45 (42)
Managed Lanes	**E**	19 (11)	4 (0)	0 (0)
	F	26 (36)	7 (7)	9 (9)
	Total	209	119	110

Table 2-90: Peak Hour LOS E or F Freeway Segment Tally – 2047

Facility	LOS	Alt 1 (No-Build)	Alt 2 (1-Lane HOT)	Alt 3 (2-Lane HOT)
GP Lanes	**E**	4 (3)	4 (5)	3 (3)
	F	57 (56)	51 (57)	50 (43)
Managed Lanes	**E**	16 (11)	4 (3)	0 (0)
	F	32 (36)	7 (7)	9 (9)
	Total	215	138	117

The Traffic Study Report also shows that daily VMT for the general purpose lanes are relatively the same among all three alternatives, indicating that the conversion or addition of ExpressLanes will not affect growth or usage rates of I-105, only traffic flow and congestion. However, Alternative 3 is expected to have a higher VMT for the managed lanes: an increase in VMT by 17% by 2047, while Alternative 2 is expected to only increase by 3%. Alternative 3 is also expected to experience significantly less congestion delay than Alternatives 1 and 2 in 2027 and 2047 (particularly in the general purpose lanes), resulting in 1,178,000 vehicle hours of delay reduction from Alternative 1 (No-Build) annually- an 18% reduction and double that of Alternative 2. Travel speeds are anticipated to be higher, and travel times are anticipated to be shorter as well in Alternative 3 compared to Alternatives 1 and 2. The tables below provide the summary totals for vehicle miles traveled and vehicle hours delayed in 2027 and 2047.

In summary, traffic impacts by the proposed project's build alternatives are expected to be positive for freeway circulation, decreasing congestion and delays and improving traffic flow. The projected vehicle volumes do not show any influence on growth by the project specifically, indicating that implementation of ExpressLanes would not induce new travel to the area.

Table 2-91: 2027 Daily VMT and VHD Performance Measure Comparison

2027 Performance Measure	ALTERNATIVE 1 (NO-BUILD)				ALTERNATIVE 2 (1 LANE HOT)				ALTERNATIVE 3 (2 LANE HOT)			
	EB GP	EB HOV	WB GP	WB HOV	EB GP	EB HOT	WB GP	WB HOT	EB GP	EB HOT	WB GP	WB HOT
Daily VMT	1,480,712	344,880	1,363,023	305,068	1,525,484	365,532	1,429,524	344,126	1,483,610	667,427	1,389,097	570,732
Daily VHD	10,398	1,800	8,316	1,083	13,696	956	9,979	687	7,566	1,518	6,910	995

Table 2-92: 2047 Daily VMT and VHD Performance Measure Comparison

2047 Performance Measure	ALTERNATIVE 1 (NO-BUILD)				ALTERNATIVE 2 (1 LANE HOT)				ALTERNATIVE 3 (2 LANE HOT)			
	EB GP	EB HOV	WB GP	WB HOV	EB GP	EB HOT	WB GP	WB HOT	EB GP	EB HOT	WB GP	WB HOT
Daily VMT	1,491,636	328,066	1,408,721	335,632	1,532,952	357,680	1,459,168	332,989	1,499,044	643,756	1,410,238	609,183
Daily VHD	13,178	2,194	8,579	1,841	18,546	984	13,052	810	10,131	1,526	8,050	1,372

In the Alternative 1 scenario, we see that there will be a steady increase in delay times from 2027 to 2047 if nothing is built. Intersection analysis for the year 2027 shows very minor positive changes for build alternatives, with a few exceptions. In fact, there are certain instances of severe delay increases, for Alternative 3 especially. The same is true for 2047 projections, though major decreases in delay also emerge for certain locations (see Mona Boulevard/Imperial Highway), but not exclusively. For example, at Mona Boulevard/Imperial Highway, delays improve significantly during AM peak hours for Alternative 3 but deteriorate for PM peak hours. I-105 WB Ramps/Imperial Highway, Lakewood Boulevard/I-105 EB off-ramp and WB Ramps, and Studebaker Road/I-105 WB on-ramp and EB off-ramp show a major increase in delay time for Alternative 3.

Overall, trends generally show that Alternative 3 would lead to a larger increase in delay at several intersections out of the 41 total analyzed. The changes in delay for Alternative 2 are fairly minor, but they vary in whether they increase or decrease in comparison to Alternative 1's No-Build scenario. That stated, the number of intersections operating deficiently generally decreases for build scenarios compared to the No-Build scenario, though not universally. The counts are tallied below. The first number in each field represents the AM tally, and the number in parentheses represents the PM tally.

Table 2-93: Peak Hour LOS E or F Intersection Tally – 2027

Facility	LOS	ALT 1 (No-Build)	ALT 2 (1-Ln HOT)	ALT 3 (2-Ln HOT)
Study Intersections	E	6 (7)	5 (6)	6 (6)
	F	5 (5)	5 (5)	5 (6)

XX(YY) = AM (PM) peak hour tally Source: Traffic Study Report

Table 2-94: Peak Hour LOS E or F Intersection Tally – 2047

Facility	LOS	ALT 1 (No-Build)	ALT 2 (1-Ln HOT)	ALT 3 (2-Ln HOT)
Study Intersections	E	6 (8)	6 (6)	5 (7)
	F	6 (5)	7 (6)	6 (7)

XX(YY) = AM (PM) peak hour tally Source: Traffic Study Report

Table 2-95 Intersections: No-Build Scenarios – 2027 and 2047 AM and PM Peak Hour Performance

Location #	Location	2027 AM Peak Hour LOS	2027 AM Peak Hour Delay	2027 PM Peak Hour LOS	2027 PM Peak Hour Delay	2047 AM Peak Hour LOS	2047 AM Peak Hour Delay	2047 PM Peak Hour LOS	2047 PM Peak Hour Delay
1	I-105 WB off-ramp/NB Sepulveda Boulevard	**F**	**121.7**	D	53.3	**F**	**123.2**	D	53.3
2	Sepulveda Boulevard/Imperial Highway	D	49.5	**F**	**94.3**	D	49.5	**F**	**100.8**
3	Aviation Boulevard/Imperial Highway	**E**	**57.5**	**E**	**65**	**E**	**67.5**	**F**	**93.3**
4	I-105 WB Off- and I-105 EB on-ramp/Imperial Highway	C	24.9	B	11.1	C	24.8	B	10.5
5	La Cienega Boulevard/Imperial Highway	D	36.4	D	44.1	D	37.1	D	44.8
6	Hawthorne Boulevard/I-105 WB off-ramp	B	16.1	B	17.9	B	17	B	18
7	Hawthorne Boulevard/Imperial Highway	C	25.6	D	46.2	C	29.4	**E**	**58.8**
8	I-105 EB on-ramp/Imperial Highway (Freeman)	C	27.2	C	28.4	C	27.9	C	29.6
9	Prairie Avenue/I-105 WB off-ramp	B	18.7	D	38.6	B	18.7	D	38.6
10	Prairie Avenue/Imperial Highway	**F**	**86.3**	**F**	**168.5**	**F**	**86.3**	**F**	**168.5**
11	I-105 EB Ramps/120th Street	**E**	**70.2**	C	34	**E**	**74.4**	C	34.2
12	Crenshaw Boulevard/Imperial Highway	D	38.8	D	46.7	D	46.1	D	47.3
13	Crenshaw Boulevard/I-105 WB off-ramp	C	28.9	D	39.9	C	27.9	D	39.9
14	Crenshaw Boulevard/120th Street	D	49.1	**E**	**55.8**	D	49.1	**E**	**55.8**
15	Vermont Avenue/Imperial Highway	**E**	**55.8**	**E**	**57.5**	**E**	**57.6**	**E**	**74.4**
16	Vermont Avenue/I-105 WB Ramps	C	28.9	B	18	C	28.3	B	17.2
17	Vermont Avenue/I-105 EB off-ramp	C	24.9	C	21.7	C	27.5	C	21.5
18	Vermont Avenue/120th Street	C	24	C	24.5	C	25.2	C	28.1
19	Central Avenue/Imperial Highway	**E**	**65.5**	**E**	**58.5**	**E**	**68.2**	**E**	**58.5**
20	Central Avenue/I-105 WB Ramps	C	20.9	C	22.1	C	22.6	C	22.1
21	Central Avenue/I-105 EB Ramps	C	26.9	C	26.1	C	28.2	C	25.9

22	Central Avenue/120th Street	D	36.4	D	41.1	D	37.7	D	47.2
23	Wilmington Avenue/Imperial Highway	B	17.6	C	24.1	B	17.4	C	24.1
24	Wilmington Avenue/I-105 EB Ramps	D	39.8	C	28.5	D	39.5	C	28.5
25	Wilmington Avenue/E 120th Street	C	21.1	B	17	C	21.2	B	17.6
26	I-105 WB Ramps/Imperial Highway	**F**	**176.5**	**F**	**83.3**	**F**	**178.8**	**F**	**83.3**
27	Mona Boulevard/Imperial Highway	**E**	**72.5**	**F**	**93.6**	**F**	**106.6**	**F**	**93.6**
28	Long Beach Boulevard/Imperial Highway	D	40.7	D	39.4	**E**	**55.1**	D	39.8
29	Long Beach Boulevard/I-105 WB off-ramp	B	14.8	B	19.1	B	14.6	B	19.3
30	Long Beach Boulevard/I-105 EB off-ramp	C	23.2	B	15.2	C	22.7	B	15.1
31	Garfield Avenue/I-105 WB on-ramp	C	22.1	C	20.2	C	23.6	C	21
32	Garfield Avenue/I-105 EB off-ramp	C	30.8	D	36.5	C	33.7	D	37.7
33	Garfield Avenue/Rosecrans Avenue	D	53.4	D	47.6	D	53.4	D	49.1
34	Paramount Boulevard/Imperial Highway	C	29.4	D	37	C	30.7	D	37.9
35	Paramount Boulevard/I-105 WB off-ramp	C	26.4	B	19.3	C	26.4	B	19.3
36	Paramount Boulevard/I-105 EB on-ramp	C	21.1	C	23.5	C	22.8	C	23.7
37	Paramount Boulevard/Rosecrans Avenue	D	52.8	D	53.8	D	54	D	54.3
38	Lakewood Boulevard/Imperial Highway	C	24.3	C	32.8	C	26.1	C	34.1
39	Lakewood Boulevard/I-105 EB off-ramp	**F**	**137.2**	**E**	**56.9**	**F**	**136.1**	**E**	**58.2**
40	Lakewood Boulevard/Rosecrans Avenue	C	27.4	D	49.1	C	28	D	49.1
41	Bellflower Boulevard/Imperial Highway	C	28.8	C	27.2	C	30	C	27.2
42	Bellflower Boulevard/I-105 WB Ramps	B	18.7	B	17.2	B	18.9	B	17.1
43	Bellflower Boulevard/I-105 EB Ramps	B	18.7	C	21.3	B	18.7	C	20.3
44	Bellflower Boulevard/Rosecrans Avenue	D	37.2	C	30.8	D	35.6	C	30.8
45	Woodruff Avenue/Imperial Highway	D	37.9	D	54.5	D	40.4	D	54.4
46	Hoxie Avenue/Imperial Highway	D	36.5	**E**	**55.8**	D	37.1	**E**	**75.4**
47	Studebaker Road/Imperial Highway	**E**	**68.3**	**E**	**56.8**	**E**	**67.5**	**E**	**62.7**
48	Studebaker Road/I-105 WB on-ramp and	**F**	**88.3**	**F**	**108.2**	**F**	**87.7**	**E**	**77.7**
49	Studebaker Road/Rosecrans Avenue	D	42.3	D	50.5	D	48.3	D	51.4

Table 2-96: Intersections: All Alternatives - 2027 Comparisons

#	Intersection	Alt 1 AM Peak Hour		Alt 1 PM Peak Hour		Alt 2 AM Peak Hour		Alt 2 PM Peak Hour		Alt 3 AM Peak Hour		Alt 3 PM Peak Hour	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1	I-105 WB off-ramp/NB Sepulveda Boulevard	**F**	**121.7**	D	53.3	**F**	**120.3**	D	53.1	**F**	**120.7**	D	53.6
2	Sepulveda Boulevard/Imperial Highway	D	49.5	**F**	**94.3**	D	49.2	**F**	**95**	D	49.4	**F**	**94.7**
3	Aviation Boulevard/Imperial Highway	E	57.5	E	65	E	57.6	E	65	E	61.5	E	64.4
4	I-105 WB Off- and I-105 EB on-ramp/Imperial Highway	C	24.9	B	11.1	C	24.8	B	11	C	28.2	B	11.5
5	La Cienega Boulevard/Imperial Highway	D	36.4	D	44.1	D	36.5	D	43.9	D	35.8	D	43.8
6	Hawthorne Boulevard/I-105 WB off-ramp	B	16.1	B	17.9	B	16.1	B	18	B	16.8	B	18.1
7	Hawthorne Boulevard/Imperial Highway	C	25.6	D	46.2	C	28.6	D	46.2	C	28.6	D	46.1
8	I-105 EB on-ramp/Imperial Highway (Freeman)	C	27.2	C	28.4	C	27.2	C	24	C	27.2	E	60
9	Prairie Avenue/I-105 WB off-ramp	B	18.7	D	38.6	B	18.6	D	38.7	B	19.4	D	38
10	Prairie Avenue/Imperial Highway	**F**	**86.3**	**F**	**168.5**	**F**	**86.1**	**F**	**168.1**	**F**	**86.1**	**F**	**168.2**

11	I-105 EB Ramps/120th Street	E	70.2	C	34	E	70.2	C	30.6	E	70.9	E	56.9
12	Crenshaw Boulevard/Imperial Highway	D	38.8	D	46.7	D	38.9	D	46.7	D	38.8	D	46.6
13	Crenshaw Boulevard/I-105 WB off-ramp	C	28.9	D	39.9	C	27.2	D	40	C	30.8	D	40.1
14	Crenshaw Boulevard/120th Street	D	49.1	E	55.8	D	48.6	E	55.8	D	48.8	E	55.4
15	Vermont Avenue/Imperial Highway	E	55.8	E	57.5	D	45.5	D	47	E	55.1	D	48.1
16	Vermont Avenue/I-105 WB Ramps	C	28.9	B	18	C	25.9	B	18.1	D	48.3	B	18.3
17	Vermont Avenue/I-105 EB off-ramp	C	24.9	C	21.7	C	24.2	C	20.8	C	24.4	C	24.7
18	Vermont Avenue/120th Street	C	24	C	24.5	C	23.2	C	24.5	C	24	C	24.5
19	Central Avenue/Imperial Highway	E	65.5	E	58.5	E	69	E	59	E	63	D	49.4
20	Central Avenue/I-105 WB Ramps	C	20.9	C	22.1	C	20.5	C	22	C	27.1	C	24.7
21	Central Avenue/I-105 EB Ramps	C	26.9	C	26.1	C	28.5	C	25.3	C	31.6	C	22.8
22	Central Avenue/120th Street	D	36.4	D	41.1	D	36.4	D	41.1	D	36.4	D	41.1
23	Wilmington Avenue/Imperial Highway	B	17.6	C	24.1	B	17.6	C	24.2	B	17.6	C	24.1
24	Wilmington Avenue/I-105 EB Ramps	D	39.8	C	28.5	D	39.8	C	27.7	D	45.1	D	42.9
25	Wilmington Avenue/E 120th Street	C	21.1	B	17	C	21.1	B	17	C	21.2	B	17.2

26	I-105 WB Ramps/Imperial Highway	**F**	**176.5**	**F**	**83.3**	**F**	**175.4**	**F**	**84.2**	**F**	**368.3**	**F**	**141.9**
27	Mona Boulevard/Imperial Highway	E	72.5	**F**	**93.6**	E	72.6	**F**	**89.3**	E	75.8	**F**	**88.6**
28	Long Beach Boulevard/Imperial Highway	D	40.7	D	39.4	D	41.1	D	39.6	D	43.5	D	39.3
29	Long Beach Boulevard/I-105 WB off-ramp	B	14.8	B	19.1	B	14.8	C	20.6	B	19.8	C	23.1
30	Long Beach Boulevard/I-105 EB off-ramp	C	23.2	B	15.2	C	23.8	B	16.1	C	25.9	B	19
31	Garfield Avenue/I-105 WB on-ramp	C	22.1	C	20.2	C	22.1	C	20.6	C	24.5	C	22.7
32	Garfield Avenue/I-105 EB off-ramp	C	30.8	D	36.5	C	33.9	D	35.3	D	40	D	47.1
33	Garfield Avenue/Rosecrans Avenue	D	53.4	D	47.6	D	53.4	D	47.6	D	53.4	D	47.6
34	Paramount Boulevard/Imperial Highway	C	29.4	D	37	C	29.4	D	37.1	C	29.4	D	37
35	Paramount Boulevard/I-105 WB off-ramp	C	26.4	B	19.3	C	26.2	B	19.8	C	32.3	C	20.9
36	Paramount Boulevard/I-105 EB on-ramp	C	21.1	C	23.5	C	21.7	C	23.4	C	23.2	C	24
37	Paramount Boulevard/Rosecrans Avenue	D	52.8	D	53.8	D	52.8	D	53.8	D	52.8	D	53.8

38	Lakewood Boulevard/Imperial Highway	C	24.3	C	32.8	C	24.3	C	32.7	C	24.3	C	32.5
39	Lakewood Boulevard/I-105 EB off-ramp and WB Ramps	**F**	**137.2**	E	56.9	**F**	**157.3**	E	55.5	**F**	**265.1**	**F**	**97.2**
40	Lakewood Boulevard/Rosecrans Avenue	C	27.4	D	49.1	C	27.4	D	49.1	C	27.4	D	49.1
41	Bellflower Boulevard/Imperial Highway	C	28.8	C	27.2	C	28.9	C	27.2	C	28.3	C	27.4
42	Bellflower Boulevard/I-105 WB Ramps	B	18.7	B	17.2	C	29.5	B	17.7	C	33.5	B	18.6
43	Bellflower Boulevard/I-105 EB Ramps	B	18.7	C	21.3	C	30.5	C	20.3	C	33.6	D	37.6
44	Bellflower Boulevard/Rosecrans Avenue	D	37.2	C	30.8	D	37.2	C	30.8	D	37.2	C	30.8
45	Woodruff Avenue/Imperial Highway	D	37.9	D	54.5	D	38.1	D	54.9	D	37.5	D	53.6
46	Hoxie Avenue/Imperial Highway	D	36.5	E	55.8	D	36.8	E	56.7	D	36.4	E	57.8
47	Studebaker Road/Imperial Highway	E	68.3	E	56.8	E	69	E	55	E	77.1	E	62
48	Studebaker Road/I-105 WB on-ramp and EB off-ramp	**F**	**88.3**	**F**	**108.2**	**F**	**91.3**	**F**	**111.7**	**F**	**96.5**	**F**	**111.7**

49	Studebaker Road/Rosecrans Avenue	D	42.3	D	50.5	D	42.3	D	50.5	D	42.3	D	50.5

Table 2-97: Intersections: All Alternatives – 2047 Comparisons

#	Intersection	Alt 1 AM Peak Hour		Alt 1 PM Peak Hour		Alt 2 AM Peak Hour		Alt 2 PM Peak Hour		Alt 3 AM Peak Hour		Alt 3 PM Peak Hour	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1	I-105 WB off-ramp/NB Sepulveda Boulevard	**F**	**123.2**	D	53.3	**F**	**123.1**	D	55	**F**	**121.2**	D	52.3
2	Sepulveda Boulevard/Imperial Highway	D	49.5	**F**	**100.8**	D	49.2	**F**	**101.3**	D	46.4	**F**	**122**
3	Aviation Boulevard/Imperial Highway	E	67.5	**F**	**93.3**	E	67.4	**F**	**98.7**	E	66.9	**F**	**116.5**
4	I-105 WB Off- and I-105 EB on-ramp/Imperial Highway	C	24.8	B	10.5	C	25.6	B	11.7	C	27.5	B	10.2
5	La Cienega Boulevard/Imperial Highway	D	37.1	D	44.8	D	37.7	D	45.5	C	34.8	D	44.2
6	Hawthorne Boulevard/I-105 WB off-ramp	B	17	B	18	B	16.9	B	18.6	B	17	B	17.7
7	Hawthorne Boulevard/Imperial Highway	C	29.4	E	58.8	C	28.9	E	60.1	C	29.1	E	61.3
8	I-105 EB on-ramp/Imperial Highway (Freeman)	C	27.9	C	29.6	C	32.2	C	27.6	C	26.7	E	73.3
9	Prairie Avenue/I-105 WB off-ramp	B	18.7	D	38.6	B	18.5	D	41.5	B	19.4	D	38.2
10	Prairie Avenue/Imperial Highway	**F**	**86.3**	**F**	**168.5**	**F**	**87.2**	**F**	**168.9**	**F**	**85.8**	**F**	**168.9**

11	I-105 EB Ramps/120th Street	E	74.4	C	34.2	**F**	**81.5**	C	32.1	D	53.4	E	61.3
12	Crenshaw Boulevard/Imperial Highway	D	46.1	D	47.3	D	46.9	D	47.5	D	42.1	D	47.5
13	Crenshaw Boulevard/I-105 WB off-ramp	C	27.9	D	39.9	C	27.8	D	42.9	C	28.7	D	38.5
14	Crenshaw Boulevard/120th Street	D	49.1	E	55.8	D	49	E	60.4	D	52.1	E	57.1
15	Vermont Avenue/Imperial Highway	E	57.6	E	74.4	E	58.6	E	74.8	E	55.8	E	75.7
16	Vermont Avenue/I-105 WB Ramps	C	28.3	B	17.2	C	27.3	B	19.4	D	51.6	B	17
17	Vermont Avenue/I-105 EB off-ramp	C	27.5	C	21.5	C	29.7	C	21.6	C	27.1	C	26.2
18	Vermont Avenue/120th Street	C	25.2	C	28.1	C	25.2	C	28.1	C	25.2	C	28.1
19	Central Avenue/Imperial Highway	E	68.2	E	58.5	E	70.9	E	62.3	E	58.7	E	58.4
20	Central Avenue/I-105 WB Ramps	C	22.6	C	22.1	C	22.2	C	23.4	C	29.3	C	26
21	Central Avenue/I-105 EB Ramps	C	28.2	C	25.9	C	29.1	C	25	C	30.9	D	49.7
22	Central Avenue/120th Street	D	37.7	D	47.2	D	37.7	D	47.2	D	37.7	D	47.2
23	Wilmington Avenue/Imperial Highway	B	17.4	C	24.1	B	17.4	C	24.9	B	17.7	C	25.7
24	Wilmington Avenue/I-105 EB Ramps	D	39.5	C	28.5	E	58.7	C	28.4	E	63	D	44.4
25	Wilmington Avenue/E 120th Street	C	21.2	B	17.6	C	21.5	B	17.5	C	21.6	B	17.9
26	I-105 WB Ramps/Imperial Highway	**F**	**178.8**	**F**	**83.3**	**F**	**176.7**	**F**	**94.2**	**F**	**307.5**	**F**	**151.3**

27	Mona Boulevard/Imperial Highway	**F**	**106.6**	**F**	**93.6**	**F**	**110.1**	**F**	**88.9**	**F**	**85.7**	**F**	**107.5**
28	Long Beach Boulevard/Imperial Highway	E	55.1	D	39.8	E	61	D	40.5	D	54.5	D	44.4
29	Long Beach Boulevard/I-105 WB off-ramp	B	14.6	C	20.3	B	14.3	C	21.4	B	19.4	C	23.6
30	Long Beach Boulevard/I-105 EB off-ramp	C	22.7	B	15.8	C	24.6	B	16	C	26.1	B	18.9
31	Garfield Avenue/I-105 WB on-ramp	C	23.6	C	21	C	23.8	C	22.7	C	25.7	C	23.9
32	Garfield Avenue/I-105 EB off-ramp	C	33.7	D	37.7	C	32.1	D	35.7	D	41	D	46.8
34	Paramount Boulevard/Imperial Highway	C	30.7	D	37.9	C	30.7	D	37.9	C	30.7	D	37.9
35	Paramount Boulevard/I-105 WB off-ramp	C	26.4	B	19.3	C	28.3	B	19.4	C	29.6	C	20.2
36	Paramount Boulevard/I-105 EB on-ramp	C	22.8	C	23.7	C	25.5	C	23.5	C	28.4	C	24.1
37	Paramount Boulevard/Rosecrans Avenue	D	54	D	54.3	D	54	D	54.3	D	54	D	54.3
38	Lakewood Boulevard/Imperial Highway	C	26.1	C	34.1	C	26.1	C	34.7	C	24	C	35.5
39	Lakewood Boulevard/I-105 EB off-ramp and WB Ramps	**F**	**136.1**	E	58.2	**F**	**151.7**	E	61.8	**F**	**236.4**	**F**	**96.7**
40	Lakewood Boulevard/Rosecrans Avenue	C	28	D	49.1	C	28	D	49.1	C	27.7	D	49.1

41	Bellflower Boulevard/Imperial Highway	C	30	C	27.2	C	30.5	C	27.4	C	28.1	C	27.8
42	Bellflower Boulevard/I-105 WB Ramps	B	18.9	B	17.2	C	29.4	B	17.9	C	33.8	B	19
43	Bellflower Boulevard/I-105 EB Ramps	B	18.7	C	21.3	C	29	C	20.4	C	32.7	D	38.4
44	Bellflower Boulevard/Rosecrans Avenue	D	39.5	C	30.8	D	39.5	C	30.8	D	39.5	C	30.8
45	Woodruff Avenue/Imperial Highway	D	43	D	54.4	D	42.9	D	54.4	D	38.7	D	54
46	Hoxie Avenue/Imperial Highway	D	37.1	E	55.9	D	37.6	D	53	D	38.4	E	57.1
47	Studebaker Road/Imperial Highway	E	67.5	E	56.8	E	67.8	E	55.6	E	79.2	D	54.7
48	Studebaker Road/I-105 WB on-ramp and EB off-ramp	**F**	**87.7**	**F**	**108.1**	**F**	**90.5**	**F**	**143.4**	**F**	**235.3**	**F**	**239.9**
49	Studebaker Road/Rosecrans Avenue	D	48.3	D	50.7	D	48.3	D	50.7	D	48.3	D	50.7

Access and Circulation

The proposed project would not eliminate or restrict automobile or pedestrian access to stores, public services, schools, or other facilities in the project area. It will not increase or decrease traffic on local streets, making it no more or less difficult to reach businesses or residences in the area. Emergency vehicles will be able to take the same routes as prior to the project, and emergency routes will be unaffected by distance, speed, or routing. No bicycle or pedestrian routes will be permanently affected by the project, and any detours, signs, and/or flaggers required during construction will be detailed in the TMP. Local drivers, cyclists, and pedestrians will not need to alter their travel patterns.

For Alternative 3, there are two bus stops that will be affected by partial acquisition located on opposite sides of the street at the corner of Alameda St. and Imperial Highway, which service the eastbound and westbound Metro Local 120 and 612 buses. Alternative 3 would not have any effect on other public transportation routes or services, and no access to transit stops will be affected except for those two bus stops. The partial acquisition required for Alternative 3 takes the sidewalk where the stop is located. No other alternative will impact any other public transit circulation.

As such, the proposed project should have no effect on business operation or community circulation. As construction and project effects will be limited to the freeway, pedestrians and bicyclists will be unaffected. No properties will become restricted in access or landlocked, and there will be no change in routes or traffic patterns that could affect businesses, residences, or emergency services. No additional access or visibility will be granted to any business or residence by the proposed project, and all improvements will be compliant with ADA regulations, if applicable.

The proposed project is consistent with local circulation goals in city general plans. Several cities express goals of directing through traffic off of local streets; with the reduction in congestion projected, freeway traffic overspill onto local intersections should be reduced. 8 intersections were investigated and analyzed for traffic signal improvements. At 7 locations, signal improvement operations were identified to address the adverse impacts. No adjacent arterial intersections were found to have any adverse impacts. With inclusion of the improvement measures identified in Table 2-98, it is anticipated there will be no adverse impacts to access or circulation.

Table 2-98: I-105 Ramps Intersection Potential Improvement Measure

Location #	Intersection	2047 Alt 3 Summary				2047 Alt 3 with Optimization				Potential Improvement Measure
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	
8	I-105 EB On-Ramp/Imperial Hwy (Freeman) City of Hawthorne	C	26.7	E	73.3	C	29.4	D	38.1	Adjust cycle length from 100 to 110 seconds; adjust lane configuration for EB and WB approaches. EB change one thru lane to thru-left. WB change one thru lane to thru-right. Requires change to phasing.
11	I-105 EB Ramps/120th Street City of Hawthorne	D	53.4	E	61.3	D	41.9	D	52.8	Adjust cycle length from 120 to 145 seconds; adjust lane configuration for SB approach. SB change to two left and one left-right. Add protected overlap to SBL and WBR movements.
20	I-105 WB Ramps/Central Ave. City of LA	C	29.3	C	26	C	29.3	C	26	None needed.
21	I-105 EB Ramps/Central Ave. City of LA	C	30.9	D	49.7	C	33	C	33.5	Optimize signal phasing splits (see Synchro phasing output for exact splits); adjust lane configuration for NB approach. NB change one thru lane to thru-right.
24	I-105 EB Ramps/Wilmington Ave. County of LA	E	63	D	44.4	C	33.4	C	34	Adjust lane configuration for NB approach. NB change one thru lane to thru-left. Requires change to phasing.
26	I-105 WB Ramps/Imperial Hwy County of LA	F	307.5	F	151.3	F	105.7	E	71.3	Adjust cycle length from 85 to 150 seconds.
39	I-105 Ramps/Lakewood Blvd. City of Downey	F	236.4	F	96.7	D	46.7	D	38.5	Restrict WB thru and add right-turn overlap (overlap SB thru and WB right, overlap EB left and SB right); adjust cycle length to 105 seconds.
48	I-105 Terminus/Studebaker Rd. City of Norwalk	F	235.3	F	239.9	C	27.8	C	34.1	Adjust cycle length from 90 to 100 seconds; adjust lane configuration for EB approach. EB change two lefts to single left and one left-right.

A temporary adjustment period may occur that would cause inconvenience to drivers unfamiliar with new ExpressLanes and their associated rules of usage. As drivers become accustomed to the presence of ExpressLane(s) and their operations, traffic effects due to unfamiliarity and confusion would decrease.

Parking

Availability of parking will be not be affected by the project. The project will primarily change the freeway, where no parking is available, and where ramps and shoulders will be affected, no parking is permitted. As such, no business will lose any portion of its parking spaces, and there will be no temporary nor permanent impacts to parking.

2.1.9.7 Avoidance, Minimization, and/or Mitigation Measures

Traf1 - As standard practice for all Caltrans construction projects that potentially have traffic impacts, a Traffic Management Plan will be established in order to minimize those effects. The full details of the plan will be determined in the next phase of project planning, but a TMP will typically include elements such as public information, motorist information, incident management, construction, demand management, and alternate routes or detours.

Public information plans may include brochures and mailers, press releases/media alerts, paid advertisements, a project website, and information distributed by public meetings or public hearings in order to inform the public ahead of time of construction and delays. Information may be disseminated to motorists via traffic radio announcement, changeable message signs, temporary motorist signs, or any other signage that could give notice of construction. Special incident management may be put into place, where traffic management teams, Intelligent Transportation Systems (ITS), surveillance equipment, or tow/freeway service patrols could monitor and assist where needed. During construction, lane requirement charts, construction staging, or traffic handling plans may be utilized to minimize traffic impacts that result from reduced lane widths or closures, reduced shoulder widths or closures, lane shifts, ramp closures, or nightwork. Alternate routes or detours may be marked where available.

Transportation Management Plans sometimes also include agreements with local agencies for coordination during construction. These agreements could provide for enhanced infrastructure on arterial roads and intersections to handle detoured traffic, or even traffic personnel near the construction zone.

Traf2 - For the bus stops affected by ROW acquisition in Alternative 3, notification must be given to the public and to the bus operator, Metro Local. The bus stops may need to be relocated or temporarily skipped during construction, and details of such arrangements will be planned in full during the next phase of the project. After construction is complete, the bus stops will be replaced near their current locations.

Traf3 - The potential improvement measures to address I-105 Ramps Intersection in table 2-98 shall be incorporated into the project.

2.1.10 Visual/Aesthetics

2.1.10.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities" (CA Public Resources Code [PRC] Section 21001[b]).

2.1.10.2 Affected Environment

The following information is presented in the Revised Scenic Resource Evaluation and Visual Impact Assessment prepared by Caltrans in October 2019. There was also a Landscape Impact Summary report with design recommendations prepared in January of 2020.

This project is located within the County of Los Angeles, starting at Imperial Highway/Sepulveda Boulevard Intersection west of 1-405 in the City of Los Angeles, and terminating at Studebaker Road east of 1-605 in the City of Norwalk, in Los Angeles County and I-110 from the I-105 Separation in the City of Los Angeles, to 103rd Street in the City of Los Angeles. The project traverses nine cities and unincorporated areas of LA County, including Downey, El Segundo, Hawthorne, Inglewood, Los Angeles, Lynwood, Norwalk, Paramount, and South Gate.

Key Views are located at the major freeway intersections at the I-605, I-110, I-710, and I-405, where grade changes occur. No portion of the project is within an officially designated scenic highway or within the coastal zone.

2.1.10.3 Environmental Consequences

I-105 traverses many grade changes within the project limits. This section will break the freeway into 3 categories, Below Grade, At Grade, and Above Grade to describe the changes drivers experience.

Below Grade

The freeway is below grade east of the Los Angeles River to I-605. West of I-110, the freeway slowly descends to below grade. Below grade sections of the freeway are experienced from the driver's perspective as semi enclosed spaces. Below grade sections of the I-105 typically are not overly visually intrusive. See Figure 2-18 for a sample key viewpoint.

Figure 2-18: Below Grade

At Grade

The I-105 is at grade at the western terminus to Imperial highway. At street level, there is no visual intrusion as the freeway is below street grade.

Above Grade

West of the Los Angeles River to I-110, the freeway is built on fill. At the junction of I-405 before the western terminus, I-105 ascends above grade as a viaduct. Fill, and viaduct portions of the highway are the more prominent structures when viewed from street level. From the driver's perspective on the viaduct, there can be panoramic views. See Figures 2-19 and 2-20 for viaduct key view point.

Figure 2-19: Viaduct from Street Level

Figure 2-20: Viaduct Panoramic Key View Point

There are no significant grade changes anticipated for any of the build project.

2.1.10.4 Potential Visual Impacts to Visual Resources.

The table below summarizes potential impacts to visual resources.

Table 2-99: Potential Impacts to Visual Resources

Project alternatives	Impact low	Impact moderate-low	Impact moderate	Impact moderate-high
Alternative 1	N/A	N/A	N/A	N/A
Alternative 2	√	N/A	N/A	N/A
Alternative 3	√	N/A	N/A	N/A

There would be minimal removal of existing vegetation under the two build alternatives. The majority of the vegetation are ornamental and would be replaced in kind. Most of the change is

to the Driver's visual acuity as it relates to change in lanes width and signage. For most drivers, the differences are minimal.

Table 2-100: Potential Impacts to Visual Resources cont.

Project alternatives	IMPACT TO VISUAL RESOURCES		IMPACT TO VISUAL RESOURCES		IMPACT TO VISUAL RESOURCES		IMPACT TO VISUAL RESOURCES	
	Clear change to visual environment		Project on Designated Scenic Highway		Scenic Resource Adversely affected		Create a new source of substantial light or glare which would adversely affect day or nighttime	
	Yes	No	Yes	No	Yes	No	Yes	No
Alternative 1		N/A		N/A		N/A		N/A
Alternative 2		√		√		√		√
Alternative 3		√		√		√		√

2.1.10.5 Resulting Visual Impact

Collectively, the addition of these facilities for both build alternatives will have no substantial impact to visual resources to the existing roadside environment. There may be an improvement if signs and other associated support facilities can be consolidated.

2.1.10.6 Avoidance, Minimization, and/or Mitigation Measures

No-Build Alternative

Avoidance, minimization, and/or mitigation measures are not required for the No-Build alternative as there is no impacts to visual resources.

Build Alternatives

The following measures are recommended for both build alternatives.

Vis1 - The project shall consider incorporating sweeping round pole for ExpressLane signage.

Vis2 - Eliminate visual clutter and distraction by consolidating facilities/signage where possible or placing facilities/signage close by.

Vis3 - Design all visible concrete structures and surfaces to match existing adjacent landscape and natural plantings.

Vis4 - Landscape Architect shall be included when designing suitable plant replacement palette.

Vis5 - Any lighting replaced or relocated shall use Light Emitting Diodes (LED) lighting fixtures and glare shields to avoid lighting spillover.

Vis6 - Any replaced outside bridge railings will match the aesthetic design theme of the corridor.

Vis7 - The use of recycled water is encouraged if available.

Vis8 - Retaining walls will conform to the standard District-7 aesthetic treatment of fractured rib texture. If the retaining wall exceeds 300 feet, a graphic theme will also be included.

Vis9 - The consultant landscape architect will coordinate with the District Landscape Architect to formulate initial planting concepts and replacement planting strategies.

Vis10 - The replacement landscape design should not change dramatically from the existing design. Plant forms and character should not deviate significantly from the original planting theme.

Vis11 - As-built drawings, available photos, google street views, and on-site visits will be utilized to reconstruct the landscape.

Vis12 - Roadside landscapes contribute to urban forestry and biodiversity habitats, which provide perching and nesting opportunities for birds and shelter for other urban adapted wildlife. To continue bird perching opportunities, 50% of Eucalyptus trees replacement trees must be Platanus Racemosa.

Vis13 - California pepper trees removed will be replaced with Engelman Oaks on a 1:1 ratio.

Vis14 - Nectar/larval host plants are encouraged, such as; Cercis Occidenatlis, Plumbago Imperial Blue, Rhus Integrifolia, Lantana Camara.

Vis15 - Consultant Landscape Architect and District Landscape Architect will field review areas for suitable mass tree planting areas, if necessary

Vis16 - All trees removed will adhere to a replacement tree ratio of 1:1.

Vis17 - Replacement costs for landscaping shall be no lower than $97,000 per acre.

2.1.11 Cultural Resources

2.1.11.1 Regulatory Setting

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and Caltrans went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The FHWA's responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

Historic properties are also covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the "use" of land from historic properties (in Section 4(f) terminology—historic sites). See Appendix A for specific information about Section 4(f).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique" archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term "tribal cultural resources" to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU) between Caltrans and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

2.1.11.2 Affected Environment

A Historic Property Survey Report was prepared to comply with Caltrans' regulatory responsibilities under Section 106 of the NHPA and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the SHPO, and Caltrans regarding compliance with Section*

106 of the NHPA (Caltrans Section 106 PA), as well as Public Resources Code 5024 and pursuant to the January 2015 *MOU between Caltrans and the SHPO regarding compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92* (Caltrans 5024 MOU) in October of 2019.

Identification efforts were made for National and California Registers as well as California Historical Landmark (CHL) eligibility. CHL eligibility was only evaluated for state-owned properties. Sources reviewed included the Directory of Properties Historic Property Data File for Los Angeles County, California Historic Bridge Inventory, designated California Historical Landmarks, Caltrans Cultural Resources Database and the South Central Coastal Information Center. A search of the Native American Heritage Commission sacred lands file was received in April of 2019 returning in negative results and a list of six Native American representatives was provided. Letters requesting information regarding historic properties that contained the project description and a map, were sent to eleven local or other government agencies, six historic preservation groups, and the six Native American contacts. Andy Salas of the Gabrieleño Band of Mission Indians – Kizh Nation and Robert Dorame of the Gabrieleño Tongva Indians of California Tribal Council responded with sensitivity concerns and requested participation in monitoring. No response was received from the other 4 notified Native American contacts. Specifics on the coordination conducted with Native American parties is detailed in Chapter 4: Comments and Coordination.

In addition to the project limits, the defined project-specific direct Area of Potential Effects (APE) encompasses all ground disturbance associated with the project, including any property acquisition and TCEs. The indirect APE also includes parcels that could have visual, noise or vibration effects caused by proposed project construction or implementation. The vertical APE is 50 feet above grade and the subterranean APE is 30 feet below grade.

Field surveys were conducted as part of the identification effort. The results of the records search, consultation and field surveys resulted in the identification of two properties, Lynwood Pacific Electric Depot and the Mojave Road which are listed in the National Register. The Lynwood Pacific Electric Depot building was relocated in 1974 beyond the project APE boundaries as part of the original I-105 project. A different portion of the Mojave Road is listed in the National Register, but the Mojave Road segment in Los Angeles County is a designated CHL (from the Drum Barracks at 1052 N Banning Bl, Wilmington, to Route 66, crossing Los Angeles County line to San Bernardino County). The field survey revealed no physical or visual evidence of the Mojave Road in the project APE.

As part of the built environment evaluation, 130 other properties were surveyed. Of the 130 properties, seven warranted consideration for National Register and CHL eligibility. Those seven properties were intensively evaluated for historic significance, and two were determined eligible for listing in the National Register and thus are listed in the California Register. Those two linear resources are the Century Freeway-Transitway Historic District and Dominguez Channel Historic District. The Century Freeway-Transitway Historic District is also eligible for CHL designation.

Century Freeway-Transitway Historic District was determined eligible for the National Register at the state level of significance for its associative as well as engineering significance. It is considered as the last urban interstate constructed and was the subject of a landmark California environmental justice lawsuit. Its design significance is partially based on its status as the final full-length, inner-city interstate, the incorporation of novel Intelligent Transportation System (ITS) features and design components, the integral light rail system and stations in the median and its

massive intermodal interchanges. The limits of the Century Freeway-Transitway Historic District are Caltrans right-of-way from California Street in the City of El Segundo to Studebaker Road in the City of Norwalk, including integral ramps built as part of the project and the interchanges at I-405, I-110, I-710, and I-605. The character defining features of I-105 that cause the corridor to be considered a historic property include: the freeway itself and its alignment, the ITS system, bridges and ramps constructed or significantly altered as part of the I-105, its interchanges, the remaining original landscape, the light rail line and the ten freeway-related light rail stations.

Dominguez Channel Historic District was determined eligible for the National Register at the local level of significance. Its importance is based on its direct association with development of the communities in its watershed as well as its engineering achievement. As a large water conveyance system with multiple components, Dominguez Channel is considered a historic district rather than a single property. It possesses a significant concentration as well as linkage of water conveyance resources that are united historically by both their original plan and by its physical development. It was part of a historic trend at the time, channelizing rain and other water runoff, which made the significant contribution of development in the community possible. Contributing features include the concrete section of open, straight-sided channels, the square concrete tunnels, and trapezoidal-sided lower segments with compacted clay bottoms. Its boundaries are the length of the resource and include its full right-of-way. The bridges crossing the resource do not contribute to the Dominguez Channel's historic significance.

Although no known archaeological resources were identified within the APE through the records search or field survey, archival research and Native American consultation efforts suggest moderate potential for buried cultural resources within one portion of the APE. Excavations into native soil throughout this area have the potential to encounter buried cultural deposits. As it is anticipated that the Undertaking shall be constructed in phases or stages, phased identification of buried resources within this locale will occur as access is gained for each construction phase or stage. This identification will follow procedures outlined in the Historic Properties Treatment Plan prepared for the Undertaking, pursuant to Stipulation XII.A of the Section 106 PA. A Programmatic Agreement has been prepared in consultation with the SHPO to complete identification, evaluation, and assessment of effects.

2.1.11.3 Environmental Consequences

Built Environment

The proposed project takes place within the boundaries of the National Register of Historic Places-determined eligible Century Freeway-Transitway Historic District and the Dominguez Channel Historic District. As the proposed project would include various physical changes under Alternatives 2 and 3, described herein by components, it has the potential to affect these two historic properties, and were therefore analyzed for adverse effects in the following separate subsections.

Convert HOV to HOT or ExpressLanes

Both build alternatives propose conversion of the existing HOV lanes to ExpressLanes or HOT lanes. The conversion of HOV to HOT lanes would also include the addition of Changeable Message Signs (CMS) and tolling gantries (with signs). For the proposed project, conversion of HOV to HOT lane use would not change the purpose or intent of the multi-modal transitway feature of the Century Freeway-Transitway Historic District. The facility would continue to operate as a multi-modal freeway. As a result, the proposed conversion of HOV lanes to HOT

lanes, addition of CMSs and tolling gantries (with signs) would not directly or indirectly affect the Century Freeway-Transitway Historic District's ability to convey its historic significance. Therefore, adverse effects to this historic property are not anticipated.

Right of Way Acquisitions

Of the proposed full and partial right of way acquisitions required for the project, only one is proposed at an identified historic property. That temporary use is proposed only in Alternative 3. At the Dominguez Channel Historic District, Temporary Construction Easements (TCEs) at two publicly owned parcels would be required in order to alter the access road and widen Dominguez Channel OC (Bridge No. 53 2518). The TCE at Dominguez Channel Historic District would be necessary only during the project construction period, an estimated schedule of two to three months in duration for the access road and an additional 12 months for the Dominguez Channel OC widening (all estimated to occur beginning in 2023, a total of 15 months). The two parcels which each contribute to the significance of the Dominguez Channel Historic District, would only be used for the estimated 15 months and would be returned to very close to their original condition prior to the project use. As such, no adverse effects are expected to be caused by the proposed temporary use of the two parcels at the Dominguez Channel Historic District.

Bike, Pedestrian and Sustainability Improvements

Proposed improvements would include constructing curb ramps at several locations throughout the project area. Of the proposed curb ramps, six are proposed in the Century Freeway-Transitway Historic District, at the Central Avenue east- and westbound on- and off-ramps. Of the six, four would be implemented for Alternatives 2 and 3, and two at the northwest and southwest corners of the Central Avenue eastbound off-ramp would only be implemented only for Alternative 3.

Of the six proposed corner locations, each already has a curb ramp. Those ramps would be brought into compliance with current ADA requirements as part of the proposed project. Although the sidewalks are in the boundaries of the Century Freeway-Transitway Historic District, those sidewalks are not character-defining features of the district and have been updated from time to time as needed. The proposed sidewalk alterations are not expected to affect the character-defining ramps or the Central Avenue Over- or Undercrossings. Relationship between buildings and landscape features within the setting would not be affected by the proposed sidewalk alterations. No existing streets would be widened, no landscape materials would be changed and inappropriately located new streets and parking would not be added for this project.

If the six new sidewalk curb ramps were constructed, the sidewalks would continue to serve the same function, allowing pedestrians to safely walk along streets, separated from vehicles and to cross at intersections as needed. Curb ramp improvements are also proposed along Imperial Hwy, at Fir Street, and at Bullis Road; none of these; none of these are proposed at historic properties. Based on this analysis, no adverse effect is expected to result from the proposed modification to the six curb ramps in the Century Freeway-Transitway Historic District at the Central Avenue on- and off-ramps.

Additional Widenings

Additional Widening to Improve Nonstandard Stopping Sight Distance (SSD) [March 2020]

Proposed plans for the project segment between Interstate 405 and Central Av were revised in March 2020 to improve nonstandard stopping sight distance (SSD) features. Tieback retaining walls would be used to avoid demolishing and reconstructing overcrossings. In the eastbound direction, 580 feet of new related retaining walls would be constructed. In the westbound direction nearly 7,000 (6,960) linear feet of retaining walls would be added in order to accomplish this goal.

Of the 20 bridges that were originally proposed for widening in the Draft Environmental Document, five would require additional widening due to the SSD improvement. The five are: Dominguez Channel, Yukon Av UC, San Pedro St, Avalon Bl and Stanford Av Undercrossings (Bridges No. 53 2518, 53 2598, 53 2476, 53 2477, and 53 2578). Each would be widened on the westbound (or north) sides and Avalon Blvd and Stanford Av would be additionally widened on the eastbound (or south) sides. The additional widenings would range from 3.5 feet to 6 feet in width resulting in the total widenings ranging from 10.5 feet to 17.0 feet.

Related revisions to the original project include incorporating new nonstandard features such as reducing ten foot outside shoulders to eight feet or four feet, avoiding more than 30 significant bridge alterations or replacements, numerous ramp realignments, widenings or reconstructions, the addition of extremely high, long retaining walls, changing the grades of roads and sidewalks at undercrossings, adding soundwalls, altering interchanges, affecting a public park and a bike trail.

No adverse effects are expected to be caused by the necessary additional widening. While the proposed project would require limited physical destruction of very small portions of graded slopes, paved slopes beneath three bridges and a few retaining walls, those modifications would ensure the continued use of the Century Freeway-Transitway Historic District (36 CFR 800.5 (i)). Additionally, no change in the character of the property's transit or transportation uses or major changes to physical features within the property's setting that contribute to its historic significance are proposed (36 CFR 800.5 (iv)). Neither alternative is expected to introduce visual, atmospheric or audible elements that would diminish the integrity of the historic district's significant historic features (36 CFR 800.5 (v)). As a result, the additional widening component of the proposed project is not expected to cause adverse effects to the Century Freeway-Transitway Historic District.

Bridge Widening

Both build alternatives would require bridge alterations in addition to those previously described, including limited widenings with the addition of new barriers in order to accommodate the slightly widened roadways. Build Alternative 2 would necessitate the alteration of 11 bridges in the Century Freeway-Transitway Historic District. For Alternative 3, 21 bridges in the historic district are proposed to be widened. The bridges considered under each alternative are contributors to the Century Freeway-Transitway Historic District; none is separately significant. Their importance is for the corridor's associative qualities, which would not be altered under either build alternative. As a result, adverse effects to this historic property are not expected as a result of the bridge widening component of proposed project.

New Bridge Barriers

All existing bridge barriers in the project corridor are 2 feet, 8 inches high (measured from bridge surface). Under each build alternative, replaced barriers on the widened bridges would be 3 feet

high. It would result in a difference of 4 inches, which is not expected to be visually apparent, but would increase safety and is currently required by applicable codes.

The nearly unnoticeable physical difference between the existing and the proposed barrier type, when added to 11 (for Alternative 2) or 21 (Alternative 3) widened bridges is not expected to cause a perceptible effect to the larger Century Freeway-Transitway Historic District. The bridges contribute to the significance of the larger historic district, but none is separately important. The proposed bridge widenings, including new barriers and their profiles, for either alternative, would be compatible with the established character and use of the bridges. The function of the bridges would remain the same as originally intended designed and implemented.

In addition, the bridges proposed to be altered constitute a very small proportion of the total in the historic district. Of the 119 bridges, the modification of 11 bridges for Alternative 2 and 21 bridges for Alternative 3 would be fewer than 10 and 18 percent, respectively, of the total bridges. Further, considering the bridge type's widespread presence elsewhere in California, the effects of altering these bridges would be insignificant and would thus not be considered an adverse effect. Although the proposed bridge widening and replacement of barriers would modify a small quantity of features in the Century Freeway-Transitway Historic District, their alterations are not expected to cause an adverse effect.

Local Roads

To satisfy minimum vertical clearance requirements to accommodate widened bridges caused by mainline improvements, Alternative 3 would require improvements at one undercrossing in Los Angeles and at three in Lynwood, where each pass beneath Interstate 105. Because the overcrossings would be widened at these locations, the required minimum vertical clearances inside the undercrossings beneath the bridges would be non-standard without "reprofiling" or deeper excavation, re-grading and paving.

The important local street and freeway connections would be retained after the proposed project reprofiling projects were completed. The four undercrossings (Central Av, Fir St, Bullis Rd, and Harris Av) proposed for alteration are not significant for their appearance, their importance is in their association with the development and implementation of the "intelligent," multi-modal freeway. With the proposed changes, the Century Freeway-Transitway Historic District the larger freeway would remain its role supporting the larger ITS system. The multi-modal character of the Century Freeway-Transitway Historic District would continue after the undercrossings were regraded. No adverse effect is thus expected to result from the proposed modifications to the four undercrossings or to the larger Century Freeway-Transitway Historic District.

Retaining Walls

To minimize the necessity to acquire additional right of way in the densely populated project area, retaining walls would be extended or replaced under each of the two build alternatives. By keeping permanent improvements within the existing freeway right of way, the addition and extensions of retaining walls would be necessary. Under Alternative 2 and Alternative 3, numerous retaining walls would be constructed in the Century Freeway-Transitway Historic District.

While not character defining features, the retaining walls are nonetheless considered part of the historic fabric of the historic district. New and modified retaining walls would approximate the appearance of the existing, simple retaining walls. Because those new or modified retaining walls are entirely utilitarian, would approximate the appearance of the existing retaining walls, and would be necessary to avoid acquiring additional property, their construction and implementation are not expected to cause an adverse effect to the Century Freeway-Transitway Historic District.

Soundwalls

Both build alternatives would require the reconstruction or addition of new soundwalls in the Century Freeway-Transitway Historic District. Certain soundwalls were constructed as part of the original project, but those have been periodically updated and modified as the need arose, and funding became available. Because of periodic changes and additions to the soundwalls, none is considered a character-defining feature of the larger historic district.

For Alternative 2, a total of eight soundwalls would be constructed for the proposed project. For Alternative 3, a total of 16 soundwalls would be constructed for the proposed project. New and reconstructed soundwalls for the proposed project would roughly approximate the appearance of the existing soundwalls.

The proposed construction of new soundwalls and alteration of existing soundwalls in the Century Freeway-Transitway Historic District is not expected to affect the significance or the immediate setting of the historic district. None of the soundwalls is a distinctive feature, and they do not create special spaces that characterize the larger property. Their proposed construction and alteration would ensure that noise generated by the freeway would not affect the surrounding sensitive receptors, none of which are historic properties. Considering the fact that any new walls or additions would be constructed to match the existing masonry pattern, color texture and layup to the extent possible, the expected effects of soundwall changes on the resources or to the greater, 18-mile long linear historic district, considered in their entirety, are not expected to be adverse.

California Highway Patrol Enforcement and Observation Areas

The proposed construction of new facilities, including CHP Enforcement and Observation Areas and MVPs in the Century Freeway-Transitway Historic District are not expected to affect the significance or the setting of the historic district. None of those existing facilities is a distinctive feature, and they do not create special spaces that characterize the larger property. As a result, the expected effects of the proposed construction of new CHP Enforcement Areas and Observation Areas and alteration of existing facilities in the Century Freeway-Transitway Historic District on the resources or to the larger, roughly 20-mile-long historic district are not expected to be adverse.

Landscaping

Most of the Century Freeway-Transitway Historic District is designated as a Classified Landscaped Freeway. However, proposed alterations to landscaping, which include removal of approximately 105 trees for Alt. 2 and 177 trees for Alt. 3, are not expected to directly or indirectly alter any of the characteristics of the Century Freeway-Transitway Historic District landscape that qualify it for inclusion in the National Register in a way that would reduce the integrity of the district. Its “sense of place,” which is partially formed by the designed landscape

created by the trees and bushes on either side of the resource in would remain essentially unchanged. Under Alternative 2, of the estimated 2,300 trees in the historic district, fewer than five percent of the trees would be removed, with an additional nearly six percent of the trees protected. Alternative 3 would remove about seven and three quarters percent of the trees, but an additional three and a half percent of the trees that could have been removed would be protected. Under either build alternative a substantial majority of the historic district's trees would therefore remain. The overall intent of the original landscape design is expected to remain perceptible and intact with replacement of the removed trees. The historic district's larger and immediate settings would not be affected by those minor landscaping changes.

While the proposed project would call for destruction of trees under either alternative, the affected trees would be replaced in-kind. The replacement landscape design would not change from the existing design. Because lost trees would be replaced in-kind, following Caltrans route-specific original landscape design, no adverse effect is expected to result from construction or implementation of either build alternative. No adverse effects, either those reasonably foreseeable expected to be caused by the undertaking or those that may occur later in time, either farther removed or cumulative are expected to be caused by the proposed landscaping modifications. Based on this analysis, the proposed project is not expected to result in an adverse effect to the built environment historic properties.

Intelligent Transportation System

The proposed project would add meters at 14 ramps, as well as signage and new tolling equipment. All of those features would be part of the property's Intelligent Transportation System (ITS). The meters proposed to be added at the ramps would augment the existing meters rather than remove or reduce those features. Their addition at those 14 ramps is expected to improve and expand on the original project traffic regulation goals, as opposed to diminishing its intentions. The proposed additional signage and tolling equipment would carry forward the stated traffic regulation concepts increasing its regulation; therefore, no adverse effects are expected to be caused by their additions.

Ramps and Interchanges

Because of project-related realignment, widening, or installation of ramp metering (see above), ramps are proposed to be modified under both build alternatives. Realignment would be required to accommodate outside widening for the ExpressLanes and some ramps would be widened to correspond with anticipated additional traffic. Alternative 2 would modify 11 ramps; Alternative 3 would modify 23 ramps. In order to convert the HOV lanes to ExpressLanes, system interchanges would also be changed. Both build alternatives would necessitate alterations to the four interchanges. Proposed ramp improvements for each alternative would be minimal and would include pavement widening of 8 inches and restriping to accommodate mainline widening.

The proposed updated ramps and additional meters would enhance the beneficial traffic regulation concepts by increasing regulation. No adverse effects are expected to be caused by the ramps' modest realignment, or by the addition and updating of ramp meters. Physical modifications to the ramp geometry will not be required where HOV Direct Connectors are converted to ExpressLanes Connectors; however, replacement of signage and the addition of tolling equipment are proposed.

Five minor interchange alterations are proposed where I-105 crosses I-110. Those alterations would include one instance of converting HOV to two ExpressLanes, and four cases where HOV connectors would be converted to ExpressLanes Connectors. At the two interchanges between I-105 with I-710 and I-110, extant HOV lanes would be converted to two ExpressLanes. In total, seven minor modifications, made in traffic lanes, are proposed to three of the four interchanges in the Century Freeway-Transitway Historic District. The largest difference would be where an HOV lane would be converted to two ExpressLanes, increasing capacity. Those proposed changes in use would be achieved in existing lanes, on paved roadways.

For the majority of the ramps, including on- and off-ramps and connectors, where modifications are part of the proposed project, the convergence or divergence points of those ramps would remain in the same locations. No adverse effects, either reasonably foreseeable but expected to be caused by the undertaking or those that may occur later in time, either farther removed or cumulative are expected to be caused by proposed ramps, interchanges and connector modifications. While the proposed project would require very limited physical destruction of very small portions of 11 ramps for Alternative 2 and 23 ramps for Alternative 3, those changes would allow their continued use. As a result, the proposed project is not expected to result in adverse effects to the Century Freeway-Transitway Historic District's ramps, interchanges, or connectors.

Green Line

The Green Line light rail line runs concurrent with the I-105 freeway, primarily in the center median of the Century Freeway-Transitway Historic District. For both build alternatives, construction and implementation of proposed project would replace existing fences in and on the median barrier that separates the roadway and rail right of way, add tolling gantries, changeable message signs and static signs. Supporting infrastructure that accommodate power and communications lines would be required as well, but that work is proposed in the Century Freeway-Transitway Historic District shoulder and HOV lanes. Most of the gantry and sign posts are proposed to be built in what is considered the median, atop the concrete barriers.

While the new sign structures require much deeper subterranean foundations than most of the extant signs, the difference would not be perceptible to freeway or Green Line users, nor to views toward the Century Freeway-Transitway Historic District from beyond its boundaries. The proposed alterations to the Green Line barrier and fence would be made in 31 locations for Alternatives 2 and 3. In each location 100 linear feet of fence and barrier would be replaced. In total, 3,100 linear feet, or fewer than two percent of the overall barriers in the Century Freeway-Transitway Historic District would be replaced.

The proposed alterations adjacent to the Green Line including addition of tolling gantries, changeable physically message signs, static signs, replacement of barriers and fences, adding tolling gantries and replacing existing ITS infrastructure with tolling communications, are not expected to directly or indirectly affect the Century Freeway-Transitway Historic District. Neither the Green Line, a contributing feature of the Century Freeway-Transitway Historic District, nor the Historic District would no longer be able to convey their historic significance, it would remain unimpaired. Because the significance of the Century Freeway-Transitway Historic District, including the Green Line is in their associative values rather than their reasonably utilitarian appearances, the significance of the historic district is not expected to be affected. The overall character of the freeway-transitway is not expected to change based on limited replacement of

barriers and fences, signs and posts or ITS updates, the proposed project is not expected to cause an adverse effect.

West Santa Ana Branch Transit Corridor

The West Santa Ana Branch Transit Corridor (WSAB) is proposed to cross over the I-105/Century Freeway-Transitway Historic District between Garfield Av and Paramount Bl in Paramount near South Gate. In order accommodate the proposed WSAB project, under Alternative 3, the I-105 ExpressLanes project would provide adequate space in the median to widen the Green Line with a new transfer platform in the future. This scenario includes a 13-foot inside shoulder and a reduced outside shoulder. It would allow the I-105 Expresslanes project to be independent from the other proposed project in that area, with necessary room for proposed future improvements. For Alternative 3 and WSAB, the existing freeway cross section of 228 feet would remain. Implementation of Alternative 3 would entail the addition of limited retaining walls as described in the Retaining Walls section above. By using retaining walls, the subject property freeway can be very slightly widened, where required without affecting immediately adjacent properties. As described in the Retaining Walls subsection, the proposed new and existing modified retaining walls would approximate the appearance of the existing, simple retaining walls. Those extant retaining walls are plain, board-formed concrete with metal stanchions supporting wire hand-rails. Because those new or modified retaining walls are entirely utilitarian, would approximate the appearance of the existing retaining walls, and would be necessary to avoid acquiring additional property, their construction and implementation are not expected to cause an adverse effect to the Century Freeway-Transitway Historic District. No adverse effects are expected to be caused by the addition of the proposed limited retaining walls that will be necessary to accommodate the proposed project, balancing requirements for future transit.

Dominguez Channel Access Road

The Century Freeway-Transitway Historic District crosses over the Dominguez Channel Historic District in the City of Hawthorne. The existing I-105 spans the channel in a single-span bridge structure between Kornblum and Yukon Avenues. Because the Dominguez Channel OC (Bridge No 53 2518) is proposed to be widened under Alternative 3 for the proposed project, the access road would be altered to retain adequate vertical clearance beneath the freeway overcrossing at Dominguez Channel. The overcrossing would be widened by 16.3 feet on the westbound (north) side and by 10.3 feet on the eastbound side for a total of 26.6 feet. In order to make the proposed alterations, temporary construction easements would be obtained at two parcels in the Dominguez Channel Historic District (see also Right of Way subsection above). For Alternative 3, the two parcels would only be used for the duration of the project and are owned by the Los Angeles County Flood Control District. No work is proposed in the central water channel. Build Alternative 2 would entail bridge widening but would not require a TCE.

Without the proposed modification of the Dominguez Channel access road clearance beneath I-105, vertical clearance for the maintenance roads would remain sub-standard and those conditions would be worsened by the bridge widening. As part of the proposed project, vertical clearance between the I-105 and the Dominguez Channel on the western maintenance road would be increased to 8’-1.” The existing Dominguez Channel would remain as-is, as would the channel bottom, sidewalls and fencing. Furthermore, the channel paved bottom, channel walls and fences at Dominguez Channel would be protected during construction activities.

The access road is in the boundaries of the Dominguez Channel Historic District but was altered in the 1990s to accommodate construction of I-105. The proposed modification of the access road would allow it to continue its service to the Dominguez Channel Historic District and would maintain its original historic function, which is a benefit. The height and width of the access road do not contribute to the significance of the resource, but its purpose, providing maintenance vehicles and workers access is required for Dominguez Channel Historic District's continued use. Its plain utilitarian character would be retained. The purpose of the access road would be sustained, and its functional character would be maintained.

No adverse effects, either foreseeable but expected to be caused by the undertaking or those that may occur later in time, farther removed or cumulative are expected to be caused by the alteration of the Dominguez Channel Historic District access road beneath the overcrossing. While the proposed project would require limited removal of an area of non-native soil, which could be considered limited physical destruction, it is a very small portion, about half of a percent of the larger linear resource and the proposed work would enable its continued original use. No changes in the character of the historic district's immediate or greater setting that contributes to its historic significance is proposed. Neither alternative would introduce visual, atmospheric or audible elements that would diminish the integrity of the historic district's significant historic features. Similarly, neither alternative would cause neglect of the Dominguez Channel Historic District that would cause its deterioration, the alteration ensures its future maintenance by sustaining access beneath the overcrossing. As a result, the proposed project is not expected to result in an adverse effect to the Dominguez Channel Historic District or to its eastern or western access roads.

Consultation

Consultation was initiated with the California State Historic Preservation Officer (SHPO) in October 2019. The project identification of historic properties received concurrence on December 4, 2020. Continued consultation with SHPO occurred in December 2020 and received agreement with the Finding of Effect with Programmatic Agreement on April 20, 2021, which can be found in Appendix I.

Consultation with interested historical groups yielded no responses or requests for consulting party status for the built environment.

Section 4(f)

A Section 4(f) De Minimis impact finding has been prepared for a historic site (the Dominguez Channel) located within the project limits because it has been determined that no adverse effects would be caused to this linear historic property as a result of construction and implementation of either of the two build alternatives. In addition, Section 4(f) approval would not be required to the I-105 Historic District as this is a transportation facility. This Section 4(f) documentation can be found in Appendix A.

Archaeological Resources

A review of site records and field surveys did not identify any known archaeological resources within the APE of either build alternative. Archaeological studies indicated extensive previous ground disturbance throughout the APE through the construction of the existing freeway, roads, and associated utilities, as well as the construction of sub-grade rail lines, urban development, and other industry. The majority of the I-105 was built above grade on artificial berms and

viaducts or below grade where sections of the entire I-105 ROW was recessed through massive excavation of the landscape. As a result, the APE is generally considered to have low sensitivity for buried archaeological resources within the freeway right-of-way. However, archival research and consultation identified an area with potential for buried archaeological resources within the footprint of Alternative 3. Due to the location and access restrictions, which include widespread obstructions from existing pavement, sidewalks, utilities, and freeway berms and concrete support structures, Caltrans is unable to appropriately assess potential effects of the project on archaeological resources in this location. Therefore, effects to archaeological resources are still undetermined. No potential for effects to archaeological resources has been identified for project components under Alternative 2.

The execution of archaeological studies in urban settings experiences complex limitations such as the presence of extensive fill, urban transportation and utility corridors, modern asphalted roadways, pedestrian facilities, and/or existing buildings. The Advisory Council on Historic Preservation (ACHP) recommends that “special methods can be used to ensure effective and efficient consideration and treatment of archeological sites” to guide identification, evaluation, and treatment of potential historic properties. Due to access restrictions in APE, Caltrans has determined that a phased approach will be utilized. A project Programmatic Agreement and Cultural Resources Management Plan (CRMP) has been prepared to address the phased identification, evaluation, and application of the Criteria of Adverse Effect on previously unidentified potential archaeological historic properties/historical resources within the footprint of Alternative 3 across three stages of the project: pre-construction, construction, and post-construction.”

The pre-construction stage will perform archaeological testing within the Focus Area as access is granted through geoarchaeological coring, Extended Phase I (XPI) testing, and if appropriate, Phase III excavation.

During construction, Caltrans will establish archaeological and tribal monitoring for any sensitive areas that were not investigated prior to construction, as appropriate. Archaeological deposits encountered during any phase of this plan will be assumed eligible for listing on the National Register under Criterion D, as well as any additional criteria identified through consultation. Avoidance, protection, and treatment measures will be determined for assumed eligible properties based on the results of consultation, XPI or monitoring efforts, and the safety considerations.

Post-construction analysis of recovered material and summaries of phased identification efforts shall be documented in a technical document as well as continued consultation with the SHPO and consulting parties on the final finding of effect for the Project.

2.1.11.4 Avoidance, Minimization, and/or Mitigation Measures

Cul1- Health and Safety Plan: Caltrans has identified contaminated soils within eastern segment of the Focus Area. Caltrans will develop a Health and Safety Plan prior to the commencement of further phased efforts detailed in the CRMP to guide safety precautions for field crew and provide alternative treatment methods for archaeological sites with contaminated soils. The Health and Safety Plan will apply to all archaeological investigations within the Focus Area and will be appended to the CRMP, which will not require amending this PA.

Cul2 - Archaeological Discoveries: If primary archaeological deposits are encountered during the pre-construction field efforts outlined in the CRMP, Caltrans will notify the PA parties of the find within 48 hours, provide basic information about the nature and context of the resource, and solicit comments or concerns. Caltrans, with input from the Native American Monitor, will simultaneously conduct boundary definition investigations for the resource, as outlined in the CRMP.

Caltrans will assume any primary archaeological deposit within the Undertaking's Area of Direct Impact (ADI) to be eligible for listing on the National Register Under Criterion D. Based on the comments or concerns from the initial discovery notification and the results of the boundary definition efforts, Caltrans will determine if an assumption under additional National Register Criteria is appropriate and if the resource can be protected from effects through the establishment of an Environmentally Sensitive Area (ESA) during construction or if treatment through data recovery is necessary.

If Caltrans determines that that the historic property can be protected from effects through the establishment of an ESA, no further ground disturbing investigations will take place within the property boundary. Caltrans will develop an ESA Action Plan to guide the enforcement of any ESAs during construction. The ESA Action Plan will be included in the Final Pre-Construction Testing Report.

If Caltrans, in consultation with the PA Parties, determines that a historic property cannot be protected from effects of the Undertaking, Caltrans will provide a secondary notification and consult with the PA Parties on proposed treatment measures. The secondary notification will provide updated site description and boundary mapping, propose protection or treatment measures, and solicit comments.

The PA Parties will have seven (7) days from the date of the secondary notification to provide comments. Caltrans will take all comments and concerns into account to determine the appropriate course of action and provide a final notification before moving forward.

Cul3 - Pre-Construction Testing Report: Within 90 days of the completion of the pre-construction field efforts outlined in the CRMP, Caltrans will submit to the PA Parties a draft Pre-Construction Testing Report summarizing the results of any XPI and data recovery, identifying the remaining areas of sensitivity within the Focus Area, proposing protection or treatment measures to be implemented during construction, and requesting comments.

The PA Parties will have 30 days from the submittal of the draft report to provide comments. Caltrans will consult for no more than 60 days on the proposed protection or treatment measures. Caltrans shall take all comments and input gleaned during consultation into account before issuing a final Pre-Construction Testing Report.

Cul4 - Archaeological Discoveries: Caltrans will notify the PA Parties within 48 hours of the discovery of a potential historic property or unanticipated effect to a known historic property. The notification will include a description of the nature and location of the find, Action(s) taken to protect the find, notification of an assumption of eligibility under Criterion D and solicitation of significance under additional criteria, and proposed avoidance and treatment measures.

The PA Parties will have 48 hours from the date of the notification to respond with comments and recommendations. Caltrans will take into account the comments and recommendations provided in carrying out the final treatment measures.

Cul5 - Post-Construction Phase, Construction Completion Notification Report: Within 30 days of the completion of Construction, Caltrans will submit to the PA Parties for review and comment a letter report notifying the PA Parties that construction has concluded and summarizing the results of the monitoring effort. If appropriate, Caltrans will notify the PA Parties of a proposed Finding of No Adverse Effect-ESA for the Undertaking, as provided in Section 6.4.1 of the CRMP, and the Undertaking will not be subject to further review under this PA. Otherwise, Caltrans will continue consultation according to Section 6.4.2 of the CRMP and Stipulation III.C.3.c of this PA. If a PA Party objects in writing to the proposed Finding of No Adverse Effect-ESA, Caltrans will consult for no more than 30 days to attempt to resolve the objection. At the end of the 30-day window, Caltrans will take all comments and information gained through consultation into account and submit to the PA Parties a plan of action or notification that a Finding of No Adverse Effect is appropriate for the Project. Any further objection shall be resolved according to Stipulation VII.C of the PA. The Project will not be subject to further review following the completion of this process, unless otherwise resolved during consultation.

Note: For mitigation if needed: Unless determined otherwise through consultation, the preference for alternative mitigation will be towards the development of an interpretive program of physical and/or digital exhibits open to the public. Caltrans will determine the nature, location, and content of the exhibits in consultation with the PA Parties. Caltrans will have no obligation to develop alternative mitigation options if the Project results in no adverse effect to historic properties, or adverse effects are sufficiently mitigated through the protocols listed above.

Cul6 - If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the Coroner to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to California Public Resource Code (PRC) Section 5097.98, will then notify the Most Likely Descendant (MLD). At that time, the person who discovered the remains will contact the Caltrans District 7 Environmental Branch Chief or the District 7 Project Archaeologist so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Cul7 - Extended Phase I Archaeological Resource Identification Plan (XPI). Archaeological resource identification will require stages of archaeological excavation and monitoring within the Archaeological Focus Area during PS&E and construction. Extended Phase I (XPI) archaeological investigations will occur during PS&E in isolated locations within the Focus Area under the supervision of the Caltrans Project Archaeologist and with the presence of a Native American monitor. The course of action taken upon the discovery of any cultural materials during XPI investigations will be determined in accordance with the Project specific PA and CRMP. Archaeological investigations during construction will coincide with the removal of sidewalk and hardscape within the construction footprint. To the extent feasible, archaeological investigations shall be given access to previously paved locations as hardscape is removed. Construction may resume following

investigations within previous hardscape areas with the presence of archaeological and Native American monitors.

Cul8 - Archaeological Monitoring Area (AMA). An Archaeological Monitoring Area will be instated to identify potential archaeological resources within the Archaeological Focus Area. A California Department of Transportation (Caltrans) Professionally Qualified Staff (PQS) qualified monitor (or similarly qualified archaeological consultant) along with a Native American observer will monitor all Project ground-disturbing activities within the Archaeological Focus Area. The Caltrans Resident Engineer will be responsible for identifying scheduled ground-disturbing Project activities and will immediately notify the Caltrans project archaeologist to schedule qualified archaeological and Native American monitors. The AMA will remain in force throughout the duration of the project. When construction activities are complete, the Resident Engineer will inform the Caltrans project archaeologist that construction work has been completed. Refer to Cultural Resources Management Plan for the full list of tasks included to protect potential archaeological resources.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

2.2.1.1 Regulatory Setting

Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

2.2.1.2 Affected Environment

As an appendix to the Water Quality Assessment Technical Memorandum, Location Hydraulic Study Forms for Dominguez Channel and Compton Creek, and a *Summary Floodplain*

Encroachment Report for Special Flood Hazard Areas (SFHAs) were prepared in November 2019.

The Federal Emergency Management Agency (FEMA) provides information on flood hazards and frequency for cities and counties, based on its Flood Insurance Rate Maps (FIRMs). A FIRM is the official map of a community for which FEMA has delineated SFHAs. SFHAs are defined as an area that will be inundated by a flood event having a 1% chance of being equaled or exceeded in any given year. The 1% annual chance flood is also referred to as the base flood or 100-year flood. Due to their vulnerability, SFHAs must enforce the National Flood Insurance Program's floodplain management regulations and where mandatory purchase of flood insurance applies. Figure 2-21 depicts the flood zone map of the project area relative to the base 100-year floodplain.

Figure 2-21: Flood Zone Map

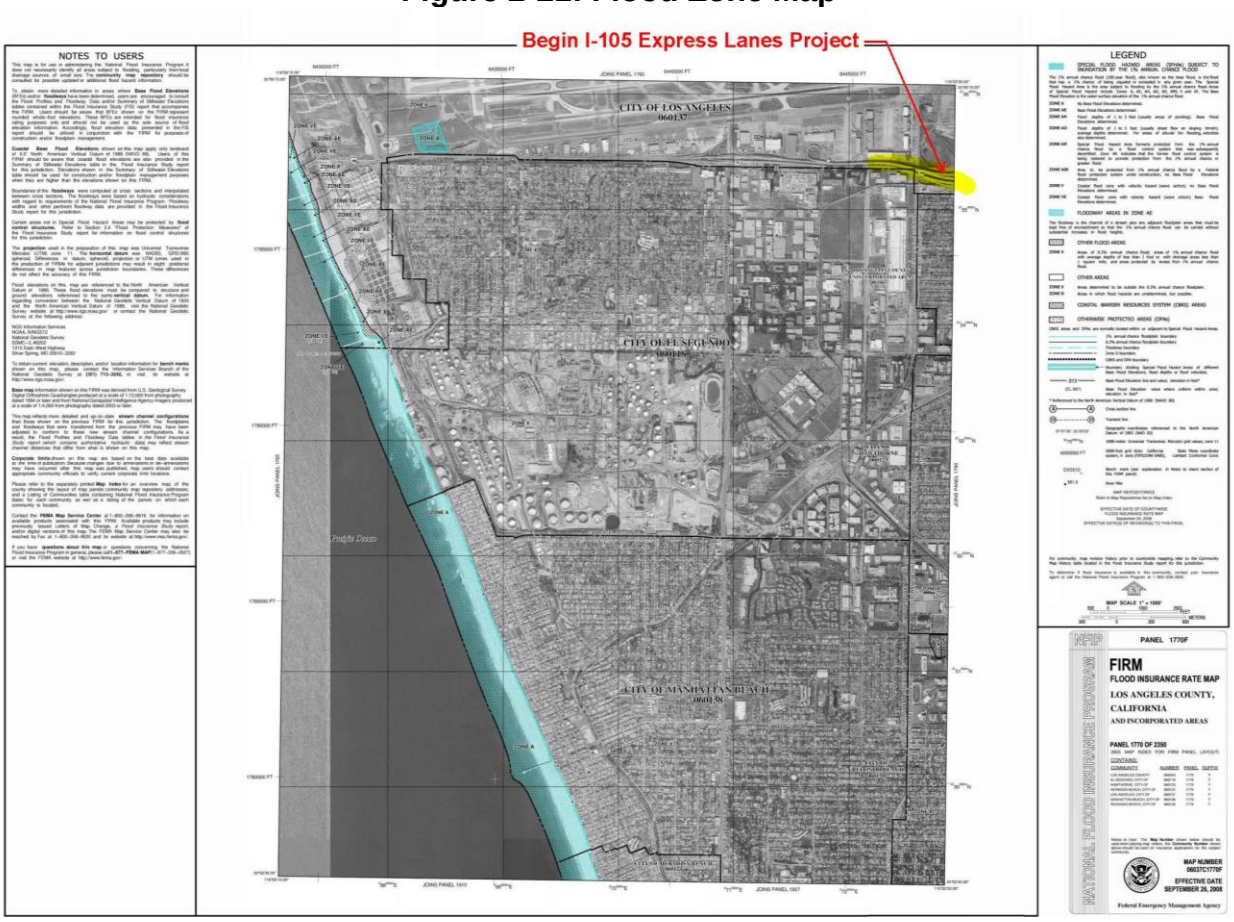


Figure 2-21: Flood Zone Map Cont.

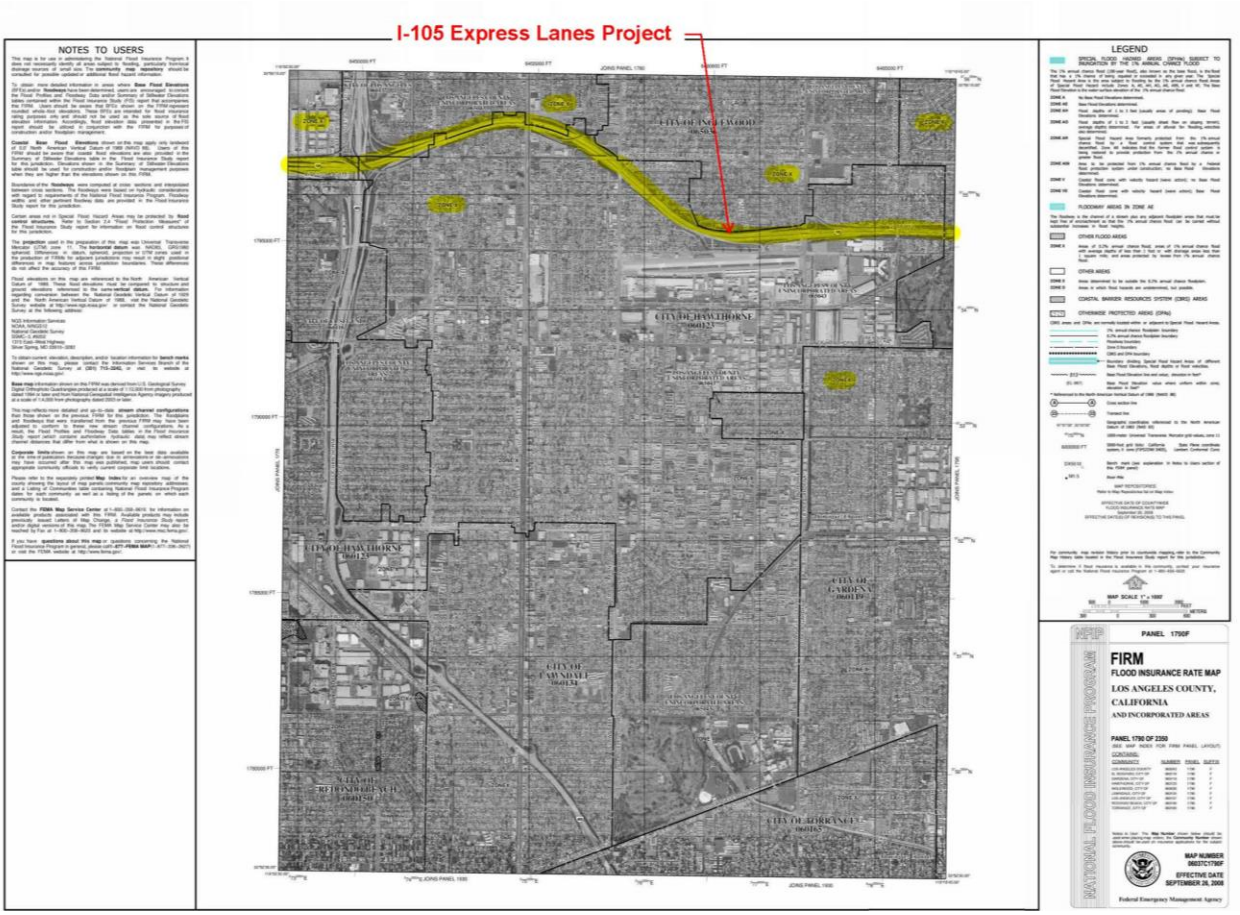


Figure 2-21: Flood Zone Map Cont.

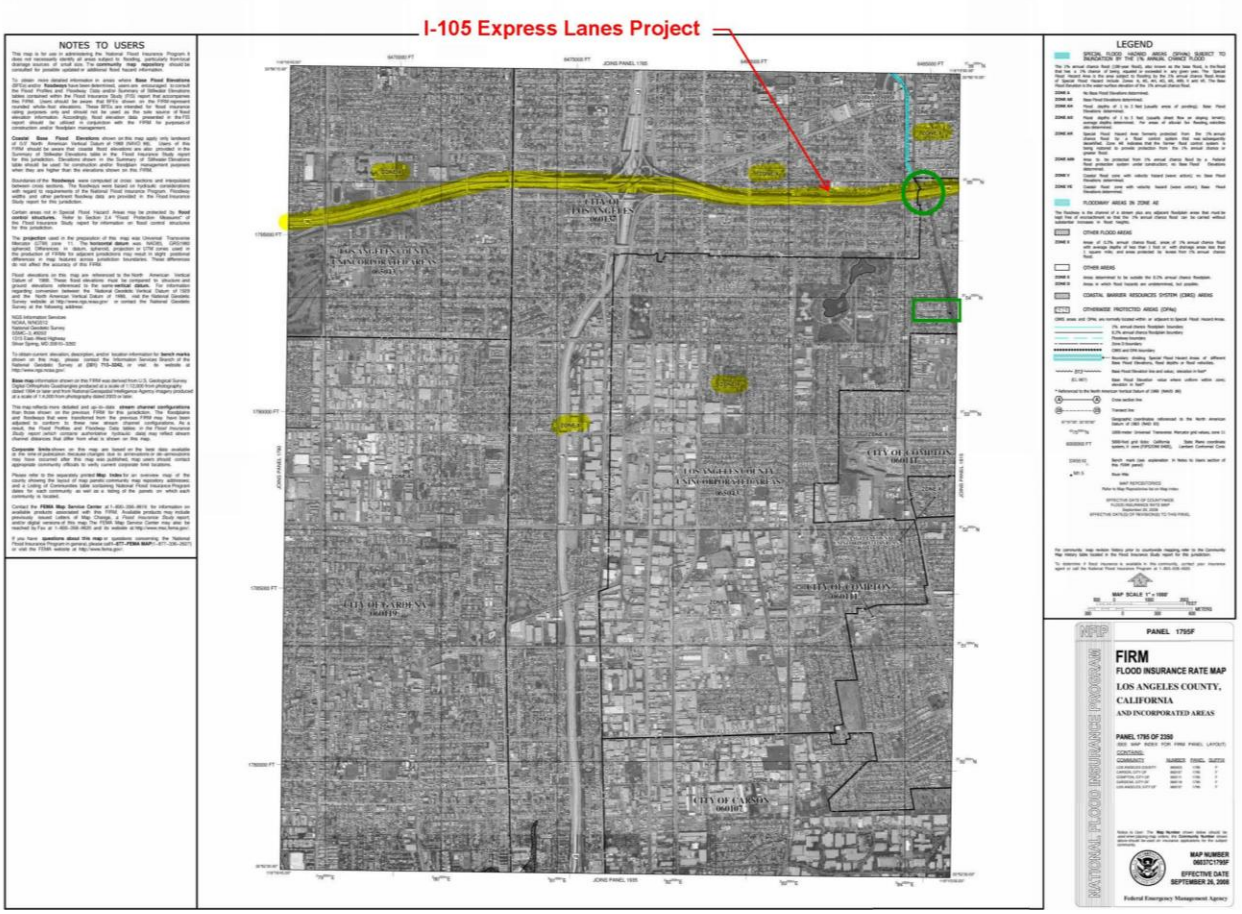


Figure 2-21: Flood Zone Map Cont.

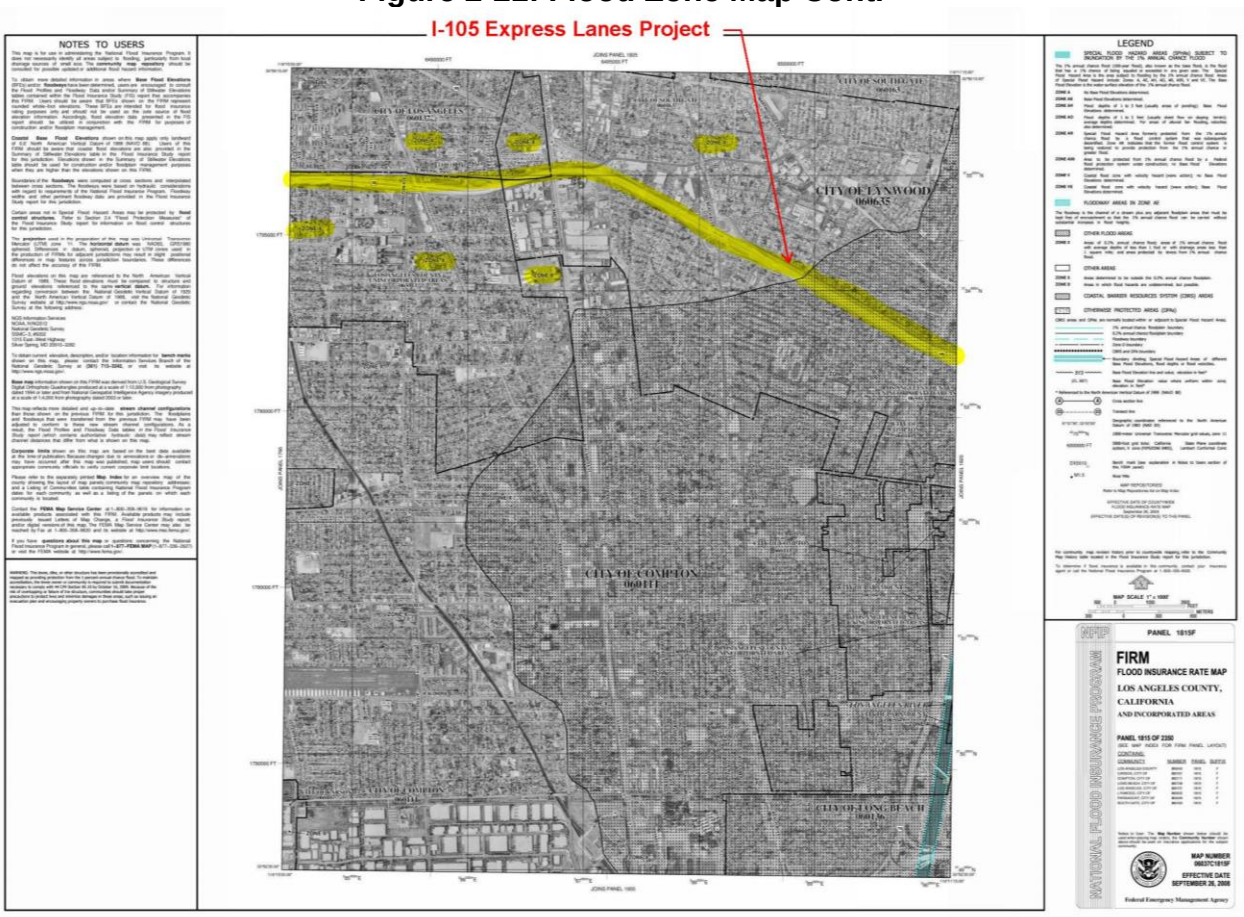


Figure 2-21: Flood Zone Map Cont.

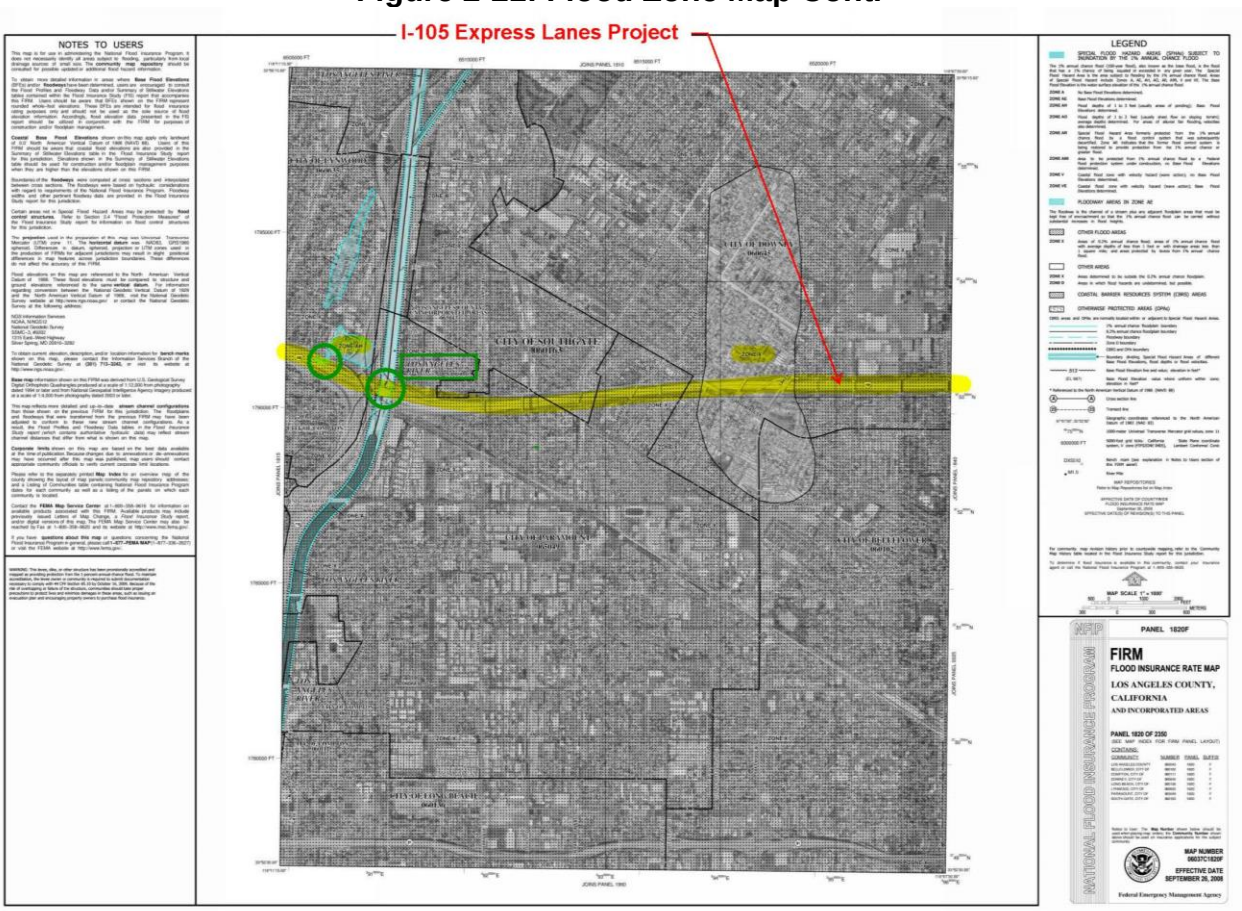
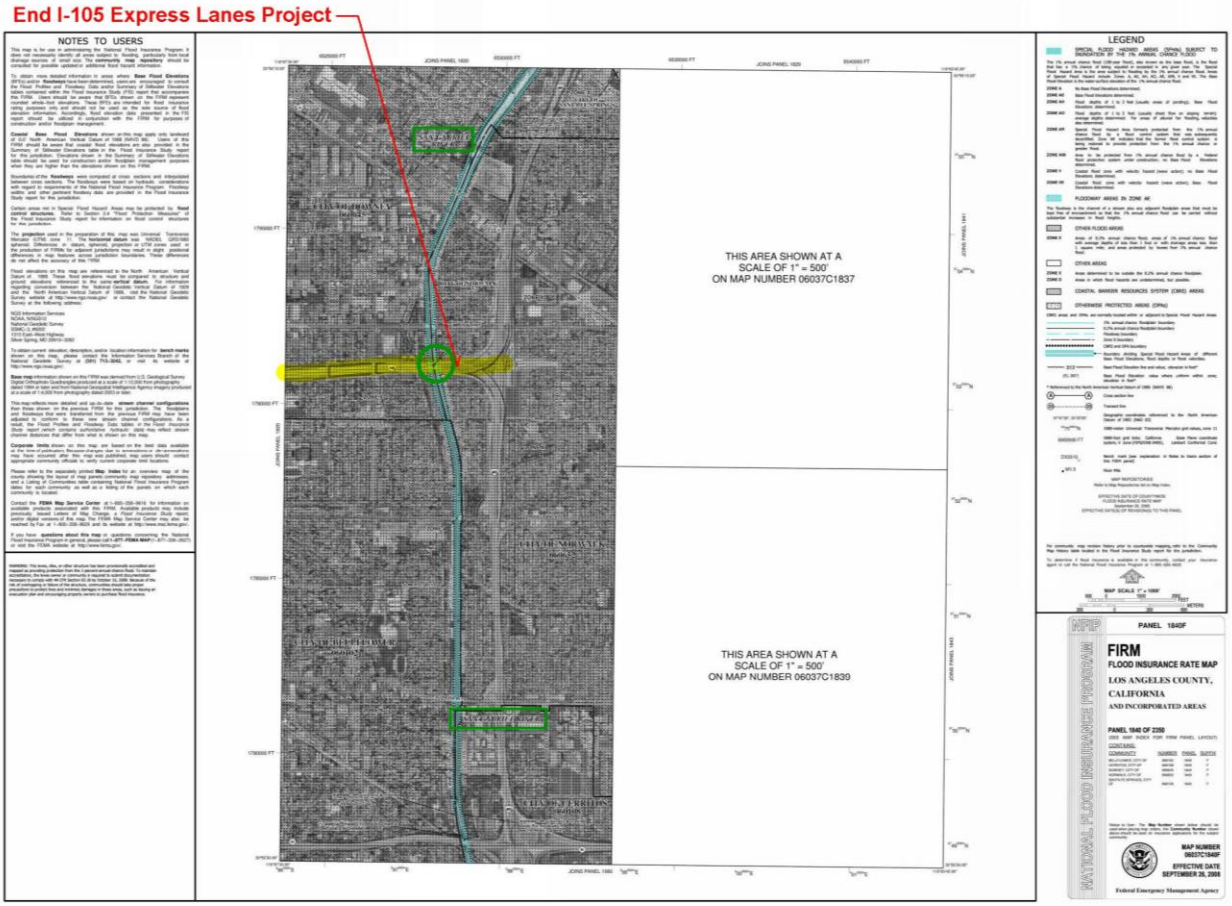


Figure 2-21: Flood Zone Map Cont.



The majority of the I-105 corridor is found within the Zone X and Shaded Zone X flood zones. Zone X is an area determined outside the 1% annual chance floodplain and is not a SFHA. Shaded Zone X are areas of a 0.2% annual chance flood or areas with protected by levees from a 1% annual chance flood. Shaded Zone X is also not a SFHA. Dominguez Channel and Compton Creek are shown in the FIRM within Zone X. The SFHAs that are located within the corridor are Zone AH and Zone A. Both of these areas are subject to inundation by the 1% annual chance flood, but Zone A does not have a base flood elevation determined and Zone AH has a base flood elevation determination of 1 to 3 feet. The locations of the SFHAs within the project area are:

Table 2-101: FEMA Flood Zones (SFHAs) within the Project Study Area

Post Mile/Channel Crossing	FEMA Flood Zone
R13.17 to R13.22	Zone AH
R13.54 to R13.60/Los Angeles River	Zone A
R17.45 to R17.49/San Gabriel River	Zone A

2.2.1.3 Environmental Consequences

The No-Build Alternative would not alter or modify the existing environment. No soil disturbance or increase in impervious areas would occur. Therefore, it would present no potential impacts in terms of hydrology and floodplain encroachment.

The proposed project intersects through 3 SFHAs. Zone AH is located on the westbound side of I-105 at PM R13.2 (near Wright Road), and Zone A is contained within the channel crossings of the Los Angeles River and the San Gabriel River.

Zone AH is located below the existing freeway elevations. I-105 at PM R13.2 is elevated over 20 feet above the existing surface street level thus, the proposed project improvements on the freeway will not encroach into or alter the existing Zone AH flood zone because the freeway is not encompassed within the flood zone. Within Zone A, no bridge structure modifications are proposed at the channel crossings of Los Angeles River and San Gabriel River. The bridges will remain at current length and vertical height with no proposed changes to the bridges or impacts to the base floodplain. Therefore, the project is located within a 100-year base floodplain but no action from the proposed build alternatives would constitute a significant floodplain encroachment.

Bridge widening at Dominguez Channel and Compton Creek Channel is proposed for both Build Alternatives. The proposed bridge widening (5.5 feet to 16 feet) would maintain the current vertical clearance once the maintenance roadway is reprofiled, and the bridges would span over the channels with no pier or other permanent impacts to the channel. Both channels are located outside the base floodplain in Zone X therefore, there are no anticipated impacts to the existing base flood elevations. If plans in subsequent design phases determine a potential for channel encroachment and base flood elevation impacts, then detailed hydraulic modeling of the preferred alternative shall be conducted and a Location Hydraulic Study will be prepared.

2.2.1.4 Avoidance, Minimization, and/or Mitigation Measures

There are no anticipated impacts by the proposed project to the existing base flood elevations. Since no impacts are anticipated, no Avoidance, Minimization, and/or Mitigation measures would be required.

2.2.2 Water Quality and Storm Water Runoff

2.2.2.1 Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source[1] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.

- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

[1] A point source is any discrete conveyance such as a pipe or a man-made ditch.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent[2] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the State include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

[2] The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- **National Pollutant Discharge Elimination System (NPDES) Program**

  Municipal Separate Storm Sewer Systems (MS4)

  Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water." The SWRCB has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans' MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

  Caltrans' MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

  1. Caltrans must comply with the requirements of the Construction General Permit (see below);

  2. Caltrans must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and

  3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

  To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit

Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans' SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

2.2.2.2 Affected Environment

A Storm Water Data Report (SWDR) was developed and completed for the project on June 3, 2015. The SWDR was changed and updated in March of 2021. A Water Quality Assessment Technical Memorandum was prepared for the project in October of 2019.

Receiving water bodies and watersheds within the proposed project area include Compton Creek, Los Angeles River Reach 1 and 2, Los Angeles River Estuary, Dominguez Channel (concrete lined portion above Vermont Avenue and unlined portion below Vermont Avenue), Los Angeles/Long Beach Inner and Outer Harbor, and San Pedro Bay Near/Off Shore Zones.

A portion of I-105 in the cities of Norwalk, Paramount, and Downey (PM R13.4/R17.4) is constructed approximately 30 feet below original ground surface and is periodically threatened by groundwater levels in the Central Basin. To protect the substructure of the I-105 from damage, Caltrans owns and operates a series of wells that extract groundwater from beneath the freeway. The extracted groundwater has traditionally contained elevated levels of volatile organic compounds (VOCs) that exceed drinking water standards, so Caltrans operates a treatment facility at the Garfield Pump Station (PM R14.31) to treat the water before releasing it to the Los Angeles River. In addition to the extraction wells, there are a number of groundwater observation and test wells along the project corridor between I-710 and I-605.

2.2.2.3 Environmental Consequences

Construction of the build alternatives have the potential to impact water quality temporarily during construction. Soil disturbance activities such as excavation and trenching, soil compaction and moving, cut and fill, pavement rehabilitation at the sub-grade level and grading might have a potential impact to surface waters. Disturbed soils are susceptible to high rates of erosion from wind and rain, resulting in sediment transport via storm water runoff from the project area. Chemical contaminants, such as oils, fuels, paints, solvents, nutrients, trace metals, and hydrocarbons, can attach to sediment and be transported to downstream drainages and ultimately into collecting waterways, creating short term impacts such as the chemical degradation of water quality.

Construction materials, waste handling, and the use of construction equipment could also result in storm water contamination and affect water quality. Spills or leaks from heavy equipment and machinery can result in oil and grease contamination. The removal of waste materials during construction could also result in tracking of dust and debris. Other sources of pollutants associated with construction activities include asphalt paving, asphalt striping and marking, concrete cement operations and the use of metals during construction. Pesticide use, including herbicides, fungicides, and rodenticides, associated with site preparation is another potential source of storm water contamination. Larger pollutants, such as trash, debris, and organic matter, are also byproducts associated with construction activities. As such, the discharge of storm water may cause or threaten to cause violations of water quality objectives. These pollutants would occur in both the storm water discharges and non-storm water discharges and could potentially cause chemical degradation and aquatic toxicity in the receiving waters.

Short-term impacts caused by each of the alternatives include potential increases in sediment loads because of removal of existing groundcover and disturbance of soil during grading. The temporary residual increase in sediment loads from construction areas is unlikely to alter the hydrologic response (i.e., erosion and deposition) downstream in the hydrologic sub-area. The project would implement project design features to reduce short term impacts. For example, Implementation of a SWPPP is expected to attenuate and minimize the amount of sediments released from the construction site and, subsequently, the sediment processes in these areas would be reduced because all disturbed soil areas would be protected with temporary construction site BMPs that are identified in the SWPPP. Therefore, with incorporation of temporary construction site BMPs, no adverse impacts are expected with implementation of the

project. Project design features, including development of a SWPPP are discussed in the following section.

Excavations could affect groundwater quality during dewatering activities if groundwater is encountered. If an excavation needs to be dewatered, groundwater would be disposed of according to NPDES dewatering permit requirements. The amount of dewatering, however, is likely to be relatively small. Therefore, no substantial changes to regional groundwater levels are anticipated.

Construction activities could result in accidental releases of construction-related hazardous materials that might affect groundwater. Excavations could provide a direct path for construction-related contaminants to reach groundwater. Excavations could disturb known and undocumented soil or groundwater contaminants resulting in the migration of contaminated groundwater further into the groundwater table. All build alternatives would have the same potential for inadvertent contamination of groundwater. Per NPDES requirements, a dewatering plan would be prepared to guide the response to undocumented soil or groundwater contamination. Therefore, no substantial changes to groundwater quality are anticipated.

It is estimated that Build Alternative 2 would add 10 acres of new impervious surface (NIS) area and 31 acres under Alternative 3. This increase of NIS is the results of Alternative 2 affecting 15 gross solids removal devices (GSRD) and Alternative 3 affecting 22. The updated March 2021 SWDR NIS is approximately 35.3 acres. When an existing treatment BMP is removed or modified, or if its impervious contributing drainage area cannot continue to be treated by the treatment BMP, the NIS shall be counted towards the post construction treatment area (PCTA).

2.2.2.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures are recommended for both build alternatives. With inclusion of these measures into the project, it is anticipated that this project will have no adverse impacts to water resources.

Wat1 - A SWPPP shall be prepared for the project and will address all construction-related activities, equipment, and materials that have the potential to affect water quality.

Wat2 - All Construction Site BMPs would be installed, inspected and maintained to control and minimize the impacts of construction-related pollutants.

Wat3 - Should an excavation need to be dewatered, groundwater would be disposed of according to NPDES dewatering permit requirements.

Wat4 - Per NPDES requirements, a dewatering plan would be prepared to guide the response to undocumented soil or groundwater contamination.

2.2.3 Geology/Soils/Seismic/Topography

2.2.3.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples

of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using Caltrans' Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Department's Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

2.2.3.2 Affected Environment

The information in this section is summarized from the Geologic and Seismic Hazards Report (Diaz Yourman & Associates) completed in May 2019.

Regional Geologic Overview and Site Geology

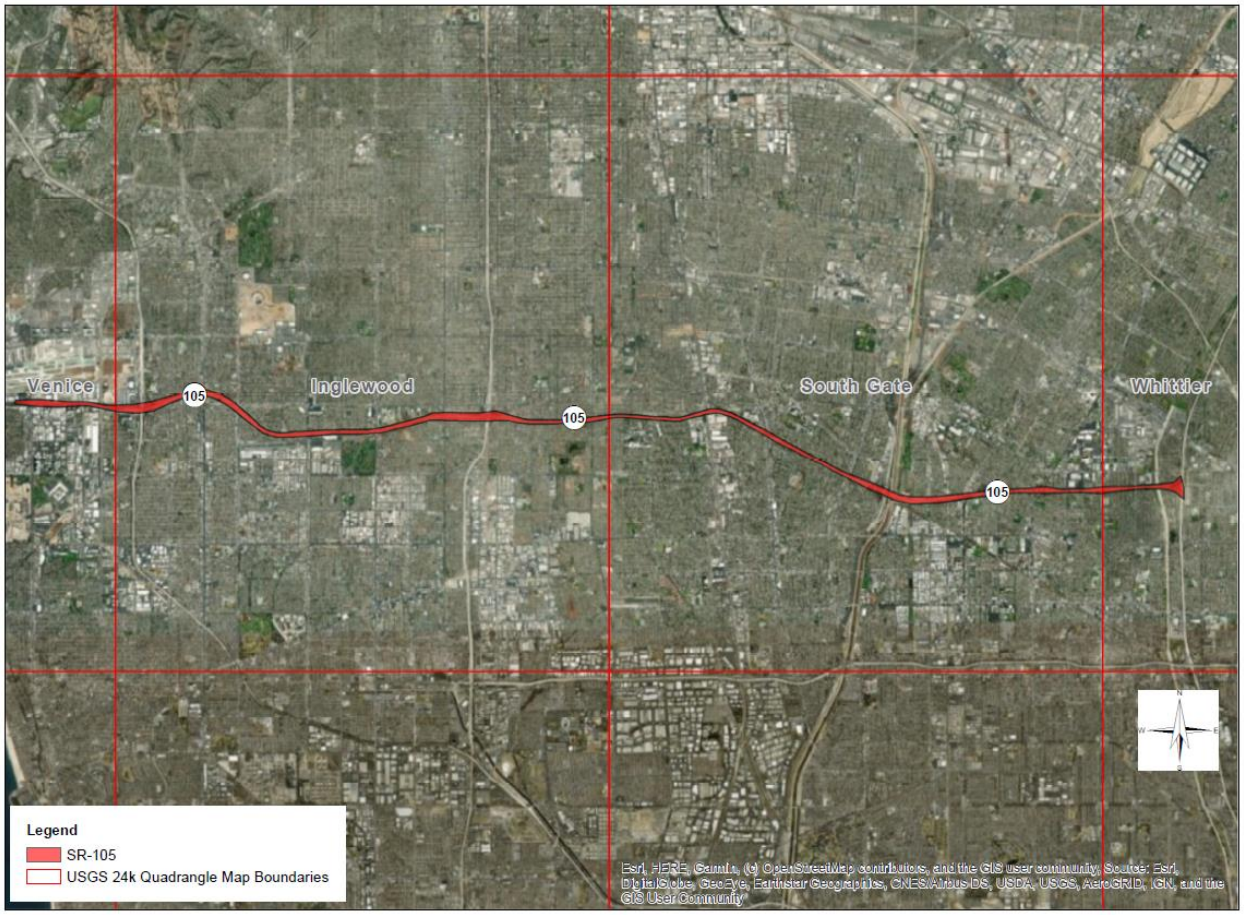
The project alignment lies within the Los Angeles Basin, which is part of the Peninsular Ranges geomorphic province. The Peninsular Ranges are a north-south-trending series of ranges in Southern California and extending into Mexico (CGS, 2002). The Los Angeles Basin is a low-lying basin that is bound by the Santa Monica Mountains to the north, the Santa Ana Mountains to the south, and the continental borderland marks the western boundary. The basin is composed of marine and non-marine deposits overlying the Cretaceous age basement rock. The project alignment largely resides within the Central Block of the Los Angeles Basin with a small portion of the alignment crossing into the Southwestern Block at the terminus of the alignment. Basement rocks of the two blocks are different, with the Southwestern Block basement designated as the Catalina Schist. Basement rocks of the Central Block are more challenging to define because of the depth of the basin. Basement rock has therefore been defined based on outcrops within the Santa Ana Mountains. These outcrops include the Bedford Canyon Formation composed of sandstone and siltstone; rocks of the Santiago Peak volcanics, which are composed mostly of andesitic breccias, flows, agglomerates, and tuffs; and granitoid plutonic rocks of the Southern California batholith found in the Santa Monica Mountains, which are mostly granodiorite, quartz monzonite, and quartz diorite.

Topography and Drainage

The project alignment stretches through four quadrangles, see Figure 2-29, identified by California Geologic Survey Warehouse starting from west to east as: Venice, Inglewood, South Gate, and Whittier quadrangles. In general, the project alignment consists of roadway pavement supported on aerial structures, embankment fills, or in a cut section on natural subgrade or minor local fills. At the westernmost point of the project alignment, I-105 begins at an at-grade section with a corresponding elevation of approximately 112 feet and quickly rises above surrounding elevation on aerial support structures for about 2 miles to just slightly west of the Inglewood Avenue undercrossing (UC). From there, I-105 begins to decrease in elevation and enters into a large cut section between the Inglewood Avenue UC and the Hawthorne Boulevard overcrossing (OC). The large cut section extends for approximately one mile to the Prairie Avenue OC and the Yukon Avenue UC then transitions to an approximately 15 to 20 foot-tall embankment section. For approximately one mile, the embankment section

continues decreasing in height until approximately between the Crenshaw Boulevard UC and the Van Ness Avenue OC where it transitions to a cut section with a height difference between I-105 and the surrounding existing ground surface ranging from 20 to 40 feet. The cut section continues for the next two miles to approximately between the Vermont Avenue OC and the Hoover Street UC where another transition from cut to a likely large embankment section of up to 50 feet in height occurs as I-105 then proceeds over I-110. For the next 7 miles, I-105 continues on an embankment section of approximately 10 to 20 feet in height as it intersects over I-710. Between I-710 and the Garfield Avenue OC, another transition from embankment to a likely cut section as deep as 15 to 20 feet occurs. For the last 4 miles, the project alignment continues as a likely cut section and ends at the at-grade section of Studebaker Road with an elevation of 98 feet.

Figure 2-22: Project Alignment



The project alignment crosses two major drainages, the San Gabriel River on the east near I-605 and the Los Angeles River near I-710. The concrete-lined San Gabriel River travels approximately 60 miles south from the San Gabriel Mountains, passing through urban areas and underneath I-105 close to I-605 to reach the Pacific Ocean. The San Gabriel River receives drainage from 689 square miles of eastern Los Angeles County with water draining from the mountains as well as storm drains along its route to the ocean (Department of Water Resources, 2019).

The larger Los Angeles River crosses under the project Alignment just east of the I-710 freeway. The Los Angeles River travels southward and eastward from its headwaters in the Santa Monica Mountains, the Simi Hills, and the Santa Susana Mountains to the northern corner of Griffith Park where the channel turns southward and continues across the coastal plain until it terminates in San Pedro Bay. The Los Angeles River is concrete lined over about 75% of its length and receives drainage from an 834-square-mile watershed. This includes mountain runoff, contributions from minor tributaries, and urban runoff (Los Angeles Department of Public Works, 2019). Surface water drainage along the project Corridor is controlled by storm drains that drain along the shoulder of the freeway.

The project alignment lies within the Los Angeles Basin portion of the Peninsular Ranges geomorphic province. The Los Angeles Basin is a depositional basin that is bound to the north by the Santa Monica Mountains, to the south by the Santa Ana Mountains, and to the west by the continental border (Yerkes, 1965). The project alignment begins in the Venice quadrangle where it encounters Quaternary older alluvium (Qoa) and Quaternary older eolian deposits (Qoe). Qoa is described as pebbly, gravelly, and silty sands. Because Qoe are aerially deposited, they are considered to be well sorted and are described as medium to coarse sand (CGS, 1998f). Continuing east along the project alignment, into the Inglewood quadrangle, Quaternary older alluvium (Qoa) and Quaternary younger alluvial-fan deposits (Qyf) can be expected. Qoa is described as dense to very dense sand, silt, and clay. Qyf is characterized as dense to very dense sand and silt (CGS, 1998d). Lastly, the remaining Project alignment continues east into the South Gate and Whittier quadrangles, where it is mapped predominately as Qyf (CGS, 1998b and 1998a). These soils represent deposition from the San Gabriel and Rio Honda Rivers.

Based on review of available geotechnical data from the available Caltrans MR and LOTBs, the subsurface soils in the upper 5 to 10 feet consists of loose to slightly compacted sandy silts, clayey sands, and clayey silts with varying amounts of fill. LOTBs at various locations along I-105 indicated that from 10 feet to approximately 100 feet below ground surface (bgs), the soil consists of dense to very dense silty sands and medium stiff to hard silty clays.

Groundwater Conditions

The project alignment lies entirely over the Coastal Plain of Los Angeles - West Coast Groundwater Basin 4-011.03. (DWR, 2019). Groundwater data available from the CGS Warehouse (CGS, 1998) for the Venice, Inglewood, South Gate, and Whittier quadrangles were reviewed for the historically highest groundwater level presented in this section. Groundwater data available from Caltrans LOTBs within the project vicinity (Caltrans, 1987, 1988, 1989, 1990) and the GeoTracker website were reviewed to check the recent groundwater levels.

The depths to historically highest groundwater levels within the project limits have been reported as shallow as 5 feet and as deep as 53 feet bgs The historically high groundwater levels west of the Newport-Inglewood Fault Zone (NIFZ) are in the 30- to 50-foot- depth range, while east of the NIFZ levels are in the 5- to 8-foot-depth range. This is particularly true between the Los Angeles and San Gabriel Rivers (I-710 to the I-605). According to a March 3, 1998 Memorandum from Caltrans, the “1998 El Nino storms have caused a dramatic rise in the groundwater levels beneath I-105,” reaching to “within 12 inches of the pavement surface.” Under the Director’s Order, “installation of wells to pump down groundwater levels” between PM 13.4/17.4, just west of I-710 to the I-605 interchange was authorized.

The more recent groundwater level observed in the Caltrans LOTBs and the GeoTracker data ranged from 10 to 100 feet bgs across the project alignment. GeoTracker groundwater monitoring wells in the areas near the project alignment between I-710 and I-605 indicated that from 2002 to 2018 the groundwater level ranged from 10 to 68 feet bgs.

Seismic Hazards

Southern California is in a region with many known faults and high seismic activity. Faults are fractures in the Earth's crust, and when they are subjected to displacement, earthquakes can occur. The displacement of the fault can occur in four different ways: strike slip, normal, reverse, and thrust. Depending on the fault displacement and amount of stress that has accumulated, the magnitude of the earthquakes can have a wide range.

Surface fault rupture refers to the extension of a fault from depth to the ground surface along which the ground breaks, resulting in displacement, such as vertical or horizontal offset. Surface fault ruptures are the result of stress relief during an earthquake event and often cause damage to structures within the rupture zone.

California's Alquist-Priolo Earthquake Fault Zoning Act (AP Act; CGS 2018) was enacted to identify and reduce the hazard from surface fault rupture by regulating development projects near active faults. The purpose of the AP Act is to prohibit the location of most structures intended for human occupancy across the trace of an active fault. The AP Act requires that projects in defined "Earthquake Fault Zones" conduct geologic investigations that demonstrate that the sites are not threatened by surface displacement from future fault rupture. To be zoned under the AP Act, a fault must be considered Holocene-active as defined (CGS 2018). CGS defines a Holocene-active fault as one that has had surface displacement within Holocene time (approximately the last 11,700 years). CGS considers a fault to be well defined if its trace is clearly detectable as a physical feature at or just below the ground surface. The City of Los Angeles Safety Element (1996) identifies a Fault Rupture Study Area similar to an Alquist-Priolo Earthquake Fault Zone.

The Charnock Fault, the Newport-Inglewood Fault, and the Puente Hills Fault, intersect the project alignment. Several locations along the project area were evaluated for Peak Ground Acceleration (PGA). Earthquake-induced ground motion intensity.

Liquefaction

The project alignment is partially in a liquefaction zone, beginning slightly west of Central Avenue (UC) and continuing east to the end of the project alignment at Studebaker Road. Settlement at the ground surface due to liquefaction can range from 3 to 8 inches. There may also be potential of lateral spreading near the Los Angeles and San Gabriel Rivers.

Seismically-Induced Landslides and Tsunami

The project alignment does not cross any areas susceptible to landslides. Seiches are large waves generated in enclosed bodies of water induced by ground shaking. Tsunamis are large waves generated in the sea by significant disturbance of the ocean flow, causing the water column above it to displace rapidly. Tsunamis are predominately caused by shallow underwater earthquakes and landslides. According to the Tsunami Inundation Map for Emergency Planning Venice Quadrangle (CGS, 2009), the project alignment is outside any current tsunami inundation areas.

Methane Zones

The project alignment does not pass through any methane zones designated by the City of Los Angeles (2004). These zones were established by the City of Los Angeles Department of Building and Safety to mitigate risks associated with subsurface methane deposits. The boundaries of the zones were primarily defined by the proximity to oil and natural gas extraction wells. According to DOGGR digital wells database (DOGGR 2016), most of the wells are in or near the project alignment, whether they are for gas or water, are either abandoned or idle. There may be a few non-disclosed wells in addition to small regions throughout the project alignment that are in the Buffer Methane Zones.

2.2.3.3 Environmental Consequences

Alternative 1 (No-Build Alternative)

Alternative 1 would not result in the construction of any of the proposed improvements, and therefore would not result in any impacts related to geology, soils, seismicity, and topography.

Alternatives 2 & 3 (Build Alternatives)

Seismic Hazards

Built structures may be subject to strong ground motions from nearby earthquake sources during their design life. However, the project would be built to meet current seismic standards and will have no impacts on seismic hazards.

Liquefaction

As previously mentioned, the project alignment is partially in a liquefaction zone. Any existing bridge structures widened, and any new retaining walls, or sound walls planned within the liquefaction zone as mentioned above, will need to be designed based on an in-depth analysis of liquefaction and lateral spreading potential based on further investigations. With inclusion of the proper design and lateral spreading potential, potential temporary impacts to liquefaction would be prevented or minimized.

Flooding

No enclosed bodies of water are near the project alignment, so therefore seiches will not pose an impact as a result of the proposed project. The main concern for flooding comes from the San Gabriel and Los Angeles Rivers, running north and south along I-605 and I-710, however the proposed project would not result in a significant encroachment in the 100-year floodplain.

Methane Zones

Based on the proposed modifications to the existing I-105 alignment, existing and/or active wells and methane pockets should not pose a concern. Thus, there are no environmental concerns or impacts correlated to this project.

2.2.3.4 Avoidance, Minimization, and/or Mitigation Measures

This project is not anticipated to have impacts to geological resources. There is no Avoidance, Minimization, and/or Mitigation measures required for any of the project alternatives.

2.2.4 Hazardous Waste/Materials

2.2.4.1 Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976 (RCRA). The purpose of CERCLA, often referred to as "Superfund," is to identify and cleanup abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

2.2.4.2 Affected Environment

A Preliminary Hazardous Waste Assessment was prepared for the project by Caltrans Office of Environmental Engineering in November of 2019. The purpose of the preliminary hazardous waste assessment is to identify known or potential sources of contamination or recognized environmental conditions that may adversely affect the project area, project corridor, or parcels proposed for TCEs and partial fee acquisitions. Records of sites with potential recognized environmental conditions were obtained from online current and historic aerial photos and regulatory databases, including the State Water Resources Control Board GeoTracker and the Department of Toxic Substances Control EnviroStor. In addition, Caltrans reviewed environmental reports formerly prepared for Caltrans highway improvement projects or prepared by others for parcels and properties located within and/or near some of the sections of the project area.

A total of 30 facilities/sites within 1/8-mile radius of the project area were identified from the database searches as having a potential environmental release or concern. These facilities/sites were further evaluated to assess whether they may have adversely affected the project corridor based on their:

- Reported impacts to soil and/or groundwater
- Relative distance from the project area
- Location at or up gradient with respect to the local groundwater flow direction relative to the project area.

Of the 30 facilities/sites, ten were identified at and/or adjacent to the project area as facilities that appeared to have adversely impacted soil and/or groundwater beneath the project area. The type of potential impact and facility name with address are listed in Table 2-102.

Table 2-102: Facility Name and Types of Potential Environmental Impacts

Facility Name	Facility Address	Type of Potential Environmental Impacts beneath the project area

11105 La Cienega Properties	11105 La Cienega Blvd. Los Angeles	Groundwater (between approximately 33 and 55 feet bgs) is likely impacted with petroleum hydrocarbons and/or chlorinated VOCs.
Chevron Site # 9-7795	5201 West Imperial Highway, Westchester	
2700 East Imperial Highway	2700 East Imperial Highway, Lynwood	
2900 Fernwood Avenue	2900 Fernwood Avenue, Lynwood	
Garfield Express	11600 Long Beach Blvd, Lynwood	
TMB Oil	1340 East Imperial Highway, Willowbrook	Deeper soils, (below approximately 30 feet bgs) and groundwater (between 35 and 45 feet bgs), are likely impacted with petroleum hydrocarbon compounds.
Former Mobil Site	1836 East Imperial Highway, Los Angeles	
Caltrans Former Witco Chemical Company	2601 East Imperial Highway, Lynwood	Shallow and deeper soils and groundwater beneath the project area are likely impacted with several contaminants.
City of Lynwood Master Redevelopment Project	Area 6, Lynwood	
City of Lynwood Redevelopment – Phase II - Plaza Mexico Extension	Plaza Mexico, Lynwood	Shallow soils (0.5 and 2 feet bgs) are potentially impacted with arsenic and groundwater (at approximately 35 feet bgs) with tetrachloroethylene (PCE), TCE, cis-1, 2-dichloroethylene (DCE) and benzene.

2.2.4.3 Environmental Consequences

Aerially deposited lead (ADL) from the historical use of leaded gasoline, exists along roadways throughout California. There is a potential that ADL is present within the project area. An ADL site investigation shall be conducted within the project area to evaluate the potential presence of ADL in soils that will be subject to disturbances such as soil excavation and earthwork planned for project construction activities. The ADL data will allow for selection of appropriate/special handling and waste management/classification and disposal methods in compliance with Caltrans Standard Special Provisions and Standard Specifications, State and Federal laws and regulations, and the Soil Management for Aerially Deposited Lead-Contaminated Soils agreement between the Department of Toxic Substances Control and Caltrans entered into on

July 1, 2016. The soil data shall also be used to prepare a health and safety plan/lead compliance plan for worker protection and public safety from exposure to contaminated soils during construction activities.

Since the No-Build alternative would have no earth moving activities, this alternative would not affect potential sources of hazardous materials in the project area.

Build Alternative 2 would require no TCEs or any parcel acquisitions. This alternative would have no impacts to known/potential sources of contamination or recognized environmental conditions.

Build Alternative 3 would require a total of 19 parcels for TCEs, 4 of which also need Partial Acquisitions. The results of the environmental records review identified the following six of the nineteen proposed TCE/Partial Fee acquisition areas as having existing or potential environmental concerns:

- TCE (6,174 SF) and Partial Fee acquisition (6,457 SF) areas (Assessor's Parcel Number (APN) unknown) are portions of Caltrans former Witco Chemical Company, 2601 East Imperial Highway, Lynwood;

  The former Witco Chemical Site contain several groundwater monitoring wells and was contaminated with petroleum hydrocarbons and Polychlorinated Biphenyls (PCBs) due to the past industrial activities historically conducted at the facility and at the up-gradient neighboring Magnetek property. PCB-impacted soils were excavated from the site by Caltrans in 2017. Due to the access constrains, a small portion of PCB-impacted soil was left in place along the southern portion of the site near the storm drain. Petroleum hydrocarbon contaminated soil and groundwater are present below 20 feet bgs. Several groundwater monitoring wells are located within the boundaries that are owned and used by Caltrans to conduct semi-annual groundwater monitoring activities for the former Witco Chemical site under the California Department of Toxic Substances Control (DTSC) oversight. The wells would need to be relocated under the oversight of the DTSC if they were to be located within the planned construction activities for the project.

- TCE (4,755 SF) and Partial Fee acquisition (1,242 SF) areas are portions of Parcel (APN 6169-001-900) called City of Lynwood Master Redevelopment Project – Area 6, 2701 East Imperial Highway, Lynwood;

  The City of Lynwood Master Redevelopment Project was historically used as a rubber processing plant in the 1950s to 1970s. Arsenic impacts above background levels were reported in shallow soils where the former underground storage tanks (UST) were located. Residual petroleum hydrocarbons were reported at concentrations generally below their screening levels in shallow soils throughout the site. Additional investigation to delineate petroleum hydrocarbons in soil was recommended during a 2011 site investigation by Gannett Fleming.

- TCE (10,728 SF) and Partial Fee acquisition (3,899 SF) areas are portions of Parcel (APN 6169-002-005) located at 2900 Fernwood Avenue, Lynwood ("2900 Fernwood site").

  The 2900 Fernwood site is located just south of an industrial site called City of Lynwood Redevelopment-Phase II - Plaza Mexico Extension that has significant groundwater

contamination with a dissolved plume of chlorinated VOCs (PCE, TCE, cis-1, 2-DCE) and Petroleum Hydrocarbons as Diesel (TPH-d). The results of previous site investigations by the City of Lynwood indicate that the VOCs groundwater plume could have migrated onto the 2900 Fernwood site.

To address the identified recognized areas of environmental concern within project area/ project corridor and within proposed TCE and Partial fee acquisition areas, the following activities are recommended to be conducted during the PS&E phase of the project and prior to any parcel acquisitions.

- Existing Caltrans ROW located next to the City of Lynwood Redevelopment – Phase II - Plaza Mexico Extension Site should be evaluated for arsenic concentrations in soil due to the former presence of Southern Pacific railroad tracks.

- TCE and Partial Fee acquisition areas located within the Caltrans former Witco Chemical Company require the relocation (under supervision of DTSC) of the existing groundwater monitoring wells if construction excavation is to occur at their locations.

- Conduct sampling activities to evaluate arsenic in soil (former USTs area) and petroleum hydrocarbons and VOCs in soil and groundwater throughout TCE and Partial Fee acquisition areas located within Parcel 6169-001-900 (the City of Lynwood Master Redevelopment Project – Area 6 at 2701 East Imperial Highway). TCE and Partial Fee acquisition areas located at Parcel 6169-002-005 (2900 Fernwood Avenue) should also be evaluated for TPH and VOCs concentrations in soil and groundwater.

Adherence to federal and state regulations during project construction and maintenance reduces the risk of exposure to hazardous materials, as well as accidental hazardous materials releases. Compliance with existing regulations is mandatory; therefore, construction of Alternative 3 is not expected to create a hazard to construction workers, the public, or the environment through the routine transport, use, disposal, or accidental release of hazardous materials. As a result, the project would have no adverse effects related to the routine transport, use, disposal, or accidental release of hazardous materials during construction and maintenance activities.

2.2.4.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures are recommended for both build alternatives. With inclusion of these measures into the project, it is anticipated that this project will have no adverse impacts to hazardous waste and materials.

Haz1 - An Aerially Deposited Lead (ADL) site investigation during final design shall be conducted within the project area to evaluate potential presence of ADL in soils that will be disturbed during soil excavation and earthwork planned for construction activities.

Haz2 - A Health and Safety Plan/Lead compliance plan shall be prepared for worker protection and public safety from exposure to contaminated soils during construction activities.

Haz3 - An Asbestos-Containing Materials (ACM) and Lead-Based Paint (LBP) surveys during final design shall be done for work related to utility relocations, bridge

alterations/demolitions, oil field appurtenances, or structures suspected to be coated with LBP or construction with ACM.

Haz4 - A Work Plan for thermoplastic paint removal, containment, profile, transportation, and disposal per Caltrans standard special provisions and standard specifications shall be prepared by the General Contractor.

Haz5 - Treated wood waste must be handled, stored, transportation, and disposed of per California regulations.

Haz6 - Conduct soil and/or groundwater sampling within project area/ project corridor and within proposed TCE and Partial fee acquisition areas, to address the identified recognized areas of environmental concern. All sampling activities are to be completed during the PS&E phase of the project and prior to any parcel acquisitions.

Haz7 - Should construction occur within the footprint of the existing monitoring wells at the Former Witco Chemical Site, coordination with the DTSC shall commence and the wells will be relocated.

2.2.5 Air Quality

2.2.5.1 Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$)—and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (Pb), and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel “Conformity” requirement under the FCAA also applies.

Conformity

The conformity requirement is based on FCAA Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. “Transportation Conformity” applies to highway and transit projects

and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California), sulfur dioxide (SO_2). California has nonattainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP; the project has a design concept and scope that has not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

2.2.5.2 Affected Environment

The following discussion is based on the information provided in an Air Quality Report prepared by the Caltrans Air Quality Branch in February of 2021.

Climate, Meteorology, and Topography

The topography of a region can substantially impact air flow and resulting pollutant concentrations. California is divided into 15 air basins with similar topography and meteorology to better manage air quality throughout the state. Each air basin has a local air district that is responsible for identifying and implementing air quality strategies to comply with ambient air quality standards.

The I-105 Express Lanes project site starts in the west in the City of El Segundo and terminates in the east in the City of Norwalk in Los Angeles County, an area within the South Coast Air Basin (SCAB) which includes Ventura County, Orange County, Riverside County, and portions of San Bernardino County. Air quality regulation in the Los Angeles portion of the SCAB is administered by the Southern California Air Quality Management District (SCAQMD).

Meteorology (weather) and terrain can influence air quality. Certain weather parameters are highly correlated to air quality, including temperature, the amount of sunlight, and the type of winds at the surface and above the surface. Winds can transport ozone and ozone precursors from one region to another, contributing to air quality problems downwind of source regions. Furthermore, mountains can act as a barrier that prevents ozone from dispersing.

SCAB's severe air pollution problem is a consequence of the combination of emissions from the nation's second largest urban area, mountainous terrain surrounding the basin that traps pollutants as they are pushed inland with the sea breeze, and meteorological conditions which are adverse to the dispersion of those emissions. The average wind speed for Los Angeles is the lowest of the nation's ten largest urban areas. In addition, the summertime daily maximum mixing heights (an index of how well pollutants can be dispersed vertically in the atmosphere) in Southern California are the lowest, on average, in the U.S., due to strong temperature inversions in the lower atmosphere that effectively trap pollutants near the surface. The Southern California area is also an area with abundant sunshine, which drives the photochemical reactions to form pollutants such as ozone and a significant portion of fine Particulate Matter ($PM_{2.5}$).

Within SCAB, high concentrations of ozone are normally recorded during the late spring and summer months, when more intense sunlight drives enhanced photochemical reactions. In contrast, higher concentrations of carbon monoxide are generally recorded in late fall and winter, when nighttime radiation inversions trap the emissions at the surface. High Inhalable PM_{10} and $PM_{2.5}$ concentrations can occur throughout the year but occur most frequently in fall and winter in SCAB. Although there are changes in emissions by season, the observed variations in pollutant concentrations are largely a result of seasonal differences in weather conditions.

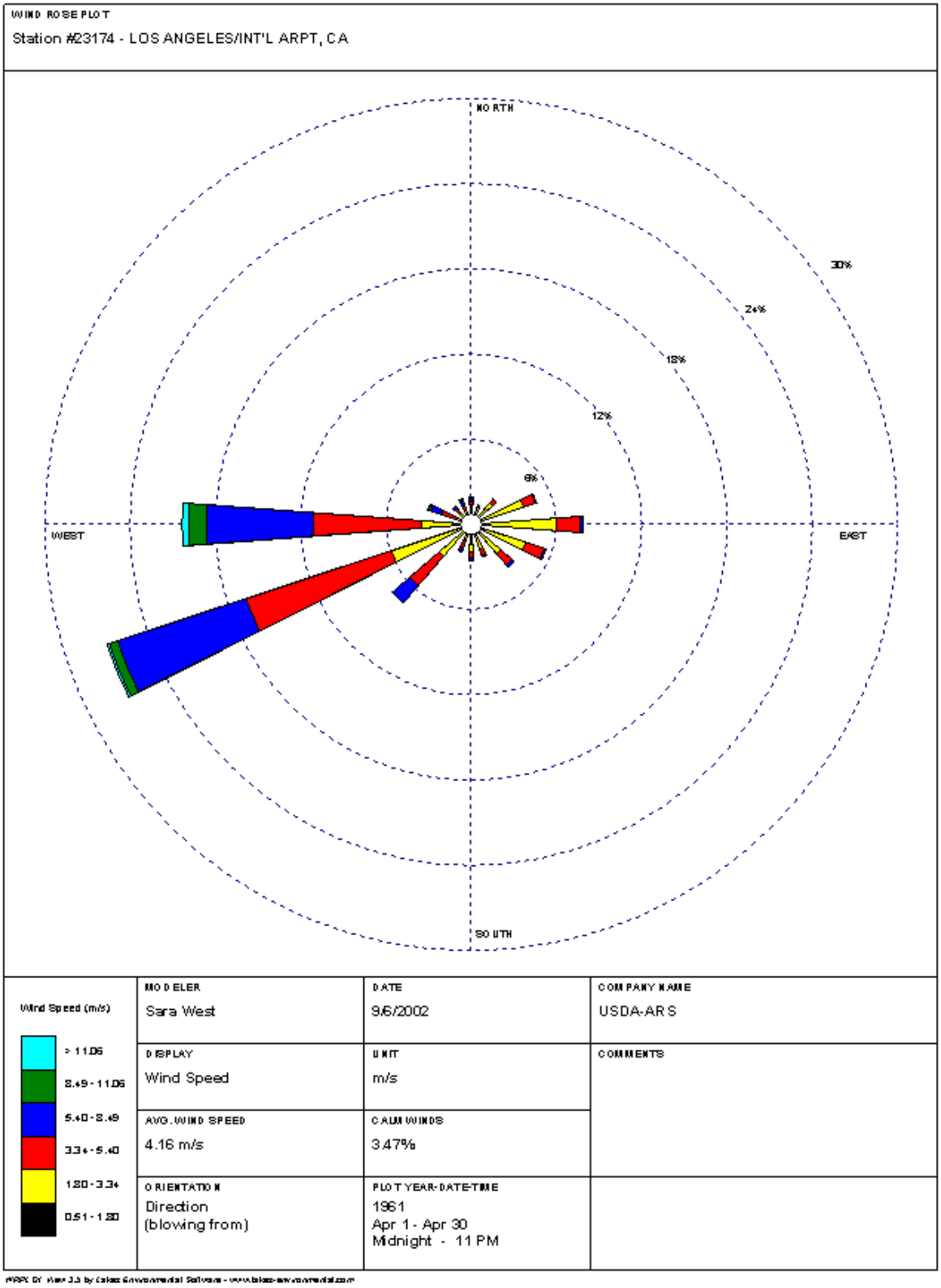
LAX climatological station, maintained by Western Regional Climate Center, is located near the I-105 and I-405 interchange and is representative of meteorological conditions on the western portion of the project. The Long Beach Daugherty Field climatological station, maintained by Western Regional Climate Center, is located on the southeast side of the project and is representative of meteorological conditions on the eastern portion of the project.

Figure 2-30 shows a wind rose illustrating the predominant wind patterns along the project corridor around the LAX. The average wind speed recorded was 9.3 mph (4.16 m/s). The climate of the project area is generally Mediterranean in character with cool winters and warm, dry summers. The average minimum temperature recorded at LAX is 47.5°Fahrenheit in January and average maximum temperature of 75.1°Fahrenheit in July. The average minimum temperature recorded at the Long Beach Daugherty Field is 45.6°Fahrenheit in January and average maximum temperature of 82.2 °Fahrenheit in July.

Temperature inversions are common, affecting localized pollutant concentrations in the winter and enhancing ozone formation in the summer. 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 photochemical smog. The basin-wide occurrence of

inversions at 3,500 feet above sea level or less averages 191 days per year (2020 RTP/SCS). Annual average rainfall recorded at the LAX and at the Long Beach Daugherty Field station is 12.0 inches, mainly falling during the winter months.

Figure 2-23: Wind Rose Illustration



Existing Air Quality

Monitoring data were obtained from Compton monitoring station (ARB#8409) and from the LAX-Hastings monitoring station (ARB#7975). The Compton monitoring station is located on 700 North Bullis Road in Compton and it is approximately 1.4 miles south of I-105 and 1.0 mile west of I-710. The LAX-Hastings monitoring station is located on 7201 W. Westchester Parkway in Los Angeles and it is approximately 1.6 miles north of I-105 and 3.3 miles west of I-405. A map showing the location of air monitoring sites relative to the proposed project is provided in Figure 2-24 below.

Figure 2-24: Air Monitoring Sites

Criteria Pollutants and Attainment Status

Table 2-103 lists the state and federal attainment status for all regulated pollutants. Table 2-104 lists air quality trends in data collected at Compton monitoring station for the past 5 years and Table 2-105 lists air quality trends in data collected at the LAX-Hasting monitoring station for the past 5 years. The ambient concentration data from Compton and LAX-Hasting monitoring stations are deemed representative for comparison to the proposed project based on similar traffic volumes, truck percentage, land uses, and proximity to the freeway.

Table 2-103: State and Federal Attainment Status

Pollutant	State Attainment Status	Federal Attainment Status
Ozone (O_3)	Nonattainment	Nonattainment-Extreme
Respirable Particulate Matter (PM_{10})	Nonattainment	Attainment-Maintenance
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment-Maintenance
Nitrogen Dioxide (NO_2)-1Hour	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead (Pb)	Attainment	Nonattainment
Visibility-Reducing Particles	Unclassified	N/A
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Vinyl Chloride	Attainment	N/A

Table 2-104: Ambient Concentrations for 5 Years at Compton Monitoring Station

Pollutant	Standard	2014	2015	2016	2017	2018
Ozone						
Max 1-hr concentration		0.094	0.091	0.098	0.092	0.075
No. days exceeded: State	0.09 ppm	0	0	0	0	0
Max 8-hr concentration		0.081	0.072	0.071	0.076	0.063
No. days exceeded: State Federal	0.070 ppm 0.070 ppm	4	1	1	5	0
Carbon Monoxide						
Max 1-hr concentration		5.8	4.4	4.4	6.1	4.7
No. days exceeded: State Federal	20 ppm 35 ppm	0	0	0	0	0
Max 8-hr concentration		3.8	3.3	3.0	4.6	3.5
No. days exceeded: State Federal	9.0 ppm 9 ppm	0	0	0	0	0
PM_{10}						
Max 24-hr concentration		PM_{10} data not available at this monitoring station				
No. days exceeded: State Federal	50 µg/m^3 150 µg/m^3					
Max annual concentration						
No. days exceeded: State	20 µg/m^3					
$PM_{2.5}$						
Max 24-hr concentration		35.8	41.3	36.3	66.7	48.4
No. days exceeded: Federal	35 µg/m^3	1	3	1	5	*
Max annual concentration		*	11.7	11.0	13.2	12.9
No. days exceeded: State Federal	12 µg/m^3 12.0 µg/m^3	*	*	*	*	*
Nitrogen Dioxide						

Pollutant	Standard	2014	2015	2016	2017	2018
Max 1-hr concentration		68	74	64	99	68
No. days exceeded: State Federal	0.18 ppm 100 ppb	0	0	0	0	0
Max annual concentration		*	16	15	16	15
No. days exceeded: State Federal	0.030 ppm 53 ppb	*	*	*	*	*
Notes: 1. "*" Means data not available 2. Blue exceeds California Standard						

Table 2-105: Ambient Concentrations for 5 Years at LAX-Hasting Monitoring Station

Pollutant	Standard	2014	2015	2016	2017	2018
Ozone						
Max 1-hr concentration		0.114	0.096	0.087	0.086	0.074
No. days exceeded: State	0.09 ppm	1	1	0	0	0
Max 8-hr concentration		0.08	0.077	0.08	0.07	0.065
No. days exceeded: State Federal	0.070 ppm 0.070 ppm	6	3	2	0	0
Carbon Monoxide						
Max 1-hr concentration		2.7	1.7	1.6	2.1	1.8
No. days exceeded: State Federal	20 ppm 35 ppm	0	0	0	0	0
Max 8-hr concentration		1.9	1.4	1.3	1.6	1.5
No. days exceeded: State Federal	9.0 ppm 9 ppm	0	0	0	0	0
PM_{10}						
Max 24-hr concentration		46	42	43	46	45
No. days exceeded: State Federal	50 µg/m^3 150 µg/m^3	0	0	0	0	0
Max annual concentration		21.9	*	21.9	20.2	*
No. days exceeded: State	20 µg/m^3	*	*	*	*	*
Max 24-hr concentration		No data available at this monitoring station				
No. days exceeded: Federal	35 µg/m^3					
Max annual concentration						
No. days exceeded: State Federal	12 µg/m^3 12.0 µg/m^3					
Nitrogen Dioxide						
Max 1-hr concentration		87	87	82	72	60
No. days exceeded: State Federal	0.18 ppm 100 ppb	0	0	0	0	0
Max annual concentration		12	11	10	*	*

Pollutant	Standard	2014	2015	2016	2017	2018
No. days exceeded: State Federal	0.030 ppm 53 ppb	*	*	*	*	*
Notes: 1. "*" means data not available 2. Blue exceeds California Standard						

EPA's Transportation Conformity Rule requires that regional emissions be consistent with the motor vehicle emissions budgets in the applicable SIPs. For the 2020 RTP/SCS conformity determination, the applicable emissions budgets are established in the SIPs, as shown in Table 2-106. The regional emissions analyses meet all applicable emissions budget test for all milestone, attainment, and planning horizon years in the SCAB (2020 RTP/SCS, Transportation Conformity Analysis).

Table 2-106: Status of SIPs Relevant to the Project Area

Name/Description	Status
2007 Ozone	Budgets effective April 30, 2012
2007 $PM_{2.5}$	Budgets effective January 9, 2012
2007 CO (Maintenance Plan)	Budgets effective June 11, 2017
2007 NO_2 (Maintenance Plan)	Budgets effective January 4, 2010
2010 PM_{10} (Maintenance Plan)	Budgets effective July 26, 2013

Criteria Pollutants

Air pollutants are governed by multiple federal and state standards to regulate and mitigate health impacts. At the federal level, there are six criteria pollutants for which NAAQS have been established: CO, Pb, NO_2, O_3, $PM_{2.5}$ and PM_{10}, and SO_2. The U.S. EPA has also identified nine priority mobile source air toxics: 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (DPM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter (POM) (https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/). In California, sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride are also regulated.

The Clean Air Act requires the U.S. EPA to set NAAQS for six criteria air contaminants: O_3, PM, CO, NO_2, Pb, and SO_2. It also permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants. Table 2-107 documents the current air quality standards while Table 2-108 summarizes the sources and health effects of the six criteria pollutants and pollutants regulated in the State of California.

Table 2-107: Table of State and Federal Ambient Air Quality Standards

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

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California Air Resources Board (5/4/16)

Table 2-108: State and Federal Criteria Air Pollutant Effects and Sources

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Ozone (O_3)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NOx) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.
Respirable Particulate Matter (PM_{10})	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke & vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.
Fine Particulate Matter ($PM_{2.5}$)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and Reactive Organic Gases (ROG).
Carbon Monoxide (CO)	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Nitrogen Dioxide (NO_2)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the "NOx" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.
Sulfur Dioxide (SO_2)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.
Lead (Pb)	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older

	dysfunction. Also a toxic air contaminant and water pollutant.	gasoline use may exist in soils along major roads.
Visibility-Reducing Particles (VRP)	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.
Sulfate	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.
Hydrogen Sulfide (H_2S)	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the demographic characteristics of occupants and users and the activities involved. Sensitive receptors include residential areas, hospitals, elder-care facilities, rehabilitation centers, elementary schools, daycare centers, and parks. Residential areas are considered sensitive to air pollution because residents, including children and the elderly, tend to be at home for extended periods of time, resulting in sustained exposure to pollutants.

The zone of greatest concern near roadways is within 500 feet (or 150 meters). Sensitive land uses along the project corridor include a mix of residential, commercial, and industrial with many hospitals, child care centers, schools, and senior facilities identified within the buffer zones of 500 and 2000 feet from the corridor alignment. Figure 2-25 identify various sensitive receptors within buffer zones of 500 and 2000 feet.

Figure 2-25: Sensitive Receptors

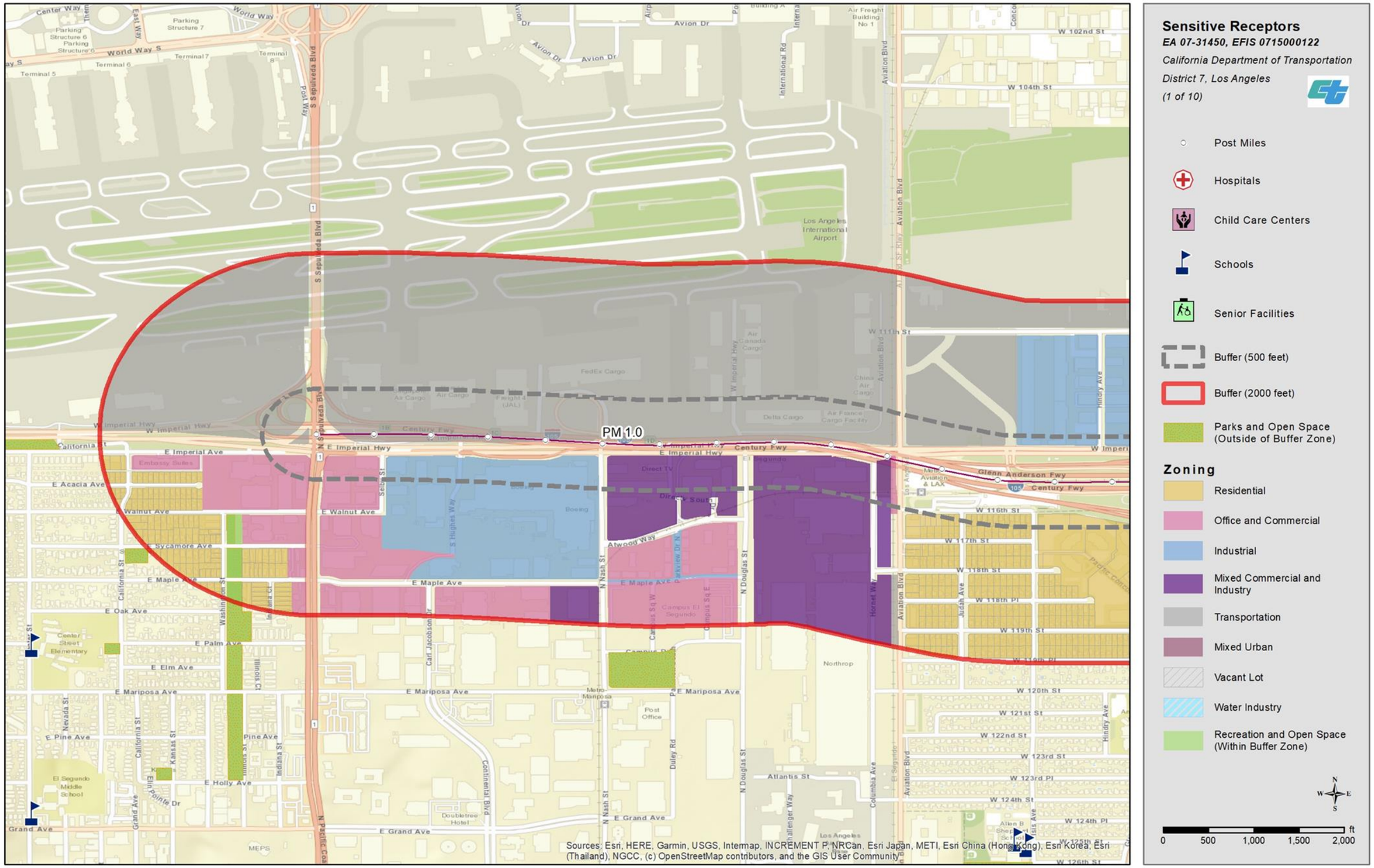
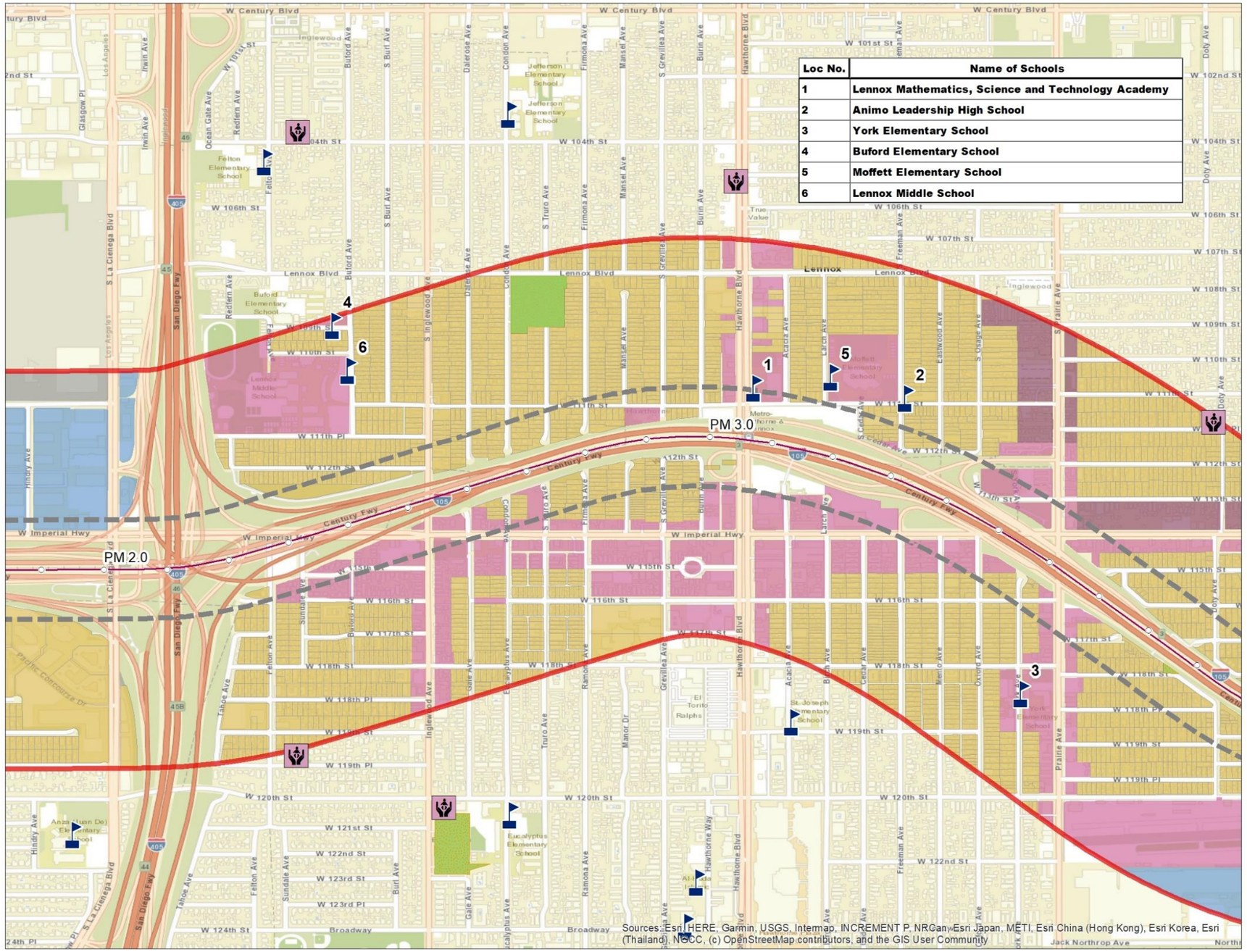


Figure 2-25: Sensitive Receptors Cont.



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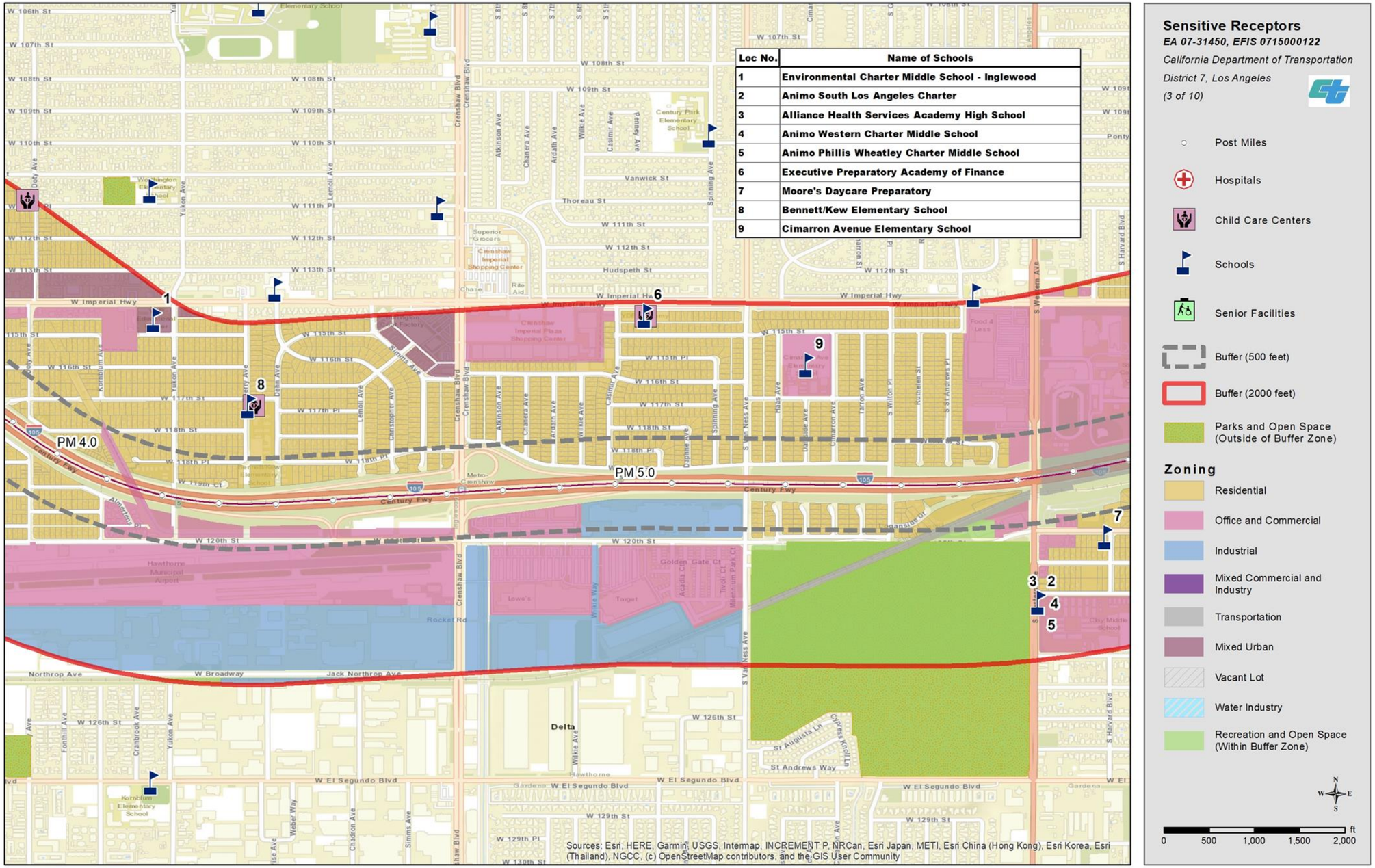

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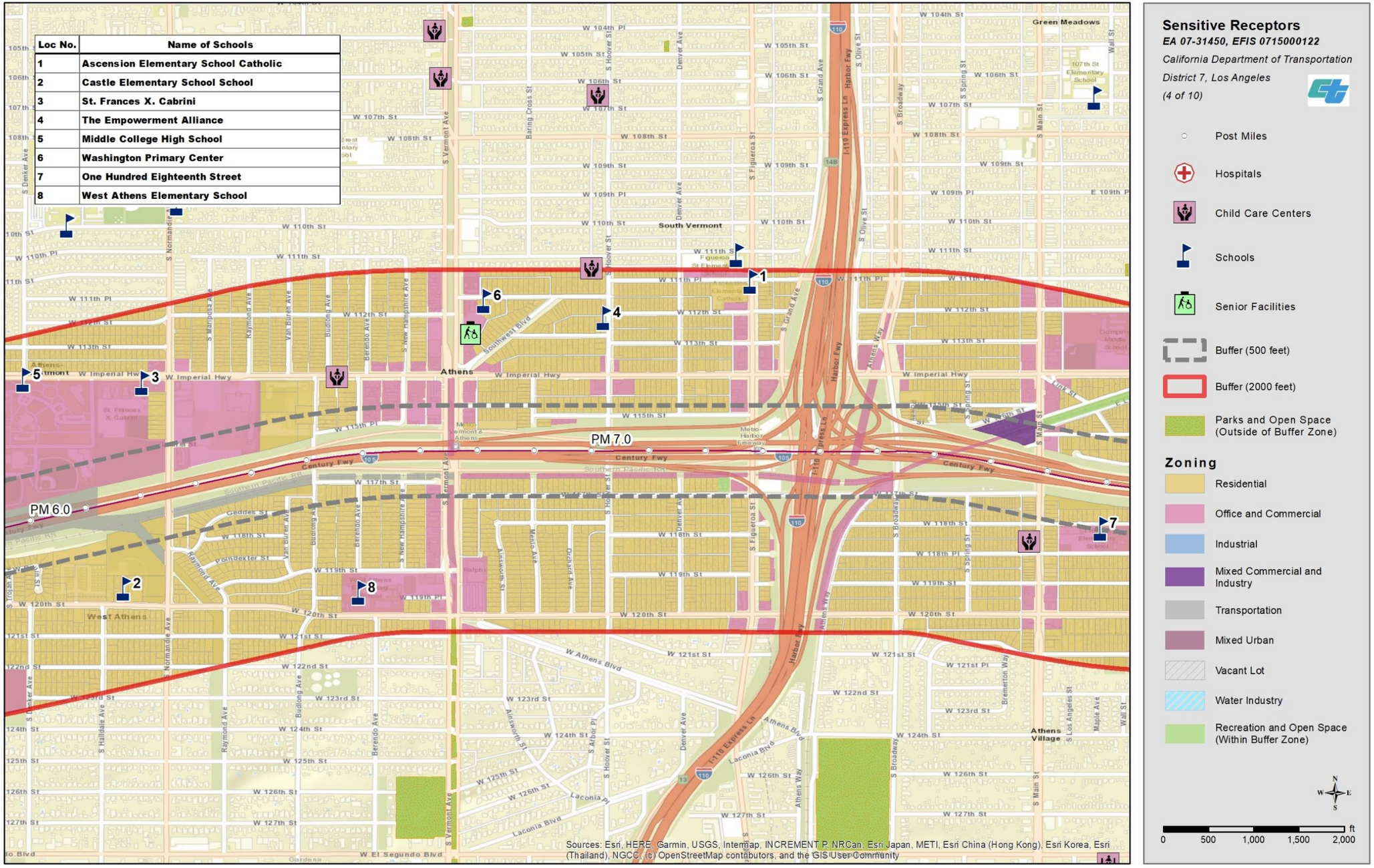

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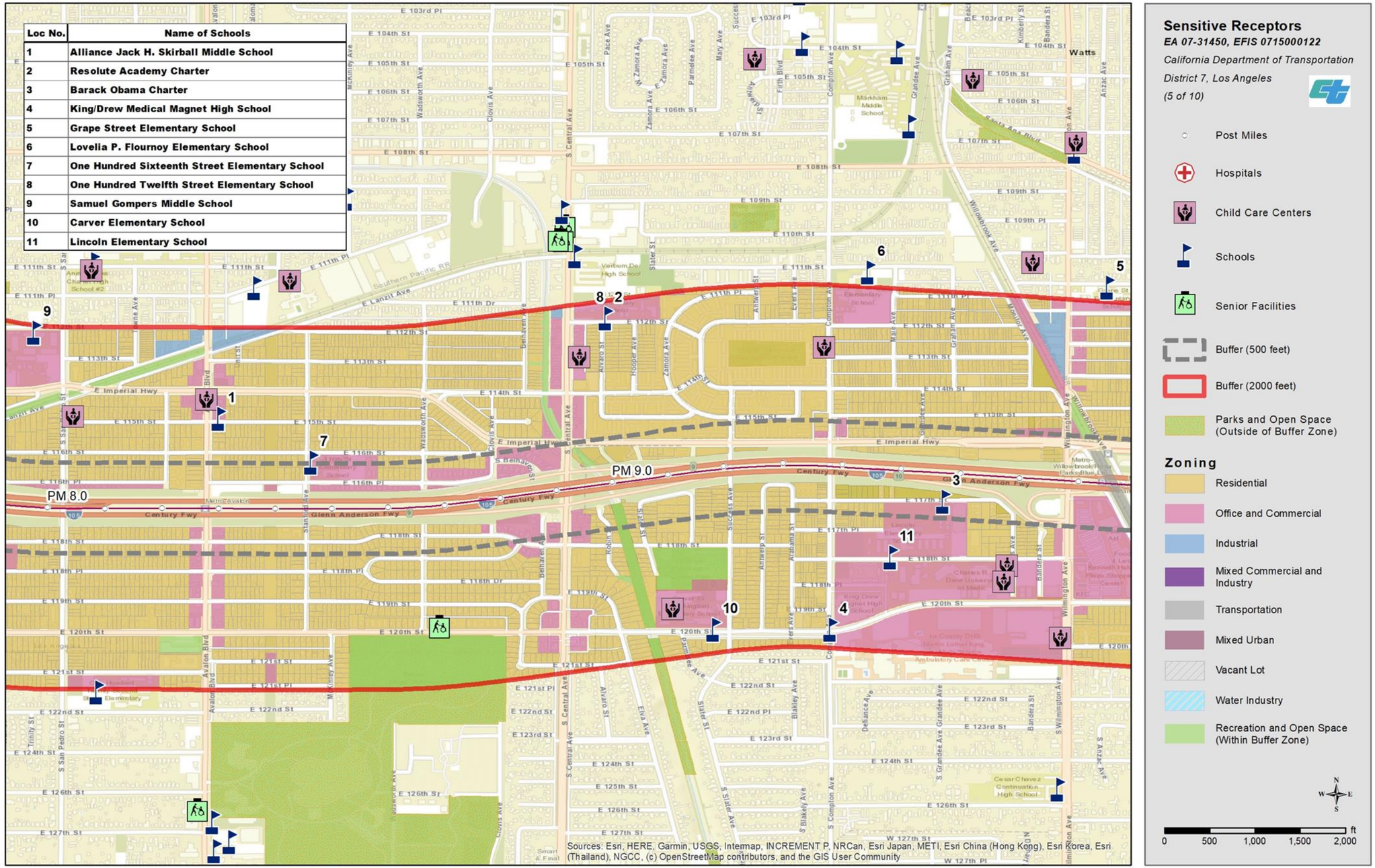

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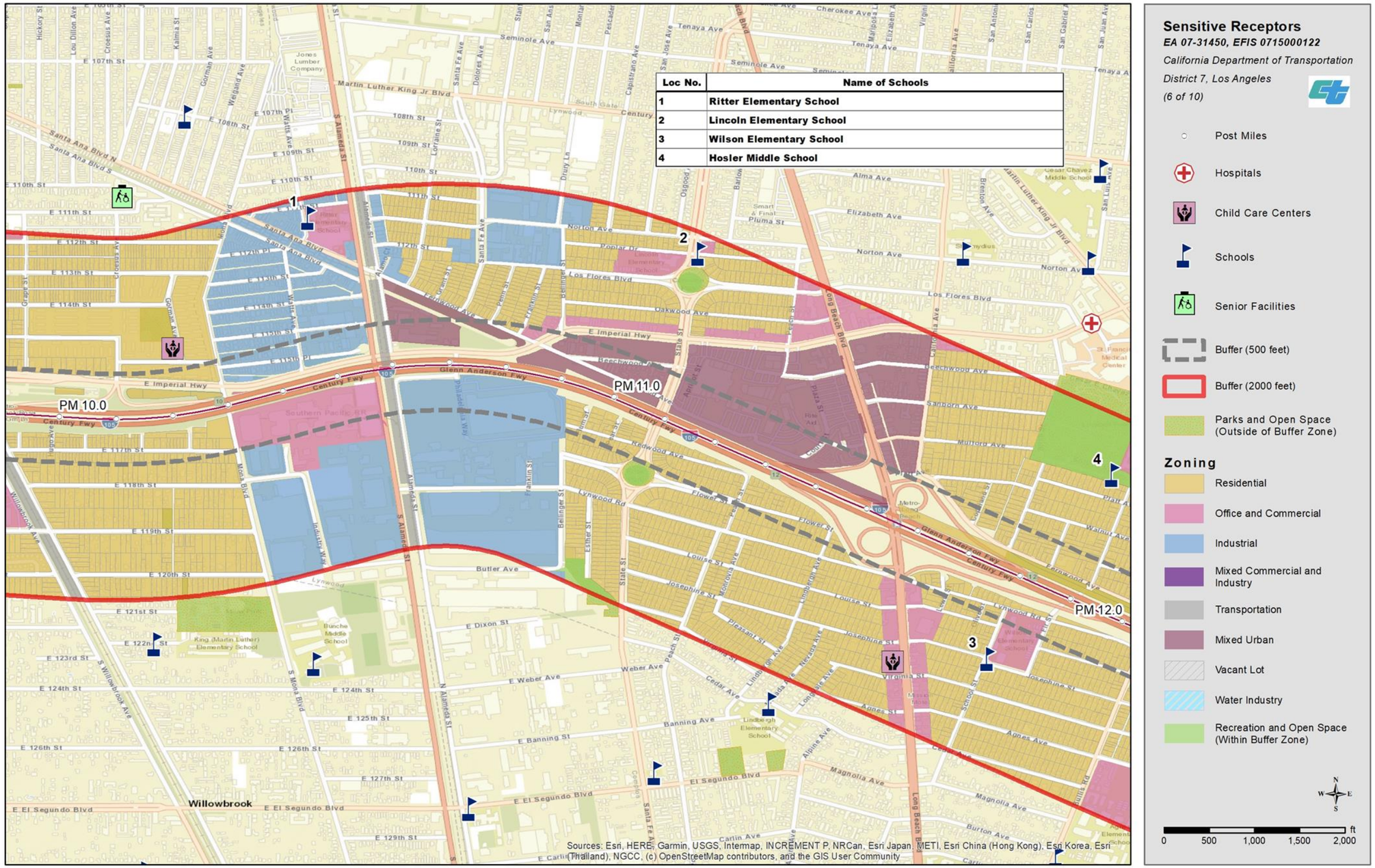

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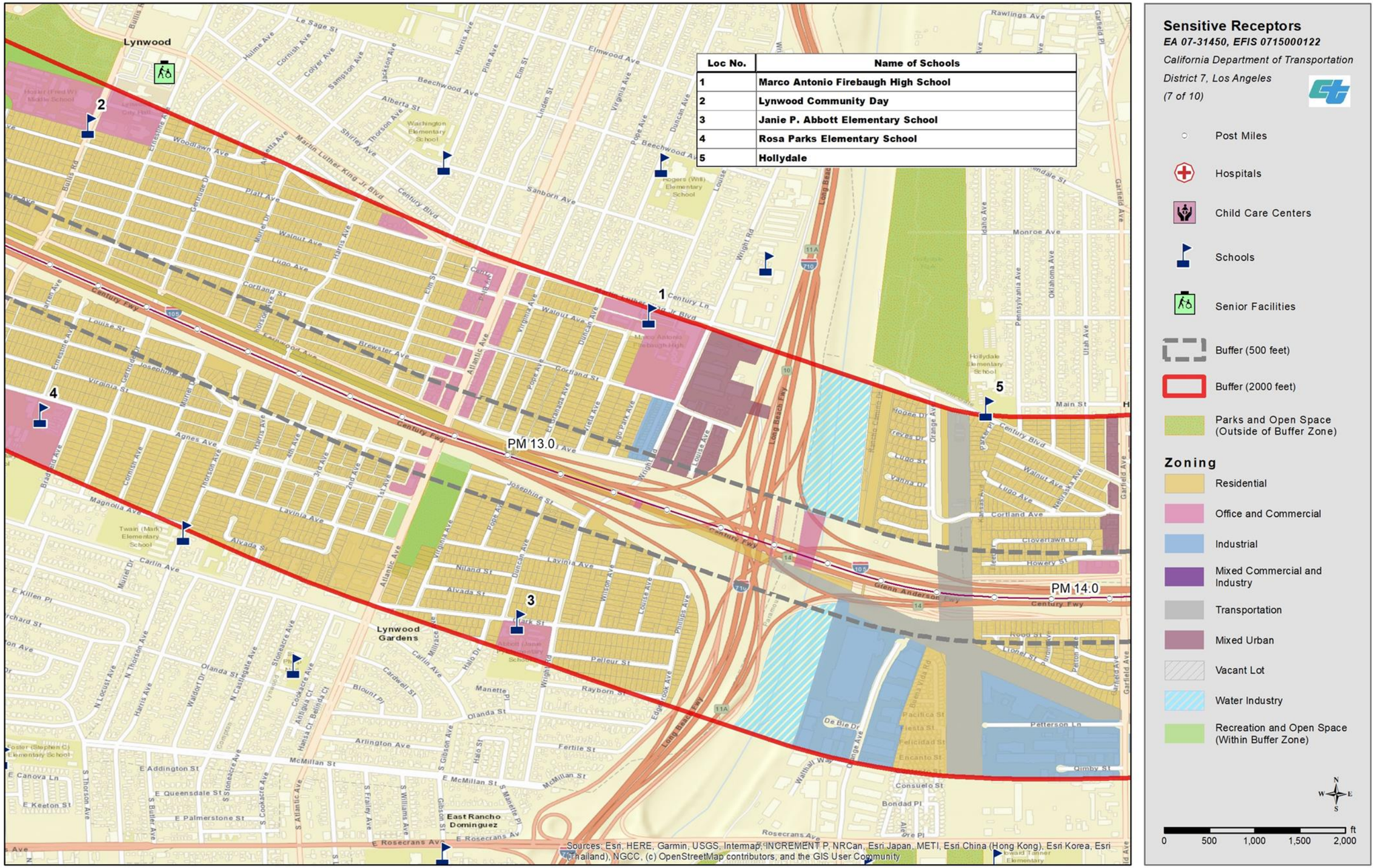


Loc No.	Name of Schools
1	Marco Antonio Firebaugh High School
2	Lynwood Community Day
3	Janie P. Abbott Elementary School
4	Rosa Parks Elementary School
5	Hollydale

Sensitive Receptors
EA 07-31450, EFIS 0715000122
California Department of Transportation
District 7, Los Angeles
(7 of 10)

- Post Miles
- Hospitals
- Child Care Centers
- Schools
- Senior Facilities
- Buffer (500 feet)
- Buffer (2000 feet)
- Parks and Open Space (Outside of Buffer Zone)

Zoning

- Residential
- Office and Commercial
- Industrial
- Mixed Commercial and Industry
- Transportation
- Mixed Urban
- Vacant Lot
- Water Industry
- Recreation and Open Space (Within Buffer Zone)

N W E S

0 500 1,000 1,500 2,000 ft

Figure 2-25: Sensitive Receptors Cont.

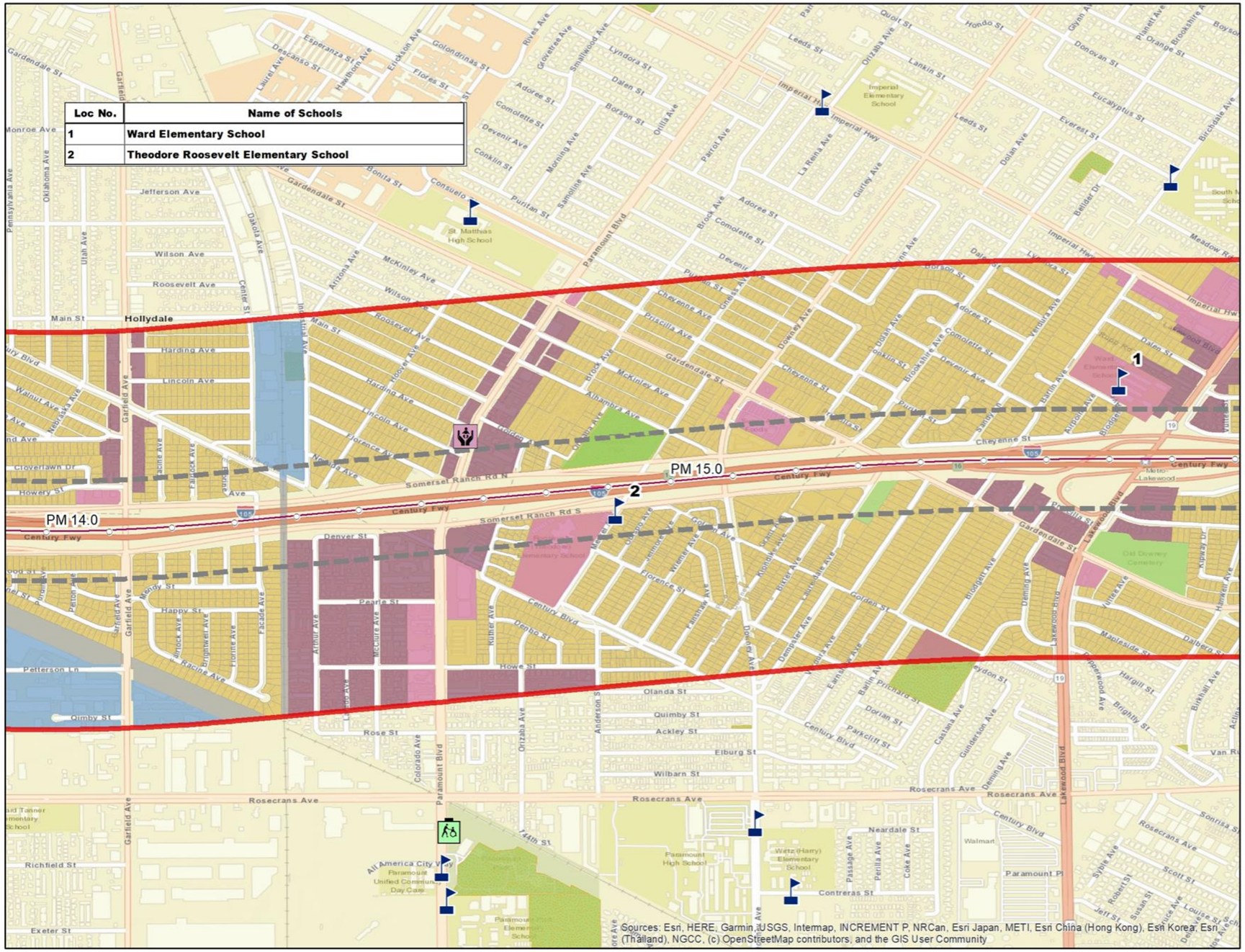


Figure 2-25: Sensitive Receptors Cont.

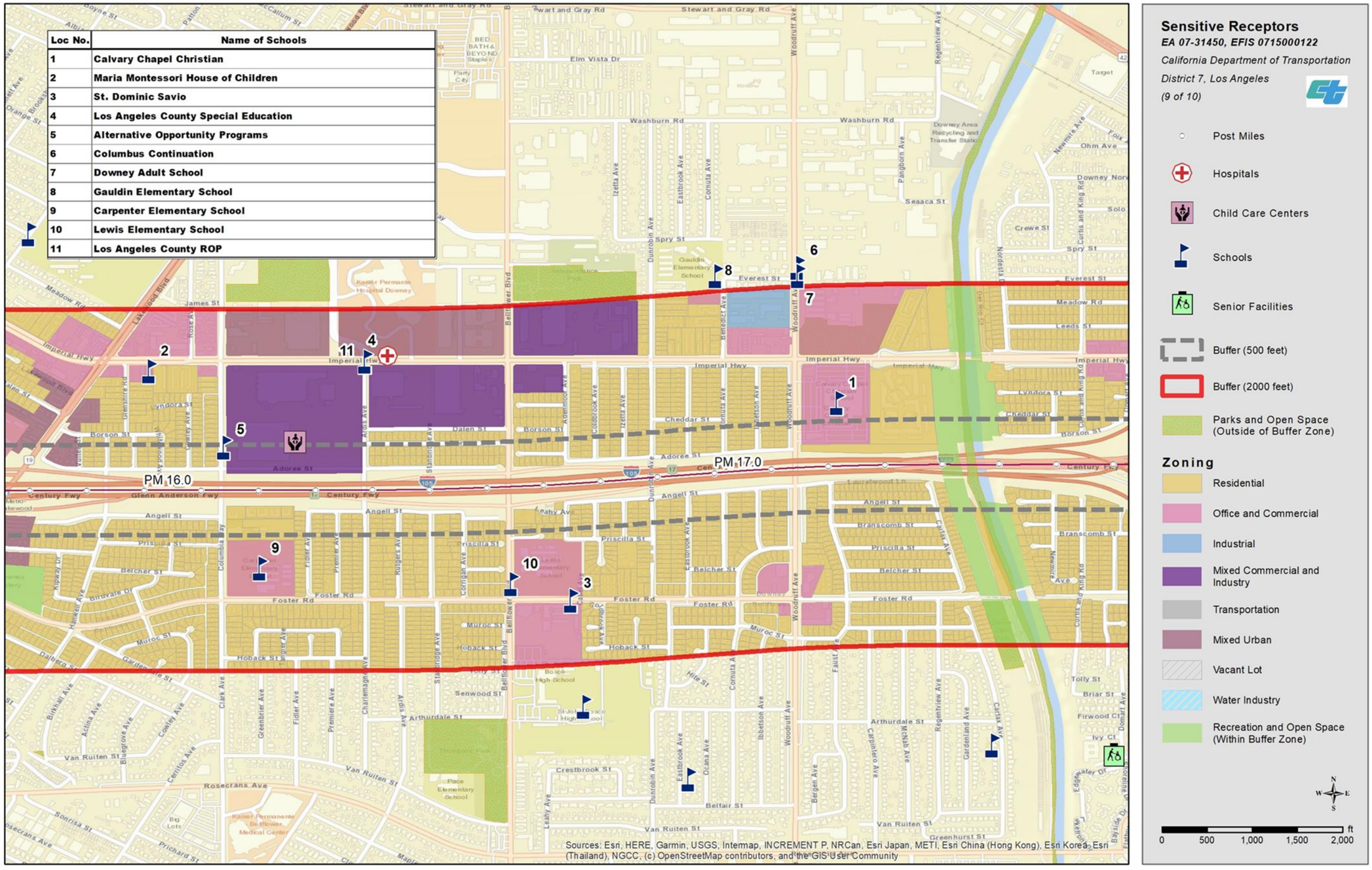
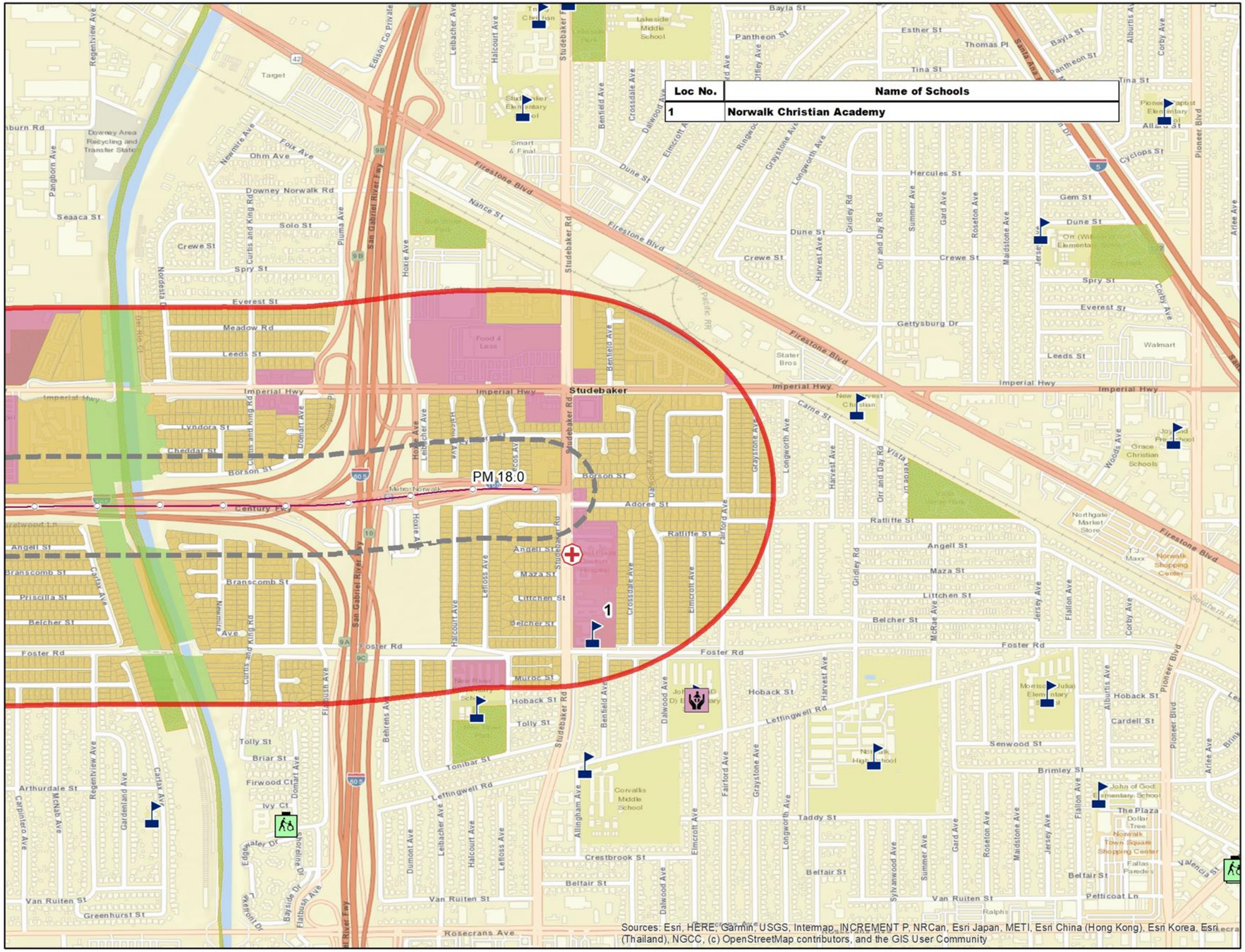


Figure 2-25: Sensitive Receptors Cont.



Sensitive Receptors

EA 07-31450, EFIS 0715000122

California Department of Transportation

District 7, Los Angeles

(10 of 10)

- Post Miles
- Hospitals
- Child Care Centers
- Schools
- Senior Facilities
- Buffer (500 feet)
- Buffer (2000 feet)
- Parks and Open Space (Outside of Buffer Zone)

Zoning

- Residential
- Office and Commercial
- Industrial
- Mixed Commercial and Industry
- Transportation
- Mixed Urban
- Vacant Lot
- Water Industry
- Recreation and Open Space (Within Buffer Zone)

N W E S

0 500 1,000 1,500 2,000 ft

2.2.5.3 Environmental Consequences

Regional Conformity

The 2020 RTP/SCS is the latest conforming plan that covers the project area; and was adopted by the SCAG on April 7, 2016. FHWA and FTA made a regional conformity determination on June 1, 2016. The 2020 RTP/SCS has since gone through 3 Amendments. The proposed project was added to the 2020 RTP/SCS in Amendment No. 2 (Project ID No. 1162S011) which was found to conform by FHWA and FTA on August 1, 2017. The project is also included in the latest conforming financially constrained 2019 Federal Transportation Improvement Program (FTIP) Amendment No. 19-09 (LA0G1324). The latest 2019 FTIP Amendment No. 19-09 was determined to conform by FHWA and FTA on September 3, 2019. The design concept and scope of the proposed project is consistent with the project description in the 2020 RTP, 2019 FTIP, and the "open to traffic" assumptions of the SCAG regional emissions analysis.

Regional Analysis

A regional analysis compares emissions of different alternatives based on aggregate emissions estimated for all segments along the corridor within the project limits. Emissions estimated for each segment in each direction are combined to provide a representative regional emission for each criteria pollutant for comparison with various scenarios as summarized in Table 2-109 below. As indicated in the table below, all future Alternatives result in a decrease in emissions of CO and NOx when compared to the 2017 Baseline. $PM_{2.5}$ emissions for Alternatives 1 and 2 result in a decrease in all future years while Alternative 3 result in an increase when compared to the 2017 Baseline. PM_{10} emissions result in an increase for all Alternatives in all future years when compared to the 2017 Baseline, except for Alternative 1 in 2027. When compared to the No-Build (Alternative 1) in each analysis year, all Build Alternatives (Alternatives 2 and 3) result in increased emissions of the criteria pollutants listed in the table below.

Table 2-109: Regional Emissions of Criteria Pollutants for Alternatives in All Analysis Years

Analysis Year	Scenario	CO (tons/day)	PM_{10} (tons/day)	$PM_{2.5}$ (tons/day)	NOx (tons/day)
2017	Baseline	5.209	0.452	0.136	1.413
2027	Alternative 1	2.253	0.441	0.120	0.450
	Alternative 2	2.368	0.458	0.125	0.473
	Alternative 3	2.534	0.508	0.139	0.503
2040	Alternative 1	1.785	0.455	0.121	0.344
	Alternative 2	1.895	0.473	0.126	0.395
	Alternative 3	2.009	0.528	0.141	0.396
2047	Alternative 1	1.763	0.464	0.123	0.358
	Alternative 2	1.863	0.481	0.128	0.451
	Alternative 3	1.973	0.541	0.144	0.414

Project Level Conformity

The project is located in nonattainment area for federal 8-hour ozone and $PM_{2.5}$ and in nonattainment-maintenance for CO and PM_{10}; and a project-level hot-spot analysis for CO, $PM_{2.5}$ and PM_{10} is thus required pursuant to 40 CFR 93.109. The project proposes to implement measures relied upon in the RTP/TIP regional conformity analysis. Conformity analyses demonstrate that the proposed project is not anticipated to cause or contribute to any new localized CO, $PM_{2.5}$, and/or PM_{10} violations, or delay timely attainment of any NAAQS or any required interim emission reductions or other milestones during the timeframe of the transportation plan (or regional emissions analysis).

A final determination on project-level conformity was made by FHWA on February 24, 2021. The determination was that the project conforms with the State Implementation Plan (SIP). A copy of this finding is included in appendix F.

CO Analysis

The CO Protocol was developed for project-level conformity (hot-spot) analyses and was approved for use by the EPA in 1997. It provides qualitative and quantitative screening procedures, as well as quantitative (modeling) analysis methods to assess project-level CO impacts. The qualitative screening step is designed to avoid the use of detailed modeling for projects that clearly cannot cause a violation or worsen an existing violation of the CO standards. Although the protocol was designed to address federal standards, it has been recommended for use by several air pollution control districts in their CEQA analysis guidance documents and should also be valid for California standards because the key criterion (8-hour concentration) is similar: 9 ppm for the federal standard and 9.0 ppm for the state standard. Traffic data from the Caltrans Traffic Study for the I-105 Express Lanes Project were utilized in the CO analysis.

Sections 3 and 4 of the CO Protocol describe the methodology for determining whether a CO hot-spot analysis is required. The Protocol provides two conformity requirement decision flowcharts that are designed to assist project sponsors in evaluating the requirements that apply to their project. The flowchart of the CO Protocol applies to new projects and was used for the proposed project. The CO Flowchart (Figure 2-26) has been included in the following pages.

All criteria in Section 4.7.2 of the CO Protocol have been satisfied and that no further analysis is warranted according to Figure 3 of the CO Protocol.

Figure 2-26: CO Flowchart

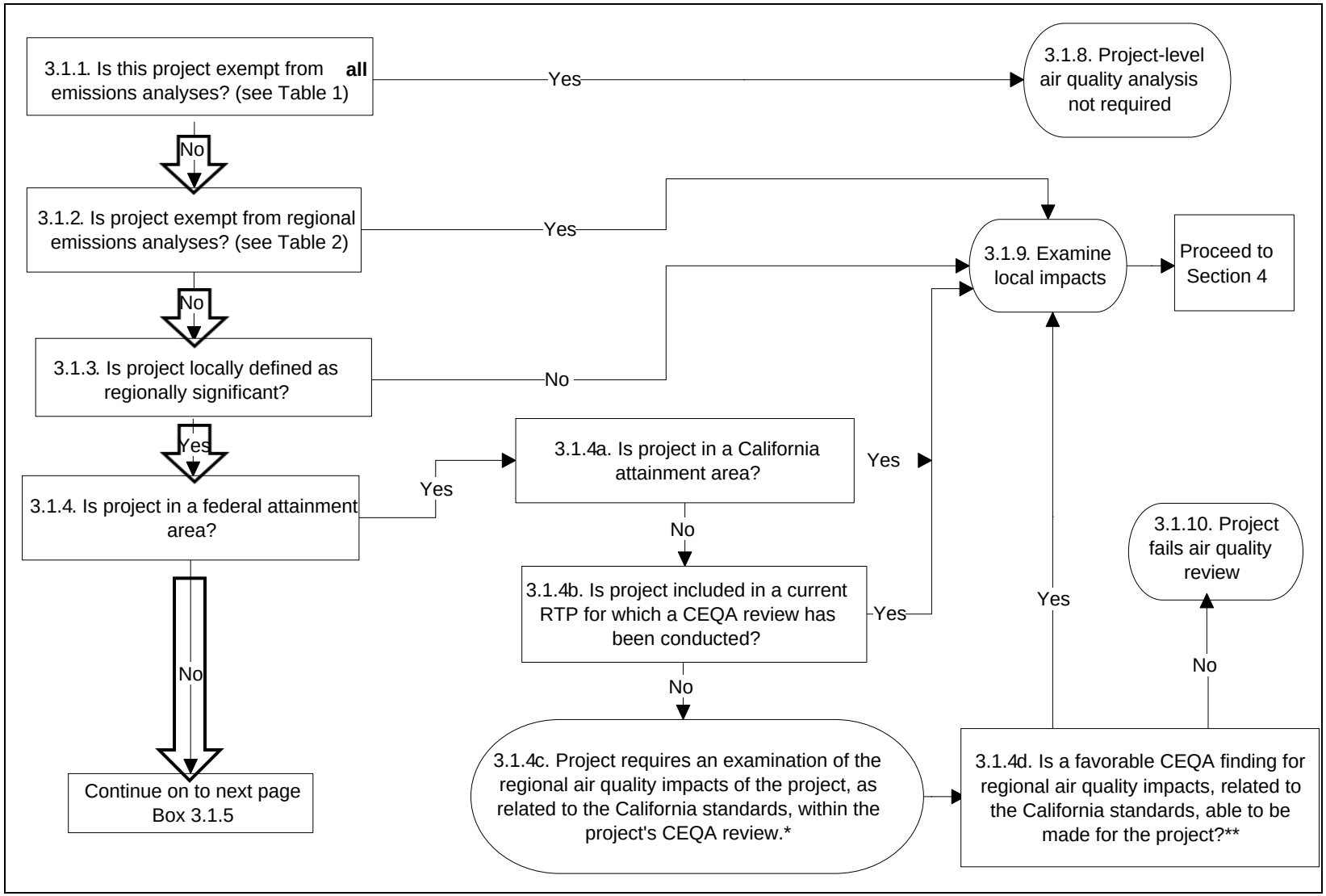


Figure 2-26: CO Flowchart Cont.

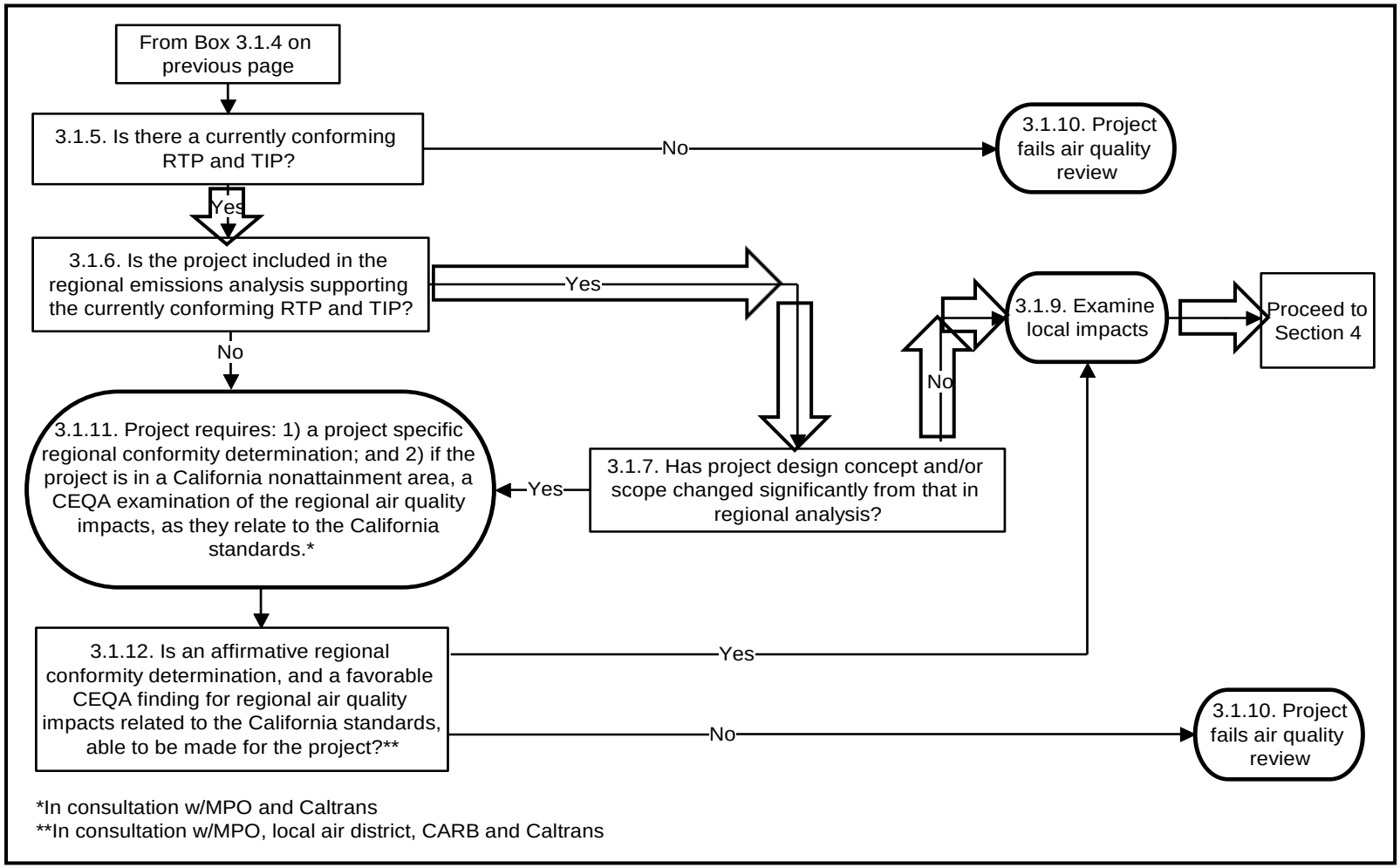


Figure 2-26: CO Flowchart Cont.

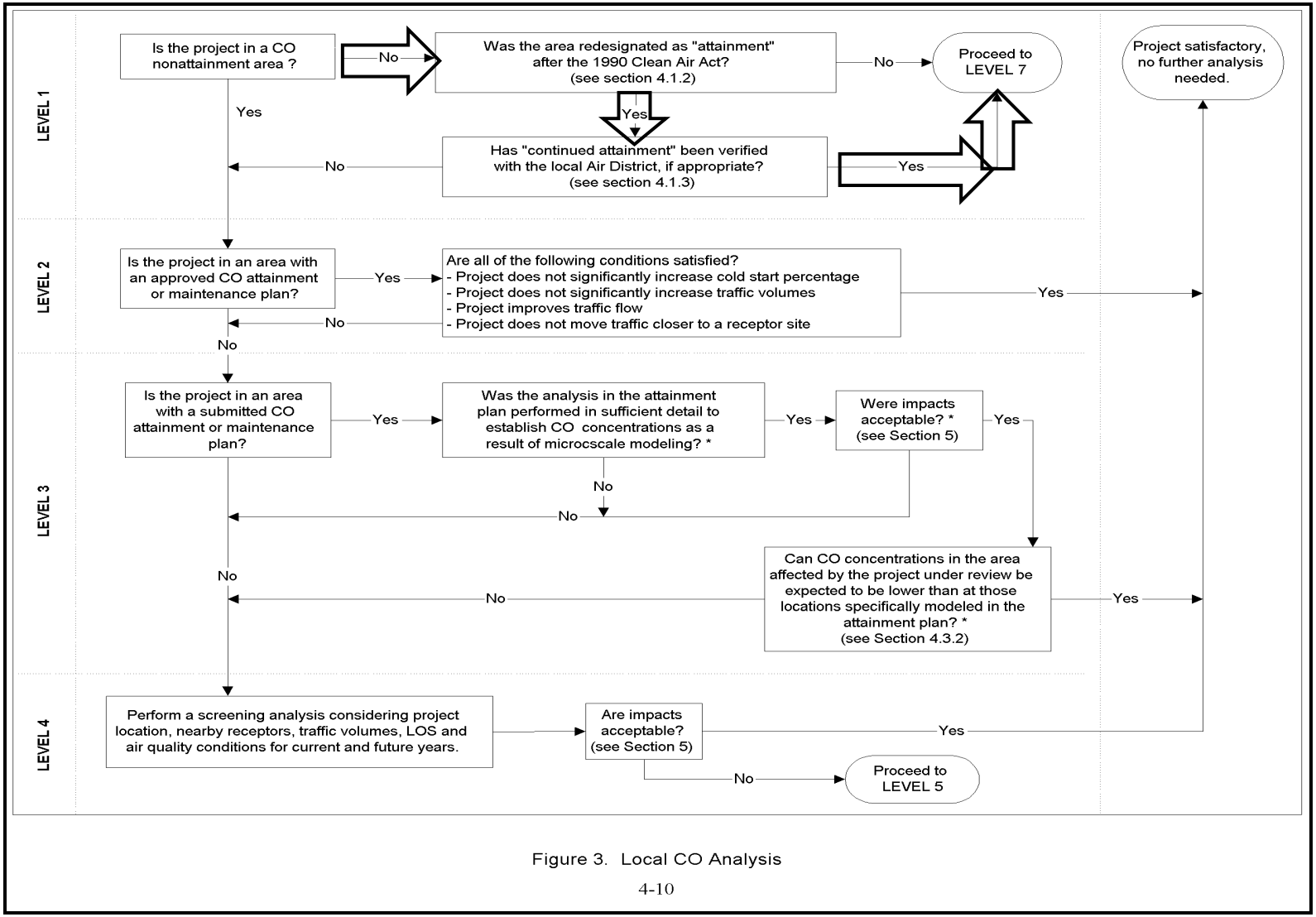


Figure 3. Local CO Analysis

4-10

Figure 2-26: CO Flowchart Cont.

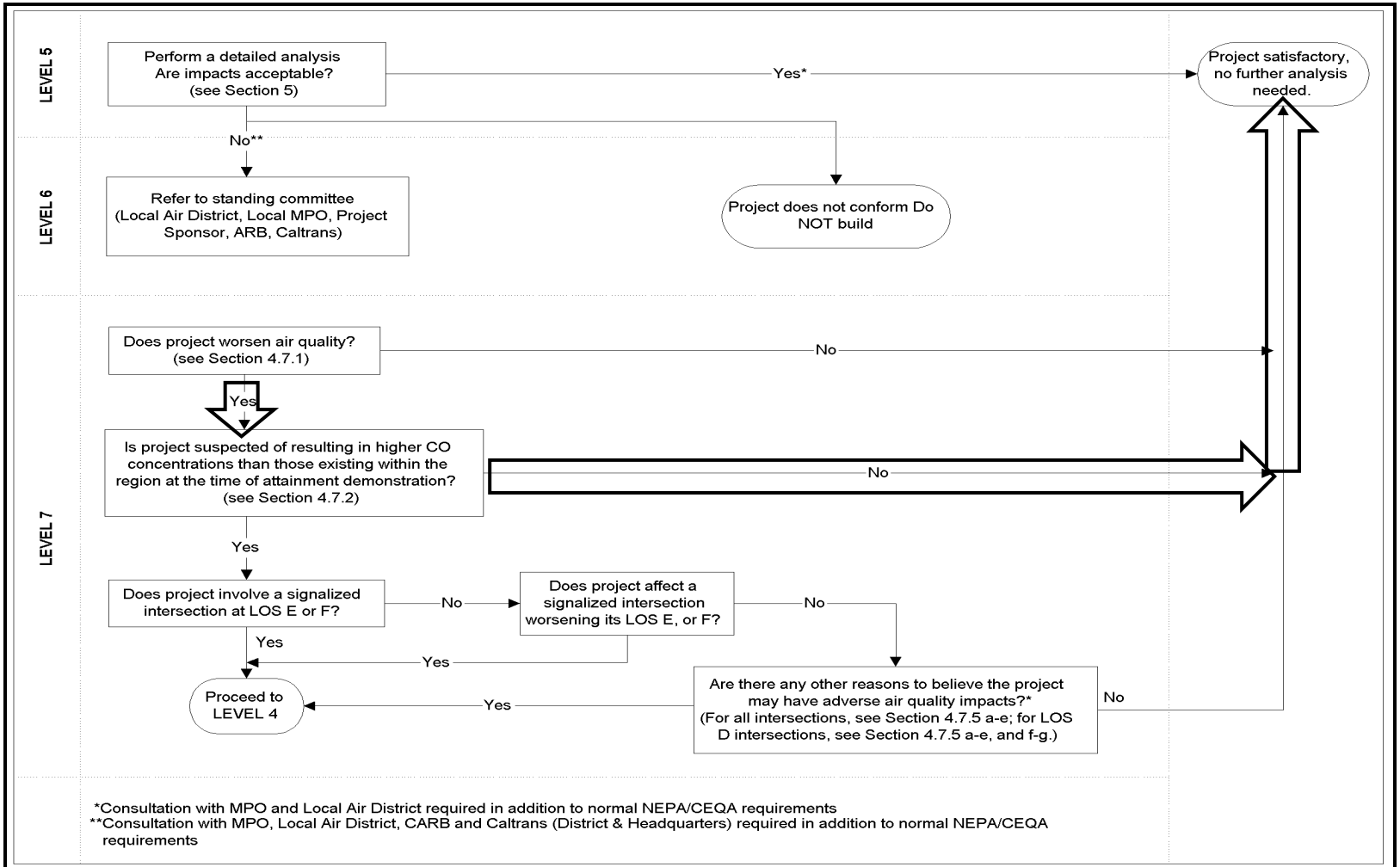


Figure 3 (cont.). Local CO Analysis

4-11

PM Analysis

In November 2015, the U.S. EPA released an updated version of Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas (Guidance) for quantifying the local air quality impacts of transportation projects and comparing them to the PM NAAQS (75 FR 79370). The U.S. EPA originally released the quantitative guidance in December 2010 and released a revised version in November 2013 to reflect the approval of EMFAC 2011 and U.S. EPA's 2012 PM NAAQS final rule. The November 2015 version reflects MOVES2014 and its subsequent minor revisions such as MOVES2014a, to revise design value calculations to be more consistent with other U.S. EPA programs, and to reflect guidance implementation and experience in the field. Note that EMFAC, not MOVES, should be used for project hot-spot analysis in California. The Guidance requires a hot-spot analysis to be completed for a project of air quality concern (POAQC). The final rule in 40 CFR 93.123(b)(1) defines a POAQC as:

(i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;

(ii) Projects affecting intersections that are at Level-of-Service (LOS) D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;

(iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;

(iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and

(v) Projects in or affecting locations, areas, or categories of sites which are identified in the $PM_{2.5}$ and PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The proposed project is in an area that is in nonattainment of the federal $PM_{2.5}$ standard and in maintenance of the federal PM_{10} standard; and therefore, is subject to a project-level PM hot-spot conformity analysis pursuant to 40 CFR Part 93. However, a PM hot-spot analysis is only required for the five types of projects listed in 40 CFR 93.123(b)(1) of the conformity rule, identified as projects of local air quality concern.

The purpose of the project is to mitigate existing congestion and to enhance operations and mobility along the I-105 corridor as the current demands exceed capacity and its HOV facilities are degraded with a travel speed below 45 mph during peak period. When compared to Alternative 1 (based on Daily Traffic Data for 2017 Baseline), Alternative 2 would increase the truck volumes by up to 425, and 361 in 2027 and 2040, respectively; and Alternative 3 would increase the truck volumes by up to 1462 and 2282 in 2027 and 2040, respectively. The proposed scope and resulting traffic data have been submitted for review and discussion by the Interagency Consultation (IAC) in SCAG's monthly meeting in June 2019. Stakeholders at the monthly IAC meeting concurred that the project-related daily truck trips are not significant, and the proposed project is not of air quality concern for PMs. As a result, the proposed project has met the requirements of the Clean Air Act (CAA) and 40 CFR 93.116 without an explicit hot-spot analysis; and it is anticipated that it would not worsen existing PM_{10} or $PM_{2.5}$ violations or delay timely attainment of the standards.

NO_2 Analysis

NO_2 is among the near-road pollutants of concern. However, currently, there is no federal project-level NO_2 analysis requirement. The proposed project is located in attainment-unclassified area for the federal and state 1-hour standards; attainment-maintenance area for federal annual standard and attainment area for state annual standard. As shown in Tables 2-106 and 2-107, maximum 1-hr NO_2 ambient concentrations at the Compton and LAX-Hastings ranged from 60 to 99 ppb while maximum annual NO_2 ambient concentrations ranged from 10 ppb to 16 ppb. Ambient NO_2 concentrations at both monitoring stations did not exceed any of the respective federal and state standards for NO_2.

EMFAC2017 does not currently provide emission factors for NO_2. NOx emissions are thus estimated as a surrogate for quantifying the emissions of NO_2 from each of the Alternatives. Changes in the NOx emissions in comparison to the 2017 Baseline as well as to the No-Build (Alternative 1) conditions are provided as well. Build Alternatives 2 and 3 are anticipated to result in increase of up to 38.7 and 31.9 percent, respectively, when compared to the No-Build (Alternative 1) conditions in each analysis year. All Alternatives, however, are anticipated to result in decrease in NOx emissions when compared to the 2017 Baseline.

Mobile Source Air Toxics (MSAT) Analysis

FHWA released updated guidance in October 2016 (FHWA, 2016) for determining when and how to address MSAT impacts in the NEPA process for transportation projects. FHWA identified three levels of analysis:

- No analysis for exempt projects or projects with no potential for meaningful MSAT effects;
- Qualitative analysis for projects with low potential MSAT effects; and
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Projects with no impacts generally include those that a) qualify as a categorical exclusion under 23 CFR 771.117, b) qualify as exempt under the FCAA conformity rule under 40 CFR 93.126, and c) are not exempt, but have no meaningful impacts on traffic volumes or vehicle mix.

Projects that have low potential MSAT effects are those that serve to improve highway, transit, or freight operations or movement without adding substantial new capacity or creating a facility that is likely to substantially increase emissions. The large majority of projects fall into this category.

Projects with high potential MSAT effects include those that:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of Diesel Particulate Matter in a single location; or
- Create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000, or greater, by the design year; and
- Are proposed to be located in proximity to populated areas or, in rural areas, in proximity to concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals).

Based on a comparison of the Alternatives with the different categories in the Interim Guidance, the project is deemed to meet the criteria for Category 3 MSAT analysis. A review of the

proposed project scope, traffic data, and settings indicates that this project is anticipated to have the potential for meaningful differences in MSAT emissions among project alternatives. In accordance with the FHWA Guidance, the project therefore requires a quantitative analysis.

The latest version of CT-EMFAC2017, which incorporates emission factors from the latest EMFAC2017 v 1.0.2 and the latest speciation factors from CARB, is utilized in estimating emissions of all 9 priority MSATs including 1,3-butadiene, acrolein, benzene, DPM, ethylbenzene, formaldehyde, naphthalene, and POM. Emissions are estimated by using travel activity data forecasted for each segment along the corridor, i.e., from a ramp interchange to the next.

All future MSAT emissions are anticipated to decrease when compared to the 2017 Baseline. Alternatives 2 and 3, however, are anticipated to result in an increase of up to 30 percent in MSAT emissions (i.e., acetaldehyde) when compared to the No-Build (Alternative 1) conditions. It should be noted, however, that emissions of DPM for Build Alternative 2 are anticipated to result in decrease when compared to the No-Build conditions in all future years despite increase in future daily volumes.

Naturally Occurring Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by the ARB in 1986. All types of asbestos are hazardous and may cause lung disease and cancer.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos-bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Serpentinite may contain chrysotile asbestos, especially near fault zones. Ultramafic rock, a rock closely related to serpentinite, may also contain asbestos minerals. Asbestos can also be associated with other rock types in California, though much less frequently than serpentinite and/or ultramafic rock. Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. The California Department of Conservation, Division of Mines and Geology has developed a map showing the general location of ultramafic rock in the state (www.conservation.ca.gov/cgs/minerals/hazardous_minerals/asbestos/Pages/index.aspx).

The project is located in Los Angeles County, which is among the counties listed as containing serpentinite and ultramafic rock. However, the portion of Los Angeles County in which the project lies is not known to contain serpentinite or ultramafic rock. Therefore, the impact from naturally occurring asbestos during project construction would be minimal to none.

However, structures, including buildings and bridges, may contain asbestos-containing materials (ACM). Asbestos was used in many building materials prior to 1978 and may have been used up until the early 1980s. ACMs include fireproofing, acoustic ceiling material, transite pipe, roofing materials, thermal insulation, support piers, expansion joint material in bridges, asphalt, concrete, and other building materials. It is of primary concern when it is friable (i.e., material that can be easily crumbled). During demolition, if not properly identified and mitigated, asbestos fibers could become airborne. Project improvements would require demolition or disturbance of existing structures, including buildings and bridges that may contain ACM. In addition, soil surrounding railroad tracks within the project study area may also contain ACMs from disk brake pads for railroad use that may have been manufactured with ACMs.

According to a hazardous waste assessment completed for the project, an ACM and lead-based paint (LBP) surveys are required for work related to utility relocations, bridge alterations and/or demolition, oil field appurtenances and/or structures that are suspected of having been coated with LBP or constructed with ACM. The results of ACM and LBP surveys will be used to prepare appropriate AQMD permits for renovations and to provide information to the contractor so that appropriate worker safety protocols and abatement activities are planned, if necessary. It is recommended that the ACM and LBP surveys be conducted during the PS&E phase for any structures planned to be altered/demolished during construction of the project. The ACM survey shall be conducted in conformance with the EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) 40 CFR regulation, SCAQMD Rule 1403, and Caltrans SSP 14-11.16 Asbestos-Containing Construction Materials in Bridges.

Lead

The proposed project is located in a federal nonattainment area and state attainment area for Pb. Lead is a stable compound, which persists and accumulates both in the environment and in animals. Since 1975, lead emissions have been in decline due in part to the introduction of catalyst-equipped vehicles and decline in production of leaded gasoline. In general, an analysis of lead is limited to projects that emit significant quantities of the pollutant and are not applied to transportation projects. If applicable, disturbance of lead paint must meet U.S. EPA and air district rules (Caltrans Standard Specifications 14-9.02, 2018) as well as applicable any local district rules that apply to sandblasting and other activities related to lead paint removal or disturbances.

Roadway Segment Emissions Analysis

When compared to the No-Build (Alternative 1) conditions, both Build Alternatives are anticipated to result in small increases in all criteria pollutants due to increase in VMT. All Alternatives are anticipated to result in decrease in CO and NOx emissions when compared to the 2017 Baseline. All Alternatives result in decrease or minor increases in $PM_{2.5}$ when compared to the 2017 Baseline; but all Build Alternatives mostly result in minor increases in PM_{10} when compared to the 2017 Baseline. Sensitive receptors are present along all freeway segments and would be exposed to these localized PM increases. The localized PM analysis provided therein concluded that the proposed project would not create new or worsen existing $PM_{2.5}$ or PM_{10} violations.

Alternative 1 (No-Build Alternative)

Short-Term Effects (Construction Emissions)

Alternative 1 would not result in the construction of any of the proposed improvements and therefore, would not result in temporary, construction-related impacts to air quality.

Long-Term Effects (Operational Emissions)

There would be no substantial long-term effects associated with Alternative 1 regarding Air Quality.

Alternatives 2 & 3 (Build Alternatives)

Short-Term Effects (Construction Emissions)

The proposed project will result in short-term degradation of air quality during construction by generating airborne dust from such activities as clearing, grading, hauling, demolition, or excavation for roadway improvements. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated and would include criteria pollutants and MSATs from exhaust or road dust. Emissions of particulates, CO, NOx, and CO_2 are estimated using the latest SCAQMD's RCEM based on the construction activities data provided by Metro. Implementation of avoidance and minimization measures, including compliance with Caltrans' Standard Specifications and SCAQMD rules and regulation, will ascertain that any temporary air quality impacts are minimized during construction. It is also recommended to conduct ACM and LBP surveys so that SCAQMD's permit requirements and worker safety are appropriately evaluated prior to construction or demolition activities.

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93. 123(c)(5)).

Long-Term Effects (Operational Emissions)

Operational emissions of criteria pollutants, MSATs, and GHG have been estimated for each segment along the I-105 Corridor within the project limits. When compared to the 2017 Baseline, all Alternatives will likely result in a decrease in emissions of CO, NOx, CO_2, and all MSATs; decrease or minor increase in $PM_{2.5}$ emissions; and localized increases in PM_{10}. Alternative 2 will likely result in decrease of regional $PM_{2.5}$ emissions.

According to the traffic forecast, the Build Alternatives will result in increase in VMTs when compared to the No-Build conditions. Accordingly, all Build Alternatives are anticipated to result in increase of emissions of all criteria pollutants, MSATs, and GHG when compared to the No-Build conditions, except emissions of DPM for Alternative 2. However, the proposed project is not anticipated to cause or contribute to any new violation of the state and federal standards of the criteria pollutants.

The proposed project is located in the federal nonattainment area; and is subject to the requirements to demonstrate conformity. The proposed project is identified in the latest conforming 2020 RTP/SCS (Amendment No. 3) and 2019 FTIP (Amendment No. 9); and has

satisfactorily demonstrated conformity at the regional level. A project-level hot-spot analysis was conducted according to the EPA-approved CO Protocol and the latest Transportation Conformity Guidance for $PM_{2.5}$ and PM_{10}. The proposed project satisfies all criteria in Section 4.7.2 of the CO Protocol, and is therefore not anticipated to cause or worsen localized violations of new violations of the CO standards. The proposed project has undergone through a review by the IAC for its potential to cause concern for PM_{10} and $PM_{2.5}$. At its June 2019 meeting, stakeholders at the IAC concurred that the proposed project is not of air quality concern. As a result, the proposed project has satisfactorily demonstrated the project-level conformity requirements; and is not anticipated to worsen existing PM_{10} and $PM_{2.5}$ violations of delay timely attainment of the standards.

2.2.5.4 Cumulative Impacts

The proposed project is in Los Angeles County within the jurisdiction of SCAQMD, which is an air district within the SCAG region. The proposed project is in an area that is currently in nonattainment or maintenance for federal $PM_{2.5}$, PM_{10}, CO, and ozone standards. The area is currently in nonattainment of the state $PM_{2.5}$, PM_{10}, and ozone standards. As the MPO over the project area, SCAG has prepared the ~~/SCS~~ 2020 RTP/SCS as part of which a cumulative impact analysis was conducted. The result indicates that the 2020 RTP/SCS would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is designated nonattainment because the projected long-term emissions are in alignment with local AQMPs/SIPs as demonstrated in their conformity analyses. The result also demonstrates that, when compared to the existing conditions, implementation of the 2020 RTP/SCS would result in either no change or a decrease in cumulative $PM_{2.5}$ and PM_{10} emissions. Ozone is assessed using the emissions of ozone precursors which include ROG and NOx. Since ROG and NOx emissions show a decrease from the existing conditions, the 2020 RTP/SCS forecasts that its implementation would not contribute to a net increase in ozone.

Long-term operational analyses demonstrate that such an ozone precursor like NOx is anticipated to decrease in the future. As a result, the proposed project is not anticipated to worsen the current violation of the state and federal $PM_{2.5}$, PM_{10}, or ozone standards; or create new violations of the state or federal standards for other criteria pollutants. Furthermore, this project is listed in the 2020 RTP/SCS and 2019 FTIP, which was found to conform to the SIP, demonstrating conformity at the regional level.

2.2.5.5 Avoidance, Minimization, and/or Mitigation Measures

Environmentally sensitive areas (ESAs) will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.

Short-Term (Construction)

Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in long-term adverse conditions. Implementation of the following measures, some of which may also be required for other purposes such as storm water pollution control will reduce any air quality impacts resulting from construction activities:

Air1 - The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2018).

Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

Air2 - Water or a dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions must meet a "no visible dust" criterion either at the right-of-way line according to the SCAQMD Rule 403.

Air3 - Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.

Air4 - Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.

Air5 - Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by CA Code of Regulations Title 17, Section 93114.

Air6 - A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely re-vegetation of disturbed slopes as needed to minimize construction impacts to existing communities.

Air7 - Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.

Air8 - Environmentally sensitive areas (ESAs) will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.

Air9 - Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used.

Air10 - All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust during transportation.

Air11 - Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to reduce PM emissions.

Air12 - To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

Air13 - Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown PM in the area.

As noted above, Caltrans Standard Specifications specifically require compliance with all applicable laws and regulations related to air quality, which would include applicable rules and regulations of the respective AQMD such as Rules 401, 402, and 403.

Rule 401 requires no visible emissions be discharged in the atmosphere of such opacity for a period or periods aggregating more than three minutes in any one hour as to obscure an observer's view to a degree equal to or greater than the dark shade of smoke as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines. Rule 402 requires that air pollutant emissions not be a nuisance off-site.

SCAQMD's Rule 403 requires that fugitive dust be controlled with the best available control measures (BACM) in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the proposed project. It also requires a dust control plan to be submitted and approved prior to construction. The dust control plan should describe all applicable dust control measures that will be implemented at the project; and should describe types of dust suppressant, surface treatments and other measures to be utilized at the construction sites to comply with the Rule.

Long-Term (Operational)

No Avoidance, Minimization, and/or Mitigation measures are needed to reduce operational air quality impacts. The proposed project is not anticipated to cause or contribute to any new violation of the state and federal standards of the criteria pollutants.

2.2.6 Climate Change

Neither U.S. EPA nor FHWA has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

2.2.7 Noise

2.2.7.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The

intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/Title 23 Part 772 of the Code of Federal Regulations (23 CFR 772) noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

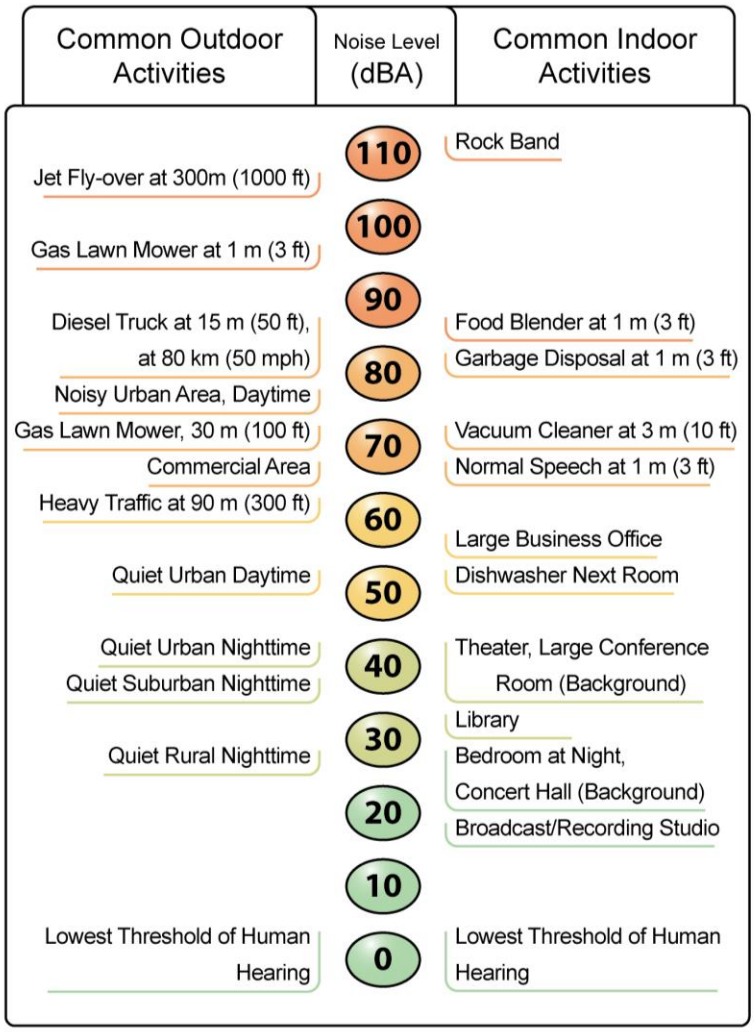
NATIONAL ENVIRONMENTAL POLICY ACT AND 23 CFR 772

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and Caltrans, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). The following table lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

Table 2-110: Noise Abatement Criteria		
Activity Category	**NAC, Hourly A-Weighted Noise Level, Leq(h)**	**Description of activity category**
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.
[1] Includes undeveloped lands permitted for this activity category.		

Figure 2-27 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Figure 2-27: Noise Levels of Common Activities



According to Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, April 2020,* a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more) or when the future noise level with the project approaches or exceeds the NAC. A noise level is considered to approach the NAC if it is within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 dB at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 dB at one or more impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

2.2.7.2 Affected Environment

A Traffic Noise Study Report originally prepared in December 2019 and updated in January 2021 due to scope changes in Alternative 3 to evaluate the entire area within the project limits of potential traffic noise impacts that may result from the proposed project.

As part of the Traffic Noise Study report, a field noise investigation was conducted to determine existing noise levels and gather information to develop and calibrate the traffic noise model for predicting future noise levels. The entire area within the project limits was acoustically represented by 182 noise site locations. Existing noise levels were recorded at 153 locations and modeled at 29 locations. These locations are acoustically representative of the noise environment and land uses within the limits of the project. Existing ambient noise levels were between 34 and 73 decibels (dBA). Thirteen long-term (24-hour) noise levels readings were conducted to determine the noisiest hours within the project limits.

Single-family residences and multi-family residences were identified as Activity Category B while places of worship, schools, parks, playgrounds were identified as Activity Category C and D land uses in the project area. Hotels/motels and restaurants were identified under Activity Category E. Category F composed of airports, a nursery, a light rail station, a transit station, a suburban train line, park and ride, and industrial/commercial facilities. Most of the noise sensitive land uses are residences along I-105. Table 2-111 to Table 2-122 summarize the results of the short-term noise monitoring conducted in the project area. Table 2-123 summarizes the community background noise level measured within the project limits. See Table 2-124 to 2-136 for noise monitoring results at each long-term noise measurement sites and Figures 2-47 to 2-58 for noise monitoring graphs at each site.

Table 2-111: Short-Term Noise Measurements

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
W1	12712 Domart Avenue, Norwalk, CA 90650	Residential	3/27/2018	1:22 PM	10	64.5	WB	4+1	804	40	48	-	2	65
							EB	4+1	900	27	63	2	5	65
W2	10537 Boason Street, Norwalk, CA 90650	Residential	3/27/2018	1:22 PM	10	60.1	WB	4+1	804	40	48	-	2	65
							EB	4+1	900	27	63	2	5	65
W3	12820 Woodruf Avenue, Downey, CA 90242	Church	3/28/2018	9:36 AM	10	59.9	WB	4+1	663	34	51	2	2	65
							EB	4+1	920	27	72	1	2	65
W4	12822 Ibbetson Avenue, Downey, CA 90242	Residential	3/27/2018	10:38 AM	10	66.8	WB	4+1	749	47	56	-	3	60-65
							EB	4+1	862	26	77	1	3	65
W5	12830 Dunrobin Avenue, Downey, CA 90242	Residential	3/27/2018	10:38 AM	10	61.8	WB	4+1	749	47	56	-	3	60-65
							EB	4+1	862	26	77	1	3	65
W6	9634 Adoree Sreet, Downey, CA 90242	Residential	3/27/2018	10:38 AM	10	62.2	WB	4+1	749	47	56	-	3	60-65
							EB	4+1	862	26	77	1	3	65
E1	13028 Curtis & King Road, Norwalk, CA 90650	Residential	3/28/2018	10:26 AM	10	54	WB	4+1	743	33	57	1	2	50-65
							EB	4+1	989	22	80	1	4	65
E2	10515 Angell Street, Norwalk, CA 90650	Residential	3/28/2018	10:24 AM	10	57.7	WB	4+1	743	33	57	1	2	50-65
							EB	4+1	989	22	80	1	4	65
E3	13008 Carfax Avenue, Downey, CA 90242	Residential	3/28/2018	10:52 AM	10	59.6	WB	4+1	816	42	67	-	2	45-65
							EB	4+1	926	19	83	1	3	65
E4	10204 Laurelwood Ln, Downey, CA 90242	Residential	3/27/2018	11:19 AM	10	62.4	WB	4+1	703	32	59	-	3	65
							EB	4+1	941	25	80	2	4	65
E5	13012 Ibbetson Avenue, Downey, CA 90242	Residential	3/27/2018	11:01 AM	10	60.2	WB	4+1	802	44	50	-	-	60-65
							EB	4+1	956	33	69	-	1	65
E6	13019 Eastbrook Avenue, Downey, CA 90242	Residential	3/27/2018	11:00 AM	10	60.9	WB	4+1	802	44	50	-	-	60-65
							EB	4+1	956	33	69	-	1	65
E7	13028 Adenmoor Avenue, Downey, CA 90242	Residential	3/27/2018	11:20 AM	10	60.7	WB	4+1	703	32	59	-	3	65
							EB	4+1	941	25	80	2	4	65

Table 2-112: Short-Term Noise Measurements Cont.

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
W7	9539 Adoree Street, Downey, CA 90242	Residential	4/6/2018	10:35 AM	10	59.4	WB	4+1	819	42	79	1	3	65
							EB	4+1	896	19	75	-	2	65-75
W8	9419 Adoree Street, Downey, CA 90242	Residential	4/6/2018	10:21 AM	10	61.9	WB	4+1	803	50	79	1	2	60-65
							EB	4+1	806	28	60	1	1	65
W9	12830 Columbia Way, Downey, CA 90242	School	4/6/2018	10:56 AM	10	59.9	WB	4+1	887	46	76	2	3	65-75
							EB	4+1	937	30	76	-	-	65
W10	9157 Adoree Street, Downey, CA 90242	Residential	4/6/2018	9:40 AM	10	62.7	WB	4+1	785	41	48	2	1	65
							EB	4+1	823	26	68	1	1	65
W11	9033 Adoree Street, Downey, CA 90242	Residential	4/6/2018	10:00 AM	10	61	WB	4+1	834	47	82	1	6	65
							EB	4+1	756	30	78	-	1	45-60
E8	9638 Angell Sreet, Downey, CA 90242	Residential	4/5/2018	10:04 AM	10	59.2	WB	4+1	895	40	65	2	3	60-65
							EB	4+1	823	31	75	1	3	65
E9	13037 Rutgers Avenue, Downey, CA 90242	Residential	4/5/2018	9:45 AM	10	62.2	WB	4+1	959	49	60	2	3	65
							EB	4+1	864	33	77	1	1	65
E10	13022 Premiere Avenue, Downey, CA 90242	Residential	4/5/2018	9:45 AM	10	58.9	WB	4+1	959	49	60	2	3	65
							EB	4+1	864	33	77	1	1	65
E11	13200 Columbia Way, Downey, CA 90242	Church	4/5/2018	10:42 AM	10	52.1	WB	4+1	728	39	81	2	7	60-65
							EB	4+1	826	30	70	-	3	65
E11A*			4/5/2018	10:30 AM	10	36.3	WB	4+1	728	39	81	2	7	60-65
							EB	4+1	826	30	70	-	3	65
E12	9172 Angell Sreet, Downey, CA 90242	Residential	4/5/2018	10:58 AM	10	57.2	WB	4+1	800	41	70	2	3	65
							EB	4+1	734	28	66	1	4	65
E13	9078 Angell Street, Downey, CA 90242	Residential	4/5/2018	11:15 AM	10	59.2	WB	4+1	670	35	63	-	3	65
							EB	4+1	809	21	51	2	2	65
E14	12852 Lakewood Boulevard, Downey, CA 90242	Residential	4/5/2018	12:30 PM	10	57.7	WB	4+1	780	35	67	1	3	50-60
							EB	4+1	746	29	63	-	5	60

Table 2-113: Short-Term Noise Measurements Cont.

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
W12	8801 Cheyenne Street, Downey, CA 90242	Residential	4/24/2018	11:06 AM	10	59.8	WB	3+1	860	58	68	2	1	65
							EB	3+1	770	40	75	1	4	65
W13	12942 Sandy Lane, Downey, CA 90242	Residential	4/24/2018	11:20 AM	10	58.5	WB	3+1	919	38	68	1	4	65
							EB	3+1	865	36	61	2	2	65
W14	13020 Laureldale Avenue, Downey, CA 90242	Residential	4/24/2018	11:37 AM	10	60.9	WB	3+1	856	44	93	2	-	65
							EB	3+1	890	33	75	-	-	65
W15	13330 Downey Avenue, Paramount, CA 90723	Residential	4/25/2018	11:53 AM	10	56.2	WB	3+1	784	38	79	2	2	65
							EB	3+1	814	36	83	1	2	65
W16	13330 Orizaba Avenue, Paramount, CA 90723	Park	4/24/2018	1:18 PM	10	57.8	WB	3+1	769	21	54	2	2	65
							EB	3+1	1028	30	41	2	6	60-65
W18	13422 Ruther Avenue, Paramount, CA 90723	Residential	4/26/2018	10:24 AM	10	59.4	WB	3+1	923	57	67	-	6	65
							EB	3+1	898	38	70	1	4	65
E15	1304 Airport Avenue, Downey, CA 90242	Residential	4/24/2018	10:46 AM	10	59.5	WB	3+1	853	43	88	2	2	65
							EB	3+1	908	39	74	2	1	65
E16	13035 Barlin Avenue, Downey, CA 90242	Residential	4/26/2018	10:04 AM	10	61.3	WB	3+1	940	29	88	1	-	65
							EB	3+1	874	47	82	1	2	60-65
E17	13102 Verdura Avenue, Downey, CA 90242	Residential	4/24/2018	11:54 AM	10	67.7	WB	3+1	806	52	62	3	2	65
							EB	3+1	906	33	70	1	2	65
E18	8314#A Somerset Ranch Rd, Paramount, CA 90723	Residential	4/25/2018	12:59 PM	10	64.8	WB	3+1	857	36	75	-	3	65
							EB	3+1	1010	31	59	-	5	65
E19	8230 Golden Avenue, Paramount, CA 90723	Residential	4/26/2018	11:04 AM	10	55.7	WB	3+1	868	42	99	2	3	65
							EB	3+1	812	32	74	1	5	65
E20*	13451 Merkel Avenue, Paramount, CA 90723	Residential	4/25/2018	9:49 AM	10	37.0	WB	3+1	963	27	64	6	6	65
							EB	3+1	954	29	77	1	2	65
E21	8108 Rancho Valero Road, Paramount, CA 90723	Residential	4/25/2018	11:30 AM	10	53	WB	3+1	784	38	79	2	2	65
							EB	3+1	814	36	83	1	2	65
E22	8113 Rancho Del Oro street, Paramount, CA 90723	Church	4/25/2018	11:30 AM	10	56.4	WB	3+1	784	38	79	2	2	65
							EB	3+1	814	36	83	1	2	65
E23	8302 Rancho Dorado Road, Paramount, CA 90723	Residential	4/26/2018	11:04 AM	10	57.2	WB	3+1	868	42	99	3	3	65
							EB	3+1	812	32	74	1	5	65

Table 2-114: Short-Term Noise Measurements Cont.

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
W19	6171 Folrence Avenue, South Gate, CA 90280	Residential	5/2/2018	11:04 AM	10	62.2	WB	4+1	739	33	67	1	2	65
							EB	4+1	755	35	75	2	3	65
W20	6127 Nevada Avenue, South Gate, CA 90280	Residential	5/2/2018	10:47 AM	10	62.0	WB	5+1	767	47	101	1	2	65
							EB	4+1	723	32	69	1	-	65
W21	13726 Florine Avenue, Paramount, CA 90723	Residential	5/2/2018	10:30 AM	10	63.4	WB	5+1	743	43	69	1	2	65
							EB	5+1	780	25	71	-	-	65
W22	13714 Racine Avenue, Paramount, CA 90723	Residential	5/2/2018	12:01 PM	10	56.9	WB	3+1	750	25	89	3	2	65
							EB	5+1	765	27	62	1	1	65
W23	7346 Howery Street, South Gate, CA 90280	Residential	5/3/2018	11:17 AM	10	62	WB	5+1	739	44	78	2	3	65
							EB	3+1	776	23	66	-	2	65
W24	7134 Cloverlawn Drive, Paramount, CA 90723	Residential	5/3/2018	10:55 AM	10	56.9	WB	3+1	753	39	92	2	4	65
							EB	3+1	796	24	66	-	1	65
E24	7812 Denver Street, Paramount, CA 90723	Residential	5/2/2018	11:24 AM	10	61.4	WB	3+1	743	37	85	1	-	65
							EB	3+1	850	32	88	1	1	45-60
E25	13802 Facade Avenue, Paramount, CA 90723	Residential	5/2/2018	10:07 AM	10	67.3	WB	5+1	861	40	78	3	4	65
							EB	4+1	911	35	78	1	2	50-60
E26	13814 Racine Avenue, Paramount, CA 90723	Residential	5/2/2018	10:07 AM	10	60.6	WB	3+1	861	40	78	3	4	65
							EB	5+1	911	35	78	1	2	50-60
E27	7441 Rood Street, Paramont, CA 90723	Residential	5/3/2018	10:32 AM	10	59.2	WB	5+1	723	31	63	2	2	65
							EB	5+1	861	29	86	1	3	65
E28	7325 Rood Street, Paramont, CA 90723	Residential	5/3/2018	10:13 AM	10	61.8	WB	3+1	756	40	71	1	3	65
							EB	4+1	747	29	69	2	2	65

Table 2-115: Short-Term Noise Measurements Cont.

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
W42	11700 Lugo Park Avenue, Lynwood, CA 90262	Residential	6/26/2018	10:35 AM	10	61.3	WB	4+1	1183	30	35	1	3	65
							EB	4+1	867	46	29	6	2	65
E36	5210 Josephine Street, Lynwood, CA90262	Residential	6/26/2018	10:50 AM	10	64.3	WB	4+1	1100	24	38	3	4	65
							EB	4+1	903	41	32	-	3	65
E37	11832 Atlantic Avenue, Lynwood, CA 90262	Park	6/26/2018	11:05 AM	10	60.4	WB	4+1	1135	33	42	-	3	65
							EB	4+1	866	38	44	4	2	65
W43	11701 Pope Avenue, Lynwood, CA 90262	Residential	6/26/2018	11:22 AM	10	62.7	WB	4+1	1200	20	37	5	4	65
							EB	4+1	972	45	52	1	2	60
W44	4357 Fernwood Avenue, Lynwood, CA 90262	Residential	6/26/2018	11:42 AM	10	65.1	WB	4+1	1183	27	34	3	3	65
							EB	4+1	958	49	45	3	3	60
W45	33.917805, -118.192345 Lynwood, CA 90262	Park	6/26/2018	12:40 PM	10	64.9	WB	4+1	1177	19	25	-	5	65
							EB	4+1	969	34	45	1	1	60
W46	4225 Fernwood Avenue, Lynwood, CA 90262	Residential	6/26/2018	12:54 PM	10	68	WB	4+1	1188	19	24	1	3	65
							EB	4+1	999	26	47	2	1	65
E39	11736 4th Avenue, Lynwood, CA 90262	Residential	6/26/2018	1:09 PM	10	62.6	WB	4+1	1172	36	29	1	5	65
							EB	4+1	977	36	34	2	6	65
E38	11733 1st Avenue, Lynwood, CA 90262	Residential	6/26/2018	1:25 PM	10	61.4	WB	4+1	1149	36	31	2	6	65
							EB	4+1	1012	30	40	1	5	65
E42	11730 1st Avenue, Lynwood, CA 90262	Residential	6/26/2018	1:25 PM	10	61.6	WB	4+1	1149	36	31	2	6	65
							EB	4+1	1012	30	40	1	5	65
W47	33.919383,-118.196020 Lynwood, CA 90262	Park	6/27/2018	9:45 AM	10	61.8	WB	4+1	1055	37	32	3	5	60
							EB	4+1	1146	30	46	3	5	65

Table 2-116: Short-Term Noise Measurements Cont.

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
E41	4040 Louise Street, Lynwood, CA 90262	Residential	6/27/2018	10:02 AM	10	61.4	WB	4+1	1117	46	24	2	4	60
							EB	4+1	1109	35	38	4	1	65
W48	3935 Fernwood Avenue, Lynwood, CA 90262	Residential	6/27/2018	10:49 AM	10	63	WB	4+1	919	25	44	1	2	60
							EB	4+1	997	30	31	3	2	65
W49	3865 Fernwood Avenue, Lynwood, CA 90262	Residential	6/27/2018	11:08 AM	10	63.4	WB	4+1	981	33	39	3	2	60
							EB	4+1	1137	22	31	3	-	65
W50*	3801 Cortland Street, Lynwood, CA 90262	School	6/27/2018	11:29 AM	10	46.4	WB	4+1	1065	40	40	6	2	60
							EB	4+1	1209	31	34	1	-	65
E43	3867 Ernestine Avenue, Lynwood, CA 90262	Residential	6/27/2018	12:48 PM	10	58.3	WB	4+1	1251	18	25	-	5	60
							EB	4+1	963	38	40	3	5	65
W51	3693 Fernwood Avenue, Lynwood, CA 90262	Residential	6/28/2018	9:48 AM	10	65	WB	4+1	1171	34	32	7	7	55
							EB	4+1	862	42	42	3	3	65
E45*	11700 School Street, Lynwood, CA 90262 (Indoor)	School	6/28/2018	10:14 AM	10	34.1	WB	4+1	1123	26	44	4	2	55
							EB	4+1	945	61	43	1	1	65
E46	11700 School Street, Lynwood, CA 90262	School	6/28/2018	10:28 AM	10	58.1	WB	4+1	1123	26	44	4	2	50-60
							EB	4+1	945	61	43	1	1	65
E44	3666 Lynwood Road, Lynwood, CA 90262	Residential	6/28/2018	10:49 AM	10	61.2	WB	4+1	1086	39	45	2	5	55
							EB	4+1	1031	65	36	3	4	65
W52*	3655 Fernwood Avenue, Lynwood, CA 90262	Church	6/28/2018	11:10 AM	10	41.5	WB	4+1	1022	20	32	-	3	55
							EB	4+1	980	59	36	5	6	65

Table 2-117: Short-Term Noise Measurements Cont.

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
W53	11401 Long Beach Blvd, Lynwood, CA 90262	Hotel	7/10/2018	1:13 PM	10	58.1	WB	3+1	1242	32	33	2	1	50-65
							EB	3+1	1012	23	28	3	4	65
W54	2965 Fernwood Avenue, Lynwood, CA 90262	Residential	7/10/2018	11:42 AM	10	68.9	WB	3+1	867	30	39	4	2	65
							EB	3+1	1072	39	30	5	2	40-50
W55	2436 East 115th Place, Los Angeles, CA 90059	Residential	7/11/2018	10:29 AM	10	72.7	WB	3+1	1029	36	37	1	4	65
							EB	3+1	931	24	36	1	1	55-65
W56	East 115th Place, Los Angeles, CA 90059	School	7/11/2018	10:29 AM	10	61	WB	3+1	1029	36	37	1	4	65
							EB	3+1	931	24	36	1	1	55-65
W57	2077 East Imperial Hwy, Los Angeles, CA 90059	Residential	7/11/2018	10:59 AM	10	72.8	WB	3+1	907	38	39	3	3	65
							EB	3+1	715	16	26	1	6	65-70
W58*	2003 East Imperial Hwy, Los Angeles, CA 90059	Church	7/11/2018	10:59 AM	10	39.1	WB	3+1	907	38	39	3	3	65
							EB	3+1	715	16	26	1	6	65-70
E47	3237 Flower Street, Lynwood CA 90262	Residential	7/10/2018	11:19 PM	10	56.4	WB	4+1	1080	29	27	2	2	65
							EB	4+1	830	38	27	2	2	45-60
E48	3172 Redwood Avenue, Lynwood, CA 90262	Residential	7/10/2018	11:17 AM	10	59.8	WB	4+1	830	38	27	2	6	45-60
							EB	3+1	1080	29	27	2	2	65
E49	11419 Pear Street, Lynwood, CA 90262	Residential	7/10/2018	11:41 AM	10	62.6	WB	4+1	867	30	39	4	2	65
							EB	4+1	1072	39	30	5	2	40-50
E50	11426 Plum Street, Lynwood, CA 90262	Residential	7/10/2018	11:41 AM	10	62.8	WB	3+1	867	30	39	4	2	65
							EB	3+1	1072	39	30	5	2	40-50
E51	11653 Gorman Avenue, Los Angeles, CA 90059	Residential	7/11/2018	11:27 AM	10	61.3	WB	3+1	1000	24	29	3	8	65
							EB	3+1	1217	35	36	5	2	65
E52	11664 Lou Dillon Avenue, Los Angeles, CA 90059	Residential	7/11/2018	11:27 AM	10	59.1	WB	3+1	1000	24	29	3	8	65
							EB	3+1	1217	35	36	5	2	65

Table 2-118: Short-Term Noise Measurements Cont.

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
W59	1763 E.Imperial Highway, Los Angeles, CA 90059	Residential	7/12/2018	11:59 AM	10	68.3	WB	3+1	1159	20	28	2	3	65
							EB	3+1	1031	54	29	3	2	65
W60*	1700 E. Imperial Highway, Los Angeles, CA 90059	School	7/13/2018	11:03 AM	10	47.9	WB	3+1	1159	20	28	2	3	65
							EB	3+1	1031	54	29	3	2	65
W60	1700 E. Imperial Highway, Los Angeles, CA 90059	School	7/13/2018	11:03 AM	10	60.5	WB	3+1	1159	20	28	2	3	65
							EB	3+1	1031	54	29	3	2	65
W61	1639 E. Imperial Highway, Los Angeles, CA 90059	Residential	7/12/2018	11:59 AM	10	71.6	WB	3+1	1159	20	28	2	3	65
							EB	3+1	1031	54	29	3	2	65
W62	1421 E. Imperial Highway, Los Angeles, CA 90059	Residential	7/12/2018	11:07 AM	10	66.6	WB	3+1	1104	28	38	2	2	65
							EB	4+1	967	60	28	4	-	65
E53	1764 E 117th Street, Los Angeles, CA 90059	Residential	7/12/2018	11:36 AM	10	59.6	WB	3+1	1201	36	17	2	6	65
							EB	3+1	998	56	23	2	4	65
E54	1641 East 117th Street, Los Angeles, CA 90059	Residential	7/12/2018	11:35 PM	10	59.3	WB	3+1	1201	36	17	2	6	65
							EB	4+1	998	56	23	2	4	65
E55	11645 Success Avenue, Los Angeles, CA 90059	Residential	7/12/2018	11:36 AM	10	63.7	WB	3+1	1201	36	17	2	6	65
							EB	3+1	998	56	23	2	4	65
E56	11658 Robin Street, Los Angeles, CA 90059	Residential	7/12/2018	11:07 AM	10	61.7	WB	4+1	1104	28	38	2	2	65
							EB	3+1	967	60	28	4	-	65

Table 2-119: Short-Term Noise Measurements Cont.

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
W63	949 East 116th Place, Los Angeles, CA 90059	Residential	7/18/2018	10:48 AM	10	65.4	WB	4+1	1266	33	26	2	6	65
							EB	3+1	933	39	45	2	1	65
W64	11652 Wadsworth Ave, Los Angeles, CA 90059	Residential	7/18/2018	10:28 AM	10	62.8	WB	4+1	1266	33	26	2	6	65
							EB	3+1	933	39	45	2	1	65
W65	11610 Stanford Avenue, Los Angeles, CA 90059	School	7/18/2018	11:07 AM	10	58.9	WB	4+1	1389	15	36	3	3	65
							EB	4+1	955	50	35	1	-	65
W66	629 East 116th Place, Los Angeles, CA 90059	Residential	7/18/2018	11:06 AM	10	63.7	WB	4+1	1389	15	36	3	3	65
							EB	4+1	955	50	35	1	-	65
W67	362 East 116th Place, Los Angeles, CA 90061	Residential	7/18/2018	11:31 AM	10	60.6	WB	5+1	1353	25	30	2	4	65
							EB	4+1	973	29	28	-	1	65
W68	239 East 116th Place, Los Angeles, CA 90061	Residential	7/18/2018	11:31 AM	10	63.6	WB	5+1	1353	25	30	2	4	65
							EB	4+1	973	29	28	-	1	65
W69	133 East 116th Place, Los Angeles, CA 90061	Residential	7/17/2018	11:53 AM	10	67.9	WB	5+1	1231	26	19	2	1	65
							EB	4+1	957	37	32	2	4	65
W70	11509 South Spring Street, Los Angeles, CA 90061	Residential	7/17/2018	11:53 AM	10	60.6	WB	4+1	1231	26	19	2	1	65
							EB	4+1	957	37	32	2	4	65
E57	11701 Belhaven Street, Los Angeles, CA 90059	Church	7/17/2018	10:35 AM	10	63.3	WB	4+1	1316	25	34	-	2	65
							EB	4+1	939	32	37	3	4	65
E58	913 East 118th Street, Los Angeles, CA 90059	School	7/17/2018	10:30 AM	10	56.8	WB	4+1	1316	25	34	-	2	65
							EB	4+1	939	32	37	3	4	65
E59	721 East 118th Street, Los Angeles, CA 90059	Residential	7/17/2018	10:36 AM	10	57	WB	4+1	1316	25	34	-	2	65
							EB	4+1	939	32	37	3	4	65
E60*	675 East 118th Street, Los Angeles, CA 90059	Residential	7/17/2018	11:03 AM	10	39.3	WB	4+1	1266	25	26	3	4	65
							EB	4+1	917	42	44	2	3	50-65
E61	415 East 118th Street, Los Angeles, CA 90061	Residential	7/17/2018	11:04 AM	10	55	WB	5+1	1266	25	26	3	4	65
							EB	4+1	917	42	44	2	3	50-65
E62	211 East 118th Street, Los Angeles, CA 90061	Residential	7/17/2018	11:28 AM	10	57.1	WB	5+1	1180	31	30	-	7	65
							EB	4+1	916	40	41	2	2	65
E63	152 West 117th Street, Los Angeles, CA 90061	Residential	7/17/2018	11:27 AM	10	59.6	WB	4+1	1180	31	30	-	7	65
							EB	4+1	916	40	41	2	2	65

Table 2-120: Short-Term Noise Measurements Cont.

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
W71	557 West 115th Street, Los Angeles, CA 90044	Residential	7/18/2018	13:09:00 PM	10	64.9	WB	4+1	1139	18	24	2	5	65
							EB	4+1	1242	28	31	1	3	65
W72	11515 Menlo Avenue, Los Angeles, CA 90044	Residential	7/18/2018	13:09:00 PM	10	61.9	WB	4+1	1139	18	24	2	5	65
							EB	4+1	1242	28	31	1	3	65
W73	11506 Berendo Avenue, Los Angeles, CA 90044	Residential	7/19/2018	11:11 AM	10	59.8	WB	4+1	1096	36	28	2	5	65-70
							EB	4+1	1230	46	34	2	4	20-30
W74	1600 W Imperial Hwy, Los Angeles, CA 90047	School	7/31/2018	11:59 AM	10	57.9	WB	4+1	1322	29	29	1	3	40-60
							EB	4+1	1313	23	35	-	1	65-75
W75*	1600 W Imperial Hwy, Los Angeles, CA 90047	School	7/31/2018	12:06 PM	10	39.4	WB	4+1	1322	29	29	1	3	40-60
							EB	4+1	1313	23	35	-	1	65-75
W76	11723 Ruthelen Street, Los Angeles, CA 90047	Residential	7/31/2018	1:27 PM	10	67.6	WB	4+1	1390	27	34	2	5	50-60
							EB	4+1	1340	39	23	-	1	65-75
W77	11731 Tarron Avenue, Hawthorne, CA 90250	Residential	7/31/2018	1:27 PM	10	58.9	WB	4+1	1309	18	18	1	7	50-65
							EB	4+1	1342	35	23	-	2	65-75
W78	11836 Purche Avenue, Hawthorne CA 90250	Residential	7/31/2018	11:35 AM	10	65.8	WB	4+1	1390	27	34	2	5	50-60
							EB	4+1	1340	39	23	-	1	65-75
W79	11828 Chanera Av. Hawthorne, CA 90250	Residential	7/31/2018	11:35 AM	10	62.2	WB	4+1	1390	27	34	2	5	50-60
							EB	4+1	1340	39	23	-	1	65-75
E64	557 West 117th Street, Los Angeles, CA 90044	Residential	7/18/2018	12:44 PM	10	66.1	WB	4+1	1087	20	40	5	9	50-65
							EB	4+1	1087	20	40	5	9	65
E65	761 West 117th Street, Los Angeles, CA 90044	Residential	7/18/2018	12:44 PM	10	59.2	WB	4+1	1087	20	40	5	9	65
							EB	4+1	1087	20	40	5	9	65
E66	1060 W. 117th Street, Los Angeles, CA 90044	Residential	7/18/2018	12:44 PM	10	59.0	WB	4+1	1087	20	40	5	9	65
							EB	4+1	1087	20	40	5	9	65
E67	1315 Geddes Street, Los Angeles, CA 90044	Residential	7/19/2018	11:31 AM	10	53.6	WB	4+1	1043	29	33	2	1	65
							EB	4+1	1279	47	34	1	2	65
E68	1633 W. Bruin Street, Los Angeles, CA 90047	Residential	7/31/2018	1:27 PM	10	68.6	WB	4+1	1309	18	18	1	7	50-65
							EB	4+1	1342	35	23	-	2	65-75
E69	1925 Loganside Drive, Los Angeles, CA90047	Residential	8/1/2018	10:56 AM	10	63.2	WB	4+1	1325	34	28	3	2	65-75
							EB	4+1	1285	33	25	1	1	60-65
E70	11908 Cimarron Avenue, Hawthorne, CA 90250	Residential	8/1/2018	10:56 AM	10	54.9	WB	4+1	1325	34	28	3	2	65-75
							EB	4+1	1285	33	25	1	1	60-65

Table 2-121: Short-Term Noise Measurements Cont.

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
W80	11811 Simms Avenue, Inglewood , CA 90303	Residential	8/7/2018	11:02 AM	10	57.5	WB	4+1	1243	32	38	1	8	65-75
							EB	4+1	1121	33	32	1	2	65-75
W81	3324 W 118th Place, Inglewood, CA 90303	Residential	8/7/2018	11:40 AM	10	57.0	WB	4+1	1419	28	30	4	2	65-75
							EB	4+1	1232	37	26	1	2	65-75
W82*	Bennett/Kew Elementary School, Inglewood, CA90303	School	8/7/2018	10:29 AM	10	46.3	WB	4+1	1419	28	30	4	2	65-75
							EB	4+1	1232	37	26	1	2	65-75
W83	11909 Yukon Avenue, Inglewood, CA 90303	Residential	8/7/2018	11:02 AM	10	63.1	WB	4+1	1243	32	38	1	8	65-75
							EB	4+1	1121	33	32	1	2	65-75
W84	3753 W118th Street, Hawthorne, CA 90250	Residential	8/7/2018	11:30 AM	10	67.1	WB	4+1	1419	28	30	4	2	65-75
							EB	4+1	1232	37	26	1	2	65-75
W85	3857 116th Street, Hawthorne, CA 90250	Residential	8/7/2018	11:29 PM	10	68.6	WB	4+1	1419	28	30	4	2	65-75
							EB	4+1	1232	37	26	1	2	65-75
W86	3929 W115th Street, Hawthorne, CA90250	Residential	8/7/2018	11:30 AM	10	64.3	WB	4+1	1419	28	30	4	2	65-75
							EB	4+1	1232	37	26	1	2	65-75
W87	11138 S Freeman Avenue, Inglewood, CA 90304	Residential	8/7/2018	12:01 PM	10	63.5	WB	4+1	1305	31	44	-	8	65-75
							EB	4+1	1173	37	28	-	2	65-75
E71	11925 Almertens Place, Inglewood, CA 90303	Residential	8/7/2018	1:43 PM	10	61.0	WB	4+1	1413	21	20	7	2	65-75
							EB	4+1	1026	26	33	3	2	10 to 50
E72	3803 118th Street, Hawthorne, CA 90250	Residential	8/7/2018	1:43 PM	10	59.7	WB	4+1	1413	21	20	7	2	65-75
							EB	4+1	1026	26	33	3	2	10 to 50
E73	3908 W 117th Street, Hawthorne, CA 90250	Residential	8/7/2018	1:43 PM	10	59.7	WB	4+1	1413	21	20	7	2	65-75
							EB	4+1	1026	26	33	3	2	10 to 50
E74	11501 York Avenue, Hawthorne, CA 90250	Residential	8/7/2018	12:02 PM	10	65.4	WB	4+1	1305	31	44	2	8	65-75
							EB	4+1	1173	37	28	4	2	65-75
E75	11301 Larch Avenue, Lennox, CA 90304	Residential	8/7/2018	12:01 PM	10	56.3	WB	4+1	1305	31	44	2	8	65-75
							EB	4+1	1173	37	28	4	2	65-75

Table 2-122: Short-Term Noise Measurements Cont.

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA	Freeway Direction	Number of MF Lanes + HOV	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Observed Speed (mph)
W88	11109 S Grevillea Avenue, Ingelwood, CA90304	Residential	9/19/2018	11:25 AM	10	58.1	WB	5+1	1067	44	31	4	5	65
							EB	4+1	1311	25	28	3	3	65
W89	11138 S Trvro Avenue, Inglewood, CA 90304	Residential	9/19/2018	11:43 AM	10	68.9	WB	5+1	1020	31	44	3	3	65
							EB	4+1	1438	33	33	4	2	65
W90	11144 Dalerose Avenue, Inglewood, CA90304	Residential	9/19/2018	11:02 AM	10	62.0	WB	5+1	1020	31	44	3	3	65
							EB	4+1	1438	33	33	4	2	65
W91	4850 W 112th Street, Inglewood, CA 90304	Residential	9/19/2018	11:01 AM	10	63.5	WB	3+1	1020	31	44	3	3	65
							EB	3+1	1438	33	33	4	2	65
W92	4952 N 112th Street, Inglewood, CA 90304	Residential	8/8/2018	11:15 AM	10	64.4	WB	3+1	1020	31	44	3	3	65
							EB	3+1	1438	33	33	4	2	65
E76	11156 S Grevillea Avenue, Inglewood, CA 90304	Residential	9/19/2018	11:25 AM	10	66.6	WB	5+1	1067	44	31	4	5	65
							EB	4+1	1311	25	28	3	3	65
E77	11200 Firmona Avenue, Inglewood, CA90304	Residential	9/19/2018	11:46 AM	10	63.3	WB	5+1	1027	24	29	5	2	65
							EB	4+1	1422	44	37	2	2	65
E78	11300 Condon Avenue, Indlewood, CA90304	Residential	9/19/2018	11:46 AM	10	63.6	WB	5+1	1027	24	29	5	2	65
							EB	4+1	1422	44	37	2	2	65
E79	11431 Gale Avenue, Hawthorne, CA 90250	Residential	9/19/2018	12:12 PM	10	62.5	WB	3+1	977	27	27	5	3	65
							EB	3+1	1263	41	35	3	8	40-55
E80	11524 Felton Avenue, Los Angeles, CA90045	Residential	9/19/2018	12:12 PM	10	67.1	WB	4	977	27	27	5	3	65
							EB	3+1	1263	41	35	3	8	40-55
E81	5400 W 116th Street, Ingelwood, CA90304	Residential	9/19/2018	12:41 AM	10	62.8	WB	3	437	3	7	-	2	65
							EB	3	571	13	9	1	2	65
E82	5308 W 116th Street, Inglewood, CA 90304	Residential	9/19/2018	12:41 PM	10	62	WB	3	437	3	7	-	2	65
							EB	3	571	13	9	1	2	65

Table 2-123: Background Noise Measurements

Site	Address	Freeway Direction	Land Uses	Start Time	Date	Duration (minutes)	Measured Leq dBA
BG-A	12622 Cornuta Avenue, Downey, CA 90242	WB	Residential	8:50 AM	5/30/2019	10	50.7
BG-B	8544 Adoree Street, Downey, CA 90242	WB	Residential	9:07 AM	5/30/2019	10	49.8
BG-C	5772 Lincoln Avenue, South Gate, CA 90280	WB	Residential	9:26 AM	5/30/2019	10	56.0
BG-D	4265 Lugo Avenue, Lynwood, CA 90262	WB	Residential	9:49 AM	5/30/2019	10	47.8
BG-E	837 E. 115th Street, Los Angeles, CA 90059	WB	Residential	10:13 AM	5/30/2019	10	54.3
BG-F	912 E. 118th Drive, Los Angeles, CA 90059	EB	Residential	10:37 AM	5/30/2019	10	54.2
BG-G	11612 Peach Street, Lynwood, CA 90262	EB	Residential	10:56 AM	5/30/2019	10	51.2
BG-H	4025 Virginia Avenue, Lynwood, CA 90262	EB	Residential	12:57 AM	5/30/2019	10	53.2
BG-I	13613 Fanshan Avenue, Paramount, CA 90723	EB	Residential	1:21 AM	5/30/2019	10	55.2
BG-J	13219 Rutgers Avenue, Downey, CA 90242	EB	Residential	1:45 PM	5/30/2019	10	59.3
BG-K	736 W. 113th Street, Los Angeles, CA 90044	WB	Residential	10:03 AM	5/31/2019	10	53.9
BG-L	11554 Tarron Avenue, Hawthorne, CA 90250	WB	Residential	10:24 AM	5/31/2019	10	51.1
BG-M	3632 W. 116th Street, Inglewood, CA 90303	WB	Residential	10:45 AM	5/31/2019	10	51.5
BG-N	10934 S. Truro Avenue, Lennox, CA 90304	WB	Residential	11:07 AM	5/31/2019	10	60.8
BG-O	11306 Mansel Avenue, Lennox, CA 90304	EB	Residential	11:32 AM	5/31/2019	10	60.2
BG-P	3856 W. 119th Street, Hawthorne, CA 90250	EB	Residential	12:40 PM	5/31/2019	10	52.1
BG-Q	1304 Pointdexter Street, Los Angeles, CA 90044	EB	Residential	13:10 PM	5/31/2019	10	52.5

Table: 2-124: Long-Term Noise Measurements

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site W6	9634 Adoree Street, Downey, CA 90242	Residential	10:20 AM	3/27/2018	24	63.4	4:10 AM - 5:10 AM

Figure 2-47 Long-Term Noise Monitoring Graph at Site W6

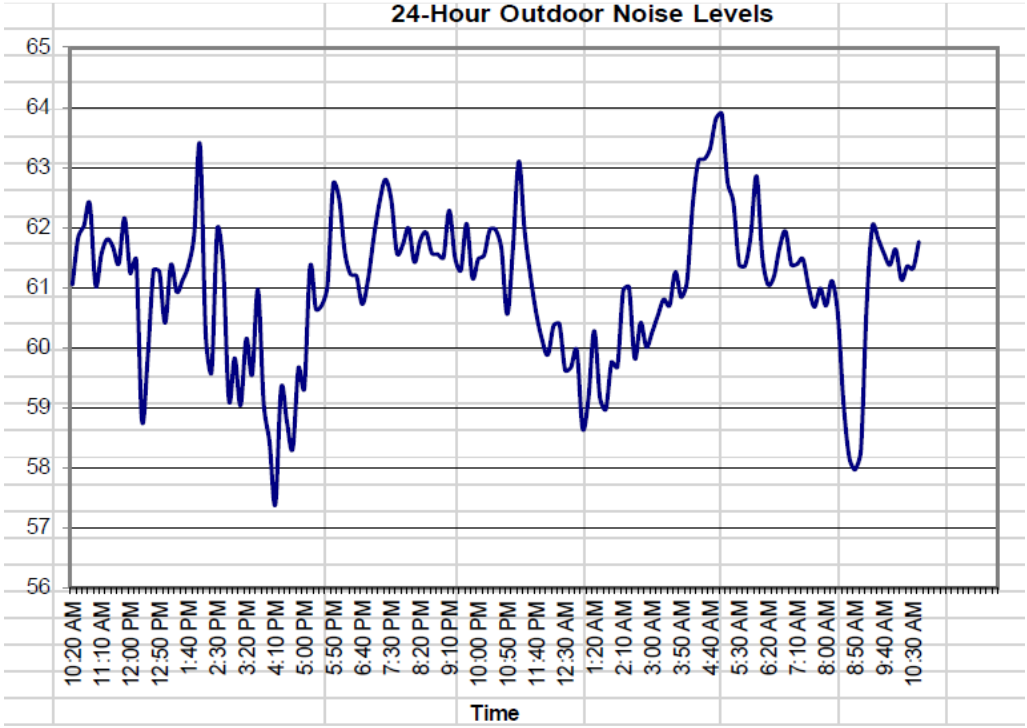


Table: 2-125: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site E10	13022 Premiere Avenue, Downey, CA 90242	Residential	9:31 AM	4/5/2018	24	61.3	6:01 AM - 7:01 AM

Figure 2-48 Long-Term Noise Monitoring Graph at Site E10

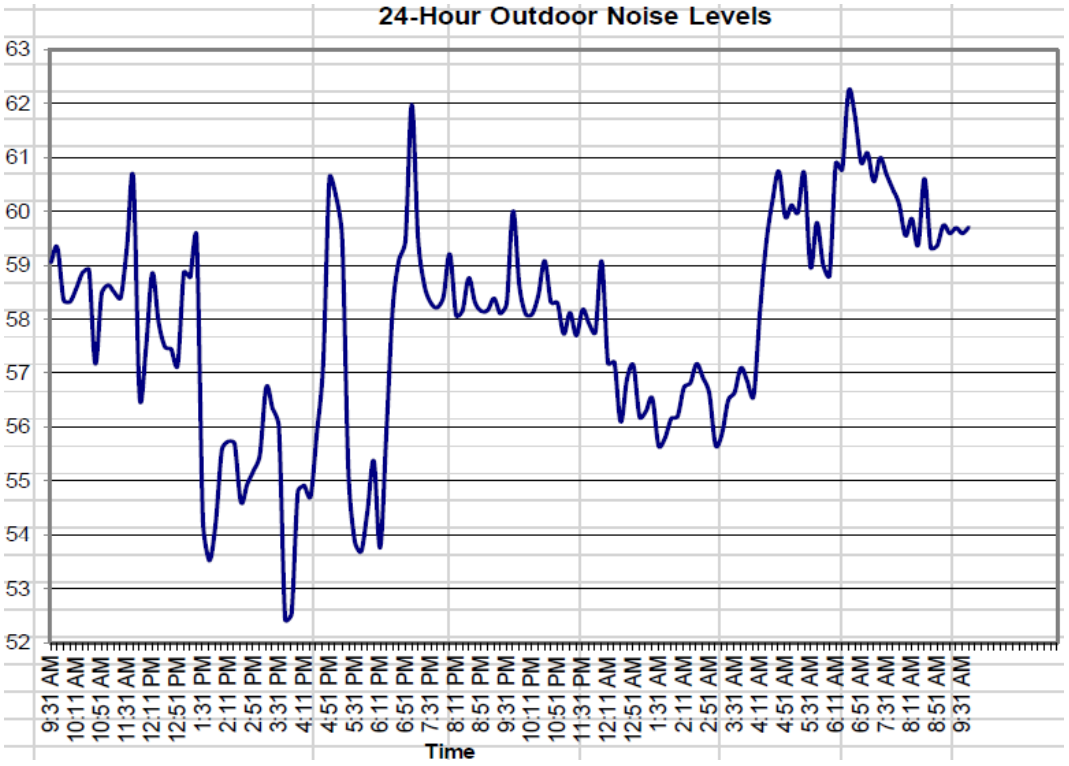


Table: 2-126: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site E19	8230 Golden Avenue, Paramount, CA 90723	Residential	10:28 AM	4/24/2018	24	57.2	2:18 PM - 3:18 PM

Figure 2-49 Long-Term Noise Monitoring Graph at Site E19

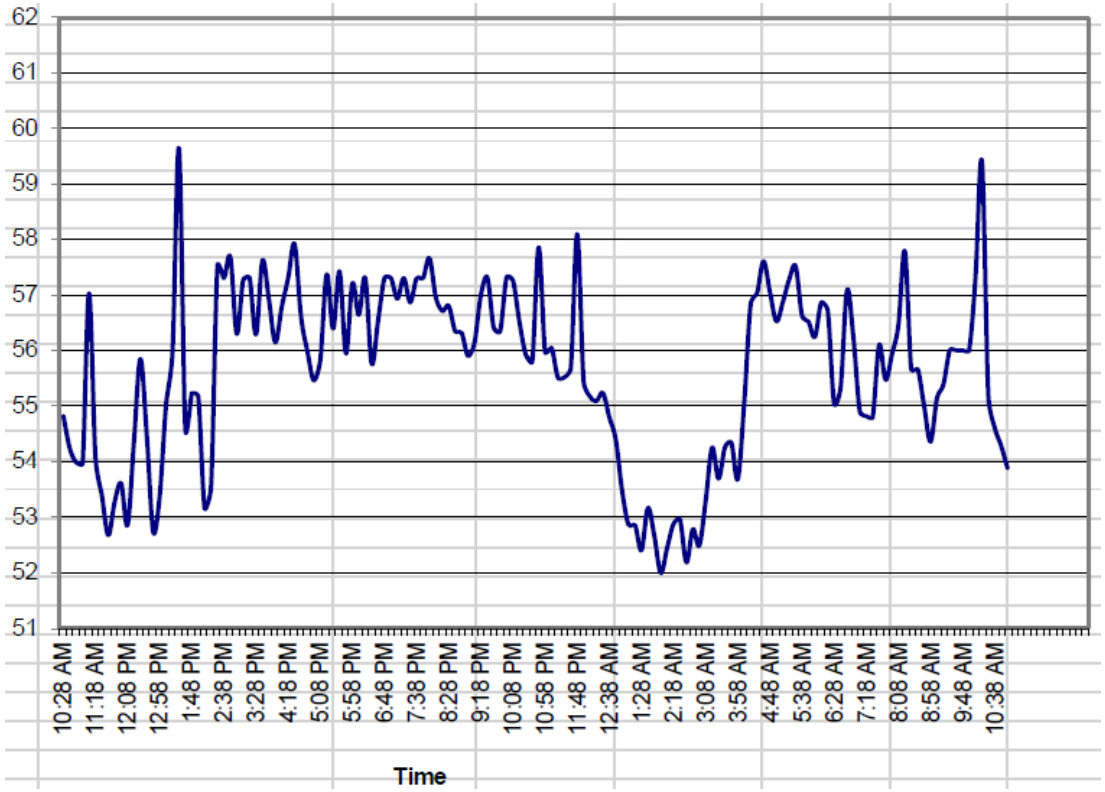


Table: 2-127: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site E21	8108 Rancho Valero Rd, Paramount, CA 90723	Residential	11:22 AM	4/25/2018	24	57.0	6:02 PM - 7:02 PM

Figure 2-50 Long-Term Noise Monitoring Graph at Site E21

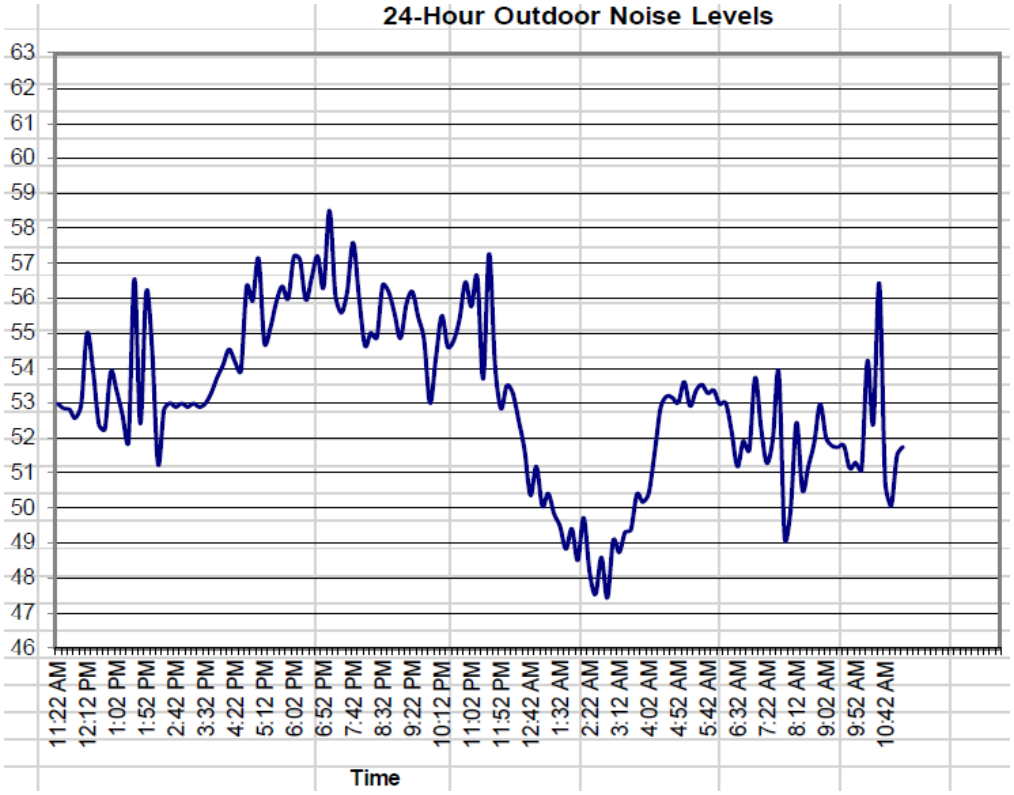


Table: 2-128: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site E26	13814 Racine Avenue, Paramount, CA 90723	Residential	9:52 AM	5/2/2018	24	63.3	5:02 AM - 6:02 AM

Figure 2-51 Long-Term Noise Monitoring Graph at Site E26

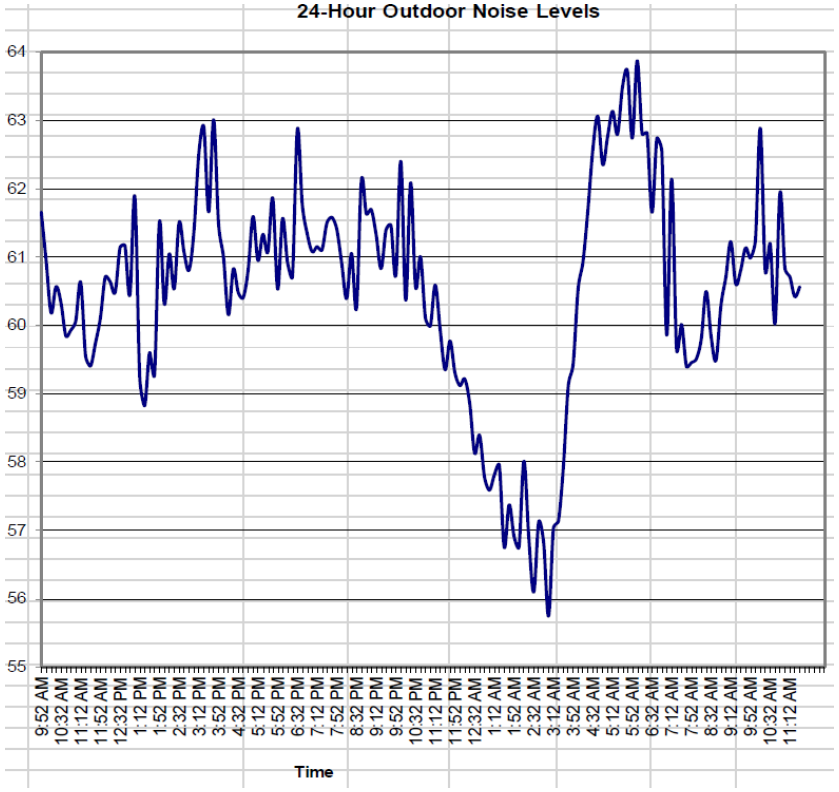


Table: 2-129: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site E40	11734 Harris Avenue, Lynwood, CA 90262	Residential	10:09 AM	6/26/2018	24	66.1	5:49 AM - 6:49 AM

Figure 2-51-1 Long-Term Noise Monitoring Graph at Site E40

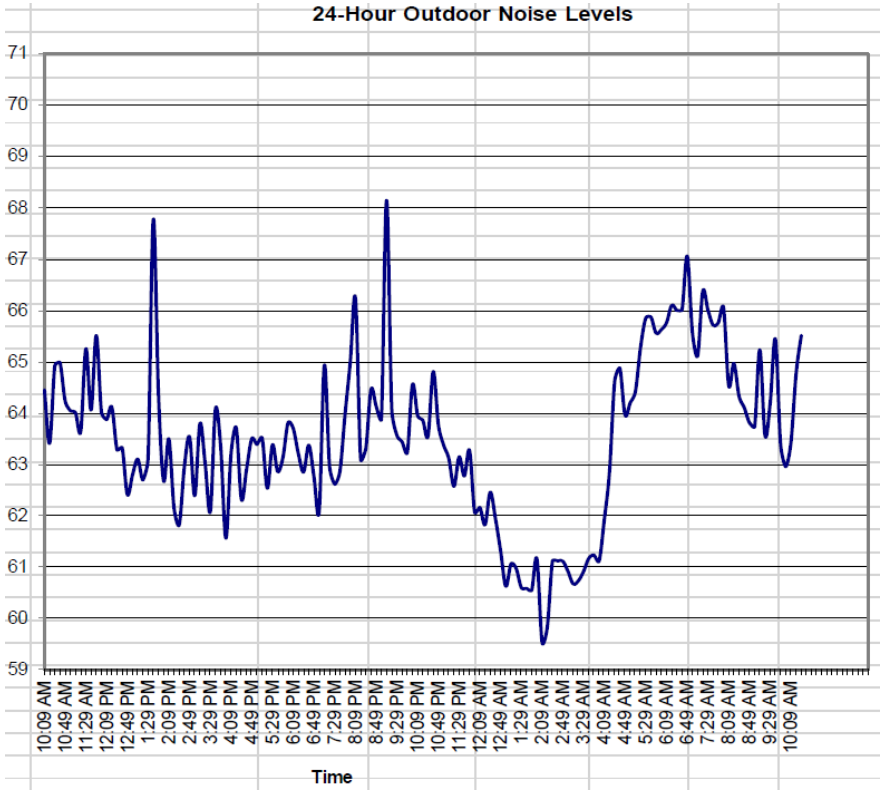


Table: 2-130: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site E42	11730 1st Avenue, Lynwood, CA 90262	Residential	10:29 AM	6/27/2018	24	67.2	5:39 AM - 6:39 AM

Figure 2-52 Long-Term Noise Monitoring Graph at Site E42

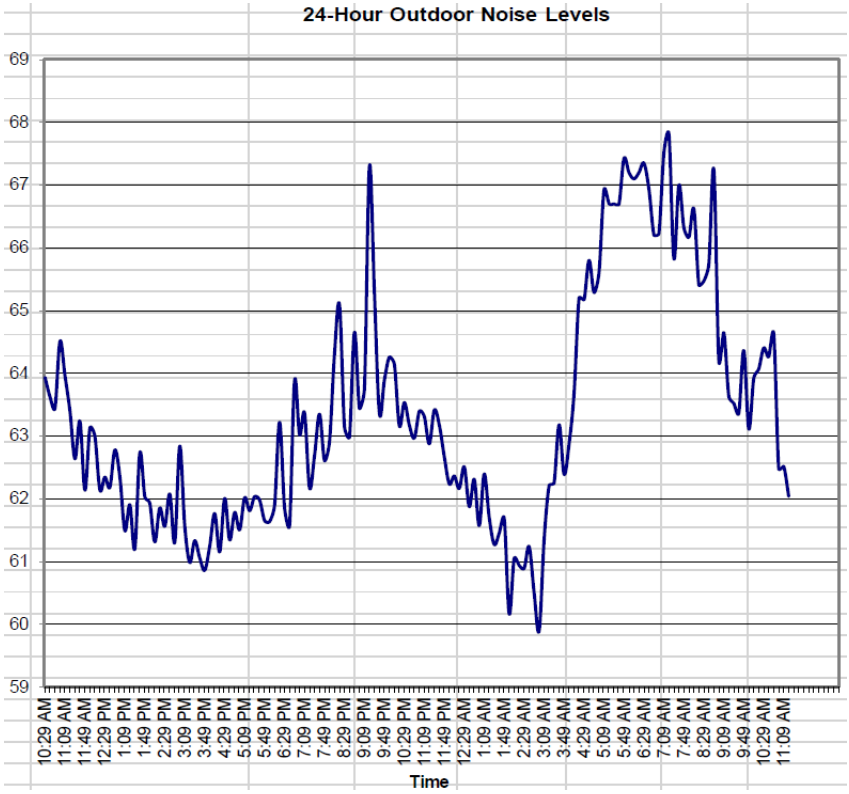


Table: 2-131: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site E49	11419 Pear Street, Lynwood, CA 90262	Residential	11:04 AM	7/10/2018	24	65.4	6:04 AM - 7:04 AM

Figure 2-53 Long-Term Noise Monitoring Graph at Site E49

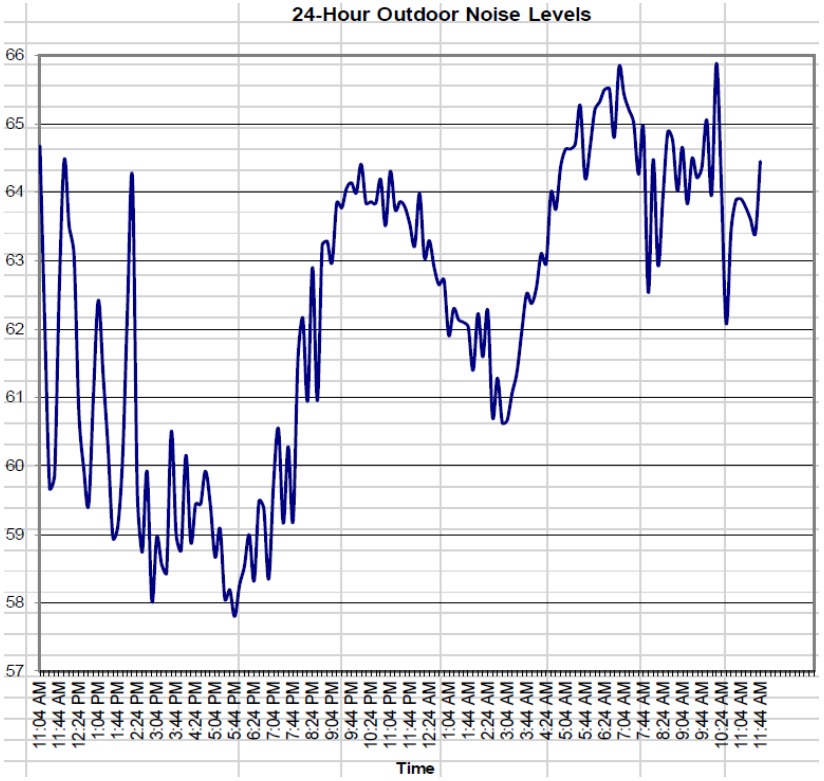


Table: 2-132: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site E55	11645 Success Avenue, Los Angeles, CA 90059	Residential	10:47 AM	7/12/2018	24	66.9	6:07 AM - 7:07 AM

Figure 2-54 Long-Term Noise Monitoring Graph at Site E55

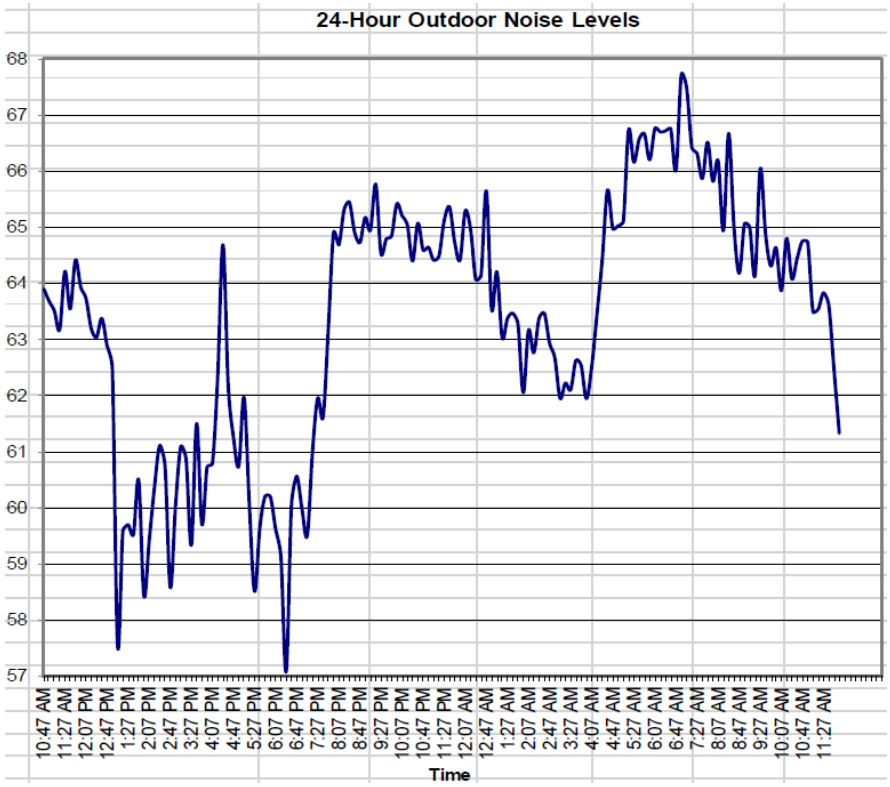


Table: 2-133: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site E58	913 East 118th Street, Los Angeles, CA 90059	Residential	10:19 AM	7/17/2018	24	58.8	6:49 AM - 7:49 AM

Figure 2-55 Long-Term Noise Monitoring Graph at Site E58

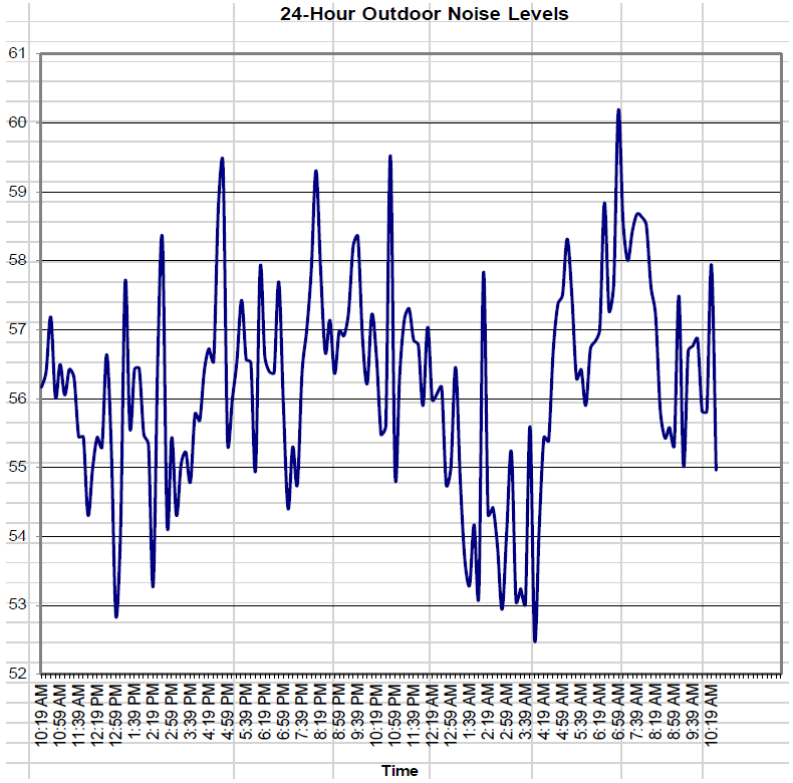


Table: 2-134: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site W76	11723 Ruthelen Street, Los Angeles, CA 90047	Residential	11:18 AM	7/31/2018	24	69.0	4:18 AM - 5:18 AM

Figure 2-56 Long-Term Noise Monitoring Graph at Site W76

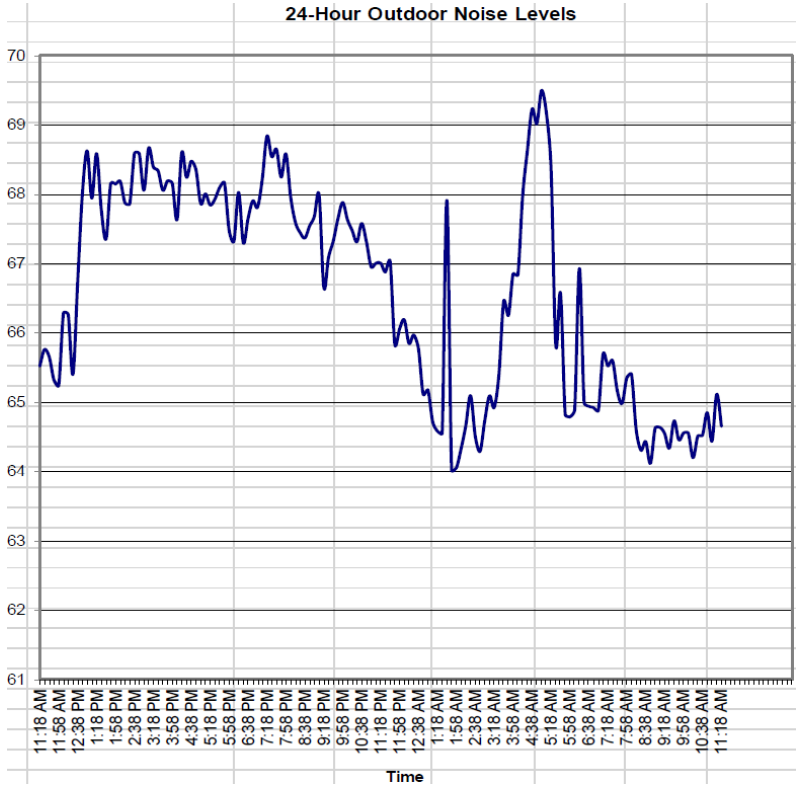


Table: 2-135: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site W81	3324 W 118th Pl. Inglewood, CA 90303	Residential	10:40 AM	8/7/2018	24	58.6	5:40 PM - 6:40 PM

Figure 2-57 Long-Term Noise Monitoring Graph at Site W81

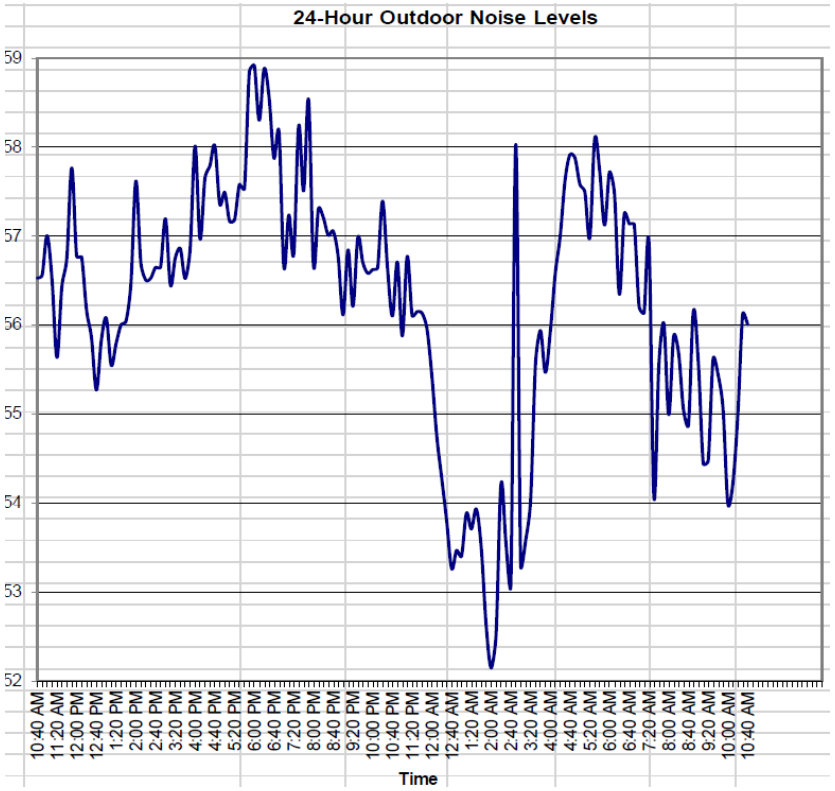
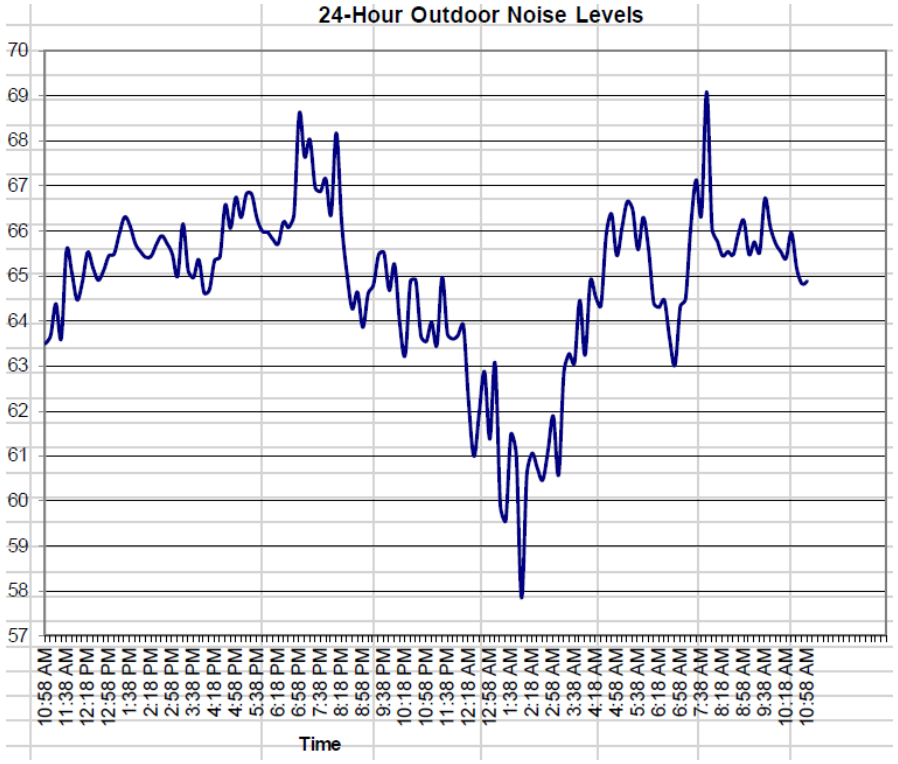


Table: 2-136: Long-Term Noise Measurements Cont.

Site	Address	Land Uses	Start Time	Start Date	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
Site W89	11138 S Truro Avenue, Inglewood, CA 90304	Residential	10:58 AM	9/19/2018	24	67.6	6:48 PM - 7:48 PM

Figure 2-58 Long-Term Noise Monitoring Graph at Site W89



2.2.7.3 Environmental Consequences

Under 23CFR772.7, projects are categorized as Type I, Type II projects, or Type III projects. FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. Based on the above brief description of the alternatives, this project has been deemed to be a Type I project. As such, traffic noise analysis has been conducted for this project in accordance with the FHWA Protocol for Type I projects.

The traffic noise analysis indicates that the adjacent noise sensitive areas within the project limits will be impacted after project completion under Alternatives 2 and 3 [i.e. the noise level will approach or exceed FHWA Noise Abatement Criteria (NAC)]. Since traffic noise impacts have been identified, noise abatement has been considered for the impacted noise sensitive land use areas. In order for noise abatement barriers to be installed, construction of such barriers must be “reasonable and feasible” as defined under 23CFR772.7.

The overall reasonableness for noise abatement is determined by these factors: acoustical design goal, the cost of abatement, and viewpoints of benefited receptors (including property owners and residents of the benefited receptors). 23CFR722 requires that an acoustical design goal be applied to all noise abatement. Caltrans acoustical design goal is that a barrier must be predicted to provide at least 7 dBA of noise reduction at one or more benefited receptors. In order for a sound barrier to be considered reasonable, the 7 dBA design goal must be achieved at one or more benefited receptors. This design goal applies to any receptor and is not limited to impacted receptors. Cost considerations in the reasonableness determination of noise abatement are based on a 2019 allowance per *benefited receptor* of $107,000. A benefited receptor is a dwelling unit that is predicted to receive a noise reduction of at least 5 dBA from the proposed noise abatement measure. A receptor can be a benefited receptor even if it is not subject to a traffic noise impact. The noise barrier is not required to reduce noise levels to below the NAC for any noise sensitive land uses.

Future traffic noise levels were also predicted using the FHWA Traffic Noise Model Version 2.5 (TNM 2.5). TNM 2.5 is a computer model based on two FHWA reports: FHWA-PD-96-009 and FHWA-PD-96-010 (FHWA 2004). Key inputs to the traffic noise model were the locations of roadways, shielding features (e.g., topography and buildings), noise barriers, ground type, and receivers. Three-dimensional representations of these inputs were developed using Microstation drawings, aerials photos, and topographic contours and spot elevations. Future noise levels were predicted using traffic characteristics that would yield the worst hourly traffic noise impact on a regular basis. Design year (2047) traffic volumes were used as the future traffic for Alternative 2 and Alternative 3 but 1950 vehicles per lane per hour at 65 mph were used as the future No-Build traffic volumes for I-105. The comparison to future No-Build condition indicates the traffic noise increase resulting from the project. Tables 2-137 through Table 2-148 summarize the traffic noise modeling results for existing conditions and design-year conditions with and without the project. Predicted design-year traffic noise levels with the project are compared to existing conditions and to design-year no-project conditions.

Table 2-137 Traffic Noise Measurements & Modeling Results

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
R1	Westbound	12724 leibacher Avenue, Norwalk, CA 90650	Residential	B (67)	60.9	59.8	1.1	62	64.1	2.1	63.5	N	1.5	-0.6	63.7	N	1.7	-0.4
R2		12733 Lefloss Ave, Norwalk, CA 90650			-	59.8	1.1	62	63.4	1.4	62.9	N	0.9	-0.5	63.0	N	1	-0.4
R3		12738 Pecos Ave, Norwalk, CA 90650			-	59.8	1.1	62	62.5	0.5	62.1	N	0.1	-0.4	62.2	N	0.2	-0.3
W1		12712 Domart Avenue, Norwalk, CA 90650			64.5	63.7	0.8	66.7	66.7	0	65.4	N	-1.3	-1.3	65.2	N	-1.5	-1.5
W2		10537 Boason Street, Norwalk, CA 90650			60.1	60.7	-0.6	62.3	62.3	0	60.8	N	-1.5	-1.5	60.7	N	-1.6	-1.6
W3		12820 Woodruff Avenue, Downey, CA 90242	Café	E(72)	59.9	59.1	0.8	61.7	61.7	0	59.9	N	-1.8	-1.8	60.4	N	-1.3	-1.3
MW3		10000 Imperial Hwy, Downey, CA 90242	R	B(67)	-	62.1	0.8	64.7	64.7	0	63.3	N	-1.4	-1.4	63.5	N	-1.2	-1.2
W3^		12808 Woodruff Avenue, Downey, CA 90242	School & Church	D(52)	43.6	-	-	45.4	45.4	0	44	N	-1.5	-1.4	44.2	N	-1.4	-1.2
W4		12822 Ibbetson Avenue, Downey, CA 90242	Residential	B (67)	66.8	63.4	3.4	68.0	68.7	0.7	66.9	A/E	-1.1	-1.8	67.4	A/E	-0.6	-1.3
W5		12830 Dunrobin Avenue, Downey, CA 90242			61.8	65.1	-3.3	63.0	63.8	0.8	62.7	N	-0.3	-1.1	62.7	N	-0.3	-1.1
W6[24]		9634 Adoree Street, Downey, CA 90242			61.8	62.1	-0.3	63.4	63.6	0.2	61.9	N	-1.5	-1.7	62.3	N	-1.1	-1.3
R4	Eastbound	10940 Adoree Street, Norwalk, CA 90650			-	59.8	1.1	62.0	64.4	2.4	64	N	2	-0.4	64.1	N	2.1	-0.3
R5		12902 Lefloss Avenue, Norwalk, CA 90650			-	59.8	1.1	62.0	64.8	2.8	64.3	N	2.3	-0.5	64.5	N	2.5	-0.3
R6		12903 Halcourt Avenue, Norwalk, CA 90650			-	59.8	1.1	62.0	63.1	1.1	62.8	N	0.8	-0.3	62.9	N	0.9	-0.2
E1		13028 Curtis & King Road, Norwalk, CA 90650			54.0	55.3	-1.3	55.8	58.0	2.2	55.6	N	-0.2	-2.4	56.0	N	0.2	-2.0
E2		10515 Angell Street, Norwalk, CA 90650			57.7	61	-3.3	59.5	61.6	2.1	59.9	N	0.4	-1.7	60.4	N	0.9	-1.2
E3		13008 Carfax Avenue, Downey, CA 90242			59.6	61.9	-2.3	62.3	62.3	0	60.9	N	-1.4	-1.4	61.6	N	-0.7	-0.7
E4		10204 Laurel wood Lane, Downey, CA 90242			62.4	63.8	-1.4	64.0	64.4	0.4	62.7	N	-1.3	-1.7	63.1	N	-0.9	-1.3
E5		13012 Ibbetson Avenue, Downey, CA 90242			60.2	62.5	-2.3	62.3	62.3	0	60.6	N	-1.7	-1.7	61.1	N	-1.2	-1.2
E6		13019 Eastbrook Avenue, Downey, CA 90242			60.9	62.6	-1.7	63	63.0	0	61.1	N	-1.9	-1.9	61.5	N	-1.5	-1.5
E7		13028 Adenmoor Avenue, Downey, CA 90240			60.7	61.8	-1.1	62.3	63.0	0.7	61.4	N	-0.9	-1.6	61.8	N	-0.5	-1.2

Note: All noise levels are in dBA-Leq(h) [24] 24-Hour noise measurement site ^ Interior Noise Reading

Land Use: R=Residential

Impact Type: N=No Impact; A/E=Approach/Exceed

Table 2-138 Traffic Noise Measurements & Modeling Results Cont.

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
W7	Westbound	9539 Adoree Street, Downey, CA 90242	R	B (67)	59.4	61.2	-1.8	62.1	62.1	0	59.6	N	-2.5	-2.5	60.3	N	-1.8	-1.8
W8		9419 Adoree Street, Downey, CA 90242			61.9	61.4	0.5	64.4	64.4	0	62.5	N	-1.9	-1.9	63.2	N	-1.2	-1.2
W9		12830 Columbia Way, Downey, CA 90242	School	C(67)	59.9	58.7	1.2	63	63.0	0	60.1	N	-2.9	-2.9	60.7	N	-2.3	-2.3
W10		9157 Adoree Street, Downey, CA 90242	Residential	B (67)	62.7	60.6	2.1	65.1	65.1	0	64.3	N	-0.8	-0.8	64.3	N	-0.8	-0.8
W11		9033 Adoree Street, Downey, CA 90242			61	61.8	-0.8	64.3	64.3	0	62.1	N	-2.2	-2.2	62.2	N	-2.1	-2.1
E8	Eastbound	9638 Angell Street, Downey, CA 90242			59.2	57.6	1.6	61.8	61.8	0	59.3	N	-2.5	-2.5	64.2	N	2.4	2.4
E9		13037 Rutgers Avenue, Downey, CA 90242			62.2	62.7	-0.5	64.6	64.6	0	62.7	N	-1.9	-1.9	63.2	N	-1.4	-1.4
E10[24]		13022 Premiere Avenue, Downey, CA 90242			58.9	60.4	-1.5	61.3	61.3	0	59	N	-2.3	-2.3	59.5	N	-1.8	-1.8
ME10		13027 Filder Avenue, Downey, CA 90242			-	62.9	-1.5	63.8	63.8	0	62	N	-1.8	-1.8	62.6	N	-1.2	-1.2
E11		13200 Columbia Avenue, Downey, CA 90242	Church	C(67)	52.1	54.4	-2.3	55.5	55.5	0	53	N	-2.5	-2.5	53.8	N	-1.7	-1.7
E11A^				D(52)	36.3	-	-	39.7	39.7	0	37.2	N	-2.5	-2.5	38.0	N	-2	-1.7
E12		9172 Angell Street, Downey, CA 90242	Residential	B(67)	57.2	58.8	-1.6	59.9	59.9	0	58.2	N	-1.7	-1.7	58.3	N	-1.6	-1.6
E13		9078 Angell Street, Downey, CA 90242			59.2	58.9	0.3	61.6	61.6	0	60.8	N	-0.8	-0.8	60.7	N	-0.9	-0.9
E14		12852 Lakewood Blvd, Downey, CA 90242			57.7	58.9	-1.2	61.5	61.5	0	59.5	N	-2	-2.0	59.6	N	-1.9	-1.9

Note: All noise levels are in dBA-Leq(h) __[24] 24-Hour noise measurement site ^ Interior Noise Reading

Land Use: R=Residential

Impact Type: N=No Impact; A/E=Approach/Exceed

Table 2-139 Traffic Noise Measurements & Modeling Results Cont.

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
W12	Westbound	8801 Cheyenne Street, Downey, CA 90242	Residential	B (67)	59.8	61.3	-1.5	61	61.0	0	60.4	N	-0.6	-0.6	60.5	N	-0.5	-0.5
W13		12942 Sandy Lane, Downey, CA 90242			58.5	61.2	-2.7	61.7	61.7	0	59.2	N	-2.5	-2.5	59.5	N	-2.2	-2.2
W14		13020 Laureldale Avenue, Downey, CA 90242			60.9	60.9	0	63.9	63.9	0	61.3	N	-2.6	-2.6	61.5	N	-2.4	-2.4
W15		13330 Downey Avenue, Paramount, CA 90723			56.2	56.2	0	59.2	59.2	0	56.1	N	-3.1	-3.1	56.4	N	-2.8	-2.8
W16		13330 Orizaba Avenue, Paramount, CA 90723	Park	C(67)	57.8	55.5	2.3	59.0	59.4	0.4	60.0	N	1	0.6	59.8	N	0.8	0.4
MW16		13330 Orizaba Avenue, Paramount, CA 90723			-	54.3	2.3	57.8	58.0	0.2	58.3	N	0.5	0.3	57.7	N	-0.1	-0.3
MW17		8851 Adorree Street, Downey, CA 90242	School	C(67)	-	54.8	0.0	56.0	56.0	0	55.3	N	-0.7	-0.7	55.4	N	-0.6	-0.6
W18		13422 Ruther Avenue, Paramount, CA 90723	Residential	B(67)	59.4	60.6	-1.2	62.0	62.0	0	59.3	N	-2.7	-2.7	58.5	N	-3.5	-3.5
E15	Eastbound	1304 Airport Avenue, Downey, CA 90242			59.5	61	-1.5	62.7	62.7	0	59.7	N	-3	-3.0	59.5	N	-3.2	-3.2
E16		13035 Barlin Avenue, Downey, CA 90242			61.3	64.1	-2.8	64.1	64.1	0	61.9	N	-2.2	-2.2	61.9	N	-2.2	-2.2
E17		13102 Verdura Avenue, Downey, CA 90242			67.7	66.4*,62.9**	1.3	66.4	66.4***	0	64.9***	N	-6.6	-0.2	65.1***	N	-6.4	0.0
E18		8314#A Somerset Ranch Rd, Paramount, CA 90723			64.8	64.6	0.2	65.8	65.8	0	64.2	N	-1.6	-1.6	64.2	N	-1.6	-1.6
E19[24]		8230 Golden Avenue, Paramount, CA 90723			55.7	57.2	-1.5	57.2	57.2	0	56.3	N	-0.9	-0.9	56.0	N	-1.2	-1.2
E20^		13451 Merkel Avenue, Paramount, CA 90723	School	D(52)	37	-	-	38.2	38.2	0	38.0	N	-0.8	-0.2	37.6	N	-0.9	-0.6
ME20		13451 Merkel Avenue, Paramount, CA 90723		C(67)	-	61.3	0	62.5	62.5	0	62.3	N	-0.2	-0.2	61.9	N	-0.6	-0.6
E21[24]		8108 Rancho Valero Road, Paramount, CA 90723	Residential	B(67)	53	55	-2	57	57.0	0	53.9	N	-3.1	-3.1	53.6	N	-3.4	-3.4
E22		8113 Rancho Del Oro street, Paramount, CA 90723			56.4	57.2	-0.8	58.4	58.4	0	57.4	N	-1	-1.0	57.2	N	-1.2	-1.2
ME22		13621 Ruther Avenue, South Gate, CA 90280	Church	C(67)	-	60.2	-0.8	61.2	61.2	0	60.5	N	-0.7	-0.7	59.7	N	-1.5	-1.5
E23		8302 Rancho Dorado Road, Paramount, CA 90723	R	B(67)	57.2	59.8	-2.6	59.4	59.4	0	58.6	N	-0.8	-0.8	57.2	N	-2.2	-2.2
ME23		8251 Rancho Dorado Road, Paramount, CA 90723			-	60.5	-2.6	60.1	60.1	0	58.6	N	-1.5	-1.5	58.1	N	-2	-2.0

Note: All noise levels are in dBA-Leq(h)

[24] 24-Hour noise measurement site

^ Interior Noise Reading

Land Use: R=Residential

Impact Type: N=No Impact; A/E=Approach/Exceed

M=Modeled

*Noise level includes the traffic from the local streets.

** Modeled Noise Level with Local Traffic Filtered Out

***All future no build, Alt. 2 and Alt. 3 noise levels are based on freeway traffic only

Table 2-140 Traffic Noise Measurements & Modeling Results Cont.

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
W19	Westbound	6171 Folrence Avenue, South Gate, CA 90280	Residential	B (67)	62.2	62.1	0.1	65.2	65.3	0.1	64.9	N	-0.3	-0.4	65.3	N	0.1	0.0
W20		6127 Nevada Avenue, South Gate, CA 90280			62	61.1	0.9	65.4	65.4	0	64.2	N	-1.2	-1.2	64.6	N	-0.8	-0.8
W21		13726 Florine Avenue, Paramount, CA 90723			63.4	61.8	1.6	66.3	66.4	0.1	66.1	A/E	-0.2	-0.3	66.4	A/E	0.1	0.0
W22		13714 Racine Avenue, Paramount, CA 90723			56.9	59.9	-3	59.5	59.7	0.2	59.6	N	0.1	-0.1	59.7	N	0.2	0.0
W23		7346 Howery Street, South Gate, CA 90280			62	62.1	-0.1	64.8	64.8	0	64.6	N	-0.2	-0.2	65.3	N	0.5	0.5
W24		7134 Cloverlawn Drive, Paramount, CA 90723			56.9	60.2	-3.3	58.9	58.9	0	58.2	N	-0.7	-0.7	59.1	N	0.2	0.2
E24	Eastbound	7812 Denver Street, Paramount, CA 90723			61.4	61.5	-0.1	65.2	65.2	0	64.0	N	-1.2	-1.2	64.3	N	-0.9	-0.9
E25		13802 Facade Avenue, Paramount, CA 90723			67.3	66.4	0.9	70.1	70.1	0	69.8	A/E	-0.3	-0.3	70.0	A/E	-0.1	-0.1
E26[24]		13814 Racine Avenue, Paramount, CA 90723			60.6	60.9	-0.3	63.3	63.3	0	63.1	N	-0.2	-0.2	63.4	N	0.1	0.1
E27		7441 Rood Street, Paramount, CA 90723			59.2	60.4	-1.2	61.3	61.8	0.5	61.9	N	0.6	0.1	62.6	N	1.3	0.8
E28		7325 Rood Street, Paramount, CA 90723			61.8	62.5	-0.7	62.2	64.5	2.3	64.6	N	2.4	0.1	65.3	N	3.1	0.8

Note: All noise levels are in dBA-Leq(h) [24] 24-Hour noise measurement site

Impact Type: N=No Impact; A/E=Approach/Exceed

Table 2-141 Traffic Noise Measurements & Modeling Results Cont.

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
W42	Westbound	11700 Lugo Park Avenue, Lynwood, CA 90262	Residential	B (67)	61.3	61.1	0.2	62.4	62.9	0.5	61.6	N	-0.8	-1.3	65.8	A/E	3.4	2.9
W43		11701 Pope Avenue, Lynwood, CA 90262			62.7	60.5	2.2	64.4	64.4	0.0	63.2	N	-1.2	-1.2	64.5	N	0.1	0.1
W44		4357 Fernwood Avenue, Lynwood, CA 90262			65.1	61.1	4.0	66.4	67.7	1.3	70.9	A/E	4.5	3.2	68.3	A/E	1.9	0.6
W45		33.917805, -118.192345 Lynwood, CA 90262	Park	C(67)	64.9	60.9	4.0	68.0	68.0	0.0	72.8	A/E	4.8	4.8	72.6	A/E	4.6	4.6
W46		4225 Fernwood Avenue, Lynwood, CA 90262	R	B(67)	68.0	62.4	5.6	71.5	71.5	0.0	74.4	A/E	2.9	2.9	73.4	A/E	1.9	1.9
W47		33.919383,-118.196020 Lynwood, CA 90262	Park	C(67)	61.8	61.1	0.7	63.5	63.5	0.0	68.8	N	5.3	5.3	68.5	A/E	5.0	5.0
W48		3935 Fernwood Avenue, Lynwood, CA 90262	Residential	B(67)	63.0	60.9	2.1	66.8	66.8	0.0	70.0	N	3.2	3.2	71.0	A/E	4.2	4.2
W49		3865 Fernwood Avenue, Lynwood, CA 90262			63.4	60.1	3.3	67.1	67.1	0.0	71.7	N	4.6	4.6	72.2	A/E	5.1	5.1
MW50		3801 Cortland St. Lynwood, CA 90262	School	C(67)	-	63.4	1.8	66.4	66.4	0.0	69.7	N	3.3	3.3	71.6	A/E	5.2	5.2
W50^		3801 Cortland St. Lynwood, CA 90262 (Indoor)		D(52)	46.4	-	-	49.2	49.2	0.0	52.5	N	-2.8	3.3	54.4	A/E	3.9	5.2
W51		3693 Fernwood Avenue, Lynwood, CA 90262	R	B(67)	65.0	63.2	1.8	67.8	67.8	0.0	69.8	N	2.0	2.0	71.6	A/E	3.8	3.8
MW52 ϕ		3655 Fernwood Avenue, Lynwood, CA 90262 (Indoor)	Church	C(67)	-	68.3	1.8	72.9	72.9	0.0	70.2	N/A	-2.7	-2.7	70.4	N/A	-2.5	-2.5
W52^		3655 Fernwood Avenue, Lynwood, CA 90262 (Indoor)		D(52)	41.5	-	-	44.3	44.3	0.0	41.6	N	-2.7	-2.7	41.8	N	-2.5	-2.5
W52A		3613 Fernwood Avenue, Lynwood, CA 90262	R	B(67)	63.1	64.5	-1.4	65.9	65.9	0.0	64.1	N	-1.8	-1.8	65.8	A/E	-0.1	-0.1

Note: All noise levels are in dBA-Leq(h) ^ Interior Noise Reading ϕ Calibration purpose only. No frequent human use area identified

Land Use: R=Residential

Impact Type: N=No Impact; A/E=Approach/Exceed

Table 2-142 Traffic Noise Measurements & Modeling Results Cont.

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
E36	Eastbound	5210 Josephine Street, Lynwood, CA90262	Residential	B(67)	64.3	63.5	0.8	65.3	65.3	0.0	64.0	N	-1.3	-1.3	63.9	N	-1.4	-1.4
M1E36		5520 Lavinia Avenue, Lynwood, CA 90262			-	60.9	0.8	63.0	64.8	1.8	64.0	N	1.0	-0.8	63.5	N	0.5	-1.3
M2E36		11825 Wilson Avenue, Lynwood, CA 90262			-	58.9	0.8	61.0	63.0	2.0	62.8	N	1.8	-0.2	61.8	N	0.8	-1.2
E37		11832 Atlantic Avenue, Lynwood, CA 90262	Park	C(67)	60.4	63.1	-2.7	62.5	62.5	0.0	61.7	N	-0.8	-0.8	61.8	N	-0.7	-0.7
E38		11733 1st Avenue, Lynwood, CA 90262	Residential	B(67)	61.4	65.2	-3.8	65.5	65.5	0.0	62.6	N	-2.9	-2.9	62.7	N	-2.8	-2.8
E39		11736 4th Ave, Lynwood, CA 90262			62.6	63.4	-0.8	65.6	65.6	0.0	66.0	A/E	0.4	0.4	66.1	A/E	0.5	0.5
E40[24]		11734 Harris Avenue, Lynwood CA 90262			65.0	66.1	-1.1	66.1	66.1	0.0	65.6	A/E	-0.5	-0.5	65.6	A/E	-0.5	-0.5
E41		4040 Louise Street, Lynwood, CA 90262			61.4	64.8	-3.4	64.3	64.3	0.0	64.2	N	-0.1	-0.1	64.3	N	0.0	0.0
E42[24]		11730 1st Avenue, Lynwood, CA 90262			61.6	63.6	-2.0	67.2	67.2	0.0	66.0	A/E	-1.2	-1.2	66.0	A/E	-1.2	-1.2
E43		3867 Ernestine Avenue, Lynwood, CA 90262			58.3	61.2	-2.9	62.7	62.7	0.0	61.4	N	-1.3	-1.3	64.6	N	1.9	1.9
E44		3666 Lynwood Road, Lynwood, CA 90262			61.2	61.9	-0.7	63.8	63.8	0.0	61.0	N	-2.8	-2.8	61.3	N	-2.5	-2.5
E45^		11700 School Street, Lynwood, CA 90262	School	D(52)	34.1	-	-1.4	36.7	36.7	0.0	35.9	N	-0.8	-0.8	37.7	N	1.0	1.0
E46		11700 School Street, Lynwood, CA 90262		C(67)	58.1	59.5	-1.4	61.0	61.0	0.0	60.2	N	-0.8	-0.8	62.0	N	1.0	1.0
M1E46		3551 Lynwood Rd, Lynwood, CA 90262	Residential	B(67)	-	61.9	-1.4	61.8	61.8	0.0	60.6	N	-1.2	-1.2	61.8	N	0.0	0.0
M2E46		3560 Lynwood Rd, Lynwood, CA 90262			-	60.5	-1.4	60.3	60.3	0.0	59.1	N	-1.2	-1.2	60.0	N	-0.3	-0.3

Note: All noise levels are in dBA-Leq(h) [24] 24-Hour noise measurement site ^ Interior Noise Reading

Land Use: R=Residential

Impact Type: N=No Impact; A/E=Approach/Exceed; N/A = Not Applicable

Table 2-143 Traffic Noise Measurements & Modeling Results Cont.

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
W53	Eastbound	11401 Long Beach Blvd, Lynwood, CA 90262	Hotel	E(72)	58.1	57.1	1.0	61.1	61.1	0.0	58.1	N	-3.0	-3.0	59.1	N	-2.0	-2.0
W54		2965 Fernwood Avenue, Lynwood, CA 90262	Residential	B(67)	68.9	67.3	1.6	71.3	71.3	0.0	68.9	A/E	-2.4	-2.4	68.5	A/E	-2.8	-2.8
MW54A		2727 Fernwood Avenue, Lynwood, CA 90262			-	62.4	-2.0	64.0	64.0	0.0	65.2	N	1.2	1.2	67.0	A/E	3.0	3.0
MW54B		2713 Fernwood Avenue, Lynwood, CA 90262			-	61.3	-2.0	62.9	64.1	1.2	64.8	N	1.9	0.7	65.9	A/E	3.0	1.8
W55		2436 East 115th Place, Los Angeles, CA 90059			72.7	74.7*, 73.4**	-2.0	73.7	73.7	0.0	71.7	A/E	-2.0	-2.0	72.6	A/E	-1.1	-1.1
W56		East 115th Place, Los Angeles, CA 90059	PG	C (67)	61.0	62.2*, 61.5**	-1.2	62.9	62.9	0.0	60.6	N	-2.3	-2.3	61.6	N	-1.3	-1.3
W57		2077 East Imperial Hwy, Los Angeles, CA 90059	R	B(67)	72.8	70.6*, 65.4**	2.2	69.1	69.5	0.4	68.4	A/E	-0.7	-1.1	69.0	A/E	-0.1	-0.5
MW58		2003 East Imperial Hwy, Los Angeles, CA 90059	Church	C(67)	-	66.2*, 60.2**	2.2	63.9	64.3	0.4	63.0	N	-0.9	-1.3	63.8	N	-0.1	-0.5
W58^		2003 East Imperial Hwy, Los Angeles, CA 90059		D(52)	39.1	-	-	40.6	41.0	0.4	40.6	N	0.0	-0.4	40.8	N	0.2	-0.2
E47	Eastbound	3237 Flower Street, Lynwood CA 90262	Residential	B(67)	56.4	58.8	-2.4	60.9	62.3	1.4	60.9	N	0.0	-1.4	62.1	N	1.2	-0.2
E48		3172 Redwood Avenue, Lynwood, CA 90262			59.8	63.0	-3.2	62.2	62.2	0.0	60.1	N	-2.1	-2.1	59.2	N	-3.0	-3.0
E49[24]		11419 Pear Street, Lynwood, CA 90262			62.6	66.4	-3.8	65.4	65.4	0.0	62.7	N	-2.7	-2.7	63.1	N	-2.3	-2.3
E50		11426 Plum Street, Lynwood, CA 90262			62.8	66.4	-3.6	66.4	65.0	-1.4	63.0	N	-3.4	-2.0	64.1	N	-2.3	-0.9
E51		11653 Gorman Avenue, Los Angeles, CA 90059			61.3	66.5	-5.2	63.2	63.2	0.0	60.9	N	-2.3	-2.3	62.7	N	-0.5	-0.5
E52		11664 Lou Dillon Avenue, Los Angeles, CA 90059			59.1	60.5	-1.4	61.0	61.0	0.0	58.6	N	-2.4	-2.4	65.2	N	4.2	4.2

Note: All noise levels are in dBA-Leq(h) , All future no build, Alt. 2 and Alt. 3 noise levels are based on freeway traffic only __24 24-Hour noise measurement site ^ Interior Noise Reading

Land Use: R=Residential; PG=Playground

Impact Type: N=No Impact; A/E=Approach/Exceed

*Noise level includes the traffic from the local streets.

** Modeled Noise Level with Local Traffic Filtered Out

Table 2-144 Traffic Noise Measurements & Modeling Results Cont.

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
W59	Westbound	1763 E.Imperial Highway, Los Angeles, CA 90059	R	B(67)	68.3	70.3*, 61.5**	0.2	62.6	62.6	0.0	61.5	N	-1.1	-1.1	63.2	N	0.6	0.6
W60^		1700 E. Imperial Highway, Los Angeles, CA 90059	School	D(52)	47.9	45.8**	-3.2	45.2	45.2	0.0	42.5	N	-2.7	-2.7	45.2	N	0.0	0.0
W60		1700 E. Imperial Highway, Los Angeles, CA 90059		C(67)	60.5	64.5*, 62.4**	-3.2	61.8	61.8	0.0	59.1	N	-2.7	-2.7	61.8	N	0.0	0.0
W61		1639 E. Imperial Highway, Los Angeles, CA 90059	Residential	B(67)	71.6	72*, 61.8**	1.9	64.5	64.5	0.0	63.4	N	-1.1	-1.1	64.6	N	0.1	0.1
W62		1421 E. Imperial Highway, Los Angeles, CA 90059			66.6	67.1*, 65.7**	0.5	67.0	67.0	0.0	65.6	N	-1.4	-1.4	65.7	A/E	-1.3	-1.3
E53	Eastbound	1764 E 117th St, Los Angeles, CA 90059			59.6	59.8	-0.2	62.8	62.8	0.0	60.3	N	-2.5	-2.5	61.1	N	-1.7	-1.7
E54		1641 East 117th Street, Los Angeles, CA 90059			59.3	60.4	-1.1	62.5	62.5	0.0	65.7	A/E	3.2	3.2	65.8	A/E	3.3	3.3
M1E54		1559 E 117th St. Los Angeles, CA 90059			-	64.8	-1.1	66.9	66.9	0.0	66.8	A/E	-0.1	-0.1	66.9	A/E	0.0	0.0
M2E54		11650 Antwerp Ave. Los Angeles, CA 90059			-	62.8	-1.1	64.9	64.9	0.0	65.4	N	0.5	0.5	65.8	A/E	0.9	0.9
E55[24]		11645 Success Avenue, Los Angeles, CA 90059			63.7	65.6	-1.9	66.9	66.9	0.0	65.2	N	-1.7	-1.7	66.0	A/E	-0.9	-0.9
E56		11658 Robin Street, Los Angeles, CA 90059			61.7	62.9	-1.2	65.1	65.1	0.0	62.3	N	-2.8	-2.8	67.0	A/E	1.9	1.9

Note: All noise levels are in dBA-Leq(h) , All future no build, Alt. 2 and Alt. 3 noise levels are based on freeway traffic only [24] 24-Hour noise measurement site ^ Interior Noise Reading

Land Use: R=Residential

Impact Type: N=No Impact; A/E=Approach/Exceed

Table 2-145 Traffic Noise Measurements & Modeling Results Cont.

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
W63	Westbound	949 East 116th Place, Los Angeles, CA 90059	Residential	B967)	65.4	64.3	1.1	66.3	66.5	0.2	64.4	N	-1.9	-2.1	64.1	N	-2.2	-2.4
W64		11652 Wadsworth Ave, Los Angeles, CA 90059			62.8	63.4	-0.6	66.3	66.3	0.0	66.1	A/E	-0.2	-0.2	66.3	A/E	0.0	0.0
W65		11610 Stanford Avenue, Los Angeles, CA 90059	School	C (67)	58.9	59.4	-0.5	61.9	61.9	0.0	63.2	N	1.3	1.3	63.7	N	1.8	1.8
W66		629 East 116th Place, Los Angeles, CA 90059	Residential	B(67)	63.7	62.9	0.8	66.7	66.7	0.0	66.8	A/E	0.1	0.1	67.4	A/E	0.7	0.7
W67		362 East 116th Place, Los Angeles, CA 90061			60.6	60.5	0.1	63.8	63.8	0.0	60.7	N	-3.1	-3.1	64.6	N	0.8	0.8
W68		239 East 116th Place, Los Angeles, CA 90061			63.6	63.3	0.3	66.8	67.7	0.9	65.7	A/E	-1.1	-2.0	65.3	N	-1.5	-2.4
W69		133 East 116th Place, Los Angeles, CA 90061			67.9	63.9	4.0	70.4	70.4	0.0	68.8	A/E	-1.6	-1.6	68.9	A/E	-1.5	-1.5
W70		11509 South Spring Street, Los Angeles, CA 90061			60.6	60.6	0.0	63.1	63.1	0.0	61.5	N	-1.6	-1.6	60.3	N	-2.8	-2.8
E57	Eastbound	11701 Belhaven Street, Los Angeles, CA 90059			63.3	62.8	0.5	65.3	65.3	0.0	63.7	N	-1.6	-1.6	67.4	A/E	2.1	2.1
E58[24]		913 East 118th Street, Los Angeles, CA 90059			56.8	59.0	-2.2	58.8	58.8	0.0	57.1	N	-1.7	-1.7	56.9	N	-1.9	-1.9
E59		721 East 118th Street, Los Angeles, CA 90059			57.0	59.8	-2.8	59.0	59.0	0.0	57.0	N	-2.0	-2.0	57.5	N	-1.5	-1.5
ME60		675 East 118th Street, Los Angeles, CA 90059	Church	C(67)	-	65.7	-3.0	64.7	64.7	0.0	62.8	N	-1.9	-1.9	62.7	N	-2.0	-2.0
E60^		675 East 118th Street, Los Angeles, CA 90059		D(54)	39.3	-	-	41.3	41.3	0.0	39.4	N	-1.9	-1.9	39.3	N	-2.0	-2.0
E61		415 East 118th Street, Los Angeles, CA 90061	Residential	B(67)	55.0	56.8	-1.8	57.5	57.5	0.0	55.0	N	-2.5	-2.5	55.5	N	-2.0	-2.0
E62		211 East 118th Street, Los Angeles, CA 90061			57.1	59.8	-2.7	59.6	59.6	0.0	57.2	N	-2.4	-2.4	60.3	N	0.7	0.7
E63		152 West 117th Street, Los Angeles, CA 90061			59.6	59.6	0.0	62.1	62.1	0.0	59.5	N	-2.6	-2.6	59.9	N	-2.2	-2.2

Note: All noise levels are in dBA-Leq(h) __24 24-Hour noise measurement site ^ Interior Noise Reading

Impact Type: N=No Impact; A/E=Approach/Exceed

Table 2-146 Traffic Noise Measurements & Modeling Results Cont.

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
W71	Westbound	557 West 115th Street, Los Angeles, CA 90044	Residential	B(67)	64.9	65.9	-1.0	65.4	66.6	1.2	65.7	A/E	0.3	-0.9	68.9	A/E	3.5	2.3
W72		11515 Menlo Avenue, Los Angeles, CA 90044			61.9	62.8	-0.9	62.4	62.9	0.5	62.1	N	-0.3	-0.8	64.6	N	2.2	1.7
W73		11506 Berendo Avenue, Los Angeles, CA 90044			59.8	63.2	-3.4	62.3	62.3	0.0	59.7	N	-2.6	-2.6	61.3	N	-1.0	-1.0
W74		1600 W Imperial Hwy, Los Angeles, CA 90047	School	C(67)	57.9	62.2	-4.3	60.6	60.6	0.0	59.3	N	-1.3	-1.3	59.4	N	-1.2	-1.2
W75^		1600 W Imperial Hwy, Los Angeles, CA 90047		D(52)	39.4	-	-	43.2	43.2	0.0	41.9	N	-1.3	-1.3	42.0	N	-1.2	-1.2
W76[24]		11723 Ruthelen Street, Los Angeles, CA 90047	Residential	B(67)	67.6	64.9	2.7	69.0	69.0	0.0	65.4	N	-3.6	-3.6	66.3	A/E	-2.7	-2.7
MW77		11731 Tarron Avenue, Hawthorne, CA 90250			-	62.5	2.7	66.6	66.6	0.0	65.3	N	-1.3	-1.3	65.4	N	-1.2	-1.2
W78		11836 Purche Avenue, Hawthorne CA 90250			65.8	67.5	-1.7	69.1	69.1	0.0	66.8	A/E	-2.3	-2.3	66.9	A/E	-2.2	-2.2
W79		11828 Chanera Avenue, Hawthorne, CA 90250			62.2	64.5	-2.3	65.5	65.5	0.0	64.0	N	-1.5	-1.5	64.0	N	-1.5	-1.5
E64	Eastbound	557 West 117th Street, Los Angeles, CA 90044			66.1	66.5	-0.4	66.4	66.4	0.0	64.9	N	-1.5	-1.5	65.9	A/E	-0.5	-0.5
E65		761 West 117th Street, Los Angeles, CA 90044			59.2	60.2	-1.0	59.5	59.8	0.3	59.0	N	-0.5	-0.8	61.8	N	2.3	2.0
E66		1060 W. 117th Street, Los Angeles, CA 90044			59.0	59.2	-0.2	62.7	62.7	0.0	59.7	N	-3.0	-3.0	61.5	N	-1.2	-1.2
E67		1315 Geddes Street, Los Angeles, CA 90044			53.6	58.6	-5.0	55.8	55.8	0.0	53.4	N	-2.4	-2.4	54.5	N	-1.3	-1.3
E68		1633 W. Bruin Street, Los Angeles, CA 90047			68.6	73.8	-5.2	69.7	69.7	0.0	68.7	A/E	-1.0	-1.0	69.6	A/E	-0.1	-0.1
M1E68		11920 Manzanilla Avenue, Los Angeles CA 90047	Play-Ground	C(67)	-	64.5	-5.2	60.4	60.4	0.0	58.7	N	-1.7	-1.7	59.8	N	-0.6	-0.6
M2E68		1651 W. Bruin Street, Los Angeles, CA 90047	Residential	B(67)	-	64.2	-5.2	60.1	60.1	0.0	58.7	N	-1.4	-1.4	59.8	N	-0.3	-0.3
M3E68		1679 W. Bruin Street, Los Angeles, CA 90047			-	64.5	-5.2	60.4	60.4	0.0	59.2	N	-1.2	-1.2	60.2	N	-0.2	-0.2
E69		1925 Loganside Dr. Los Angeles, CA 90047			63.2	67.1	-0.5	67.2	67.2	0.0	66.6	A/E	-0.6	-0.6	67.5	A/E	0.3	0.3
E70		11908 Cimarron Avenue, Hawthorne, CA 90250			54.9	59.6	-4.1	59.3	59.3	0.0	56.7	N	-2.6	-2.6	57.5	N	-1.8	-1.8

Note: All noise levels are in dBA-Leq(h) [24] 24-Hour noise measurement site ^ Interior Noise Reading

Impact Type: N=No Impact; A/E=Approach/Exceed

Table 2-147 Traffic Noise Measurements & Modeling Results Cont.

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
W80	Westbound	11811 Simms Avenue. Inglewood , CA 90303	Residential	B(67)	57.5	61.6	-4.1	58.8	58.8	0.0	56.8	N	-2.0	-2.0	57.7	N	-1.1	-1.1
W81[24]		3324 W 118th Pl. Inglewood, CA 90303			57.0	61.3	-4.3	58.3	58.3	0.0	56.4	N	-1.9	-1.9	57.1	N	-1.2	-1.2
W82^		11710 S Cherry Ave, Inglewood, CA 90303	School	D(52)	46.3	-	-	47.6	47.6	0.0	47.9	N	0.3	0.3	46.3	N	-1.3	-1.3
MW82		11710 S Cherry Ave, Inglewood, CA 90303		C(67)	-	61.3	-1.3	61.3	61.3	0.0	59.2	N	-2.1	-2.1	60.0	N	-1.3	-1.3
W83		11909 Yukon Avenue, Inglewood, CA 90303	Residential	B(67)	63.1	64.4	-1.3	64.4	64.4	0.0	64.3	N	-0.1	-0.1	66.1	A/E	1.7	1.7
W84		3753 W118th Street, Hawthorne, CA90250			67.1	69.1	-2.0	69.0	69.0	0.0	69.0	A/E	0.0	0.0	71.0	A/E	2.0	2.0
W85		3857 116th Street, Hawthorne, CA 90250			68.6	70.9	-2.3	70.5	70.5	0.0	68.5	A/E	-2.0	-2.0	70.2	A/E	-0.3	-0.3
W86		3929 W115th Street, Hawthorne, CA90250			64.3	67.0	-2.7	66.2	66.2	0.0	66.1	A/E	-0.1	-0.1	67.6	A/E	1.4	1.4
W87		11138 S Freeman Avenue, Inglewood, CA 90304			63.5	67.0	-3.5	65.0	65.0	0.0	62.5	N	-2.5	-2.5	62.6	N	-2.4	-2.4
E71		11925 Almertens Pl, Inglewood, CA 90303			61.0	64.0	-3.0	62.5	62.5	0.0	62.6	N	0.1	0.1	62.5	N	0.0	0.0
E72	Eastbound	3803 118th Street, Hawthorne, CA 90250			59.7	63.5	-3.8	61.2	61.2	0.0	64.7	N	3.5	3.5	68.2	A/E	7.0	7.0
E73		3908 W 117th Street, Hawthorne, CA 90250			59.7	64.2	-4.5	61.2	61.2	0.0	61.2	N	0.0	0.0	61.3	N	0.1	0.1
E74		11501 York Avenue, Hawthorne, CA 90250			65.4	68.1	-2.7	66.9	66.9	0.0	64.5	N	-2.4	-2.4	64.5	N	-2.4	-2.4
E75		11301 Larch Avenue, Lennox, CA 90304			56.3	63.3	-7.0	57.8	57.9	0.1	57.9	N	0.1	0.0	57.9	N	0.1	0.0

Note: All noise levels are in dBA-Leq(h) __24 24-Hour noise measurement site ^ Interior Noise Reading

Impact Type: N=No Impact; A/E=Approach/Exceed

Table 2-148 Traffic Noise Measurements & Modeling Results Cont.

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level Alternative 1	Noise Increase (No Build Vs. Existing)	Future Worst-Hour Noise Level Alternative 2	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)	Future Worst-Hour Noise Level Alternative 3	Impact Type	Noise Increase (Build Vs. Existing)	Noise Increase (Build Vs. No Build)
W88	Westbound	11109 S Grevillea Avenue, Inglewood, CA 90304	Residential	B(67)	72.6	69.4	3.2	74.8	76.5	1.7	75.5	A/E	0.7	-1.0	76.5	A/E	1.7	0.0
W89[24]		11138 S Trvro Avenue, Inglewood, CA 90304			65.0	65.3	-0.3	67.2	67.2	0.0	65.1	N	-2.1	-2.1	66.5	A/E	-0.7	-0.7
W90		11144 Dalerose Avenue, Inglewood, CA 90304			62.0	64.2	-2.2	64.0	64.0	0.0	61.7	N	-2.3	-2.3	61.6	N	-2.4	-2.4
W91		4850 W 112th Street, Inglewood, CA 90304			63.5	62.7	0.8	65.9	65.9	0.0	64.9	N	-1.0	-1.0	64.9	N	-1.0	-1.0
W92		4952 N 112th Street, Inglewood, CA 90304			64.4	64.8	-0.4	66.6	66.6	0.0	65.5	A/E	-1.1	-1.1	65.5	A/E	-1.1	-1.1
E76	Eastbound	11156 S Grevillea Avenue, Inglewood, CA 90304			66.6	68.6	-2.0	68.8	69.0	0.2	68.5	A/E	-0.3	-0.5	69.5	A/E	0.7	0.5
E77		11200 Firmona Avenue, Inglewood, CA 90304			63.3	65.1	-1.8	65.6	65.6	0.0	64.6	N	-1.0	-1.0	65.4	N	-0.2	-0.2
E78		11300 Condon Avenue, Indlewood, CA 90304			63.6	64.3	-0.7	65.9	65.9	0.0	65.2	N	-0.7	-0.7	65.0	N	-0.9	-0.9
E79		11431 Gale Avenue, Hawthorne, CA 90250			62.5	61.7	0.8	64.6	64.6	0.0	62.8	N	-1.8	-1.8	62.8	N	-1.8	-1.8
E80		11524 Felton Avenue, Los Angeles, CA 90045			67.1	68.9	-1.8	69.2	70.6	1.4	69.3	A/E	0.1	-1.3	67.8	A/E	-1.4	-2.8
E81		5400 W 116th Street, Ingelwood, CA 90304			62.8	60.3	2.5	65.0	65.0	0.0	65.0	N	0.0	0.0	64.5	N	-0.5	-0.5
E82		5508 W 116th Street, Inglewood, CA 90304			62.0	63.2	-1.2	64.6	64.6	0.0	64.6	N	0.0	0.0	64.6	N	0.0	0.0

Note: All noise levels are in dBA-Leq(h) [24] 24-Hour noise measurement site

Impact Type: N=No Impact; A/E=Approach/Exceed

In accordance with 23CFR772, noise abatement is considered where noise impacts are predicted in areas of frequent human use that would benefit from a lowered noise level. Potential noise abatement measures identified in the Protocol include the following:

- Avoiding the impact by using design alternatives, such as altering the horizontal and vertical alignment of the project;
- Constructing noise barriers;
- Acquiring property to serve as a buffer zone;
- Using traffic management measures to regulate types of vehicles and speeds; and
- Acoustically insulating public-use or nonprofit institutional structures.

All of these abatement options have been considered. However, because of the configuration and location of the project, abatement in the form of noise barriers is considered to be most practical.

Each noise barrier has been evaluated for feasibility based on achievable noise reduction. For each noise barrier found to be acoustically feasible, reasonable cost allowances were calculated using the 2019 figure of $107,000 per benefited receptor. For any noise barrier to be considered reasonable from a cost perspective the estimated cost of the noise barrier should be equal to or less than the total cost allowance calculated for the barrier. The cost calculations of the noise barrier should include all items appropriate and necessary for construction of the barrier, such as traffic control, drainage modification, and retaining walls that are specifically needed to construct soundwalls and are not part of overall project.

Tables 2-149 to 2-155 lists the reasonable determination data for sound walls for both build alternatives.

Table 2-149: Summary of Reasonableness Determination Data for Soundwalls Alternative 2

Soundwall No.	Design Year (2047) Noise Level dBA Leq(h)	Noise Increase (dBA)	Height (Feet)	Approximate Length (Feet)	Noise Attenuation (dBA)	Number of Benefited Receivers	Reasonable Allowance Per Benefited Receiver	Total Reasonable Allowance Per Barrier
SW-668W2	74	3	8	4698	5	4	$107,000	$428,000
			10		6	61	$107,000	$6,527,000
			12		7	177	$107,000	$18,939,000
			14		8	195	$107,000	$20,865,000
			16		8	205	$107,000	$21,935,000
SW-621W2	66***	-2	8	2128	2	0	$107,000	$0
			10		4	0	$107,000	$0
			12		4	0	$107,000	$0
			14		5	20	$107,000	$2,140,000
			16		6	22	$107,000	$2,354,000
			18		6	24	$107,000	$2,568,000
			20		6	32	$107,000	$3,424,000
			22		7	32	$107,000	$3,424,000
SW-651E2	67***	-1	8	2174	3	0	$107,000	$0
			10		4	0	$107,000	$0
			12		4	0	$107,000	$0
			14		4	4	$107,000	$428,000
			16		5	7	$107,000	$749,000
			18		5	7	$107,000	$749,000
SW-550W2	72	0	8	1812	5	39	$107,000	$4,173,000
			10		6	41	$107,000	$4,387,000
			12		7	47	$107,000	$5,029,000
			14		7	53	$107,000	$5,671,000
			16		7	53	$107,000	$5,671,000
SW-533W2	68	0	8	1501	0	0	$107,000	$0
			10		0	0	$107,000	$0
			12		0	0	$107,000	$0
			14		0	0	$107,000	$0
			16		5	13	$107,000	$1,391,000
SW-550W2 + SW-533W2	72	0	8	1812+1501	5	55	$107,000	$5,885,000
			10		6	57	$107,000	$6,099,000
			12		7	71	$107,000	$7,597,000
			14		7	76	$107,000	$8,132,000
			16		8	77	$107,000	$8,239,000
SW-533W2 + SW-519W2	68	0	8	1501+410	3	0	$107,000	$0
			10		4	3	$107,000	$321,000
			12		5	13	$107,000	$1,391,000
			14		5	20	$107,000	$2,140,000
			16		6	20	$107,000	$2,140,000
SW-580W2	69	-2	8	1367	2	0	$107,000	$0
			10		4	0	$107,000	$0
			12		4	0	$107,000	$0
			14		5	7	$107,000	$749,000
			16		5	12	$107,000	$1,284,000
			18		5	13	$107,000	$1,391,000
			20		5	13	$107,000	$1,391,000
			22		6	13	$107,000	$1,391,000
			24		6	13	$107,000	$1,391,000
SW-463W2*	67	0	8	3107	4	0	$107,000	$0
			10		5	22	$107,000	$2,354,000
			12		6	32	$107,000	$3,424,000
			14		7	69	$107,000	$7,383,000
			16		7	90	$107,000	$9,630,000

Feasibility Requirement: Soundwall must provide at least 5 dB noise reduction at impacted receiver

Reasonableness Requirement: Soundwall must provide at least 7 dB noise reduction at one or more benefited receptors

*This soundwall must be constructed to replace the existing wall that would be removed to accommodate widenning

**Replace portion of existing soundwall

*** Existing Worst Hour Noise Level

Table 2-150: Summary of Reasonableness Determination Data for Soundwalls Alternative 2 Cont.

Soundwall No.	Design Year (2047) Noise Level dBA Leq(h)	Noise Increase (dBA)	Height (Feet)	Approximate Length (Feet)	Noise Attenuation (dBA)	Number of Benefited Receivers	Reasonable Allowance Per Benefited Receiver	Total Reasonable Allowance Per Barrier
SW-432W2	69	0	8	2910	3	0	$107,000	$0
			10		4	0	$107,000	$0
			12		4	0	$107,000	$0
			14		5	30	$107,000	$3,210,000
			16		6	45	$107,000	$4,815,000
			18		6	55	$107,000	$5,885,000
			20		7	60	$107,000	$6,420,000
SW-470E2+ SW-489E2**	67	0	8	1860+580	4	0	$107,000	$0
			10		5	29	$107,000	$3,103,000
			12		6	62	$107,000	$6,634,000
			14		6	63	$107,000	$6,741,000
			16		7	68	$107,000	$7,276,000
SW-472W2 + SW-492W2	66	-1	8	440+2079	4	0	$107,000	$0
			10		5	14	$107,000	$1,498,000
			12		5	40	$107,000	$4,280,000
			14		6	40	$107,000	$4,280,000
			16		6	40	$107,000	$4,280,000
			18		6	50	$107,000	$5,350,000
			20		7	50	$107,000	$5,350,000
SW376W2	66	0	8	1215	0	0	$107,000	$0
			10		1	0	$107,000	$0
			12		3	0	$107,000	$0
			14		6	12	$107,000	$1,284,000
			16		7	12	$107,000	$1,284,000
SW-306E2	69	-1	6	184	10	3	$107,000	$321,000
			8		12	3	$107,000	$321,000
			10		13	3	$107,000	$321,000
			12		15	3	$107,000	$321,000
			14		15	3	$107,000	$321,000
SW-284E2	67	0	12	471	4	0	$107,000	$0
			14		4	0	$107,000	$0
			16		4	0	$107,000	$0
			18		5	1	$107,000	$107,000
			20		5	1	$107,000	$107,000
SW-192W2	69	-2	8	748	7	4	$107,000	$428,000
			10		7	5	$107,000	$535,000
			12		8	8	$107,000	$856,000
			14		8	9	$107,000	$963,000
			16		9	9	$107,000	$963,000
SW-150W2	76	0	8	2268	6	6	$107,000	$642,000
			10		7	9	$107,000	$963,000
			12		9	16	$107,000	$1,712,000
			14		10	23	$107,000	$2,461,000
			16		10	27	$107,000	$2,889,000
SW-142E2	69	0	8	706	6	7	$107,000	$749,000
			10		7	8	$107,000	$856,000
			12		8	8	$107,000	$856,000
			14		8	8	$107,000	$856,000
			16		9	8	$107,000	$856,000

Feasibility Requirement: Soundwall must provide at least 5 dB noise reduction at impacted receiver

Reasonableness Requirement: Soundwall must provide at least 7 dB noise reduction at one or more benefited receptors

*This soundwall must be constructed to replace the existing wall that would be removed to accommodate widenning

**Replace portion of existing soundwall

Table 2-151: Summary of Reasonableness Determination Data for Soundwalls Alternative 2 Cont.

Soundwall No.	Design Year (2047) Noise Level dBA Leq(h)	Noise Increase (dBA)	Height (Feet)	Approximate Length (Feet)	Noise Attenuation (dBA)	Number of Benefited Receivers	Reasonable Allowance Per Benefited Receiver	Total Reasonable Allowance Per Barrier
SW-127E2*	66	-1	8	1719	2	0	$107,000	$0
			10		3	0	$107,000	$0
			12		4	0	$107,000	$0
			14		5	12	$107,000	$1,284,000
			16		5	12	$107,000	$1,284,000
			18		6	12	$107,000	$1,284,000
			20		6	20	$107,000	$2,140,000
SW-176E2	67***	-2	8	707	3	0	$107,000	$0
			10		4	0	$107,000	$0
			12		5	3	$107,000	$321,000
			14		5	5	$107,000	$535,000
			16		6	6	$107,000	$642,000
			18		6	6	$107,000	$642,000
			20		6	6	$107,000	$642,000
SW-198E2*	65	4	8	1754	5	12	$107,000	$1,284,000
			10		7	18	$107,000	$1,926,000
			12		8	23	$107,000	$2,461,000
			14		8	25	$107,000	$2,675,000
			16		9	25	$107,000	$2,675,000
SW-202W2	69	0	-	488	-	-	-	-
			-		-	-	-	-
			12		2	0	$107,000	$0
			14		3	0	$107,000	$0
			16		4	0	$107,000	$0
			18		4	0	$107,000	$0
			20		5	4	$107,000	$428,000

Feasibility Requirement: Soundwall must provide at least 5 dB noise reduction at impacted receiver

Reasonableness Requirement: Soundwall must provide at least 7 dB noise reduction at one or more benefited receptors

*This soundwall must be constructed to replace the existing wall that would be removed to accommodate widenning

**Replace portion of existing soundwall

*** Existing Worst Hour Noise Level

Raise height of existing soundwall

Table 2-152: Summary of Reasonableness Determination Data for Soundwalls Alternative 3

Soundwall No.	Design Year (2047) Noise Level dBA Leq(h)	Noise Increase (dBA)	Height (Feet)	Approximate Length (Feet)	Noise Attenuation (dBA)	Number of Benefited Receivers	Reasonable Allowance Per Benefited Receiver	Total Reasonable Allowance Per Barrier
SW-669W3*	73	3	8	4830	5	4	$107,000	$428,000
			10		6	65	$107,000	$6,955,000
			12		7	177	$107,000	$18,939,000
			14		8	195	$107,000	$20,865,000
			16		8	205	$107,000	$21,935,000
SW-628E3	66	0	8	4489	4	0	$107,000	$0
			10		6	38	$107,000	$4,066,000
			12		7	46	$107,000	$4,922,000
			14		8	56	$107,000	$5,992,000
			16		8	60	$107,000	$6,420,000
SW-621W3	66	0	8	2128	2	0	$107,000	$0
			10		3	0	$107,000	$0
			12		4	0	$107,000	$0
			14		4	0	$107,000	$0
			16		5	25	$107,000	$2,675,000
			18		5	29	$107,000	$3,103,000
			20		6	33	$107,000	$3,531,000
SW-619E3*	62	0	8	896	2	0	$107,000	$0
			10		2	0	$107,000	$0
			12		3	0	$107,000	$0
			14		3	0	$107,000	$0
			16		3	0	$107,000	$0
			18		4	0	$107,000	$0
			20		4	0	$107,000	$0
SW-606E3*	62	0	8	892	2	0	$107,000	$0
			10		3	0	$107,000	$0
			12		3	0	$107,000	$0
			14		3	0	$107,000	$0
			16		4	0	$107,000	$0
			18		4	0	$107,000	$0
			20		4	0	$107,000	$0
SW-550W3	73	0	8	1812	5	10	$107,000	$1,070,000
			10		6	30	$107,000	$3,210,000
			12		6	34	$107,000	$3,638,000
			14		7	47	$107,000	$5,029,000
			16		7	47	$107,000	$5,029,000
SW-533W3	69	0	8	1501	4	0	$107,000	$0
			10		4	0	$107,000	$0
			12		5	1	$107,000	$107,000
			14		6	8	$107,000	$856,000
			16		6	15	$107,000	$1,605,000
SW-550W3 + SW-533W3	69	0	8	1812+1501	5	37	$107,000	$3,959,000
			10		6	51	$107,000	$5,457,000
			12		7	69	$107,000	$7,383,000
			14		8	76	$107,000	$8,132,000
			16		8	77	$107,000	$8,239,000
SW-533W3 + SW-519W3	69	0	8	1501+410	4	0	$107,000	$0
			10		5	2	$107,000	$214,000
			12		6	11	$107,000	$1,177,000
			14		6	23	$107,000	$2,461,000
			16		6	23	$107,000	$2,461,000
			18		7	23	$107,000	$2,461,000

Feasibility Requirement: Soundwall must provide at least 5 dB noise reduction at impacted receiver

Reasonableness Requirement: Soundwall must provide at least 7 dB noise reduction at one or more benefited receptors

*This soundwall must be constructed to replace the existing wall that would be removed to accommodate widenning

**Replace portion of existing soundwall

*** Existing Worst Hour Noise Level

Table 2-153: Summary of Reasonableness Determination Data for Soundwalls Alternative 3 Cont.

Soundwall No.	Design Year (2047) Noise Level dBA Leq(h)	Noise Increase (dBA)	Height (Feet)	Approximate Length (Feet)	Noise Attenuation (dBA)	Number of Benefited Receivers	Reasonable Allowance Per Benefited Receiver	Total Reasonable Allowance Per Barrier
SW-580W3	69	-2	8	1367	3	0	$107,000	$0
			10		4	0	$107,000	$0
			12		4	0	$107,000	$0
			14		5	7	$107,000	$749,000
			16		5	13	$107,000	$1,391,000
			18		5	13	$107,000	$1,391,000
			20		6	13	$107,000	$1,391,000
SW-470E3	67	1	8	1797	4	0	$107,000	$0
			10		5	3	$107,000	$0
			12		5	3	$107,000	$321,000
			14		6	11	$107,000	$1,177,000
			16		6	13	$107,000	$1,391,000
			18		7	15	$107,000	$1,605,000
			20		7	15	$107,000	$1,605,000
SW-472W2 + SW-492W2	66	-1	8	440+2079	4	0	$107,000	$0
			10		5	14	$107,000	$1,498,000
			12		5	40	$107,000	$4,280,000
			14		6	40	$107,000	$4,280,000
			16		6	40	$107,000	$4,280,000
			18		6	50	$107,000	$5,350,000
			20		7	50	$107,000	$5,350,000
SW-470E3+ SW-489E3**	67***	0	8	1796+1130	4	4	$107,000	$428,000
			10		5	45	$107,000	$4,815,000
			12		6	62	$107,000	$6,634,000
			14		6	64	$107,000	$6,848,000
			16		7	68	$107,000	$7,276,000
SW-461E3*	67	2	8	965	4	0	$107,000	$0
			10		5	4	$107,000	$428,000
			12		6	7	$107,000	$749,000
			14		6	10	$107,000	$1,070,000
			16		6	11	$107,000	$1,177,000
			18		7	13	$107,000	$1,391,000
			20		7	13	$107,000	$1,391,000
SW-455E3*	67	2	8	680	4	0	$107,000	$0
			10		4	0	$107,000	$0
			12		4	0	$107,000	$0
			14		5	2	$107,000	$214,000
			16		5	6	$107,000	$642,000
			18		5	6	$107,000	$642,000
			20		5	6	$107,000	$642,000
SW-461E3+ SW-455E3	67	2	8	1645	5	2	$107,000	$214,000
			10		5	20	$107,000	$2,140,000
			12		6	30	$107,000	$3,210,000
			14		7	33	$107,000	$3,531,000
			16		7	35	$107,000	$3,745,000
SW-463W3**	67	1	8	3107	4	0	$107,000	$0
			10		5	22	$107,000	$2,354,000
			12		6	32	$107,000	$3,424,000
			14		7	69	$107,000	$7,383,000
			16		7	90	$107,000	$9,630,000

Feasibility Requirement: Soundwall must provide at least 5 dB noise reduction at impacted receiver

Reasonableness Requirement: Soundwall must provide at least 7 dB noise reduction at one or more benefited receptors

*This soundwall must be constructed to replace the existing wall that would be removed to accommodate widenning

**Replace portion of existing soundwall

Table 2-154: Summary of Reasonableness Determination Data for Soundwalls Alternative 3 Cont.

Soundwall No.	Design Year (2047) Noise Level dBA Leq(h)	Noise Increase (dBA)	Height (Feet)	Approximate Length (Feet)	Noise Attenuation (dBA)	Number of Benefited Receivers	Reasonable Allowance Per Benefited Receiver	Total Reasonable Allowance Per Barrier
SW-436E3**	63	0	8	1108	3	0	$107,000	$0
			10		3	0	$107,000	$0
			12		4	0	$107,000	$0
			14		4	0	$107,000	$0
			16		5	18	$107,000	$1,926,000
SW-432W3	69	-2	8	2912	3	0	$107,000	$0
			10		4	0	$107,000	$0
			12		4	0	$107,000	$0
			14		5	30	$107,000	$3,210,000
			16		5	45	$107,000	$4,815,000
			18		6	55	$107,000	$5,885,000
			20		6	60	$107,000	$6,420,000
SW376W3	69	3	8	1215	0	0	$107,000	$0
			10		1	0	$107,000	$0
			12		3	0	$107,000	$0
			14		6	12	$107,000	$1,284,000
			16		7	12	$107,000	$1,284,000
SW-402E3*	60	0	8	1357	3	0	$107,000	$0
			10		3	0	$107,000	$0
			12		3	0	$107,000	$0
			14		4	0	$107,000	$0
			16		4	0	$107,000	$0
SW-306E3	70	0	6	184	10	3	$107,000	$321,000
			8		12	3	$107,000	$321,000
			10		13	3	$107,000	$321,000
			12		15	3	$107,000	$321,000
			14		15	3	$107,000	$321,000
SW-284E3	68	1	12	470	4	0	$107,000	$0
			14		4	0	$107,000	$0
			16		4	0	$107,000	$0
			18		4	0	$107,000	$0
			20		5	1	$107,000	$107,000
SW-225W3**	66	2	8	2310	4	0	$107,000	$0
			10		5	15	$107,000	$1,605,000
			12		6	38	$107,000	$4,066,000
			14		7	44	$107,000	$4,708,000
			16		8	54	$107,000	$5,778,000
SW-198E3*	68	7	8	1754	5	12	$107,000	$1,284,000
			10		7	18	$107,000	$1,926,000
			12		8	23	$107,000	$2,461,000
			14		8	25	$107,000	$2,675,000
			16		9	25	$107,000	$2,675,000

Feasibility Requirement: Soundwall must provide at least 5 dB noise reduction at impacted receiver

Reasonableness Requirement: Soundwall must provide at least 7 dB noise reduction at one or more benefited receptors

*This soundwall must be constructed to replace the existing wall that would be removed to accommodate widenning

**Replace portion of existing soundwall

*** Existing Worst Hour Noise Level

Table 2-155: Summary of Reasonableness Determination Data for Soundwalls Alternative 3 Cont.

Soundwall No.	Design Year (2047) Noise Level dBA Leq(h)	Noise Increase (dBA)	Height (Feet)	Approximate Length (Feet)	Noise Attenuation (dBA)	Number of Benefited Receivers	Reasonable Allowance Per Benefited Receiver	Total Reasonable Allowance Per Barrier
SW-202W3	69***	2	-	488	-	-	-	-
			-		-	-	-	-
			12		2	0	$107,000	$0
			14		3	0	$107,000	$0
			16		4	0	$107,000	$0
			18		4	0	$107,000	$0
			20		5	4	$107,000	$428,000
SW- 176E3***	67	0	8	707	4	0	$107,000	$0
			10		5	5	$107,000	$535,000
			12		5	5	$107,000	$535,000
			14		6	5	$107,000	$535,000
			16		6	5	$107,000	$535,000
			18		7	5	$107,000	$535,000
			20		7	5	$107,000	$535,000
SW-192W3	67	1	8	806	7	4	$107,000	$428,000
			10		8	5	$107,000	$535,000
			12		9	8	$107,000	$856,000
			14		9	9	$107,000	$963,000
			16		9	9	$107,000	$963,000
SW-142E3	70	1	8	706	6	7	$107,000	$749,000
			10		7	8	$107,000	$856,000
			12		8	8	$107,000	$856,000
			14		9	9	$107,000	$963,000
			16		10	9	$107,000	$963,000
SE-127E3*	66	0	8	1731	2	0	$107,000	$0
			10		3	0	$107,000	$0
			12		4	0	$107,000	$0
			14		5	12	$107,000	$1,284,000
			16		5	12	$107,000	$1,284,000
			18		6	12	$107,000	$1,284,000
			20		6	20	$107,000	$2,140,000
SW-150W3	77	2	8	2268	7	6	$107,000	$642,000
			10		8	9	$107,000	$963,000
			12		9	16	$107,000	$1,712,000
			14		10	24	$107,000	$2,568,000
			16		11	28	$107,000	$2,996,000

Feasibility Requirement: Soundwall must provide at least 5 dB noise reduction at impacted receiver

Reasonableness Requirement: Soundwall must provide at least 7 dB noise reduction at one or more benefited receptors

*This soundwall must be constructed to replace the existing wall that would be removed to accommodate widenning

**Replace portion of existing soundwall

*** Existing Worst Hour Noise Level

Raise height of existing soundwall

2.2.7.4 Avoidance, Minimization, and/or Abatement Measures

A Noise Abatement Decision Report (NADR) was prepared for the project by the consultants in February of 2020. The purpose of the NADR is to: summarize the conclusions of the NSR relating to acoustical feasibility, the design goal, and the reasonable allowances for abatement evaluated, present the engineer's cost estimate for evaluated abatement, present the engineer's evaluation of nonacoustical feasibility issues, present the preliminary noise abatement decision, and present preliminary information on secondary effects of abatement. Implementation of the following measures for the proposed project will reduce any noise impacts.

Noise1 - All acoustically feasible and reasonable soundwalls approved by benefitted receivers will be incorporated in the final design.

The following tables have a summary of acoustically feasible soundwalls on I-105 for both build alternatives.

Table 2-156 Summary of Acoustically Feasible Soundwalls on I-105 – Alternative 2

No.	Soundwall	Direction	Location	Acoustically Feasible Height Range (Feet)	Approximate Length (Feet)	Noise Attenuation Range (dBA)	Number of Benefited Receivers	Reasonable Allowance
1	SW-668W2	WB	Between Atlantic Avenue and Spruce Street	12 to 16	4698	6 to 8	4 to 205	$428,000 to $21,935,000
2	SW-621W2	WB	Between Spruce Street and Long Beach Blvd	14 to 22	2128	5 to 7	20 to 32	$2,140,000 to $3,424,000
3	SW-651E2	EB	Between Thorson Avenue and Atlantic Avenue	16 to 18	2174	5	7	$749,000
4	SW-580W2	WB	Between State Street and Imperial Hwy	14 to 20	1370	5 to 6	7 to 13	$749,000 to $1,391,000
5	SW-550W2	WB	Between Alameda Street and Croesus Avenue	8 to 16	1812	5 to 7	39 to 53	$4,173,000 to $5,671,000
6	SW-533W2	WB	Between Mona Boulevard and Grape Street	16	1501	5	13	$1,391,000
7	SW-550W2 + SW-533W2	WB	Between Alameda Street and Grape Street	8 to 16	1812+1501	5 to 8	55 to 77	$5,885,000 to $8,239,000
8	SW-533W2 + SW-519W2	WB	Between Mona Boulevard and Willowbrook Ave	10 to 16	1501 + 410	5 to 6	13 to 20	$1,391,000 to $2,140,000
9	SW-472W2 + SW-492W2	WB	Between S Grandee Avenue and S Central Ave	10 to 20	440 + 2079	5 to 7	14 to 50	$1,498,000 to $5,350,000
10	SW-463W2	WB	Between S Central Avenue and S Avalon Blvd	10 to 16	3107	5 to 7	22 to 90	$2,354,000 to $9,630,000
11	SW-432W2	WB	Between Main Street and S Avalon Blvd	14 to 20	2910	5 to 7	30 to 60	$3,210,000 to $6,420,000
12	SW-470E2+ SW-489E2	EB	Between Slater Street and Holmes Avenue	10 to 16	1861+580	5 to 7	29 to 68	$3,103,000 to $7,276,000
13	SW-376W2	WB	Between S Figueroa Street and S Hoover St.	12 to 16	1215	5 to 8	3 to 17	$321,000 to $1,819,000
14	SW-306E2	EB	Bruin St. Private Property	6 to 14	184	10 to 15	3	$321,000
15	SW-284E2	EB	Between Wilton Place and Western Avenue	18 to 20	471	5	1	$107,000
16	SW-192W2	WB	Between W 116th Street and Prairie Avenue	8 to 16	748	7 to 9	4 to 9	$428,000 to $963,000
17	SW-150W2	WB	Between Hawthorne Blvd and Inglewood Ave	8 to 16	900	6 to 10	6 to 27	$642,000 to $2,889,000
18	SW-142E2	EB	Between Mansel Avenue and S Burin Avenue	8 to 16	706	6 to 9	7 to 8	$749,000 to $856,000
19	SW-127E2	EB	Between Inglewood Avenue & Mansel Avenue	14 to 20	1719	5 to 6	3 to 8	$321,000 to $856,000
20	SW-176E2	EB	Between Oxford Avenue and Prairie Avenue	12 to 20	707	5 to 6	3 to 6	$321,000 to $642,000
21	SW-198E2*	EB	Between W118th Street and Yukon Avenue	8 to 16	1754	5 to 9	12 to 35	$1,284,000 to $2,675,000
22	SW-202W2	WB	Between W 118th Street and W 117th Street	20	488	5	6	$642,000

* This soundwall must be constructed to replace the existing wall that would be removed to accommodate widening

Raise height of existing soundwall

Table 2-157 Summary of Acoustically Feasible Soundwalls on I-105 – Alternative 3

No.	Soundwall	Direction	Location	Acoustically Feasible Height Range (Feet)	Approximate Length (Feet)	Noise Attenuation Range (dBA)	Number of Benefited Receivers	Reasonable Allowance
1	SW-669W3*	WB	Between Atlantic Avenue and Spruce Street	8 to 16	4830	5 to 8	4 to 205	$428,000 to $21,935,000
2	SW-628E3	EB	Between Bullis Road to Atlantic Avenue	10 to 16	4489	6 to 8	38 to 60	$4,066,000 to $6,420,000
3	SW-619E3*	EB	Between Fir Street and Bullis Road	8 to 20	896	2 to 4	N/A	N/A
4	SW-621W3	WB	Between Spruce Street and Long Beach Blvd	16 to 20	2128	5 to 6	25 to 33	$2,675,000 to $3,531,000
5	SW-606E3*	EB	Between Long Beach and Spruce Street	10 to 16	892	3 to 4	N/A	N/A
6	SW-580W3	WB	Between State Street and Imperial Hwy	14 to 20	1370	5 to 6	7 to 13	$749,000 to $1,391,000
7	SW-550W3	WB	Between Alameda Street and Croesus Avenue	8 to 16	1812	5 to 7	10 to 47	$1,070,000 to $5,029,000
8	SW-533W3	WB	Between Mona Boulevard and Grape Street	12 to 16	1501	5 to 6	1 to 15	$1,070,000 to $1,605,000
9	SW-550W3 + SW-533W3	WB	Between Alameda Street and Grape Street	8 to 16	1812+1501	5 to 8	37 to 77	$3,959,000 to $8,239,000
10	SW-533W3 + SW-519W3	WB	Between Mona Boulevard and Willowbrook Ave	10 to 16	1501 + 410	5 to 6	2 to 23	$214,000 to $2,461,000
11	SW-489E3*+ SW-470E3	EB	Between Slater Street and Holmes Avenue	10 to 16	1796+1130	5 to 7	45 to 68	$4,815,000 to $2,276,000
12	SW-472W3 + SW-492W3	WB	Between S.Grandee Ave and S. Central Ave	10 to 20	440+2079	5 to 7	14 to 50	$1,498,000 to $5,350,000
13	SW-461E3*	EB	Between S. Central Avenue and Slater Street	10 to 20	965	5 to 7	4 to 13	$428,000 to $1,391,000
14	SW-455E3*	EB	Between Wadsworth Ave and S. Central Ave	14 to 20	680	5	2 to 6	$214,000 to $642,000
15	SW-461E3 + SW-455E3	EB	Between Wadsworth Avenue and Slater Street	8 to 16	1645	5 to 7	2 to 35	$214,000 to $3,745,000
	* This soundwall must be constructed to replace the existing wall that would be removed to accommodate widening							

Table 2-158 Summary of Acoustically Feasible Soundwalls on I-105 – Alternative 3

No.	Soundwall	Direction	Location	Acoustically Feasible Height Range (Feet)	Approximate Length (Feet)	Noise Attenuation Range (dBA)	Number of Benefited Receivers	Reasonable Allowance
16	SW-463W3*	WB	Between S Central Avenue and S Avalon Blvd	10 to 16	3107	5 to 7	22 to 90	$2,354,000 to $9,630,000
17	SW-436E3*	EB	Between Stanford Ave and S. Avalon Blvd	16	1108	5	18	$1,926,000
18	SW-432W3	WB	Between S. Avalon Blvd and S. Main Street	14 to 20	2912	5 to 6	30 to 60	$3,210,000 to $6,420,000
19	SW-402E3*	EB	Between S Main Street and S San Pedro Street	8 to 16	1357	3 to 4	N/A	N/A
20	SW-376W3	WB	Between S Figueroa Street and S Hoover St.	12 to 16	1215	5 to 8	3 to 17	$321,000 to $1,819,000
21	SW-306E3	EB	Bruin St. Private Property	6 to 14	184	10 to 15	3	$321,000
22	SW-284E3	EB	Between S. Wilton Pl. and Western Avenue	20	470	5	1	$107,000
23	SW-225W3**	WB	Between Yukon Avenue and W 118th Street	10 to 16	2310	5 to 8	15 to 54	$1,605,000 to $5,778,000
24	SW-198E3*	EB	Between W118th Street and Almertens Pl	8 to 16	1754	5 to 9	12 to 25	$1,284,000 to $2,675,000
25	SW-202W3	WB	Between W118th Street and W 117th Street	20	488	5	6	$642,000
26	SW-192W3	WB	Between W 116th Street and Prairie Avenue	8 to 16	806	7 to 9	4 to 9	$428,000 to $963,000
27	SW-176E3	EB	Between Oxford Avenue and Prairie Avenue	12 to 20	707	5 to 7	3 to 6	$321,000 to $642,000
28	SW-142E3	EB	Between Mansel Avenue and S Burin Avenue	8 to 16	706	6 to 10	7 to 9	$749,000 to $963,000
29	SW-127E3	EB	Between Inglewood Ave and S Mansel Avenue	16 to 20	1719	5 to 6	12 to 20	$1,284,000 to $2,140,000
30	SW-150W3	WB	Between S Burin Ave and Inglewood Avenue	8 to 16	2268	7 to 11	6 to 28	$642,000 to $2,996,000

* This soundwall must be constructed to replace the existing wall that would be removed to accommodate widening

** Replace portion of existing soundwall

Raise height of existing soundwall

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of soundwalls at twelve locations in the height range of 14 to 20 feet for Alternative 2 and twenty locations in the height range of 10 to 20 feet for Alternative 3. These measures may change based on input received from the public. If conditions have substantially changed during final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project final design. With the inclusion of these sound walls, it is anticipated that noise impacts will be abated.

The following tables are a summary of abatement recommended heights for each alternative.

Table 2-159 Alternative 2 Summary of Abatement Recommended Heights

Soundwall No.	Location	Height (Feet)	Number of Benefited Receivers	Noise Attenuation (dBA)	Total Reasonable Allowance	Estimated Construction Cost
SW-668W2+ SW-621W2	EOS	16	227	8	$24,289,000	$11,424,106
SW-651E2	EOS	Not Recommended				
SW-550W2*	EOS	16	53	7	$5,671,000	$3,141,172
SW-533W2	EOS	Not Recommended				
SW-550W2+ SW-533W2*	EOS	16	77	8	$8,239,000	$5,963,143
SW-533W2+ SW-519W2	EOS	16	20	6	$2,140,000	$2,880,191
SW-580W2	EOS	Not Recommended				
SW-463W2+ SW-432W2	EOS	16	135	7	$14,445,000	$11,377,032
SW-470E2+ SW-489E2	EOS	16	68	7	$7,276,000	$4,665,240
SW-472W2+ SW-492W2	EOS	20	50	7	$5,350,000	$5,528,646
SW-376W2	ROW	Not Recommended				
SW-306E2	PRIVATE	Not Recommended				
SW-284E2	ROW	Not Recommended				
SW-192W2	ROW	Not Recommended				
SW-150W2	Between ROW & EOS	Not Recommended				
SW-142E2	ROW	Not Recommended				
SW-127E2	EOS	Not Recommended				
SW-176E2	ROW	Not Recommended				
SW-198E2	EOS	14	25	8	$2,675,000	$2,357,971
SW-202W2	ROW	Not Recommended				

*The cost of this wall is also included in the cost of a (or another) soundwall system.

Table 2-160 Alternative 3 Summary of Abatement Recommended Heights

Soundwall No.	Location	Height (Feet)	Number of Benefited Receivers	Noise Attenuation (dBA)	Total Reasonable Allowance	Estimated Construction Cost
SW-669W3+ SW-621W3	EOS	16	227	8	$24,289,000	$11,599,598
SW-628E3	EOS	16	60	8	$6,420,000	$6,907,809
SW-619E3	EOS	12	0	3	$0	$3,186,542
SW-606E3*	EOS	14	0	3	$0	$1,175,458
SW-550W3*	EOS	16	47	7	$5,029,000	$3,141,172
SW-533W3	EOS	Not Recommended				
SW-550W3+ SW-533W3*	EOS	16	77	8	$8,239,000	$5,364,153
SW-533W3+ SW-519W3	EOS	16	23	6	$2,461,000	$2,880,191
SW-580W3	EOS	Not Recommended				
SW-470E3	EOS	Not Recommended				
SW-472W3 + SW-492W3	EOS	20	50	7	$5,350,000	$5,538,521
SW-470E3+ SW-489E3	EOS	16	68	7	$7,276,000	$5,574,546
SW-461E3	EOS	Not Recommended				
SW-455E3	EOS	Not Recommended				
SW-461E3+ SW-455E3	EOS	16	35	7	$3,745,000	$2,536,245
SW-463W3+ SW-432W3	EOS	16	135	7	$14,445,000	$11,519,149
SW-436E3	EOS	16	18	4	$1,926,000	$1,740,948
SW-376W3	ROW	Not Recommended				
SW-402E3	EOS	10	0	3	$0	$1,898,913
SW-306E3	PRIVATE	Not Recommended				
SW-284E3	ROW	Not Recommended				
SW-225W3	EOS	16	54	8	$5,778,000	$4,432,810
SW-198E3	EOS	14	25	8	$2,675,000	$2,351,971
SW-202W3	ROW	Not Recommended				
SW-176E3	ROW	Not Recommended				
SW-192W3	ROW	Not Recommended				
SW-142E3	ROW	Not Recommended				
SW-127E3	EOS	Not Recommended				
SW-150W3	Between ROW & EOS	Not Recommended				

*The cost of this wall is also included in the cost of a (or another) soundwall system.

2.2.8 Energy

2.2.8.1 Regulatory Setting

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

The California Environmental Quality Act (CEQA) Guidelines section 15126.2(b) and Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

2.2.8.2 Affected Environment

The following discussion is based on a project specific Energy Study prepared by ICF International and approved by Caltrans in April 2021.

Direct Energy

In the context of transportation, direct energy involves all energy consumed by vehicle propulsion (e.g., automobiles, trains, airplanes). This energy consumption is a function of traffic characteristics, such as VMT, speed, vehicle mix, and thermal value of fuel being used. Additionally, direct energy also includes the one-time energy expenditure involved in construction of the project. Therefore, analysis of direct energy use includes the following factors:

- Direct Energy (Mobile Sources): The energy consumed by vehicle propulsion within the facility during operation of the project.
- Direct Energy (Construction): The energy consumed by construction vehicles and equipment during construction of the project.

Indirect Energy

Indirect Energy includes maintenance activities that would result in long-term indirect energy consumption by equipment required to operate and maintain the roadway.

Indirect energy use may also include peripheral energy effects, which includes the use of energy sources that are not used by the transportation system itself, but rather energy used as a result of changes in land use, population density, or transportation patterns that are induced by the project, which would affect the energy demand, supply, and distribution within the surrounding area (California Department of Transportation, 1980). However, because the project area is already urbanized and located along an existing transportation corridor, the proposed project would not be expected to induce substantial changes in land use, population density, or transportation patterns that would increase energy demand, supply, or distribution. Therefore, an analysis of peripheral energy effects was not needed.

Current Energy Consumption

Energy consumption is commonly expressed in British thermal units (BTUs), which is the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at sea level. Because other units of energy can be converted into equivalent BTU, the BTU is used as a basis for comparing the consumption of different types of energy resources. In 2017, California's per capita energy consumption ranked 48th in the United States due to the state's mild climate and energy efficiency programs (U.S. Energy Information Administration, 2018a).

Existing Project Area Conditions

The project area includes lighting along the freeway but does not currently include any transportation management systems (TMS) elements. Additional details regarding existing conditions in the project area that affect energy usage, such as existing traffic conditions, vehicle mix, and pavement surfaces, are included below.

Existing Traffic Conditions

The VMT in the study area have been analyzed in the Traffic Study Report prepared for the project (WSP, 2019). Table 2-161 shows the existing VMT on the I-105 during different time periods of the day as well as the total VMT in each direction of the freeway.

Table 2-161: I-105 Existing VMT (2017)

Traffic Volume by Time Period	Base Mainline EB	Base HOV EB	Base Mainline WB	Base HOV WB
AM Peak (6 a.m.-9 a.m.)	223,619	41,854	212,719	65,018
Midday (9 a.m.-3 p.m.)	479,019	110,666	419,280	109,741
PM Peak (3 p.m.-7 p.m.)	286,905	86,793	282,497	73,633
Evening (7 p.m.-9 p.m.)	161,478	31,095	144,417	18,632
Night (9 p.m.-6 a.m.)	351,201	37,831	344,896	41,041
Daily Totals	1,502,222	308,238	1,403,809	308,066

The Traffic Study Report identified four major bottlenecks – two in each direction, with congestion being typically worse in the eastbound direction than the westbound direction (WSP, 2019). In summary:

- The most severe bottleneck on the corridor occurs just west of the I-710 interchange between the Long Beach Boulevard on-ramp and the I-710 off-ramps. This bottleneck typically overwhelms the upstream bottlenecks at Wilmington Ave. and the queuing contributes to congestion on the I-110 southbound to I-105 Eastbound connector ramp.
- Two major bottlenecks are located east of the I-710 interchange. The I-605 northbound connector ramp forms a bottleneck at the eastern end of the corridor during both the AM and PM peak periods. The bottleneck is caused by the higher demand exceeding the available capacity of the northbound connector ramp and the queuing from the heavy congestion and slow speeds along the northbound I-605 general purpose lanes (at the connector on-ramp). The second bottleneck is located between the Paramount Boulevard on-ramp and the Lakewood Boulevard off-ramp.

This bottleneck is caused by the additional demand from the on-ramp merge and the weaving conflict with the off-ramp that persists throughout most of the day.

- West of I-110 at Crenshaw Boulevard is the third most congested bottleneck location on the corridor. The auxiliary lane from the Hawthorne Boulevard/Imperial Highway on-ramp to the Crenshaw Boulevard/120th Street off-ramp ends, causing a bottleneck that leads to a drop in overall capacity. There are also two closely spaced, high volume on-ramps (> 10,000 annual average daily traffic [AADT]) at West 120th Street, and the eastbound on from northbound Crenshaw Boulevard.
- There is a moderate bottleneck near the I-405 southbound on-ramp during the PM peak period due to the high-volume connector ramp that carries more than 30,000 AADT. This bottleneck is overwhelmed by the Crenshaw on-ramp bottleneck downstream.
- Bottlenecks in the westbound direction of the I-105 are smaller and less congested than the eastbound direction. The most congested westbound bottleneck occurs at the Crenshaw Boulevard on-ramp due in part to its high ramp flows. The second biggest bottleneck in this direction occurs at the interaction between the connector ramps from the southbound I-710 on-ramps to the Long Beach Boulevard off-ramps.

An analysis of the existing congestion and bottlenecks on the I-105 HOV lanes conducted in the Traffic Study Report also identified the following (WSP, 2019):

- The most severe bottleneck on the corridor occurs in the eastbound facility just east of the I-110 interchange. This bottleneck occurs because the I-110 ExpressLanes direct connector ramp traffic merges with the I-105 HOV lane traffic, where the facility capacity cannot handle the additional demand from the ramp.
- The main bottleneck in the westbound direction is at the I-110 ExpressLanes direct connector ramp merge with the HOV lane. The demand from the two lanes merging into one exceeds the capacity of the HOV lane.
- Another major bottleneck is on the eastbound facility that occurs between the Hawthorne Boulevard on-ramp and Crenshaw Boulevard/120th Street off-ramp at the HOV ingress/egress location. Due to the congestion on the general purpose lanes, traffic slows to exit, while slow traffic from the general purpose lanes enters the HOV lane.

Existing and Projected Vehicle Mix

I-105 is part of the California Freeway and Expressway System and has been recognized as an essential link in a multi-modal transportation network. The route is also part of the Federal Surface Transportation Assistance Act Route Network for Oversized Trucks and the Subsystem of Highways for the Movement of Extralegal Permit Loads. Under existing (2017) conditions, truck traffic as a percentage of freeway ADT traffic within the study area is approximately 8 percent. In opening year (2027), truck traffic will account for approximately 9 percent of total daily volumes, while during both horizon (2040) and design (2047) years truck traffic will account for approximately 10 percent of total daily volumes.

Conditions of Existing Pavement Surface

The following current pavement conditions exist along I-105 within the study area:

- Mainline lanes are typically Portland cement concrete (PCC) pavement.

- Inside and outside shoulders are typically asphalt concrete (AC) pavement.
- Auxiliary lanes are a mix of PCC and AC pavement.
- Interchange ramps are typically AC pavement.
- I-105/I-605, I-105/I-710, I-105/I-110, and I-105/I-405 connectors are typically PCC pavement, with some areas repaired with AC pavement.

2.2.8.3 Environmental Consequences

Direct Energy (Mobile Sources)

Energy calculations for transportation projects are dependent on VMT and vehicle fuel consumption. For the study area, energy calculations are based on annual VMT, shown in Table 2-162. In addition, existing year 2017, opening year 2027, and horizon year 2040 are shown in the table to provide a comparative context of the VMT use. As shown in the table, daily and annual VMT under existing conditions (2017) are lower than daily and annual VMT in the future years 2027, 2040, and 2047. The increase in daily and annual VMT can be attributed to the projected increase in population growth and increased employment in the region.

Table 1-162: Operational Vehicle Miles by Alternative

Study Phase	Vehicle Miles Traveled (VMT)	No-Build (Alternative 1)	Convert Existing HOV to HOT Lane or ExpressLane (Alternative 2)	Convert Existing HOV to Two HOT Lanes or ExpressLanes [Non-Standard Lane Widths] (Alternative 3)
Existing Conditions (2017)	Daily VMT[a]	3,522,335	N/A	N/A
	Annual VMT[b] (thousands)	1,222,250	N/A	N/A
Opening Year (2027)	Daily VMT	3,495,508	3,669,851	4,082,548
	Annual VMT (thousands)	1,212,941	1,273,438	1,416,644
Horizon Year (2040)	Daily VMT	3,549,340	3,718,726	4,150,081
	Annual VMT (thousands)	1,231,621	1,290,398	1,440,078
Design Year (2047)	Daily VMT	3,578,053	3,702,263	4,181,709
	Annual VMT (thousands)	1,241,584	1,284,685	1,451,053

Source: Metro, 2019.
[a] Vehicle miles traveled (VMT)
[b] Annual values were derived by multiplying the daily values by 347, per CARB methodology (CARB, 2008).

Table 2-122 shows that 2027, 2040, and 2047 daily and annual VMT would increase for each of the Build Alternatives compared to the No-Build Alternative. This increase is attributed to a shift in travel patterns, including a redistribution of vehicle trips from the arterial roads to the freeway.

Energy use during operations of any alternative are directly related to the gasoline and diesel fuel consumption by automobiles and trucks. In addition to VMT, traffic operating conditions also affect fuel consumption rates. Therefore, VMT, travel speeds, and vehicle type were used to calculate fuel consumption. Operational energy consumption was

estimated based on vehicle types (e.g., automobiles, trucks, light-duty trucks, medium-duty trucks, and heavy-duty trucks) traveling within the proposed area using the CT-EMFAC2017 model, which relies on emission factors from the EFAC2017 (version 1.0.2) model. The EMFAC2017 model output provided the total gallons of combined gasoline and diesel fuel. Energy use can be represented in terms of the thermal value of the fuel usually measured in BTU. Gallons of fuel can be converted to BTUs by using the heat content of the fuel. Diesel fuel has a heat content of 127,460 BTU per gallon and gasoline has a heat content of 109,772 BTU per gallon (California Air Resources Board, 2018). Table 2-163 summarizes the annual energy use for each of the Build Alternatives.

Table 2-163: Annual Direct Energy Use (Mobile Sources) By Alternative and Study Year

Fuel Usage by Study Year	No- Build (Alternative 1)	Convert Existing HOV to HOT Lane or ExpressLane (Alternative 2)	Convert Existing HOV to Two HOT Lanes or ExpressLanes [Non-Standard Lane Widths] (Alternative 3)
2017 Fuel Usage (gallons)			
Gasoline	47,123,900	N/A	N/A
Diesel	6,555,188	N/A	N/A
2027 Fuel Usage (gallons)			
Gasoline	33,922,728	36,196,092	40,057,137
Diesel	6,116,383	6,210,730	6,771,881
2040 Fuel Usage (gallons)			
Gasoline	28,197,541	30,173,613	33,452,188
Diesel	5,663,507	5,957,600	6,525,335
2047 Fuel Usage (gallons)			
Gasoline	27,625,024	29,390,980	32,882,761
Diesel	5,827,883	6,410,005	6,804,670
2017 BTU (billion)	6,008	N/A	N/A
2027 BTU (billion)	4,503	4,765	5,260
2040 BTU (billion)	3,817	4,072	4,504
2047 BTU (billion)	3,775	4,043	4,477
2027 Percent Change from No-Build	---	5.8	16.8
2040 Percent Change from No-Build	---	6.7	18.0
2047 Percent Change from No-Build	---	7.1	18.6

As shown in Table 2-163, the overall energy usage between 2017 and 2047 would decrease. This is attributed to better mandated fuel economy of passenger cars stemming from various energy policies requiring vehicle manufacturers to meet more stringent fuel requirements and the increase in vehicles using newer technologies (e.g., hybrid vehicle, all electric). However, when alternatives are compared for each given year, the energy usage among the Build Alternatives are higher than the No-Build Alternative. This corresponds with the increase in daily and annual VMT that is projected for the project corridor in future years. The increase in VMT could also be attributed to travel pattern shifts that occur as improvement of the transportation system is implemented (driver behavior change). As a

result, there would be an increase in energy usage in 2047 for each of the Build Alternatives in comparison to the No-Build.

As stated previously, operational improvements that smooth out traffic flow and eliminate choke points and decrease traffic congestion, such as those proposed for this project, would increase moving vehicle speeds, and decrease travel time on the congested freeway system which would result in a more efficient use of energy. Implementation of the proposed project would result in improvements to the capacity of the managed lanes on the I-105 corridor that would allow for more flexibility in the traffic movement and higher efficiencies, which would enable the corridor to maximize productivity and travel reliability. Therefore, the proposed project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Direct Energy (Construction)

Direct energy from construction sources is the energy that is consumed during construction activities by vehicles and equipment. Project construction would occur in a single phase and involve the following types of diesel-powered equipment during the estimated 4-year construction period:

- Crawler tractors
- Excavators
- Graders
- Rollers
- Rubber tired loaders
- Scrapers
- Rough terrain forklifts
- Paving equipment

Project construction would also involve the use of on-road gasoline vehicles by construction workers. Overall, construction fuel consumption for the proposed project was calculated by converting the estimated CO_2 emission levels generated by diesel-powered off-road equipment and on-road gasoline vehicles for the construction period, provided by the I-105 ExpressLanes Project Air Quality Report into gallons of diesel and gasoline that would be consumed during project construction activities.

As shown in Table 2-164, construction of Alternative 2 is expected to consume a total of approximately 751,495 gallons of diesel fuel and 10,986 gallons of gasoline fuel, resulting in a total energy consumption of approximately 107,639 million BTUs over the 4-year period. Construction of Alternative 3 is expected to consume a total of approximately 940,455 gallons of diesel fuel and 120,096 gallons of gasoline fuel, resulting in a total energy consumption of approximately 133,054 million BTUs over the 4-year period.

Table 2-164: Direct Energy Use (Construction) For Build Alternatives During 4-Year Construction Period

Year	4-year Construction Period		
	Diesel Consumption (gallons)	Gasoline Consumption (gallons)	Fuel Consumption (BTU)(million)
Convert Existing HOV to HOT Lane or ExpressLane (Alternative 2)			

2024	179,637	26,333	25,788
2025	248,569	30,467	35,027
2026	198,614	27,545	28,339
2027	124,675	23,641	18,486
Total	**751,495**	**107,986**	**107,639**
Convert Existing HOV to Two HOT Lanes or ExpressLanes [Non-Standard Lane Widths] (Alternative 3)			
2024	223,090	28,957	31,614
2025	309,979	34,093	43,252
2026	252,180	31,021	35,548
2027	155,207	26,025	22,639
Total	**940,455**	**120,096**	**133,053**

Project construction would primarily consume diesel through operation of heavy-duty construction equipment, material deliveries, and debris hauling, while gasoline fuel would be consumed from worker vehicle trips to and from the construction site. The construction energy consumption under the two Build Alternatives represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Moreover, construction-related energy consumption would be temporary and not a permanent new source of energy demand, and demand for fuel would have no noticeable effect on peak or baseline demands for energy.

While construction would result in a short-term increase in energy use, construction design features would help conserve energy. For example, recycled materials, including any removed asphalt concrete pavement and cement concrete pavement, will be used where feasible. Recycled products typically have lower manufacturing and transport energy costs since they do not utilize raw materials, which must be mined and transported to a processing facility. Additionally, the proposed project would reuse existing hardware and electrical equipment where feasible and use solar energy systems to power emergency call boxes within the project area. If new materials must be used, fly ash mix may be considered, as well as permeable pavement to allow for lowering of the heat island effect[3], depending on what is allowable according to Caltrans specifications. A Construction Efficiency Plan would also be implemented. These energy conservation features are consistent with State and local policies to reduce energy. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Indirect Energy

For facility maintenance, the indirect energy use factor is 1.776×10^8 BTU per lane-mile for an urban roadway with asphalt concrete pavement. For the resource study area, this indirect energy use factor for facility maintenance was multiplied by the total length of the I-105 study area corridor (15.7 miles), and then by the number of lanes along the corridor under each scenario (eight lanes under Alternatives 1 and 2; ten lanes under Alternative 3).

For the regional area, the number of lane-miles in 2015 for the SCAG planning area (155,925.19 miles) (California Department of Transportation, 2017) was multiplied by the indirect energy use factor for facility maintenance to obtain estimates for facility maintenance energy use. While varying types of roadways are in the SCAG planning area,

the indirect energy use factor for an urban roadway with asphalt concrete pavement was also used for the regional area to serve as a general estimate of indirect energy use, and to simplify the calculations so that they are consistent with those for the study area. Under Alternative 3, which would include a net addition of lanes on the I-105 corridor, the regional energy was adjusted to include the additional energy that Alternative 3 would require for facility maintenance above the Alternative 1 scenario.

For vehicle maintenance, the indirect energy use factor is 2,146 BTU per mile for medium trucks. This indirect energy use factor is the sum of three factors, which include oil energy, tire energy, and general maintenance and repair energy. The energy use factor for medium trucks was used as an average for the varying types of vehicles that would use the project facility. The indirect energy use factor for vehicle maintenance was multiplied by the annual VMT for the study area provided by Caltrans and regional area obtained from SCAG's 2016/2040 RTP/SCS (SCAG, 2016).

The results of these calculations are shown in Tables 2-165 and 2-166, which show the indirect energy use for facility and vehicle maintenance at both the study area and regional levels. The energy impacts for each alternative are discussed in more detail in the following sections, based on the data shown in these tables.

Table 2-165: Indirect Energy Use in the I-105 HOT Study Area by Alternative

Scenario	Indirect Energy for Facility Maintenance (Billion BTU)	Indirect Energy for Vehicle Maintenance (Billion BTU)	Total Indirect Energy Use (Billion BTU)	Numeric Difference Between Alternatives and No-Build Alternative	Percent Difference Between Alternatives and No-Build Alternative
2027 No-Build Alternative (Alternative 1)	22.31	2.60	24.91	--	--
2027 Convert Existing HOV to HOT Lane or ExpressLane (Alternative 2)	22.31	2.73	25.04	0.13	0.52
2027 Convert Existing HOV to Two HOT Lanes or ExpressLanes [Non-Standard Lane Widths] (Alternative 3)	27.88	3.04	30.92	6.01	24.14
2040 Alternative 1	22.31	2.64	24.95	--	--
2040 Alternative 2	22.31	2.77	25.08	0.13	0.51
2040 Alternative 3	27.88	3.00	30.88	5.93	23.76
2047 Alternative 1	22.31	2.66	24.97	--	--

2047 Alternative 2	22.31	2.76	25.06	0.09	0.37
2047 Alternative 3	27.88	3.02	30.90	5.93	23.74

Table 2-166: Indirect Energy Use in the Southern California Association of Governments Regional Area

Scenario	Indirect Energy for Facility Maintenance (Billion BTU)	Indirect Energy for Vehicle Maintenance (Billion BTU)	Total Indirect Energy Use (Billion BTU)	Numeric Difference Between Alternatives and No-Build Alternative	Percent Difference Between Alternatives and No-Build Alternative
2027 No-Build Alternative (Alternative 1)	27,692.31	325,184.06	352,886.37	--	--
2027 Convert Existing HOV to HOT Lane or ExpressLane (Alternative 2)	27,692.31	325,184.19	352,876.50	0.13	0.00004
2027 Convert Existing HOV to Two HOT Lanes or ExpressLanes [Non-Standard Lane Widths] (Alternative 3)	27,697.89	325,184.49	352,882.38	6.01	0.0017
2040 Alternative 1	27,692.31	350,332.20	378,024.51	--	--
2040 Alternative 2	27,692.31	350,332.32	378,024.64	0.13	0.00003
2040 Alternative 3	27,697.89	350,332.55	378,030.44	5.93	0.0016
2047 Alternative 1	27,692.31	363,873.50	391,565.82	--	--
2047 Alternative 2	27,692.31	363,873.59	391,565.91	0.09	0.00002
2047 Alternative 3	27,697.89	363,873.85	391,571.74	5.93	0.0015

Alternative 1 (No-Build Alternative)

Direct Energy (Mobile Sources)

Under the No-Build Alternative, the increase in forecasted traffic volumes would result in worsening of traffic congestion, slower traffic speeds, and increases in traffic delays. Without the improvements proposed in the Build Alternatives, congested traffic conditions and limitations on mobility would be more prevalent throughout the study area. These conditions would contribute to inefficient energy consumption, as vehicles would use extra

fuel while idling in stop-and-go traffic or moving at slow speeds through congested roadways.

Construction

The No-Build Alternative would not require construction in the project area as a result of the I-105 HOT. Therefore, energy consumption for project construction activities would not be required.

Indirect Energy Use

Under Alternative 1 in the year 2027, indirect energy use in the study area would remain relatively the same compared to Alternative 1 in years 2040 and 2047. Alternative 1 serves as a baseline for comparison against Alternatives 2 and 3, as discussed below.

Alternative 2: Convert Existing HOV to HOT Lane or ExpressLane Alternative

Direct Energy (Mobile Sources)

Alternative 2 would result in a 7.1 percent increase in energy consumption in 2047 compared to the No-Build Alternative due to the increase in daily and annual VMT associated with this alternative. This increase in VMT could also be attributed to travel pattern shifts that occur as improvement of the transportation system is implemented (driver behavior change). Overall, the project is expected to increase travel speed for carpools, vanpools, and express bus services, which in turn is expected to cause some level of mode shift to carpools or transit.

Implementation of Alternative 2 would result in more flexibility in the traffic movement and higher efficiencies on the I-105 corridor. Therefore, Alternative 2 would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Construction

Energy consumption for the construction of Alternative 2 is expected to consume a total of approximately 751,495 gallons of diesel fuel and 10,986 gallons of gasoline fuel, resulting in a total energy consumption of approximately 107,639 million BTUs over the 4-year period. This represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Therefore, Alternative 2 would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Indirect Energy Use

Alternative 2 would result in an increase in indirect energy use of less than one percent in the study area for years 2027, 2040, and 2047 when compared to Alternative 1. Alternative 2 would result in negligible changes in indirect energy use in the region compared to Alternative 1.

Based on this data, Alternative 2 would not substantially contribute to indirect energy use at the regional level and would not be expected to result in permanent adverse indirect energy impacts. This alternative would be consistent with federal, regional, and local plans and

policies. Therefore, Alternative 2 would not result in inefficient, wasteful, and unnecessary consumption of energy.

Alternative 3: Convert Existing HOV to Two HOT Lanes or ExpressLanes Alternative

Direct Energy (Mobile Sources)

The Two Express Lanes Alternative would result in a 15.3 percent increase in energy consumption in 2047 compared to the No-Build Alternative due to the increase in VMT. This increase in VMT could also be attributed to travel pattern shifts that occur as improvement of the transportation system is implemented (driver behavior change). Overall, the project is expected to increase travel speed for carpools, vanpools, and express bus services, which in turn is expected to cause some level of mode shift to carpools or transit. Implementation of Alternative 3 would result in improvements to the capacity of the managed lanes on the I-105 corridor that would allow for more flexibility in the traffic movement and higher efficiencies, which would enable the corridor to maximize productivity and travel reliability. Therefore, Alternative 3 would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Construction

Energy consumption for Alternative 3 is expected to consume a total of approximately 940,455 gallons of diesel fuel and 120,096 gallons of gasoline fuel, resulting in a total energy consumption of approximately 133,054 million BTUs over the 4-year period. This represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Therefore, Alternative 3 would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Indirect Energy Use

Alternative 3 would result in an increase in indirect energy use of approximately 24 percent in the study area for years 2027, 2040, and 2047 when compared to Alternative 1. Alternative 3 would result in negligible changes in indirect energy use in the region in years 2027, 2040, and 2047 when compared to Alternative 1.

Based on this data, Alternative 3 would not substantially contribute to indirect energy use at the regional level and would not be expected to result in permanent adverse indirect energy impacts. This alternative would be consistent with federal, regional, and local plans and policies. Therefore, Alternative 3 would not result in an inefficient, wasteful, and unnecessary consumption of energy.

2.2.8.4 Avoidance, Minimization, and/or Mitigation Measures

As discussed, Alternatives 2 and 3 would not result in adverse effects related to energy consumption; therefore, no Avoidance, Minimization, and/or Mitigation measures are required. The following avoidance and minimization measure is recommended to conserve energy during project construction:

Ergy1 - As part of the Plans, Specifications, and Estimates, a construction efficiency plan would be prepared, which may include the following:

- Reuse of existing rail, steel, and lumber wherever possible, such as for falsework, shoring, and other applications during the construction process.
- Recycling of asphalt taken up from roadways, if practicable and cost-effective.
- Use of newer, more energy-efficient equipment where feasible, and maintenance of older construction equipment to keep in good working order.
- Scheduling of construction operations to efficiently use construction equipment (e.g., only haul waste when haul trucks are full and combine smaller dozer operations into a single comprehensive operation, where possible).
- Promotion of construction employee carpooling.

2.2.9 Biological Environment

2.2.9.1 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species section 2.2.13. Wetlands and other waters are also discussed below in section 2.2.10.

2.2.9.2 Affected Environment

The following information is presented in the Natural Environmental Study (Minimal impacts) [NES(MI)] prepared by Caltrans in September 2019.

The NESMI focuses primarily on the clearing and grubbing aspects of the project, as well as the two locations where widening is going to occur over jurisdictional waters. The jurisdictional locations offer the highest likelihood of biodiversity. These two locations are:

- Dominguez Channel at PM 4.168
- Compton Creek at PM 8.982

Dominguez Channel and Compton Creek are both waters of the State that offer the most suitable habitat for wildlife.

2.2.9.3 Environmental Consequences

No wildlife corridors existing within the project limits.

It is anticipated that due to the limited scope of the proposed project, there will be no adverse impact to natural communities of concern. Similarly, the proposed project does not encompass sensitive habitat, so habitat fragmentation will not occur.

2.2.9.4 Avoidance, Minimization, and/or Mitigation Measures

Bio1 - This project must employ all appropriate Stormwater and Erosion Control Best Management Practices, and these must be incorporated into the project specifications. Prior to the start of construction, all drain inlets and outlets must be protected to prevent construction materials and/or debris from entering drainages.

Bio2 - Use existing pull outs and parking lots for staging and storing and avoid the removal of existing native vegetation.

Bio3 - The project shall include a tree replacement plan as part of project final design.

Bio4 - Section 1600 authorization from CDFW may need to be obtained during PS&E.

2.2.10 Wetlands and Other Waters

2.2.10.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. EPA.

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines

(40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Water Quality section for more details.

2.2.10.2 Affected Environment

The following information is presented in the NES(MI) prepared by Caltrans in September 2019. Within the project limits, Dominguez Channel and Compton Creek are both waters of the State that offer the most suitable habitat for wildlife.

Historically, Dominguez channel and the area around the channel consisted of marshes and mudflats. Near the beginning of the 20th century, channels were dredged, marshes were filled, wharves were constructed, the Los Angeles River was diverted, and a breakwater was constructed in order to allow deep draft ships to be directly offloaded and

products swiftly moved. The Dominguez Slough was completely channelized in the mid 1900's in an effort to provide flood protection to much of the South Bay area.

Compton Creek was once one of the many tributary channels of the Los Angeles River. Located entirely within the alluvial, coastal floodplain of the Los Angeles River, this low-gradient stream was historically dominated by freshwater marshes and willow-cottonwood forest. This water system was eventually channelized and is now constrained within a concrete box channel for most of its flow. The lower 2.7 miles have reinforced sides and an earthen bottom and supports a mixture of native riparian vegetation and invasive species. It also supports a residual avian wetland community including red-winged blackbird, great blue heron, green-backed heron, black-crowned night heron, great and snowy egret, killdeer, black-necked stilt, and mallard, in addition to a variety of native and exotic songbirds.

2.2.10.3 Environmental Consequences

Dominguez Channel and Compton Creek fall under Regional Water Quality Control Board (401), Army Corp of Engineers (404), and California Department of Fish and Wildlife (1600) jurisdictions. Temporary access to the channel and creek for a short period of time would be needed to build false work and to remove the false work after construction is done at this location. The false work is anticipated to be outside of Compton Creek and Dominguez Channel.

At the Dominguez Channel, Alternative 3 would involve widening of the freeway bridge by 10’ on each side of the bridge. In order to accommodate this widening, bridge abutments would be extended, and the western maintenance path directly under the bridge and within approximately 200 feet north of the bridge, which does not include the channel wall, would be lowered by 1.5’ to provide maximum required vertical clearance. In addition, due to the lowering of the maintenance path at this location, there is a potential for stormwater runoff pooling, therefore a channel wall scupper would be created at this location for draining potential pooled water. At Compton Creek, this alternative would also involve similar bridge widening and extension of bridge abutments. Project would employ all appropriate Stormwater and Erosion Control Best Management Practices, Prior to the start of construction, all drain inlets would be protected to prevent construction materials and/or debris from entering the channel and creek.

A permit would be ~~maybe~~ needed from the Los Angeles County Flood Control District and the 408 permit may also be needed. In addition, it is anticipated that 404, 401 and 1600 permits will be needed from the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife. Further coordination with the Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife, and Los Angeles County Flood Control District will be done during the Design Phase, when the project scope is more refined, regarding these permits.

2.2.10.4 Avoidance, Minimization, and/or Mitigation Measures

WW1 - No work adjacent to the bed, bank, and channels of these waters will occur during the rainy season.

WW2 - Further coordination with the US Army Corps of Engineers, California Department of Fish and Wildlife, Regional Water Quality Control Board, and Los Angeles County Flood Control District would be conducted during the Design Phase to obtain any necessary Section 401, Section 404/408, 1600 and encroachment permits.

2.2.11 Plant Species

2.2.11.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species section 2.2.13 in this document for detailed information about these species.

This section of the document discusses all other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000-21177.

2.2.11.2 Affected Environment

The following information is presented in the NES(MI) prepared by Caltrans in September 2019.

The NES(MI) will focus primarily on the clearing and grubbing aspects of the project, as well as the two locations where widening is going to occur over jurisdictional waters. The jurisdictional locations offer the highest likelihood of biodiversity. These two locations are:

- Dominguez Channel at PM 4.168
- Compton Creek at PM 8.982

The clearing and grubbing locations contain numerous ornamental trees such as eucalyptus (Eucalyptus spp), liquid amber (Liquidambar styraciflua), Shamel ash (*Fraxinus uhdei*), corral (Erythrina spp.), fan palm (Washingtonia robusta), Peruvian pepper (Schinus molle) and Brazilian pepper trees (Schinus terebinthifolius).

Within the Biological Sensitive Area (BSA) for the proposed project at Compton Creek vegetation consists of ornamental vegetation consists of oleander (Nerium oleander), lemon bottlebrush tree (Callistemon citrinus), carrot wood tree (Cupaniopsis anacardioides) lantana (Lantana spp.), lowboy acacia **(**Acacia redolens), and floss silk tree (Ceiba speciose). Native vegetation incudes western sycamore (Platanus racemosa) and Fremont cottonwood (Populus fremontii). Since the project location is in a highly disturbed area, there will be minimal impacts to biological resources.

Within the BSA for the proposed project at Dominguez Channel vegetation consists of native vegetation consists of Fremont cottonwood (Populus fremontii).

Please see table 2-167 below for a list of known plants within the BSA:

Table 2-167: Known Plants within the BSA

Scientific Name	***Common Name***	***Status***	***General Habitat Description***	***Habitat Present/Absent***	***Rationale***	***No Effect on Species***
Atriplex parishii	Parish's brittlescale	CNPS 1B.1	Playas, vernal pools	A	1	X
Chorizanthe parryi var. fernandina	San Fernando valley spineflower	CNPS 1B.1	Coastal sage scrub	A	1	X
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	CNPS 1B.1	Coastal bluff scrub, coastal dunes	A	1	X
Phacelia stellaris	Brand's star phacelia	CNPS 1B.1	Coastal dunes, Coastal scrub	A	1	X
Dithyrea maritima	Beach spectaclepod	CNPS 1B.1	Coastal dunes	A	1	X
Calochortus plummerae	Plummer's Mariposa lily	CNPS 4.2	Chaparral, foothill woodland, yellow pine forest, coastal sage scrub, valley grassland	A	1	X
Camissoniopsis lewisii	Lewis' evening primrose	CNPS 3	Coastal strand, foothill woodland, coastal sage scrub, valley grassland	A	1	X
Horkelia cuneata var.puberula	Mesa horkelia	CNPS 1B.1	Chaparral, woodland, coastal sage scrub	A	1	X
Juglans californica	Southern California black walnut	CNPS 4.2	Southern oak woodland, wetland-riparian	A	1	X

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale	No Effect on Species
Astragalus tener var.titi	Coastal dunes milk vetch	CNPS 1B.1	Coastal strand, northern coastal scrub, coastal sage scrub, wetland-riparian	A	1	X
Atriplex coulteri	Coulter's saltbush	CNPS 1B.2	Coastal strand, valley grassland, coastal sage scrub	A	1	X
Centromadia pungens ssp. laevis	Southern tarplant	CNPS 1B.1	Shadescale, scrub, alkali sink, valley grassland	A	1	X
Chloropyron maritimum ssp. maritimum	Salt marsh birds-beak	1B.2	Coastal dunes, marshes and swamps	A	1	X
Hordeum intercedens	Vernal barley	CNPS 3.2	Valley grassland, freshwater wetlands, wetland-riparian	A	1	X
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	CNPS 1B.1	Alkali sink, coastal salt marsh, freshwater wetlands, wetland-riparian	A	1	X
Navarretia prostrata	Prostrate vernal pool navarretia	CNPS 1B.1	Coastal sage scrub, wetland-riparian	A	1	X
Orcuttia californica	California orcutt grass	CNPS 1B.1	Valley grassland, freshwater wetlands, wetland-riparian	A	1	X
Ribes divaricatum var. parishii	Parish's gooseberry	CNPS 1A	Coastal sage scrub, wetland-riparian	A	1	X
Sidalcea neomexicana	Salt spring checkerbloom	CNPS 2B.2	Creosote bush scrub, chaparral, yellow pine forest, coastal sage scrub, alkali sink, wetland-riparian	A	1	X
Navarretia fossalis	Spreading navarretia	CNPS 1B.1	Wetlands, shadescale scrub	A	1	X
Symphyotrichum defoliatum	San Bernardino aster	CNPS 1B.2	Chaparral	A	1	X
Dudleya multicaulis	Many-stemmed dudleya	CNPS 1B.2	Chaparral, Valley Grassland, Coastal Sage Scrub	A	1	X

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale	No Effect on Species
Calochortus weedii var. intermedius	Intermediate mariposa lily	CNPS 1B.2	Chaparral, Valley Grassland, Coastal Sage Scrub	A	1	X
Astragalus pycnostachyus var. lanosissimus	Ventura marsh milk-vetch	CNPS 1B.1	Coastal salt-marsh, wetland-riparian	A	1	X
Calystegia felix	Lucky morning-glory	CNPS 3.1	Meadows and seeps	A	1	X
Potentilla multijuga	Ballona cinquefoil	CNPS 1A	Coastal sage scrub, wetland riparian, meadows	A	1	X
Phacelia stellaris	Brand's star phacelia	1B.1	Coastal strand, coastal sage scrub	A	1	X
Suaeda esteroa	Estuary seablite	1B.2	Coastal salt marsh, wetland-riparian	A	1	X
Abronia maritima	Red sand-verbena	CNPS 4.2	Coastal Dunes	A	1	X
Dudleya multicaulis	Many-stemmed dudleya	CNPS 1B.2	Chaparral, coastal scrub, valley and foothill grassland	A	1	X
Juncus acutus ssp. leopoldii	Southwestern spiny rush	CNPS 4.2	Coastal strand, wetland-riparian, meadows, saltmarsh	A	1	X
Erysimum suffrutescens	Suffrutescent wallflower	CNPS 4.2	Coastal sage scrub, coastal dunes	A	1	X
Deinandra paniculata	Paniculate tarplant	CNPS 4.2	Valley grassland, wetlands,	A	1	X
Dichondra occidentalis	Western dichondra	CNPS 4.2	Chaparral, valley grassland, foothill woodland, coastal sage scrub	A	1	X
Chenopodium littoreum	Coastal goosefoot	CNPS 1B.2	Coastal dunes	A	1	X
Phacelia ramosissima var. austrolitoralis	South coast branching phacelia	CNPS 3.2	Chaparral, Coastal dunes, Coastal scrub, Marshes and swamps (coastal salt)	A	1	X
Suaeda taxifolia	woolly seablite	CNPS 4.2	Coastal sage scrub, wetland-riparian	A	1	X

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale	No Effect on Species
Eryngium aristulatum var. parishii	San Diego button-celery	CNPS 1B.1	Coastal scrub, Valley and foothill grassland, Vernal pools	A	1	X
Glyptostoma gabrielense	San Gabriel chestnut	S2	Stumps, logs, boulders, cactus, wood rat nest	A	1	X
1- The habitat associated with this species does not occur within the project area. Therefore, the species is not expected to occur within the project limits.						

2.2.11.3 Environmental Consequences

Plant surveys indicated the vegetation present within the BSA generally consists of invasive weeds and native coastal sagebrush plants. No special status plants were observed within the BSA. Also, suitable habitat for these special status plant species were not present.

It is anticipated that this project will not have an impact to plant species. Habitat associated with the species mentioned in the affected environment section does not occur within the project area. Therefore, the species is not expected to occur within the project limits.

2.2.11.4 Avoidance, Minimization, and/or Mitigation Measures

PS1 - Use existing pull outs and parking lots for staging and storing and avoid the removal of existing native vegetation.

2.2.12 Animal Species

2.2.12.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section x below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act

- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

2.2.12.2 Affected Environment

The following information is presented in the NES(MI) prepared by Caltrans in September 2019.

The table below lists proposed species potentially occurring or known to occur in the BSA.

Table 2-168: List of Species Potentially to Occur within the BSA

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale	No Effect on Species
Polioptila californica californica	Coastal California gnatcatcher	FE SE	Coastal sage scrub, chaparral	A	1	X
Anniella stebbinsi	California legless lizard	SSC	Coastal dune, valley-foothill, chaparral, coastal sage scrub	A	1	X
Tryonia imitator	Mimic tryonia	SSC	Aquatic habitat, brackish water, fresh water	A	1	X
Bombus crotchii	Crotch bumble bee		Chaparral, coastal scrub	A	1	X
Emys marmorata	Western pond turtle	SSC	Aquatic, marshy ponds, slow streams	A	1	X
Eucosma hennei	Henne's eucosman moth		Open sand dunes, undisturbed sand dunes	A	1	X
Euphilotes battoides allyni	El Segundo blue butterfly	FE	El Segundo sand dunes	A	1	X
Brennania belkini	Belkin's dune tabanid fly		Los Angeles area, dunes	A	1	X
Coturnicops noveboracensis	Yellow rail	SSC	Shallow freshwater marshes, salt marshes	A	1	X
Cicindela hirticollis gravida	Sandy beach tiger beetle		Coastal sand dunes	A	1	x
Sorex ornatus salicornicus	Southern California salt marsh shrew	SSC	Southern coastal salt marshes	A	1	X
Onychobaris langei)	Lange's El Segundo dune weevil		El Segundo sand dunes	A	1	X

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale	No Effect on Species
Trigonoscuta dorothea dorothea	*Dorothy's El Segundo dune weevil*		*El Segundo sand dunes*	*A*	*1*	*X*
Panoquina errans	*Wandering skipper*		*Coastal California, dunes, marshes*	*A*	*1*	*X*
Passerculus sandwichensis beldingi	*Belding's savannah sparrow*	*SE*	*Southern California saltmarshes*	*A*	*1*	*X*
Coccyzus americanus	*Western yellow-billed cuckoo*	*FT SE*	*Riparian habitat*	*A*	*1*	*X*
Polioptila californica californica	*Coastal California gnatcatcher*	*FE SE*	*Coastal sage scrub, chaparral*	*A*	*1*	*X*
Empidonax traillii extimus	*South western willow flycatcher*	*FE SE*	*Riparian woodland*	*A*	*1*	*X*
Aspidoscelis tigris stejnegeri	*Coastal whiptail*	*S3*	*Chaparral*	*A*	*1*	*X*
Spea hammondii	*Western spadefoot toad*	*SSC*	*Coastal scrub, foothill grassland, wetland, vernal pool*	*A*	*1*	*X*
Agelaius tricolor	*Tricolored blackbird*	*SSC*	*Aquatic, marshy ponds*	*A*	*1*	*X*
Charadrius alexandrinus nivosus	*Western snowy plover*	*FT*	*Coastal beaches, shallow alkaline lakes*	*A*	*1*	*X*
Vireo bellii pusillus	*Least Bell's vireo*	*SE FE*	*Stream sides, ponds*	*A*	*1*	*X*
(Laterallus jamaicensis coturniculus)	*California black rail*	*ST*	*Salt marshes, fresh water marches*	*A*	*1*	*X*

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale	No Effect on Species
Carolels busckana	*Busk's gallmoth*		*Coastal scrub dunes*	*A*	*1*	*X*
Streptocephalus woottoni	*Riverside fairy shrimp*	*FE*	*Vernal pools*	*A*	*1*	*X*
Sterna antillarum	*California Least Tern*	*FE SE*	*Coastal salt ponds, estuarine shorelines*	*A*	*1*	*X*
Athene cunicularia	*Burrowing Owl*	*SSC*	*Open dry grasslands, desert habitats, open ponderosa an pinyon-juniper habitat*	*A*	*1*	*X*
Riparia riparia	*Bank swallow*	*SE*	*Riparian, lacustrine, coastal areas with vertical banks, bluffs, and banks with sand soil*	*A*	*1*	*X*
Eumops perotis	*Western mastiff bat*	*SSC*	*Deciduous woodlands, coastal scrub, grassland, chaparral*	*A*	*1*	*X*
Pelecanus occidentalis	*Brown pelican*	*FP*	*Western sea coasts, Salton Sea, isolated islands*	*A*	*1*	*X*
Perognathus longimembris pacificus	*Pacific pocket Mouse*	*FE*	*Coastal sage scrub, grassland, alluvial sage scrub*	*A*	*1*	*X*
Danaus plexippus pop.1	*Monarch butterfly*	*SSC*	*Streams with large trees (Eucalyptus)*	*A*	*1*	*X*
Nyctinomops femorosaccus	*Pocketed free-tailed bat*	*SSC*	*Pinyon juniper woodlands, desert scrub, desert wash*	*A*	*1*	*X*
Cicindela senilis frosti	*Senile tiger beetle*	*SSC*	*Coastal mud flats and salt marshes*	*A*	*1*	*X*

Scientific Name	*Common Name*	*Status*	*General Habitat Description*	*Habitat Present/Absent*	*Rationale*	*No Effect on Species*
Microtus californicus ssp. stephensi	***South coast marsh vole***	***SSC***	***Grassland, coastal marshland, upland savannah***	***A***	***1***	***X***
Taxidea taxus	***American badger***	***SSC***	***Forest, herbaceous habitats***	***A***	***1***	***X***
Coelus globosus	***globose dune beetle***	***SSC***	***Coastal Dune habitat***	***A***	***1***	***X***
Phrynosoma coronatum	***Coast horned lizard***	***SSC***	***Chaparral, Arid desert, loose soil***	***A***	***1***	***X***
Gonidea angulata	**western ridged mussel**	**G3**	**Cold creeks and streams**	**A**	**1**	**X**
1- The habitat associated with this species does not occur within the project area. Therefore, the species is not expected to occur within the project limits.						

2.2.12.3 Environmental Consequences

During field surveys, no animal species were observed within the BSA. Also, suitable habitat for these species is not present. Due to the project locations' highly urbanized environment, there is a lack of animal species and habitat. The proposed project is anticipated to not have an impact to animal species.

It is anticipated that this project will not have adverse impact to animal species. Habitat associated with the animal species mentioned in the affected environment section does not occur within the project area. Therefore, animal species are not expected to occur within the project limits.

2.2.12.4 Avoidance, Minimization, and/or Mitigation Measures

AS1 - If vegetation removal is needed, or loud machinery is to be used, it is recommended that all vegetation removal and loud noise-making machinery use occur outside of bird nesting season which is from February 1st- September 1st.

AS2 - Should vegetation removal or noise-making machinery be used during this period, the District Biologist shall be notified two weeks prior to the start of construction to determine if nesting birds are present.

AS3 - In the event that nesting birds are observed, the Resident Engineer (RE) should pause work until a qualified biologist has determined that fledglings have left the nest. If this is not possible, the RE should coordinate with the District Biologist to minimize the risk of violating the Migratory Bird Treaty Act (MBTA). Most likely, the District Biologist will recommend a buffer of 150 ft. for songbirds and a buffer of 500 ft. for raptors during all phases of construction. Nesting birds are protected under the MBTA and cannot be impacted by construction activities, including noise and dust pollution.

AS4 - If vegetation is to be removed, this is a change in scope, and the Biology unit must be notified. No work shall commence until the vegetation to be removed has been surveyed for nesting birds and cleared by the District Biologist.

2.2.13 Threatened and Endangered Species

2.2.13.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and Caltrans, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as

well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

2.2.13.2 Affected Environment

The following information is presented in the NES(MI) prepared by Caltrans in September 2019.

According to CNDDB, IPaC, and CNPS there are 8 threatened and endangered species plants within the project quadrangles which include spreading navarretia (*Navarretia fossalis),* California Orcutt grass (*Orcuttia californica*), marsh sandwort (*Arenaria paludicola*), salt marsh birds-beak (*Cordylanthus maritimus*), Ventura marsh milk-vetch (*Astragalus pycnostachyus var. lanosissimus*), San Fernando spineflower (*Chorizanthe parryi var.fernandina*)*,* beach spectaclepod (*Dithyrea maritima*), and San Diego button-celery (*Eryngium aristulatum var. parishii*).

According to CNDBB and IPaC, the following thirteen threatened and endangered animal species have the potential to occur within the project quadrangle:

- Least Bell's vireo *(Vireo bellii pusillus)*
- Western snowy plover *(Charadrius alexandrinus nivosus)*
- Tricolored blackbird *(Agelaius tricolor)*
- Southwestern willow flycatcher (*Empidonax traillii extimus)*
- Belding's Savannah sparrow (*Passerculus sandwichensis beldingi*)
- California Least tern *(Sterna antillarum)*
- Pacific pocket mouse (*Perognathus longimembris pacificus*)
- Bank swallow (*Riparia riparia*)
- Riverside fairy shrimp (*Streptocephalus woottoni*)
- Western yellow-billed cuckoo (*Coccyzus americanus*)
- El Segundo blue butterfly (*Euphilotes battoides allyni*)
- California black rail (*Laterallus jamaicensis coturniculus*)
- Coastal California gnatcatcher (*Polioptila californica californica*)

2.2.13.3 Environmental Consequences

Presence of threatened and endangered species plants and animal species were not noted in aerial map research or during field surveys. Further, as the BSA does not contain suitable habitat, occurrence of any endangered and threatened species listed above within the BSA is not expected.

Due to the lack of suitable habitat, none of these threatened or endangered plants and animal species are expected to occur within the BSA and will result in a no effect impact to the species listed.

2.2.13.4 Avoidance, Minimization, and/or Mitigation Measures

Since no threatened or endangered plants and animal species are expected to occur within the BSA, no avoidance, minimization efforts, or compensatory mitigation measures are needed for special status animal species.

2.2.14 Invasive Species

2.2.14.1 Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State's invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.2.14.2 Affected Environment

The following information is presented in the NES(MI) prepared by Caltrans in September 2019.

Compton Creek

Within the BSA for the proposed project at Compton Creek, the vegetation consists of the following invasive species: Peruvian pepper tree (*Schinus mole*), sow thistle (*Sonchus arvensis*), tree of heaven (*Ailanthus altissima*), castor bean (*Ricinus communis*), common mallow (*Malva neglecta*), horseweed (Erigeron canadensis), Russian thistle (*Salsola spp*.), and wild oats (*Avena fatua*).

Dominguez Channel

Within the BSA for the proposed project at Dominguez Channel, the vegetation consists of the following invasive species: Brazilian pepper tree, mallow (*Malva neglecta*), red iron bark eucalyptus (*Eucalyptus sideroxylon*), Russian thistle (*Salsola spp*.), and wild oats (*Avena fatua*).

2.2.14.3 Environmental Consequences

In compliance with EO 13112, the implementation of the proposed project will not spread or introduce invasive species.

Since the project location is in a highly disturbed area, there will be minimal impacts to biological resources.

2.2.14.4 Avoidance, Minimization, and/or Mitigation Measures

IS1 - The District Biologist must be invited to the pre-construction meeting with one week prior notice where proper disposal / identification of invasive species will be discussed.

IS2 - None of the species on the California list of invasive species will be used by the Caltrans for erosion control of landscaping.

2.2.15 Cumulative Impacts

2.2.15.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7.

This cumulative impact analysis determines whether the Build Alternative in combination with other past, present, or reasonably foreseeable projects would result in a cumulative effect, and, if so, whether the Build Alternative's contribution to the cumulative impact would be considerable. Present and reasonably foreseeable future projects include land use developments, infrastructure, and other transportation improvements that are planned and funded and would be located within a quarter-mile of the proposed Build Alternative improvements. The projects included in the cumulative impact analysis are described in Figure 2-41

The No Build Alternative would not include improvements to Interstate 105. It would not require construction except from routine maintenance and would not contribute to cumulative environmental effects in combination with other projects.

Figure 2-41: Transportation and Development Projects in the Project Vicinity

Project	Jurisdiction	Description	Status
Crenshaw/LAX Transit Project	Metro, City of LA, Inglewood, El Segundo, LA County	The Metro Crenshaw/LAX Line will extend from the existing Metro Exposition Line at Crenshaw and Exposition Boulevards, travelling 8.5 miles to the Metro Green Line	In construction
Green Line Improvements	Metro, Downey, El Segundo,	Miscellaneous capital and operational improvements to	In Planning

Project	Jurisdiction	Description	Status
	Hawthorne, City of LA, Lynwood, Manhattan Beach, Norwalk, Paramount, South Gate, LA County	existing Metro Green LRT. Improvements include adding tail tracks and crossovers at the Redondo Beach Station and extending station platforms to allow for 3-car trains at several stations	
Green Line/Lakewood Station	Metro, Downey	Transit Center and Park-and-Ride Lot for Connection to the Metro Green LRT at Lakewood Station. Expansion with 230 Parking Spaces are proposed to be added	In Planning
I-105 Ramp Signalization	Downey	Improve signals at the EB and WB ramps at I-105 and Clark Ave	In Planning
I-105 Ramp Improvements	Downey, Lynwood, Norwalk, Paramount, South Gate, LA County	Install auxillary lanes to eliminate the bottlenecks between Route 605 and Route 110	In Planning
I-105/Artesia Blvd. Ramp Improvements	Long Beach, Paramount	Street improvement, signal modification, pedestrian signal, auxiliary lane, and etc. on WB ramps and EB off-ramps at I-105 and Artesia Blvd	In Planning
I-105/Garfield Ave. Ramp Improvements	Paramount	Improve ramp metering and pedestrian signals at EB and WB off- and on-ramps at I-105 and Garfield Ave	In Planning
I-710 HOV Lanes	Compton, Long Beach, Lynwood, Paramount	I-710 HOV Lanes from SR-91 to I-105, PM 13.00 to 15.70	In Planning
I-105/I-605 HOV Direct Connector	Norwalk	I-105/I-605 HOV direct connector at PM 17.82	In Planning
I-110/I-105 HOV Connectors	City of LA	Add HOV connectors from NB I-110 to EB and WB I-105	In Planning
I-105/I-405 HOV Connectors	Hawthorne	HOV Connectors from I-105 WB to NB and SB I-405	In Planning
I-405 Express Lanes	City of LA, Hawthorne, Lawndale, Redondo Beach, Torrance	Add Express Lanes on I-405 between I-110 and I-105	In Planning
I-405/I-105/SR-90 Metering	Culver City, Hawthorne, Inglewood, City	Add connector metering and ramp metering between I-105 and SR-90	In Planning

Project	Jurisdiction	Description	Status
	of LA, LA County	interchanges on NB and SB I-405. PM R21.18/25.94	
I-105 Auxiliary Lane	Lawndale	Add auxiliary lane on WB I-105 from Wilton Place to Hawthorne Blvd. PM 3.05/5.48	In Planning
I-105 Auxiliary Lane	El Segundo, Hawthorne, City of LA, LA County	Add auxiliary lane on EB I-105 from Nash Ave. to Van Ness Ave. PM 0.99/5.23	In Planning
I-405 Auxiliary Lane	Hawthorne, LA County	Add northbound auxiliary lane from south of El Segundo Blvd. to I-105	In Planning
I-405 Auxiliary Lane	City of LA, Culver City	Add auxiliary lanes from SR-90 to I-105	In Planning
I-105 Integrated Corridor Management	Caltrans	Integrated Corridor Management on I-105 from terminus to I-605	In Planning
I-605 Corridor Improvement Project	Baldwin Park, El Monte, City of Industry, Pico Rivera, South El Monte, Whittier, Downey, Norwalk, Sante Fe Springs, LA County	Facilitate improvements in freeway operations, safety, mobility, throughput, and travel times through widening of the freeway mainline and improvements to interchanges and confluence areas at Interstate 105 (I-105), Interstate 5 (I-5), State Route 60 (SR-60), and Interstate 10 (I-10).	In Planning
West Santa Ana Branch	LA County, Vernon, City of La, Huntington Park, Bell, Cudahy, South Gate, Downey, Paramount, Bellflower, Cerritos, & Artesia	New light rail transit (LRT) line that will connect southeast LA County to downtown Los Angeles. Projects combined may contribute to an effect but further evaluation will need to be done during subsequent phase of the WSAB project, where project details are refined with supporting environmental reports.	In Planning
Telegraph Rd. Improve Critical Movements	Commerce	Project includes consideration of lane width widening from I-105 to Imperial Hwy to better accommodate buses and trucks, access management, parking restrictions, and grade separating railroad tracks where feasible	In Planning
Central Ave. Corridor Improvements	Compton, LA County	Analyze for efficient vehicle movement along the corridor, which provides primary connectivity between SR-91 and I-105 freeways	In Planning

Project	Jurisdiction	Description	Status
I-105/Bellflower Operational Improvements	Downey	Ramps improvements and pedestrian marking improvements at I-105 and Bellflower. Improve signals and left turn pockets to WB on-ramp and EB off-ramp	In Planning
I-105/Avalon Operational Improvements	Undefined - Gateway	I-105/Avalon: At EB and WB ramps, improve signals, pedestrian crossing, and ramp metering improvements	In Planning
I-105/Alameda Street Signal and Channelization	Lynwood, LA County	I-105/Alameda Street: EB and WB signal and channelization	In Planning
I-105/Long Beach Blvd. Operational Improvements	Lynwood	I-105/Long Beach Blvd: EB and WB ramps widen and install auxiliary lane and improve left turn pockets at Long Beach Blvd	In Planning
I-105/Paramount Pedestrian Enhancement	South Gate	I-105/Paramount: Pedestrian enhancement and signal modifications at the EB and WB on and off-ramps and left turn pockets	In Planning
I-105 Transportation Management System (TMS)	Downey, Lynwood, Norwalk, Paramount, South Gate, LA County	Upgrade TMS on I-105 from I-110 to I-605, PM 7.2/17.9	In Planning
I-105 TMS	Hawthorne, City of LA, LA County	Upgrade TMS from Imperial Hwy to I-110, Post Mile 0.0/7.264	In Planning
I-105 Advanced Traffic Management (ATM) and TMS Improvements	Downey, El Segundo, Hawthorne, City of LA, Lynwood, Norwalk, Paramount, South Gate, LA County	ATM and TMS improvements along I-105 between I-605 and Route 1	In Planning
I-405 and I-105 Corridor Refinements	Hawthorne, Lawndale, City of LA, Redondo Beach, Torrance, LA County	Corridor Refinements on I-405 from I-110 and I-105 and I-105 from I-405 to Crenshaw	In Planning
Imperial Hwy Capacity Enhancement	Downey, Lynwood, South Gate, LA County	Evaluate widening to 3 lanes on Imperial Hwy through Lynwood to tie into the 3 lanes on either side of the city - or consider widening between Fernwood Ave. and Long Beach Blvd	In Planning

Project	Jurisdiction	Description	Status
Aviation Blvd. Capacity Enhancement	City of LA	From Arbor Vitae St. to Imperial Hwy, widen and restripe to accommodate three through lanes in each direction	In Planning
Imperial Hwy Widening	City of LA	Between Sepulveda Blvd. and Pershing Dr., widen to provide three continuous lanes through lanes in each direction	In Planning
Imperial Hwy/Alameda St. Intersection Improvement	Lynwood, LA County	Add second right-turn lane SB at Imperial Hwy and Alameda St. Intersection	In Planning
Imperial Hwy Operational Improvements	LA County	ITS and/or Operational Improvements on Imperial Hwy from Sundale Ave. to Budlong Ave	In Planning
Prairie Ave. Operational Improvements	LA County	ITS/Communications with Motorists Program on Prairie Ave., Imperial Highway to Redondo Beach Boulevard	In Planning
Imperial Hwy Operational Improvements	LA County	ITS/Communications with Motorists on Imperial Hwy from Sundale Avenue to Vermont Ave	In Planning
Imperial Hwy Operational Improvements	Hawthorne, Inglewood, LA County	Traffic Signal Synchronization (TSSP) on Imperial Highway from Sundale Ave. to Budlong Ave	In Planning

2.2.15.2 Resource Areas with No Contribution to Cumulative Effects

The resources considered in the cumulative impacts analysis follow Caltrans' Eight Step Guidance for identifying and assessing cumulative impacts (Caltrans 2019). No cumulative effects are anticipated for the following resource areas (there would be no adverse effects from
each of these individual resource areas; therefore, no incremental effects would be cumulatively
considerable):

- Existing and Future Land Use
- Parks and Recreational Facilities
- Growth
- Community Character and Cohesion
- Relocations and Real Property Acquisition
- Environmental Justice
- Utilities/Emergency Services
- Traffic and Transportation Pedestrian and Bicycle Facilities
- Cultural
- Hydrology and Floodplain
- Water Quality and Stormwater Runoff

- Geology
- Hazardous Waste/Material
- Noise
- Energy
- Natural Communities

2.2.15.3 Resources Considered for Contribution to Cumulative Effects

2.2.15.3.1 Visual

The proposed project would introduce new VTMS with changeable digital text, additional overhead signs, lighting, and toll collection and monitoring equipment, new pavement markings, the possibility of an additional lane, and result in the relocation of several sounds walls on nearby frontage roads as well as remove vegetation along portions of the 18.1-mile project corridor. The resource change from the proposed project ranges from low to high. Therefore, visual/aesthetic resources are considered for the cumulative effect analysis. The resource study area for the visual/aesthetics analysis encompasses the project footprint as well as land that is visible from or adjacent to the project area. This area was chosen because it encompasses both the views from the project area as well as views of the project area from highway neighbors.
Future projects on the I-105 will consolidate facilities/signage where possible and all concrete structures and surfaces will match existing adjacent landscape and natural plantings. The proposed project along with reasonably foreseeable future projects in the area would not result in a cumulatively considerable effect to visual resources.

2.2.15.3.2 Air Quality

The proposed project is in Los Angeles County within the jurisdiction of SCAQMD, which is an air district within the SCAG region. The proposed project is in an area that is currently in nonattainment or maintenance for federal $PM_{2.5}$, PM_{10}, CO, and ozone standards. The area is currently in nonattainment of the state $PM_{2.5}$, PM_{10}, and ozone standards. As the MPO over the project area, SCAG has prepared the ~~/SCS~~ 2020 RTP/SCS as part of which a cumulative impact analysis was conducted. The result indicates that the 2020 RTP/SCS would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is designated nonattainment because the projected long-term emissions are in alignment with local AQMPs/SIPs as demonstrated in their conformity analyses. The result also demonstrates that, when compared to the existing conditions, implementation of the 2020 RTP/SCS would result in either no change or a decrease in cumulative $PM_{2.5}$ and PM_{10} emissions. Measures described in section 2.2.4.5 of the Air Quality section would address short-term construction impacts and with these design measures and performance criteria, the proposed project would minimize the cumulatively considerable net increase of any criteria pollutant.

Chapter 3 – California Environmental Quality Act (CEQA) Evaluation

Determining Significance under CEQA

The proposed project is a joint project by Caltrans and FHWA and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both CEQA and NEPA. FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the MOU dated December 23, 2016, and executed by FHWA and Caltrans. Caltrans is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are

summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

AESTHETICS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

CEQA Significance Determinations for Aesthetics

a) No Impact.

There are no scenic vistas present within the project limits.

b, c, d) Less Than Significant Impact

As discussed in the Visual/Aesthetics section, the proposed project would add more overhead signs, lighting, toll collection and monitor equipment, and result in the relocation of sound walls and retaining walls. The proposed project includes replacement of all relocated sound walls and retaining walls. The addition of these facilities would have a minimal visual impact to the existing roadside environment. The project area is within a heavily urbanized portion of Los Angeles County, where many of these facilities already exist. The majority of the vegetation are ornamental and would be replaced in kind where right-of-way allows. The proposed project would have a low impact to visual resources. There are no significant grade changes anticipated for the proposed project. The proposed project would have less than significant impacts to the visual environment, less than significant impacts to scenic resources, and have less than a significant impact on creating new sources of light or glare. No mitigation is required, however, avoidance and minimization measures are included to avoid impacts to visual resources.

AGRICULTURE AND FOREST RESOURCES

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 Dept. 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

CEQA Significance Determinations for Agriculture and Forest Resources

a, b, c, d, e) No Impact

There are no farmlands, no forest lands, no timberlands, and no agricultural use within the project limits. Therefore, no changes or impacts are anticipated to farmlands or forest lands as a result of the proposed project.

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.				
Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) 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?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

CEQA Significance Determinations for Air Quality

b, c, d) Less Than Significant

The proposed project has satisfactorily demonstrated the project-level conformity requirements and is not anticipated to worsen existing PM_{10} and $PM_{2.5}$ violations and delay timely attainment of the standards. The proposed project is not anticipated to cause or contribute to any new violation of the state and federal standards of the criteria pollutants.

a) No Impact

A regional conformity determination for the project was made on June 1, 2016 by FHWA and FTA. The project is located in nonattainment area for federal 8-hour ozone and $PM_{2.5}$ and in nonattainment-maintenance for CO and PM_{10}; and a project-level hot-spot analysis for CO, $PM_{2.5}$ and PM_{10} is thus required pursuant to 40 CFR 93.109. Conformity analyses demonstrate that the proposed project is not anticipated to cause or contribute to any new localized CO, $PM_{2.5}$, and/or PM_{10} violations, or delay timely attainment of any NAAQS or any required interim emission reductions or other milestones during the timeframe of the transportation plan (or regional emissions analysis).

BIOLOGICAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
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?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

CEQA Significance Determinations for Biological Resources

a, b, c, d, e, f) Less Than Significant Impact

As discussed in the Biological Environment section, no wildlife corridors exist within the project limits. The proposed project will not have an adverse impact on the bed, bank, and channels of any wetlands and other waters. Within the project limits, there was no evidence of suitable habitat for plant species, animal species, or threatened and endangered species so it is anticipated that the proposed project will not have a significant impact on these resources. Tree removal and necessary clearing and grubbing would occur within the existing and proposed State right-of-way to accommodate pavement widening. These

removals would primarily be landscaped ornamental vegetation within a highly urbanized corridor.

CULTURAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

CEQA Significance Determinations for Cultural Resources

a, b, c) Less Than Significant Impact

Of the 130 properties surveyed, two were determined eligible for listing in the National Register and are therefore automatically listed in the California Register. A Finding of Effect has been concurred on by the SHPO. There are no known paleontological and archaeological resources or unique geologic features within the project limits. However, a Project Programmatic Agreement (PA) with Cultural Resources Management Plan (CRMP) has been prepared and will be implemented. Under Alternative 3, phased investigations will proceed as obstructions are removed or access is gained during and prior to construction, and Caltrans shall proceed with the identification and evaluation of currently unknown archaeological resources in accordance with applicable provisions of the project-PA and CRMP. If human remains are discovered during construction, work will halt and the County Coroner contacted. The impact is anticipated to be less than significant.

ENERGY

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

CEQA Significance Determinations for Energy

a) Less Than Significant Impact

The proposed project is anticipated to smooth out traffic flow and eliminate choke points and decrease traffic congestion, which would increase moving vehicle speeds, and decrease travel time on the freeway system. Implementation of the proposed project is anticipated in improvements to the capacity of the managed lanes on the I-105 corridor that would allow for more flexibility in the traffic movement and higher efficiencies, which would enable the corridor to maximize productivity and travel reliability. Therefore, the proposed project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

b) No Impact

With implementation of a construction efficiency plan, the proposed project would be consistent with federal, regional, and local plans and policies and would not result in an inefficient, wasteful and unnecessary consumption of energy.

GEOLOGY AND SOILS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause 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 fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

CEQA Significance Determinations for Geology and Soils

i, iii) Less Than Significant Impact

Built structures may be subject to strong ground motions from nearby earthquake sources during their design life but the project will be built to meet current seismic standards. The project is partially in a liquefaction zone and any structures will need to be designed based on an analysis of liquefaction and lateral spreading potential.

ii, iv, b, c, d, e, f) No Impact

The project is on level terrain, with soil that has been engineered and compacted to standards which would not expose people or structures to adverse impacts. No active faults are mapped within the project limits. The project alignment does not cross any areas susceptible to landslides, unstable soils, or expansive soils. The community surrounding the project alignment utilizes a sewer system and no septic tanks, therefore soils would not have to support septic tanks.

GREENHOUSE GAS EMISSIONS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

CEQA Significance Determinations for Greenhouse Gas Emissions

a, b) Less Than Significant Impact

Under either build alternative, the project is expected to reduce travel times, improve freeway circulation, and reduce congestion and delays through active traffic management to optimize traffic flow throughout the corridor. Project analysis using the latest planning assumptions and U.S. EPA-approved emissions models found that with these operational improvements, GHG emissions for all Alternatives are anticipated to decrease compared to existing conditions as the years progress to 2047. The build alternatives would result in higher GHG emissions when compared to the no-build alternative. Because the project reduces future GHGs compared to existing conditions, however, it supports the statewide GHG emissions reduction goals. For this reason it does not conflict with any plan, policy, or regulation to reduce GHGs. With implementation of construction GHG reduction measures, the impact would be less than significant. GHG emissions for all Alternatives are anticipated to decrease further as the years progress to 247, consistent with the statewide goals to reduce GHG.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the Project-Level GHG Reduction Strategies Section of this chapter.

HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) 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?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) 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 it create a significant hazard to the public or the environment?	☐	☐	☒	☐
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?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

CEQA Significance Determinations for Hazards and Hazardous Materials

a, b, c, d, e, f) Less Than Significant Impact

Project construction and maintenance activities are expected to involve routine transportation, use, and disposal of hazardous materials. Adherence to federal and state regulations during project construction and maintenance will reduce the risk of exposure to hazardous materials within ¼ mile of a school. A Transportation Management Plan (TMP) will be prepared before construction for the project to address temporary closures.

Outreach will be coordinated to inform local jurisdiction, agencies, and public of the times and locations of upcoming construction to avoid traffic disruptions especially for emergency response plans.

Compliance with existing regulations is mandatory, therefore construction of either of the build alternative is not expected to create a significant hazard to construction workers, the public, or the environment.

g) No Impact

The proposed project is not within or nearby any wildlands, as it is entirely located in an urban environment.

HYDROLOGY AND WATER QUALITY

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
(iii) 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; or	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

CEQA Significance Determinations for Hydrology and Water Quality

a, b, iii) Less Than Significant Impact

The project is not located within an identified recharge area. The project would be required to obtain coverage under the RWQCB's Construction General NPDES Permit, which would submit a storm water pollution prevention plan that would address all construction related activities, equipment, and materials that have the potential to affect water quality. All construction site BMPs would be installed, inspected and maintained to control and minimize the impacts of construction-related pollutants. Compliance with the Construction General Permit would reduce the risk of water degradation during construction and operation of the proposed project. Since violation of waste discharge requirements would be minimized, this impact would be less than significant, based upon compliance with regulatory requirements. No mitigation measures are required.

i, ii, iv, d, e) No Impact

As discussed above, the SWPPP is required for the project, and it would address how runoff during construction would be minimized to prevent construction debris from entering the waterways. The project would not cause a longitudinal encroachment or result in incompatible development within the floodplain. The project is required to ensure that the post-project runoff does not exceed the pre-project stormwater runoff rate and volume. The proposed project does not include the placement of housing, is not built within a 100-year floodplain, and is not located within an area identified as susceptible to seiche, tsunami, or mudflow.

LAND USE AND PLANNING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

CEQA Significance Determinations for Land Use and Planning

a, b) No Impact

The proposed project will not physically divide any established community. Widening will be limited to areas adjacent to the existing corridor and will not conflict with existing land use plans. In addition, no habitat conservation plans, or natural community conservation plans overlap with the proposed project area.

MINERAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

CEQA Significance Determinations for Mineral Resources

a, b) No Impact

There are no mineral resources mapped within the vicinity of the proposed project.

NOISE

Would the project result in:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or 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?	☐	☐	☒	☐

CEQA Significance Determinations for Noise

a, b, c) Less Than Significant Impact

The difference between existing noise levels and predicted noise levels under the build alternatives fall within the range of -2 to 4 dBA with exception to 1 location at soundwall 198E3, where the increase is 7 dBA. At that particular location, a soundwall of 14 foot height has been determined reasonable and feasible and is anticipated to have an 8 dBA reduction in noise attenuation. The dBA increase at the remaining locations would be barely perceptible to the human ear. Any existing soundwall that would be relocated due to the proposed project would be replaced, either in kind or higher than the original height. During construction, there will be an increase in noise levels as existing sound walls are being torn down and new ones constructed, but these increases will be temporary in nature. Under CEQA, no significant noise impact would occur as a result of the project.

POPULATION AND HOUSING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

CEQA Significance Determinations for Population and Housing

a, b) No Impact

The proposed project would not remove obstacles to development. The proposed project would not provide new access to undeveloped land. The proposed project does not include full-property acquisitions and thus would not displace anyone or necessitate the construction of replacement housing elsewhere.

PUBLIC SERVICES

a) Would the project 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:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

CEQA Significance Determinations for Public Services

a) No Impact

There may be temporary impacts to emergency services during construction. With inclusion of a traffic management plan, the proposed project would not cause existing public services to provide additional services or create new associated facilities.

RECREATION

	Significant and Unavoidable Impact	Less Than Significant 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?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

CEQA Significance Determinations for Recreation

b) No Impact

The proposed project does not include the use of existing recreational facilities or any new recreational facilities.

a) Less Than Significant Impact

During construction at Fir Street, the overhead crossing will be widened, which will require Fir Street to be reprofiled to keep standard vertical clearance. As a result of the reprofiling, the curb lines will need to be realigned to keep ADA ramps consistent. The street will be temporarily closed for a short duration and access to the Ricardo Lara Linear Park would be detoured to the other side of the block. The construction activities would not result in any permanent adverse physical impacts in that area and would not interfere with the protected activities, features, or attributes of that portion of the park on a permanent basis. The impact to parks under CEQA would be less than significant.

TRANSPORTATION/TRAFFIC

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

CEQA Significance Determinations for Transportation/Traffic

a, b, c, d) Less Than Significant Impact

The proposed project would retain the existing number of ingress or egress locations along the I-105 Corridor. Congestion management plans are required to be consistent with SCAG's Regional Transportation Improvement Program. Traffic impacts from the build alternatives are expected to be positive for freeway circulation, decreasing congestion and delays and improving traffic flow. The projected vehicle volumes do not show any influence on growth by the project specifically, indicating that implementation of ExpressLanes would not induce new travel to the area. The proposed project would not eliminate or restrict automobile or pedestrian access to stores, public services, schools, or other facilities in the project area. It will not increase or decrease traffic on local streets, making it no more or less difficult to reach businesses or residences in the area. Emergency vehicles will be able to take the same routes as prior to the project, and emergency routes will be unaffected by distance, speed, or routing. No bicycle or pedestrian routes will be permanently affected by the project, and any detours, signs, and/or flaggers required during construction will be detailed in the TMP. Local drivers, cyclists, and pedestrians will not need to alter their travel patterns.

TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

CEQA Significance Determinations for Tribal Cultural Resources

a, b) No Impact

As a result of consultation with the Native American Heritage Commission and local Native American tribes, no tribal cultural resources were identified within the proposed project area.

UTILITIES AND SERVICE SYSTEMS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

CEQA Significance Determinations for Utilities and Service Systems

d, e) No Impact

The proposed project does not include additional water, wastewater, or solid waste disposal needs. The proposed project would add additional impervious area, which could contribute to
added runoff and intensity as described under Hydrology and Water Quality. The additional impervious areas is minimal and would not overwhelm storm water drainage facilities. Therefore, new facilities are not anticipated as a result of the project. No impacts would occur, and no mitigation is required.

a, b, c) Less Than Significant Impact

Some existing sewer, water, telecom, gas, and electrical utilities may be affected, though no major relocations are expected. Most are expected to remain in place. Coordination with the identified utility companies shall be carried out during the PS&E and construction phase and it is anticipated that no permanent adverse physical impacts will result in those area.

WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

CEQA Significance Determinations for Wildfire

a, b, c, d) No Impact

The proposed project is located in an urban area and along an existing transportation corridor. The proposed project would not be expected to induce substantial changes in land use, population density, or transportation patterns that would increase wildlfire risks. With inclusion of a traffic management plan, the proposed project would not have an impact to emergency response or evacuation plans.

MANDATORY FINDINGS OF SIGNIFICANCE

	Significant and Unavoidable Impact	Less Than Significant 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?	☐	☐	☒	☐
b) 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)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

CEQA Significance Determinations for Mandatory Findings of Significance

a, b, c) Less Than Significant Impact

The proposed project would have a less than significant impact on the environment including habitat, threated and endangered species, and cultural resources. The proposed project would have temporary construction impacts, such as noise, dust, and visual changes. However, the proposed project would have a less than significant impact to all resource areas evaluated in this CEQA checklist, and would, therefore, not have an environmental effect that would cause substantial adverse effects on human beings, either directly or indirectly.

Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring component of Earth’s atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2.

Two terms are typically used when discussing how we address the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or “mitigate” the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

REGULATORY SETTING

This section outlines federal and state efforts to comprehensively reduce GHG emissions from transportation sources.

Federal

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability” (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality

and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

Assembly Bill (AB) 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (ARB) create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program

establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

Senate Bill (SB) 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

EO B-16-12 (March 2012) orders State entities under the direction of the Governor, including ARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$).[4] Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016, codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

SB 1386, Chapter 545, 2016, declared "it to be the policy of the state that the protection and management of natural and working lands … is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."

AB 134, Chapter 254, 2017, allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles travelled, to promote the state's goals of reducing

[4] GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.

greenhouse gas emissions and traffic related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

SB 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires ARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

EO B-55-18 (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.

EO N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs ARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

ENVIRONMENTAL SETTING

The proposed project is in an urban area of Los Angeles County with a well-developed road and street network. The project area is mainly residential, with some light industrial and commercial buildings. Traffic congestion during peak hours is not uncommon in the project area. An RTP/SCS by SCAG guides transportation and housing development in the project area. The Los Angeles County General Plan Sustainability element addresses GHGs in the project area.

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by H&SC Section 39607.4.

National GHG Inventory

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO_2, CH_4, N_2O, HFCs, perfluorocarbons, SF6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by "sinks" such as forests, vegetation, and soils that uptake and store CO2 (carbon sequestration). The 1990–2016 inventory found that of 6,511 MMTCO2e GHG emissions in 2016, 81% consist of CO_2, 10% are CH_4, and 6% are N_2O; the balance consists of fluorinated gases (EPA 2018a). In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions.

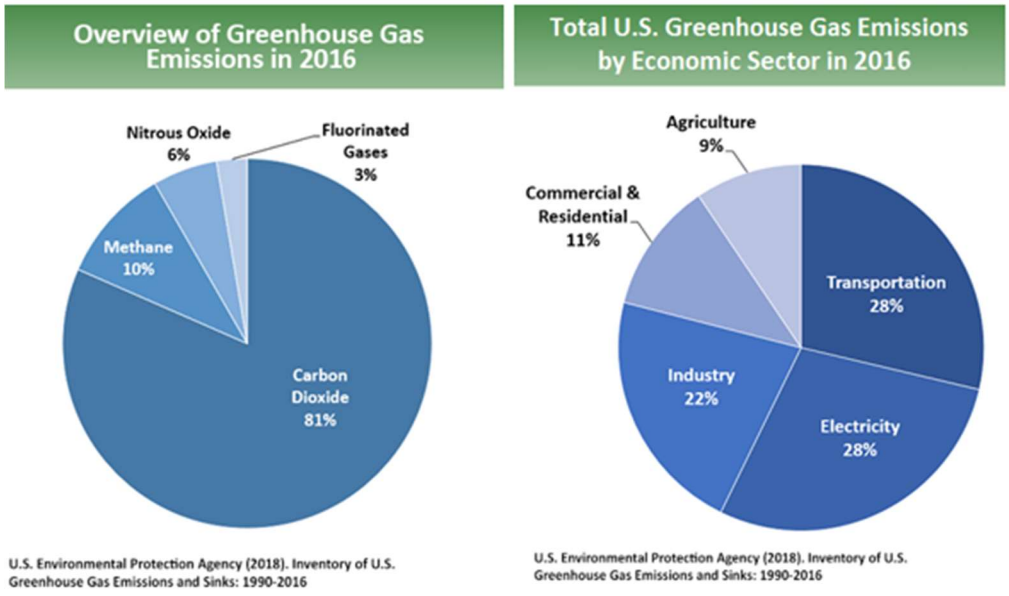


Figure 3-1. U.S. 2016 Greenhouse Gas Emissions

State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2019 edition of the GHG emissions inventory found total California emissions of 424.1 $MMTCO_2e$ for 2017, with the transportation sector responsible for 41% of total GHGs. It also found that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (ARB 2019a).

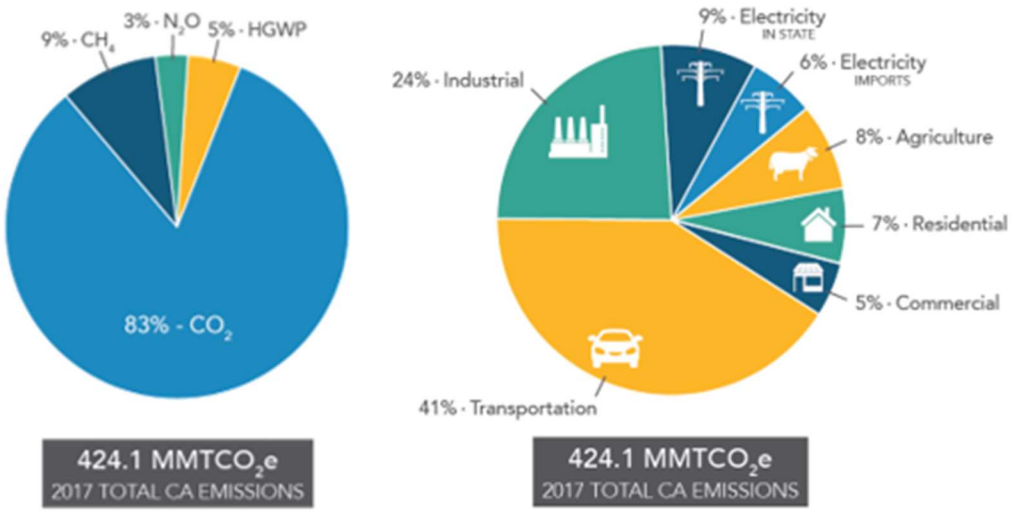


Figure 3-2. California 2017 Greenhouse Gas Emissions

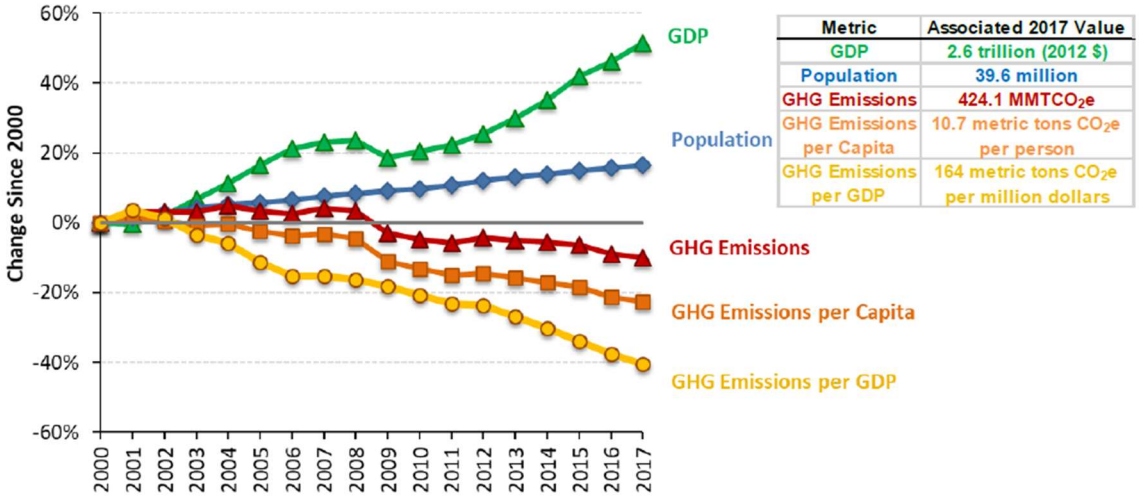


Figure 3-3. Change in California GDP, Population, and GHG Emissions since 2000 (*Source*: ARB 2019b)

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

Regional Plans

ARB sets regional targets for California's 18 MPOs to use in their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is included in the ~~/SCS~~ 2020 RTP/SCS for SCAG. The regional reduction target for SCAG is -8% percent by 2020 and -19% by 2035 (ARB 2019c).

Table 3-1 Regional and Local Greenhouse Gas Reduction Plans

Title	GHG Reduction Policies or Strategies
Southern California Association of Governments 2016-2040 Regional Transportation Plan / Sustainable Communities Strategy (adopted April 2016)	• Emphasize land use and transportation strategies to support a more sustainable future • Direct transportation investments within urbanized areas to support a more compact urban form • Utilize extensive regional bus and bus rapid transit system • Improve commuter and light rail service • Expand regional bicycle network • Improve pedestrian infrastructure

	• Dedicated highway lanes for carpool and express buses • Transportation demand management programs to reduce vehicle trips.

PROJECT ANALYSIS

GHG emissions from transportation projects can be divided into those produced during operation of the SHS and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH_4 and N_2O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, “because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself.” (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Operational Emissions

CO_2 accounts for 95 percent of transportation GHG emissions in the U.S. The largest sources of transportation-related GHG emissions are passenger cars and light-duty trucks, including sport utility vehicles, pickup trucks, and minivans. These sources account for over half of the emissions from the sector. The remainder of GHG emissions comes from other modes of transportation, including freight trucks, commercial aircraft, ships, boats, and trains, as well as pipelines and lubricants. Because CO_2 emissions represent the greatest percentage of GHG emissions it has been selected as a proxy within the following analysis for potential climate change impacts generally expected to occur.

The highest levels of CO_2 from mobile sources such as automobiles occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure ##). To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, GHG emissions, particularly CO_2, may be reduced.

Four primary strategies can reduce GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower GHG-emitting fuels, and (4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued concurrently.

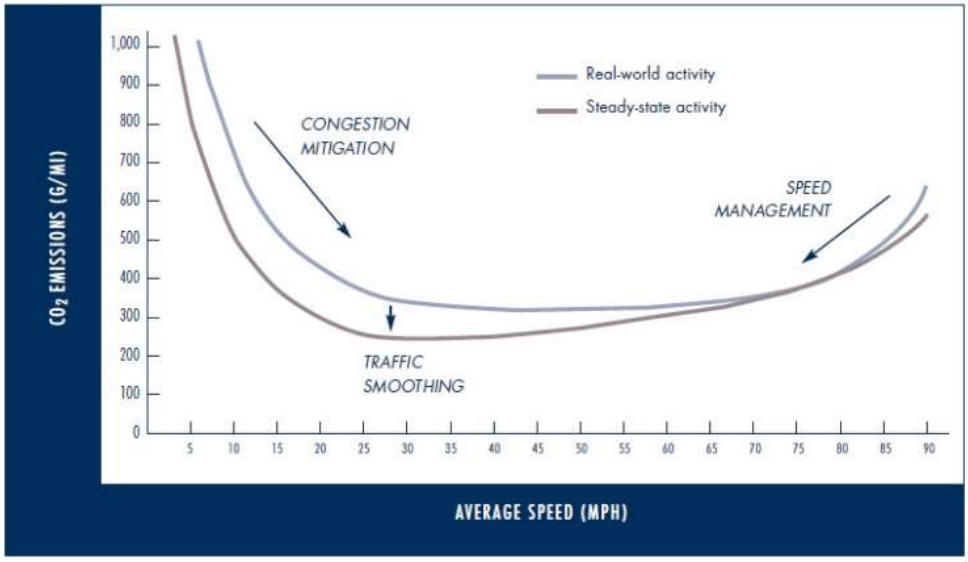


Figure 3-4. Possible Use of Traffic Operation Strategies in Reducing On-road CO_2 Emissions (*Source:* Barth and Boriboonsomsin 2010)

As part of the SCAG 2020 RTP/SCS, the Project is part of the region's Sustainable Communities Strategy (SCS) required under SB 375 to reduce greenhouse gas (GHG) emissions due to passenger vehicles. The population and employment growth served by the Project is identified in the SCS. The SCS also includes the Project in its transportation network designed to reduce regional vehicle miles traveled and GHG emissions. SCAG is in the process of preparing an update to their RTP/SCS. The Project is being carried over into the modeling for SCAG's 2020 RTP/SCS.we

SCAG also prepares and implements the FTIP. The Project was originally programmed and modeled as part of the SCAG 2017 FTIP and is currently shown on the adopted SCAG 2019 FTIP.

Within the SCAG 2016-2040 RTP/SCS, the Project is identified as Project ID 1162S011 with the following description: "I-105 ExpressLane from I-405 to I-605".

Within the SCAG 2019 FTIP, the Project is identified as Project ID LA0G1324 with the following description: "Route 105: In Los Angeles County, in various Cities, between Imperial Highway and I-605, Preparation of PA&ED for potential implementation of ExpressLanes".

Quantitative Analysis

The latest CT-EMFAC2017 and the VMT data provided by Metro are utilized in estimating operational GHG emissions for the 2017 Baseline as well as for all future year Alternatives. CT-EMFAC2017 provides emission factors for such gases as CO2, methane (CH4), nitrous oxides (N2O), and hydrofluorocarbons (HFC), which cause greenhouse effect with varying global warming potentials (GWPs). The table below provides a summary of GHG emissions for each Alternative in equivalents of CO2 (CO2e). Emissions of CO2e are calculated by adjusting and tallying the emissions of GHGs by their respective GWPs in terms of CO2.

According to the summary in Table 3-2, all future GHG emissions result in decrease when compared to the 2017 Baseline. GHG emissions for all Alternatives are anticipated to decrease further as the years progress to 2047, consistent with the statewide goals to reduce GHGs. The GHG emissions are forecasted to reach the lowest in 2047 for all Alternatives. It should be noted that this progressive decrease in GHG emissions is achieved for each Alternative while VMT is projected to continue to increase in future years. When compared to the No-Build (Alternative 1) conditions in each analysis year, however, the Build Alternatives (2 and 3) are anticipated to result in increase.

While EMFAC2017 has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its GHG emission rates are based on tailpipe emission test data. Moreover, the model does not account for factors such as the rate of acceleration and vehicle aerodynamics, which influence the amount of emissions generated by a vehicle. GHG emissions quantified using CT-EMFAC or EMFAC2017 are therefore estimates and may not reflect actual physical emissions. Though CT-EMFAC and EMFAC2017 are currently the best available tools for calculating GHG emissions from mobile sources, it is important to note that the GHG results are only useful for a comparison among alternatives.

Table 3-2: Corridor-Level Operational GHG Emissions for All Alternatives

Alternatives	CO_2e Emissions (tons/year)	Annual VMT (miles/year)
2017 Baseline	532,883	1,222,250,191
Open to Traffic (2027)		
Alternative 1	399,371	1,212,941,428
Alternative 2	422,358	1,273,438,416
Alternative 3	466,137	1,416,644,264
Planning Horizon (2040)		
Alternative 1	336,475	1,231,621,056
Alternative 2	358,948	1,290,398,020
Alternative 3	397,368	1,440,078,172
Design Year (2047)		
Alternative 1	332,838	1,241,584,239
Alternative 2	356,870	1,284,685,424
Alternative 3	395,209	1,451,053,001

Note: Annual VMT values derived from Daily VMT multiplied by 347, per ARB methodology (ARB 2008)

Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be

reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Construction GHG emissions are estimated for the project alternatives using the latest SMAQMD's RCEM based on construction activities data such as equipment inventories and project construction scheduling information as well as emission factors from the EMFAC2017 and OFFROAD. Construction GHG emissions estimates are provided in Table below for each of the Build Alternatives (2 and 3).

Table 3-3: GHG Emissions from Construction of Build Alternatives

	Alternative 2	Alternative 3
Grubbing/Land Clearing	8,064.00	9,575.47
Grading/Excavation	23,678.23	29,243.80
Drainage/Utilities/ Sub-Grade	17,983.56	22,672.45
Paving	8,803.21	10,347.92
Maximum daily	23,678.23	29,243.80
Total (tons/construction project)	9,597.54	11,864.78

CO_2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25, and 298 for CO_2, CH_4 and N_2O, respectively. Total CO_2e is then estimated by summing CO_2e estimates over all GHGs. CO_2e=carbon dioxide equivalent

All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations; and Section 14- 9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

CEQA Conclusion

Under either build alternative, the project is expected to reduce travel times, improve freeway circulation, and reduce congestion and delays through active traffic management to optimize traffic flow throughout the corridor. Project analysis using the latest planning assumptions and U.S. EPA-approved emissions models found that with these operational improvements, GHG emissions for all Alternatives are anticipated to decrease compared to existing conditions as the years progress to 2047. The build alternatives would result in higher GHG emissions when compared to the no-build alternative. Because the project reduces future GHGs compared to existing conditions, however, it supports the statewide GHG emissions reduction goals. For this reason it does not conflict with any plan, policy, or regulation to reduce GHGs. With implementation of construction GHG reduction measures, the impact would be less than significant.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

GREENHOUSE GAS REDUCTION STRATEGIES

Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California.

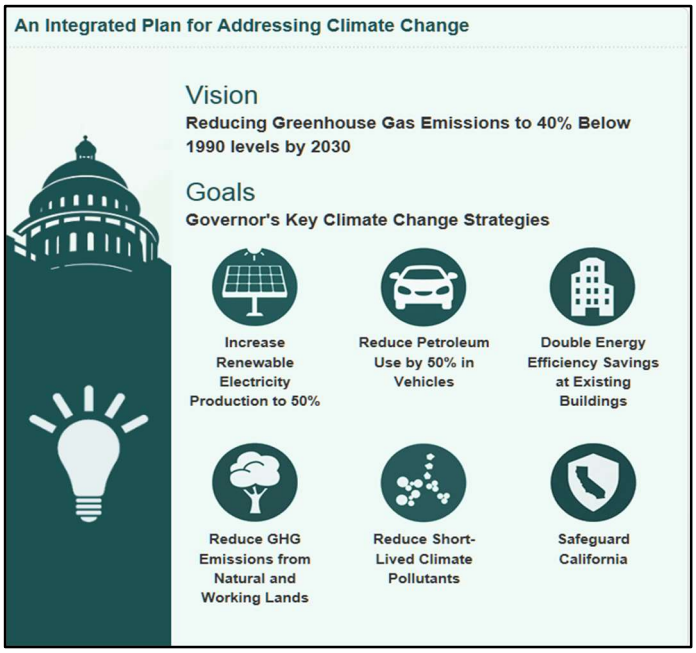


Figure 3-5: California Climate Strategy

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing greenhouse gas emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms,

and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. In 2016, Caltrans completed the California Transportation Plan 2040, which establishes a new model for developing ground transportation systems, consistent with CO_2 reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand management and new technologies rather than continuing to expand capacity on existing roadways.

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the plan that will help to reduce GHG emissions include:

- Increasing percentage of non-auto mode share
- Reducing VMT
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the State's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., Safeguarding California).

CALTRANS POLICY DIRECTIVES AND OTHER INITIATIVES

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. Caltrans Activities to Address Climate Change (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

Project-Level GHG Reduction Strategies

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project. Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in long-term adverse conditions. Implementation of the following measures, some of which may also be required for other purposes such as storm water pollution control will reduce any air quality impacts resulting from construction activities:

Air1 - The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2018).

Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

Air5 - Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by CA Code of Regulations Title 17, Section 93114.

Air8 - Implementation of Measure Air8 which involves limiting extended idling of diesel equipment or vehicles would help reduce construction related GHGs.

Air12 - To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

Air13 - Mulch will be installed or vegetation planted as soon as practical after grading. Mulching will stabilize soils that sequester carbon and vegetation absorbs CO2 from the atmosphere.

Vis5 - Any lighting replaced or relocated shall use Light Emitting Diodes (LED) lighting fixtures. LEDs are more energy-efficient than older styles of lamps.

Vis16 - All trees removed will adhere to a replacement tree ratio of 1:1.

Ergy1 - Implementation of Measure Ergy1, which involves the preparation of a Construction Efficiency Plan (which potentially consists of the reuse and recycling of construction materials as well as the use of more energy efficient equipment and project scheduling), would help reduce construction related GHGs.

As noted above, Caltrans Standard Specifications specifically require compliance with all applicable laws and regulations related to air quality, which would include applicable rules and regulations of the respective AQMD such as Rules 401, 402, and 403.

Long-Term (Operational)

GHG1 – In an effort to help reduce operational GHGs, the Project Team would, during the Design Phase, consider the design and installation of long-life pavement structures to minimize life-cycle costs.

GHG2 - The project features would include some complete street elements, including ADA curb ramps and modification of signals at some ramp termini. In addition, as part of this project, metro would spend surplus toll revenue on increased transmit service and possibly award net toll grants to active transportation and transit projects in the corridor. These would facilitate multimodal transportation, which would help reduce GHGs.

ADAPTATION

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S.C. ch. 56A § 2921 et seq). The Fourth National Climate Assessment, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).

The U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and

adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions" (U.S. DOT 2011).

FHWA order 5520 (Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events, December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. California's Fourth Climate Change Assessment (2018) is the state's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the "capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience". Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality.2 Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and

continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

Caltrans Adaptation Efforts

CALTRANS VULNERABILITY ASSESSMENTS

Caltrans has conducted climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure* – Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence* – Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization* – Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of

climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

Sea Level Rise

The proposed project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

Floodplain

Climate change in this region is expected to bring less precipitation overall but coming in heavier individual events. The Caltrans Climate Change Vulnerability Assessment for District 7 (Caltrans 2019) mapped projected changes in 100-year storm precipitation depths, a metric commonly used in design of highway assets. These maps show a possible increase of up to 10% in the 100-year storm across most of the project area by 2055.

The project is not located within a 100-year floodplain. The two creeks in the project footprint are heavily modified and channelized for flood protection. Drainage facilities would be relocated or modified to accommodate project features. The project would implement all appropriate construction and permanent BMPs. Coordination with the US Army Corps of Engineers, California Department of Fish and Wildlife, Regional Water Quality Control Board, and Los Angeles County Flood Control District would be conducted, and permits obtained during the Design Phase. The primary purpose of permits is to protect the water resources and flood conveyance capacity, but the process would also ensure the project is not affected by potential increases in flood flows.

Wildfire

The proposed project is located in an urban area and along an existing transportation corridor. According to California Fire Hazard Severity Zone mapping, the project corridor is not in any fire hazard severity zone or State Responsibility Area. The Caltrans Climate Change Vulnerability Assessment mapping of roadways at risk from wildfire also shows that the project corridor is not in an area of wildfire concern and is not exposed roadway through 2085. Implementation of Caltrans 2018 revised Standard Specification 7-1.02M(2) during construction, mandating fire prevention procedures including a fire prevention plan, will avoid accidental fire starts during construction.

Chapter 4 – Comments and Coordination

Introduction

Scoping is a means of soliciting input early in the development process on the purpose and need of the project, range of alternatives to be analyzed, and scope of the analysis to be included in the environmental document. Early and continual coordination with the public and public agencies is an essential part of the environmental process. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including an extensive multi-tiered community participation process with numerous public meetings. This chapter summarizes the results of the efforts by Caltrans, Metro, and partner agencies to fully identify, address, and resolve project-related issues through early and continuing coordination.

Scoping Process

The formal scoping period was initiated on March 7, 2018 and continued through April 16, 2018 with the preparation and distribution of a Notice of Preparation (NOP). A NOP is required under Section 15082 of the CEQA guidelines and is used to notify responsible agencies, trustee agencies, federal agencies, and the public that the lead agency intends to prepare an EIR for a project. The NOP inherently initiates the scoping process.

The NOP was posted at the State Clearinghouse (SCH No. 2018031037) on March 13, 2018 and circulated to public agencies responsible for environmental resources affected by the project. In addition to publication of the NOP, the following public notification efforts were conducted:

- A project-specific web presence was established for convenient public access and outreach (https://www.metro.net/projects/i105-expresslanes).
- A total of 28,360 postcards were mailed to residents, property owners and stakeholders within a 750-foot radius from the I-105 study area.
- Letters to appropriate local, state and federal agencies and elected officials representing the project study area were mailed.
- Approximately 4,914 postcard notices were placed on parked vehicles at the 10 Green Line Station Park-and-Ride lots along the I-105 corridor area.
- Scoping notices were posted at the following 7 public libraries: Alondra Library, Downey Library, Lynwood Library, Norwalk Library, Paramount Library, Woodcrest Library, and Clifton M. Brakensiek Library.
- Scoping notices were published in 5 local and 5 electronic newspapers.
- A total of 5 email-blasts were distributed to about 900 stakeholders.
- A total of 21 stakeholder briefings were held prior to and during the scoping period.
- One formal agency scoping meeting and 3 formal public scoping meetings were held.
- Approximately 220 people participated in the scoping meetings, which included 165 webcast viewers.

Stakeholder Briefings

Prior to and during the scoping period, the project team held stakeholder briefings with staff members from each city within the study area, elected officials, and key stakeholders. The briefings served as an effort to ensure that all key representatives of the corridor communities were aware of the project, understood the project timeline, and had an opportunity to solicit feedback. The meetings expanded public notification efforts beyond the typical scoping period and further ingrained the corridor communities into the early development of the project. The schedule of the stakeholder briefings is shown in Table 4-1.

Table 4-1: Schedule of Stakeholder Briefings

No.	Organization	Briefing Date
1.	Gateway Cities Transportation Summit (Elected Officials and City Staff)	February 9, 2018
2.	South Bay Council of Governments Transportation Committee	February 12, 2018
3.	State and Federal Legislative Briefing in Gateway Cities and South Bay Region	February 27, 2018
4.	City of El Segundo Staff	February 28, 2018
5.	City of Los Angeles, Office of Councilmember Joe Buscaino	February 28, 2018
6.	City of Inglewood Staff	March 5, 2018
7.	Westchester Neighborhood Council	March 5, 2018
8.	Gateway Cities Council of Governments Board Meeting	March 7, 2018
9.	City of Downey Staff	March 7, 2018
10.	City of Hawthorne Staff	March 7, 2018
11.	City of Lynwood Staff	March 7, 2018
12.	City of Norwalk Staff	March 7, 2018
13.	City of Paramount Staff	March 7, 2018
14.	City of South Gate Staff	March 7, 2018
15.	City of Los Angeles, Office of Councilmember Marqueece Harris-Dawson	March 9, 2018
16.	State and Federal Legislative Briefing in Gateway Cities and South Bay Region	March 12, 2018
17.	LAX Gateway Business Improvement District	March 13, 2018
18.	El Segundo City Council	March 20, 2018
19.	City of South Gate Staff	April 2, 2018
20.	El Segundo Businesses	April 6, 2018

No.	Organization	Briefing Date
21.	Empowerment Congress Southwest Area Neighborhood Development Council	April 16, 2018

Scoping Meetings

On March 7, 2018, Metro and Caltrans distributed the Notice of Scoping/Initiation of Studies letter, a copy of the NOP, project map, and the public meeting notice to elected officials and agencies that represent the project study area and stakeholders living within a 750-foot radius from the project study area. The Notice of Scoping/Initiation of Studies letter summarized the proposed project, stated the lead agency's intention to prepare an EIR/EA, and requested comments from interested parties during the 41-day comment period from March 7, 2018 to April 16, 2019. The NOP and details of the Public Scoping Meetings were advertised in the newspapers shown in Table 4-2:

Table 4-2: List of Newspapers and Publication Dates

Print Newspapers	Publication Date
La Opinion (daily)	March 7, 2018
The Wave Publication (weekly)	March 8, 2018
El Segundo Herald (weekly)	March 8, 2018
Inglewood News (weekly)	March 8, 2018
Hawthorne Press Tribune (weekly)	March 8, 2018
Electronic Newspapers	**Publication Date**
Los Angeles Times	March 7 – March 24, 2018
Los Angeles Sentinel	March 6 – March 15, 2018
Compton Herald	March 7 – March 24, 2018
Downey Patriot	March 7 (Facebook Post)
Norwalk Herald	March 7 (Facebook Post)

The posted advertisements included a brief synopsis of the proposed project and encouraged attendance at the Public Scoping Meetings. Caltrans and Metro held 4 meetings in March of 2018: 1 Agency Scoping Meeting in Lennox and 3 Public Scoping Meetings in Lennox, Watts, and Paramount. A certified Spanish interpreter and Spanish speaking staff were present at each of the Public Scoping Meetings. The dates and locations for each of the Agency and Public Scoping Meetings are shown in Table 4-3:

Table 4-3: Schedule, Location, and Attendance of each Agency and Public Scoping Meeting

Date and Time	Location	Signed-in
Agency Scoping Meeting		
Agency Scoping Meeting Wednesday, March 21, 2018 3:00 – 5:00pm	Lennox Park – Community Room 10828 Condon Ave. Lennox, CA 90304	6
Public Scoping Meetings		

Date and Time	Location	Signed-in
Public Scoping Meeting #1 Wednesday, March 21, 2018 6:00 – 8:00pm	Lennox Park – Community Room 10828 Condon Ave. Lennox, CA 90304	9
Public Scoping Meeting #2 Thursday, March 22, 2018 6:00 – 8:00pm	Watts Labor Community Action Committee – Phoenix Hall 10950 S Central Ave. Los Angeles, CA 90059	8
Webcast (live & video recording) of Public Scoping Meeting #2	Online	165 (14 live & 151 views of video recording)
Public Scoping Meeting #3 Saturday, March 24, 2018 9:30 – 11:30am	Paramount Community Center 14400 Paramount Blvd. Paramount, CA 90723	32
TOTAL		**220**

Table 4-3 also shows the number of participants that signed in to each meeting. The majority of participants partook in the scoping process by streaming the presentation during the webcast. A total of 220 individuals attended the 4 meetings during the public scoping period, with 165 of those individuals participating through webcast.

Scoping Comments

A total of 49 written comment submissions were received as: comment cards submitted during the public scoping meetings or mailed afterwards, emails, online comment forms, or mailed in letters. Comment submissions often addressed a range of issues in multiple comment topics. Of the 49 total comments received, 10 comments were submitted by government agencies and 39 comments were submitted by residents or community members. The most common comment topic received by any commenter pertained to Transportation and Traffic. The range of comment topics received by government agencies and the general public is described in the subsections below.

A request for an informational presentation to the Empowerment Congress Southwest Asia Neighborhood Development Council (ECSANDC) was received from a scoping meeting participant. To accommodate this request, Metro held a brief project presentation and described scoping outreach efforts for the group on April 16, 2018. Approximately 40 members attended the presentation and the ECSANDC was granted an unofficial scoping comment period extension of about 14 days, closing at the end of April 2018. Although no comments were received by the ECSANDC, the time extension allowed the group to review and familiarize themselves with the project alternatives.

Government Agency Comments

The primary concerns of the government agencies centered on coordination with agencies, compliance with environmental laws, discussion of project alternatives, community concerns, and safety. The agencies will receive future project information as it becomes available. Table 4-4 below visually represents the number of comments under each comment topic.

Table 4-4: Comment Topics Specified by Government Agencies

Government Agency Comment Topics	No. of Comments Received
Transportation/Traffic	4
Right-of-Way (ROW)	3
Biological Resources	2
Air Quality	2
General	2
Environmental Justice	2
Cultural Resources	1
Noise	1
Utilities	1
Total	**18**

A total of 18 issues were raised in the 10 comment cards received from government agencies. The 10 government agencies that submitted written comments included:

- California Department of Fish and Wildlife
- City of South Gate
- County of Los Angeles Department of Parks and Recreation
- County of Los Angeles Department of Public Works
- County Sanitation Districts of Los Angeles County
- Gateway Cities Council of Governments
- Los Angeles World Airports (LAWA)
- Native American Heritage Commission
- United States Army Corps of Engineers, Los Angeles District
- United States Environmental Protection Agency

The concerns of each government agency are described below under the appropriate comment topic:

General

Gateway Cities Council of Governments: An analysis of the potential impacts of Alternatives 3 and 4, and to I-605 and I-405 should be evaluated and explicitly describe if ramp modernization will be required as part of this project.

County Sanitation Districts of Los Angeles County: Caltrans should grant sewer easements prior to submitting review documents for the proposed project.

Biological Resources

State of California Department of Fish and Wildlife: Recommends discussion of the purpose and need of the project and to design a range of feasible alternatives that avoid or minimize direct and indirect impacts to sensitive biological resources and wildlife movement areas.

United States Army Corps of Engineers: Any proposed road widening over bodies of water needs to be properly modeled for hydraulics to ensure that the water surface does not cause adverse impacts to the proposed overcrossings.

Cultural Resources

State of California Native American Heritage Commission: The existence and significance of tribal and cultural resources should be adequately assessed and planned for avoidance.

Environmental Justice

United States Environmental Protection Agency: The environmental document should discuss potential environmental justice issues (e.g., relocation, air quality, noise, vibration, access to property, pedestrian safety, etc.) and include any environmental justice concerns raised during scoping meetings.

City of South Gate: Consider low-income households when evaluating the addition of toll roads.

Air Quality

United States Environmental Protection Agency: The proposed project has the potential to affect air quality. U.S. EPA recommends that Caltrans perform the required analysis for project-level transportation conformity in advance of publication of the environmental document so that the public and decision-makers can understand how the project could meet conformity requirements.

City of South Gate: Air quality impacts must be evaluated.

Right-of-Way

City of South Gate: The City discouraged the use of eminent domain to secure any property located in South Gate.

County of Los Angeles Department of Parks and Recreation: Project impacts to the following Parks and Recreation facilities should be considered: George Washington Carver Park, Compton Creek Walking Path, Chester Washington Golf Course, San Gabriel River Trail and Los Angeles River Trail.

United States Army Corps of Engineers: Project impacts on the following river facilities should to be considered: Los Angeles River, Los Angeles County Flood Control District, San Gabriel River, Compton Creek and Dominguez Channel.

Noise

City of South Gate: Noise impacts must be evaluated.

Transportation/Traffic

Los Angeles World Airports: I-105 serves as a pivotal east-west corridor for travel to LAX; therefore, improvements or enhancements to the transitions from the ExpressLanes to major arterials serving LAX should be studied as part of this project.

County of Los Angeles Department of Public Works: Intersections with full or partial County jurisdiction should also use the County's methodology for determining traffic impacts and traffic mitigation.

County of Los Angeles Department of Public Works: The project should include a Construction Management Plan.

County of Los Angeles Department of Public Works: Alternative 4 requires right-of-way acquisition on local roads to expand the I-105 and is expected to impact County intersections. Therefore, arterial intersections affected by a change in traffic distributions or locations of the on/off ramps should also be included in the traffic impact analysis.

Utilities

County Sanitation Districts of Los Angeles County: Construction of the proposed project may impact existing and/or proposed Districts' facilities (e.g. trunk sewers, recycled waterline etc.).

The comments listed above have been included in the project record and coordination to address the concerns of the agencies will be ongoing throughout the life of the project. All of the agencies are included in the distribution list and will be notified during circulation of this draft environmental document.

Private Residents and Community Members Comments

The public expressed a wide range of concerns in the written and spoken comments. The primary topic of interest from all the comments was traffic/transportation. Public spoken comments mainly focused on purpose and need, community impacts, and right-of-way acquisition. Table 4-5 visually represents the concerns of the public and the number of comments received.

Table 4-5: Comment Topics Specified by the General Public

General Public Comment Topics	No. of Comments Received
Transportation/Traffic	26
General	12
Right-of-Way	3
Aesthetics	2

Property Acquisition	1
Noise	1
Community Impact Study	1
Total	**46**

Forty-six concerns were raised within the 39 comments received during the public scoping period. The topics of concern are summarized below.

Transportation and Traffic

- Consider restricting the hours trucks can use freeways.
- Improve the Metro Green Line reliability in the corridor. Increase the number of parking spots at the Metro Green Line Stations to take more vehicles off the roads.
- Consider adding lanes designated for express travel to LAX.
- Consider the addition of double decker express lanes if freeway widening is not an option.
- Extending toll lanes onto I-105 is an excellent idea that will improve traffic congestion.
- Consider adding a hard barrier between the FasTrak and regular lanes on the freeways to discourage illegal lane changes onto toll lanes.
- Toll lanes only benefit those who can afford to use them and should not be encouraged.
- The number of lanes on the freeway should not be reduced for additional toll lanes.
- Taxpayers should not have to pay to use roads.
- More Los Angeles Department of Transportation (LADOT) express buses should be added between downtown Los Angeles and the South Bay.
- Consider extending I-105 east farther past the City of Norwalk.
- Toll lanes are not effective.
- The exits on I-105 should be widened and parking structures added along the corridor.

General

- Additional individuals requested to be included in the project mailing list.
- Technology should be used to count the number of people in cars.

Right-of Way

- Additional information was requested for whether the proposed project would affect certain properties.

Aesthetics

- The messages on the electronic display signs should be updated.

Property Acquisition

- Clarification on how far into neighborhoods would the proposed property

acquisition occur if Alternative 4 is chosen was requested.

Noise

- Consider noise impacts from the project activities on neighborhoods along the I-105 corridor.

Community Impact Study

- Consider low-income users and effects on communities along the I-105 corridor.

These public comments are acknowledged and will be taken into consideration as the project continues to develop. Public input will also be solicited during circulation of this draft environmental document and addressed in the final environmental document.

Community Interaction

Public outreach efforts to engage with the communities surrounding the I-105 corridor continued after the mandated public scoping period and will be ongoing during future phases of the proposed project. Caltrans and Metro staff held periodic project update meetings at community events to keep the community informed on developments of the project, but more importantly, educate the community on the functions and usability of express lanes. These Community Event Pop-Up meetings consisted of hosting a booth at the community events listed in Table 4-6. In this way Caltrans and Metro staff members made themselves assessible to answer any questions or address general concerns the public may have on express lanes.

Stakeholder Roundtable Meetings were also held with the intention to engage community leaders to provide feedback and encourage them to serve as a channel of information for the stakeholders they represent. Invitees to the Stakeholder Roundtable Meetings included academic institutions, business associations, major employers, and community organizations.

Table 4-6: Schedule of Community Event Pop-Up and Stakeholder Roundtable Meetings

No	Date	Type	Location / Event
2018 Community Interaction			
1	February 8 and 23, 2018	Presentation	Gateway Cities COG Transportation Summit
2	February 12, 2018	Presentation	SB COG Transportation Committee
3	March 5, 2018	Presentation	Los Angeles I Westchester Neighborhood Council
4	March 13, 2018	Presentation	Los Angeles I LAX Gateway Business Improvement District Board Meeting
5	March 21, 2018	Public Scoping Meeting #1	Lennox (Lennox Park - Community Room)
6	March 22, 2018	Public Scoping Meeting #2	Los Angeles (Watts Labor Community Action Committee - Phoenix Hall)
7	March 22, 23 and 25, 2018	Community Event Pop-Up	South Gate I Azalea Festival

8	March 24, 2018	Public Scoping Meeting #3	Paramount (Paramount Community Center)
9	April 6, 2018	Presentation	El Segundo I Business Group Briefing
10	April 16, 2018	Presentation	Los Angeles I Southwest Neighborhood Council
11	May 24, 2018	Presentation	Gateway Cities COG Strategic Transportation Plan Committee
12	June 6, 2018	Presentation	Gateway Cities COG Transportation Committee
13	June 6, 2018	Presentation	Gateway Cities COG Board Meeting
14	October 28, 2018	Community Event Pop-Up	Downey I Dia de los Muertos
15	October 31, 2018	Community Event Pop-Up	South Gate I Halloween Haunt
16	November 2 and 3, 2018	Community Event Pop-Up	Lynwood I Fall Festival
17	November 27, 2018	Stakeholder Roundtable Meeting* I Western Region	West Athens
18	November 29, 2018	Stakeholder Roundtable Meeting* I Eastern Region	Downey
19	December 1, 2018	Community Event Pop-Up	Norwalk I SnowFest & Tree Lighting Ceremony
20	December 2, 2018	Community Event Pop-Up	Downey I Downey Christmas Parade
21	December 8, 2018	Community Event Pop-Up	Paramount I Breakfast with Santa
22	December 8 and 9, 2018	Community Event Pop-Up	Lynwood I Fieston Navidefio
23	December 13, 2018	Community Event Pop-Up	El Segundo I Farmer's Market
24	December 20, 2018	Community Event Pop-Up	Hawthorne I Winter Wonderland Spectacular
2019 Community Interaction			
25	January 12, 2019	Information Table (Community Meeting for Metro's NextGen Project)	Bell I NextGen Community Meeting (I-105 material distributed)

No	Date	Type	Location / Event
26	January 19, 2019	Community Event Pop-Up	Inglewood I Martin Luther King Jr. Parade
27	January 23, 2019	Information Table (hosted by Metro NextGen Project)	Compton I Metro NextGen Community Meeting (I-105 material distributed)
28	February 7, 2019	Presentation	Los Angeles I LAX Coastal Chamber of Commerce
29	February 11, 2019	Presentation	El Segundo I Chamber of Commerce
30	February 19, 2019	Presentation	Los Angeles I WattsIWillowbrook Small Business Roundtable
31	March 21, 2019	Stakeholder Roundtable Meeting* I Joint Regions	Lynwood I Round 2
32	March 23 and 24, 2019	Community Event Pop-Up	South Gate I Azalea Festival Carnival
33	April 2, 2019	Community Event Pop-Up	Norwalk I I-105 Green Line Norwalk Station (morning)
34	April 2, 2019	Community Event Pop-Up	Downey I I-105 Green Line Lakewood Station (morning)
35	April 4, 2019	Community Event Pop-Up	Los Angeles I I-105 Green Line Harbor Transit Way Station (morning)
36	April 4, 2019	Community Event Pop-Up	Los Angeles I I-105 Green Line Aviation Station (morning)
37	April 8, 2019	Community Update Meeting #1	Downey I Rancho Los Amigos National Rehabilitation Outpatient Building
38	April 10, 2019	Community Update Meeting #2	Hawthorne I Hawthorne Memorial Center
39	April 13, 2019	Community Event Pop-Up	Paramount I Eco-Friendly Event
40	April 13, 2019	Community Event Pop-Up	Hawthorne I Bunny Breakfast
41	April 20, 2019	Community Event Pop-Up	Los Angeles I Macedonia Baptist Church Easter SpringFest
42	May 4, 2019	Community Event Pop-Up	Downey I 26th Annual Downey Street Faire
43	May 10, 2019	Community Event Pop-Up	South Gate I Health Fair
44	May 11, 2019	Community Event Pop-Up	South Gate I Spring Fit 5K
45	June 4, 2019	Presentation	Westchester I Neighborhood Council of WestchesterIPlaya
46	June 14 - 16, 2019	Community Event Pop-Up	VermontIVista I Ascension Carnival 2019
47	June 29, 2019	Information Table	Los Angeles I LA Stadium
48	July 12, 2019	Presentation	Inglewood I South Bay Service Councils
49	August 8, 2019	Community Event Pop-Up (led by Metro WSAB Project)	Bellflower I Bellflower Summer Streetfest
50	August 15, 2019	Community Event Pop-Up (led by Metro WSAB Project)	Paramount Summer Concerts

51	August 21, 2019	Community Event Pop-Up (led by Metro WSAB Project)	Los Angeles I Los Angeles Southwest College
52	August 28, 2019	Business Roundtable	West Athens I Business Roundtable Kick-off
53	September 9, 2019	Presentation	El Monte I San Gabriel Valley Service Council
54	September 25, 2019	Public Hearing	Lynwood I CTC Hearing for Metro's Request for Tolling I-105
55	October 19, 2019	Community Event Pop-Up	South Gate I Family Day in the Park
56	October 21, 2019	Presentation	FuturePorts Board of Directors
57	October 26, 2019	Community Event Pop-Up	Hawthorne I Annual Fun Run & Health Fair
58	October 31, 2019	Community Event Pop-Up	Paramount I Halloween Festival
59	November 3, 2019	Community Event Pop-Up	South Gate I Dia De Los Muertos
60	November 14, 2019	Presentation	Los Angeles I Metro Gateway Cities Service Council
61	November 21, 2019	Community Event Pop-Up	El Segundo I Farmer's Market
62	December 1, 2019	Community Event Pop-Up (led by Metro WSAB Project)	Downey I Christmas Parade & Elf Run 5k
63	December 6, 2019	Community Event Pop-Up (led by Metro WSAB Project)	Bellflower I Tree Lighting Ceremony
64	December 7, 2019	Community Event Pop-Up (led by Metro WSAB Project)	Norwalk's I SnowFest & Tree Lighting Ceremony
65	December 8, 2019	Community Event Pop-Up	South Gate IChildren's Christmas Lane Parade and Festival
66	December 14, 2019	Community Event Pop-Up	Paramount I Breakfast with Santa
67	December 21, 2019	Community Event Pop-Up	Hawthorne I Winter Wonderland
2020 Community Interaction			
68	January 18, 2020	Community Event Pop-Up	Inglewood I Martin Luther King Festival

Native American Heritage Coordination

As part of AB52 of CEQA and Section 106 of the National Historic Preservation Act, consultation with tribal governments that may have interest or knowledge about the project area is required for any project that may cause a substantial adverse change in the significance of a tribal cultural resource. Early consultation notification of the project was initiated with 3 tribal representatives through submission of letters depicting preliminary project information. The letters were mailed on March 23, 2018 to:

- Soboba Band of Luiseno Indians
- Gabrieleno Band of Mission Indians-Kizh Nation
- Gabrieleno/Tongva San Gabriel Band of Mission Indians

A Sacred Lands File Search was requested from the Native American Heritage Commission (NAHC) on March 18, 2019. The search results were received on April 5, 2019 and concluded no presence of Native American cultural sites within the project vicinity. However, the NAHC identified 6 Native American contacts who may have knowledge of cultural resources in or close to the project vicinity. The 6 Native American contacts were notified of the proposed project through Section 106 and AB 52 letters on April 18, 2019. Follow-up notifications detailing refinements to the project plans were sent to all parties on September 6, 2019 and October 14, 2019. The 6 Native American contacts identified through the NAHC and their responses to the consultation efforts are described below:

- Rosemary Morillo, Soboba Band of Luiseno Indians
    - No response has been received to date.
- Andrew Salas, Chairperson, Gabrieleno Band of Mission Indians – Kizh Nation
    - Mr. Salas responded to Caltrans and along with Matthew Teutimez, the Kizh Nation tribal biologist, expressed concerns for possible sensitive areas near old trails, waterways, and Spanish ranchos where Native Americans were historically relocated.
- Robert F. Dorame, Gabrielino Tongva Indians of California Tribal Council
    - Mr. Dorame responded to Caltrans with concerns for buried resources and recommended Native American monitoring be conducted during construction of the proposed project.
- Charles Alvarez, Councilmember, Gabrielino-Tongva Tribe
    - No response has been received to date.
- Anthony Morales, Chairperson, Gabrieleno/Tongva San Gabriel Band of Mission Indians
    - No response has been received to date.
- Sandonne Goad, Chairperson, Gabrielino/Tongva Nation
    - No response has been received to date.

Caltrans will continue to consult with the interested Native American representatives as they respond to consultation efforts. Any comments or concerns provided by the representatives that would change the findings made in the cultural studies will be addressed in an addendum to the HPSR. Consultation documentation, including logs, mailed letters, and NAHC results, are located in the HPSR.

State Historic Preservation Officer Coordination

Consultation was initiated with the California State Historic Preservation Officer (SHPO) in October 2019. The project identification of historic properties received concurrence on December 4, 2020. Continued consultation with SHPO occurred in December 2020 and received agreement with the Finding of Effect and Project Programmatic Agreement on April 20, 2021. The FOE concurrence can be found in Appendix I.

Draft Document Circulation

The Draft Environmental Document was released for public review and comments between the period of May 22, 2020 and July 27, 2020. During that time, two virtual public hearings were held at 105virtualforum.net. Table 4-7 outlines the notification efforts supporting the release of the Draft Environmental Document.

Table 4-7: Notifications of the Release of the Draft Environmental Document

Media Format	Date	Sent
Announcements & Reminders – Release of Draft EIR/EA and live presentation and Q&A		
Eblast Notification	5/22/2020	1,101
Eblast Notification	5/22/2020	904
Eblast Notification	6/4/2020	915
Eblast Notification	6/11/2020	903
Eblast Notification	6/18/2020	1,131
Virtual Public Hear Notice & Comment Period Extended	7/1/2020	1,140
Reminder - Virtual Public Hear Notice & Comment Period Extended	7/7/2020	1,140
Reminder - Virtual Public Hear Notice & Comment Period Extended	7/14/2020	1,153
Today – Join Us for the Virtual Public Hearing	7/15/2020	1,152
Thank you for Participating	7/23/2020	1,159

Draft Document Comments

Comments were accepted through mail, email, online comment form and via the project helpline. A total of 247 comments were submitted during the comment period. Comments and Responses can be found in Appendix H. Most of the comments receive were submitted electronically or as part of the Virtual Presentation/Q&A during the two virtual public hearings. Table 4-8 shows the breakdown of how comments were submitted.

Table 4-8: Comment Submission Methods

Media Format	# of comments
Online Comment Forms	50
Email	39
Virtual Public Hearing #2 (7/15/2020)	36
Social Media	35
Virtual Public Hearing #1 (6/11/2020)	31
Metro's The Source	7
Project Hotline	4
Total	247

The public expressed a wide range of concerns on the Draft Environmental Document in written and spoken comments. Several comments fit into multiple environmental categories. The primary topics of interest from all the comments were Noise and Transportation. The following Table 4-9 visually represents the concerns of the public and the number of comments received. Responses to public comments can be found in Appendix H.

Table 4-9: Public Comments on DED by Category

General Public Comment Topics	No. of Comments Received	General Public Comment Topics	No. of Comments Received
General	49	Right-of-Way	4
Transportation/Traffic	35	Construction	4
Environmental Justice	25	Outreach	4
Operations	17	Parking	2
Alternatives	13	Cultural Resources	2
Funding	9	Biological Resources	1
Air Quality	5	Community Resources	1
Enforcement	5		

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The following Caltrans and Metro staff members and consultants contributed to the preparation of this document.

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Appendices

Appendix A. Section 4(f)

Section 4(f) *De Minimis* Determination(s)

This section of the document discusses *de minimis* impact determinations under Section 4(f). Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This amendment provides that once the U.S. Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required, and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) *de minimis* findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

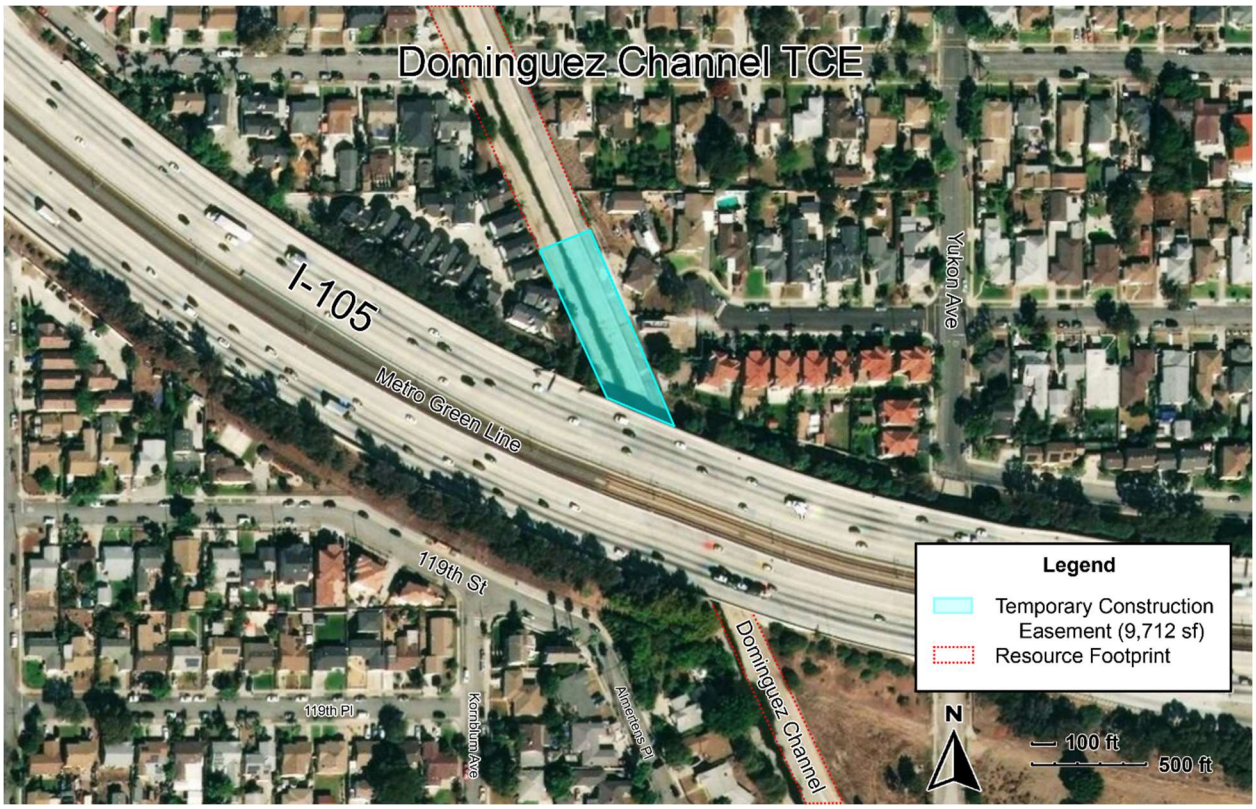
Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 USC 326 and 327, including *de minimis* impact determinations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

Dominguez Historic Channel District

The Dominguez Channel traverses through the City of Inglewood within the I-105 ExpressLanes Project area and is within the Area of Potential Effects (APE) and is eligible for the National Register. Therefore, this property is subject to protection under the requirements of Section 4(f).

Alternative 2 and 3 would require minor reprofiling of the maintenance access road to satisfy minimum vertical clearance of Dominguez Channel Bridge (No. 53-2518) being widened. The Dominguez Channel Bridge would be widening by a maximum of 12 feet on the Westbound side and Eastbound side. This proposed work will require a TCE of approximately 35,787 Square Feet, as shown in Figure A-2. The minor reprofiling of the maintenance access road, lowering the maintenance road by 1.5 feet under I-105, would not result in any change of ownership or any modifications to the use of the maintenance road. The channel itself will not be modified by the project, the channel bottom and walls, and fencing will remain. Therefore, this segment of the Dominguez Channel would continue to be eligible for the National Register of Historic Places.

Figure A-2: TCE at Dominguez Channel



The build alternatives would have no adverse effects on this historic resource under Section 106 of the NHPA, and written concurrence from SHPO was received on April 20, 2021. Therefore, Caltrans has made a *de minimis* determination for the project effects related to the TCE. A copy of the concurrence letter from SHPO can be found in Appendix I.

Resources Evaluated Relative to the Requirements of Section 4(f)

This section discusses parks, recreational facilities, wildlife refuges, and historic sites found within or next to the project area that do not trigger Section 4(f) protection because either (1) they are not publicly owned, (2) they are not open to the public, (3) they are not National Register-eligible historic properties, (4) the project does not permanently use the property and does not hinder the preservation of the property, or (5) the proximity impacts do not result in constructive use.

The resources listed in Table A-1 were determined to not trigger protection under the requirements of Section 4(f) as a result of the Build Alternatives. There is no permanent or constructive use of these resources by the Build Alternatives. The resources within 0.5 mile of the proposed I-105 ExpressLanes Project were evaluated to assess whether project-related effects would result in proximity impacts after mitigation that would be so severe that the activities, features, and/or attributes of the property are substantially impaired resulting in the value of the resource in terms of its Section 4(f) significance being meaningfully reduced or lost.

For properties listed in Table A-1 that are not publicly owned, the provisions of Section 4(f) are not triggered.

For those properties that are eligible Section 4(f) resources, the proposed project will not cause a constructive use because the proximity impacts will not substantially impair the protected activities, features or attributes of the resource.

Section 4(f) Use for Interstate 105 Freeway-Transitway Historic District

One form of Section 4(f) use occurs when land is permanently incorporated into a transportation facility. This occurs when the land from a Section 4(f) property is either purchased outright as transportation right-of-way or when the applicant for federal-aid funds has acquired a property interest that allows permanent access onto the property such as a permanent easement for maintenance or other-transportation related purpose.

The Section 4(f) Policy Paper issued by the USDOT FHWA's Office of Planning, Environment, and Realty Project Development and Environmental Review on July 20, 2012, addresses the issue of historic transportation facilities in Question and Answer 8A:

> "The Section 4(f) statue imposes conditions on the use of land from historic sites for highway projects but makes no mention of bridges, highways, or other types of facilities such as railroad stations or terminal buildings, which may be historic and are already serving as transportation facilities. The FHWA's interpretation is that the Congress clearly did not intend to restrict the rehabilitation or repair, of historic transportation facilities. The FHWA therefore established a regulatory provision that Section 4(f) approval is required only when a historic bridge, highway, railroad, or other transportation facility is adversely affected by the proposed project; e.g., the historic integrity (for which the facility was determined eligible for the NR) is adversely affected by the proposed project" (see Code 23 of Federal Regulations [CFR] 774.13 (a)."

A Historic Property Survey Report (HPSR) was prepared in October 2019 and submitted the SHPO for concurrence. The SHPO concurred the I-105 Freeway-Transitway Historic District is

eligible for inclusion in the NRHP. A Finding of Effect with Programmatic Agreement was prepared by Caltrans and was concurred upon by the SHPO on April 20, 2021, which can be found in Appendix I. Therefore, Section 4(f) is not triggered for the Interstate 105 Freeway-Transitway Historic District as the historic integrity will not be adversely affected.

Table A-1: Resources in the I-105 ExpressLanes Project Study Area

Resources in the I-105 ExpressLanes Project Study Area	Why Section 4(f) is not triggered?
El Segundo	
Clutter's Park	No permanent incorporation; no proximity impacts due to intervening developing and topography.
El Segundo Dog Park	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Center Street Elementary School	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Independence Park	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Constitution Park	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Washington Park	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Sycamore Park	No permanent incorporation; no proximity impacts due to intervening developing and topography.
St. John's Preschool	Not publicly owned; no permanent incorporation; no proximity impacts due to intervening developing and topography.

Campus El Segundo Athletic Fields	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Camp Eucalyptus	Restricted access and no permanent incorporation; no proximity impacts due to intervening developing and topography.
Hawthorne	
Juan De Anza Elementary School	No permanent incorporation; no proximity impacts due to intervening developing and topography.
York Elementary School	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Beach Boys Historic Landmark	No permanent incorporation and given the minimal impacts of the proposed projects near the Landmark, proximity impacts do not rise to the level of substantial impairment.
Holly Park	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Chester Washington Golf Course	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Inglewood	
Center Park	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Lockhaven Center Playground	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Bennett/Kew Elementary School	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Amino Leadership Highschool	No permanent incorporation; no proximity impacts due to intervening developing and topography.

Worthington Elementary School	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Lennox	
Lennox Community Garden	No permanent incorporation; no proximity impacts due to intervening developing and topography.
City of Los Angeles	
William Nickerson Recreation Center	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Imperial Courts Recreation Center	No permanent incorporation; no proximity impacts due to intervening developing and topography
111th Place Neighborhood Park	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Faith and Hope Park	No permanent incorporation; no proximity impacts due to intervening developing and topography.
Watts Serenity Park/Monitor Skatepark	No permanent incorporation; no proximity impacts due to intervening developing and topography
Martin Luther King Jr. Fitness Garden	No permanent incorporation; no proximity impacts due to intervening developing and topography
Lynwood	
Lynwood Park	No permanent incorporation; no proximity impacts due to intervening developing and topography
Rose Park	No permanent incorporation; no proximity impacts due to intervening developing and topography

Carnation Park	No permanent incorporation; no proximity impacts due to intervening developing and topography
Yvonne Burke-John D Ham Park	No permanent incorporation; and given the minimal impacts of the proposed project near the park, proximity impacts do not rise to the level of substantial impairment.
Adolfo Medina Memorial Park	No permanent incorporation; no proximity impacts due to intervening developing and topography
Los Amigos East Park	No permanent incorporation; no proximity impacts due to intervening developing and topography
Lincoln Elementary School	No permanent incorporation; no proximity impacts due to intervening developing and topography
Plaza Mexico	No permanent incorporation; and given the minimal impacts of the proposed project near the park, proximity impacts do not rise to the level of substantial impairment.
Richard Lara Linear Park	No permanent incorporation; During construction at Fir Street, the overhead crossing will be widened, which will require Fir Street to be reprofiled to keep standard vertical clearance. As a result of the reprofiling, the curb lines will need to be realigned to keep ADA ramps consistent. The street will be temporarily closed for a couple of months and access to the Ricardo Lara Linear Park would be detoured to the other side of the block. The construction activities would not result in any permanent adverse physical impacts in that area and would not interfere with the protected activities, features, or attributes of that portion of the park on a permanent basis.
Paramount	
All American Park	No permanent incorporation; no proximity impacts due to intervening developing and topography

Pequeno Park	No permanent incorporation; no proximity impacts due to intervening developing and topography
Roosevelt Elementary School	No permanent incorporation; and given the minimal impacts of the proposed project near the school, proximity impacts do not rise to the level of substantial impairment.
Downey	
Golden Park	No permanent incorporation; no proximity impacts due to intervening developing and topography
Independence Park	No permanent incorporation; no proximity impacts due to intervening developing and topography
Discovery Sports Complex	No permanent incorporation; no proximity impacts due to intervening developing and topography
Columbus High School Joint-Use	No permanent incorporation; no proximity impacts due to intervening developing and topography
EW Ward Elementary School	No permanent incorporation; and given the minimal impacts of the proposed project near the school, proximity impacts do not rise to the level of substantial impairment.
Bellflower	
T. Mayne Thompson Park	No permanent incorporation; no proximity impacts due to intervening developing and topography
St. John Bosco High School	No permanent incorporation; no proximity impacts due to intervening developing and topography
Norwalk	
New River Park	No permanent incorporation; no proximity impacts due to intervening developing and topography

Los Angeles County	
Lennox Park	No permanent incorporation; no proximity impacts due to intervening developing and topography
Chester L Washington Golf Course	No permanent incorporation; no proximity impacts due to intervening developing and topography
Lennox Middle School	No permanent incorporation; no proximity impacts due to intervening developing and topography
Mona Park	No permanent incorporation; no proximity impacts due to intervening developing and topography
George Washington Carver Park	No permanent incorporation; no proximity impacts due to intervening developing and topography
Compton Creek Walking Path	No permanent incorporation; no proximity impacts due to intervening developing and topography. The nearest access point begins on E 118th Street.
San Gabriel River and Bike Trail	No permanent incorporation; and given the minimal impacts of the proposed project near the trail, proximity impacts do not rise to the level of substantial impairment.
Earvin “Magic” Johnson Recreation Area	No permanent incorporation; no proximity impacts due to intervening developing and topography
Los Angeles River Bike Path	No permanent incorporation; Work at this location only involve restriping; there is no widening involved. Therefore, there would be no direct temporary or permanent impact to the Los Angeles River Bike Path. Proximity impacts of restriping work on the bridge over the LA River do not rise to the level of substantial impairment.
Los Angeles River Trail	No permanent incorporation of the facility. Works at this location does not involve any widening of any structures over the Multi-use Trail. Only restriping would be involved.

	Therefore, there would be no direct temporary or permanent impacts to the Los Angeles River Trail. Proximity impacts of the restriping work on the bridge over the LA River are minor and do not rise to the level of substantial impairment.

Appendix B. Acronyms

AADT	Annual Average Daily Traffic
AB	Assembly Bill
AC	asphalt concrete
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-Containing Materials
ACS	American Community Survey
ADA	Americans with Disabilities
ADL	Aerially deposited lead
APE	Area of Potential Effects
Ave	Avenue
Blvd	Boulevard
BTUs	British thermal units
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
CHP	California Highway Patrol
CNPS	California Native Plant Society
CO	carbon monoxide
CTC	California Transportation Commission
CWA	Clean Water Act
dBA	A-weighted decibels
DOT	Department of Transportation
EB	Eastbound
EIR/EA	Environmental Impact Report/Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ETC	Electronic Toll Collection
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact

FSTIP	Federal Statewide Transportation Improvement Program
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Programs
H&SC	Health and Safety Code
H_2S	hydrogen sulfide
HCM	Highway Capacity Manual
HOT	High Occupancy Toll
HOV	high-occupancy vehicle
Hwy	Highway
I-105	Interstate 105
I-405	Interstate 405
I-605	Interstate 605
IC	Interchange
ITS	intelligent transportation systems
LACDPW	Los Angeles County Department of Public Works
LACSD	Los Angeles County Sanitation District
LADWP	Los Angeles Department of Water and Power
LAX	Los Angeles International Airport
LBP	Lead-Based Paint
LEDPA	least environmentally damaging practicable alternative
LOS	Level of Service
LRT	Light Rail Transit
MBTA	Migratory Bird Treaty Act
Metro	Los Angeles County Metropolitan Transportation Authority
MLD	Most Likely Descendent
MOU	Memorandum of Understanding
mph	miles per hour
MPO	Metropolitan Planning Organization
MS4	municipal separate storm sewer system
MSAT	Mobile Source Air Toxics
MVP	Maintenance Vehicle Pullouts
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NB	Northbound
NEPA	National Environmental Policy Act
NES(MI)	Natural Environmental Study (Minimal impacts)
NESHAP	National Emission Standard for Hazardous Air Pollutants
NIS	new impervious surface

NO_2	nitrogen dioxide
NOA	Notice of Availability
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	ozone
OC	Overcrossing
OSHA	Occupational Safety and Health Act
PA	Programmatic Agreement
Pac. Bell	Pacific Bell
Pb	lead
PCC	Portland cement concrete
PCTA	post construction treatment area
PGA	Peak Ground Acceleration
Pilot Program	Surface Transportation Project Delivery Pilot Program
PLAC	permits, licenses, agreements, and certifications
PM	particulate matter
PM_{10}	particles of 10 micrometers or smaller
$PM_{2.5}$	particles of 2.5 micrometers and smaller
POAQC	project of air quality concern
PRC	Public Resources Code
PT&T	Pacific Telephone and Telegraph
RAP	Relocation Assistance Program
RE	Resident Engineer
RTDM	Regional Travel Demand Model
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Southbound
SCAG	Southern California Association of Governments
SCAQMD	Southern California Air Quality Management District
SCE	Southern California Edison
SCG	Southern California Ga
SCS	Sustainable Communities Strategy
SCWC	Southern California Water Coalition
SDC	Seismic Design Criteria
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan

SO_2	sulfur dioxide
SOV	single occupancy vehicles
SR-110	State Route 110
St	Street
SWDR	Storm Water Data Report
SWRCB	State Water Resources Control Board
TCE	temporary construction easement
TDM	Transportation Demand Management
TMDLs	Total Maximum Daily Load
TMP	Traffic Management Plan
TMS	transportation management systems
TOD	Transit Oriented District
TSCA	Toxic Substances Control Act
TSM	Transportation System Management
U.S.	United States
UC	Undercrossing
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USDOT	United States Department of Transportation
UST	underground storage tanks
VHD	Vehicle Hours Delay
VMT	Vehicles Miles Traveled
WB	Westbound
WDR	Waste Discharge Requirement
WPCP	Water Pollution Control Program

Appendix C. Environmental Commitment Record

DIST-CO-RTE: 07 - LA - 105 **PM/PM:** R2.100/R17.800 **EA/Project ID:** 07-31450_ / 0715000122
Project Description: HOT LANES
Date (Last modification):
Environmental Planner: Le Chen **Phone:** 213-897-4595
Construction Liaison: **Phone:**
Resident Engineer: **Phone:**

PERMITS

Permit	Agency	Application Submitted	Permit Received	Permit Expiration	Permit Requirements Completed by	Permit Requirements Completed on	Comments

ENVIRONMENTAL COMMITMENTS

PS&E/BEFORE RTL

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Air Quality	Environmentally sensitive areas (ESAs) will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.	Env Doc		Air Quality (AQ) Specialist, Resident Engineer (RE)						
Biology	The project shall include a tree replacement plan.	Env Doc		Bio, Landscape						
Biology	Coordinating will be done with USACOE, Regional WQCB, LA County Flood Control District, and CADFW during early Design Phase to determine the need for 404/408, 401 and 1600 permits. If needed, these permits shall be obtained during this phase.	Env Doc		Bio, Project Engineeer (PE), Hysdaulics						
Biology	None of the species on the California list of invasive species will be used by the Caltrans for erosion control or landscaping.	Env Doc		Bio, Landscape						
Biology	Coordinating will be done with USACOE, Regional WQCB, LA County Flood Control District, and CADFW during early Design Phase to determine the need for 404/408, 401 and 1600 permits. If needed, these permits shall be obtained during this phase.	Env Doc		Bio, Project Engineeer, Hysdaulics						
Community Impact Assessment	The Project Team will coordinate with the LA County a minimum of 60 days in advance of any work that may affect County's multiuse trail, as indicated in the comment.	Response to comments L-10.1		Design, ECL						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Cultural Resources	Cul7 - Extended Phase I Archaeological Resource Identification Plan (XPI). Archaeological resource identification will require stages of archaeological excavation and monitoring within the Archaeological Focus Area during PS&E and construction. Extended Phase I (XPI) archaeological investigations will occur during PS&E in isolated locations within the Focus Area under the supervision of the Caltrans Project Archaeologist and with the presence of a Native American monitor. The course of action taken upon the discovery of any cultural materials during XPI investigations will be determined in accordance with the Project specific PA and CRMP. Archaeological investigations during construction will coincide with the removal of sidewalk and hardscape within the construction footprint. To the extent feasible, archaeological investigations shall be given access to previously paved locations as hardscape is removed. Construction may resume following investigations within previous hardscape areas with the presence of archaeological and Native American monitors.	Env Doc		Cultural					
Cultural Resources	Cul3 - Pre-Construction Testing Report: Within 90 days of the completion of the pre-construction field efforts outlined in the CRMP, Caltrans will submit to the PA Parties a draft Pre-Construction Testing Report summarizing the results of any XPI and data recovery, identifying the remaining areas of sensitivity within the Focus Area, proposing protection or treatment measures to be implemented during construction, and requesting comments.The PA Parties will have 30 days from the submittal of the draft report to provide comments. Caltrans will consult for no more than 60 days on the proposed protection or treatment measures. Caltrans shall take all comments and input gleaned during consultation into account before issuing a final Pre-Construction Testing Report.	Env Doc		Cultural, RE					
Hazardous Waste	Conduct soil and/or groundwater sampling within project area/ project corridor and within proposed TCE and Partial fee acquisition areas, to address the identified recognized areas of environmental concern. All sampling activities are to be completed during the PS&E phase of the project and prior to any parcel acquisitions.	Env Doc		Hazardous Waste Specialist (HW)						
Hazardous Waste	Should construction occur within the footprint of the existing monitoring wells at the Former Witco Chemical Site, coordination with the DTSC shall commence and the wells will be relocated.	Env Doc		HW, RE						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Visual Resources	The Project Team shall consider incorporating sweeping round poles for ExpressLane signage.	Env Doc		PE, Landscape						
Visual Resources	The replacement landscape design would not change dramatically from the existing design. Plant forms and character would not deviate significantly from the original planting theme.	Env Doc		Landscape						
Visual Resources	As-built drawings, available photos, google street views, and on-site visits will be utilized to reconstruct the landscape.	Env Doc		Landscape						
Visual Resources	Roadside landscapes contribute to urban forestry and biodiversity habitats, which provide perching and nesting opportunities for birds and shelter for other urban adapted wildlife. To continue bird perching opportunities, 50% of Eucalyptus trees replacement trees must be Platanus Racemosa.	Env Doc		Landscape, Bio						
Visual Resources	California pepper trees removed will be replaced with Engelman Oaks on a 1:1 ratio.	Env Doc		Landscape, Bio						
Visual Resources	Nectar/larval host plants are encouraged, such as; Cercis Occidenatlis, Plumbago Imperial Blue, Rhus Integrifolia, Lantana Camara.	Env Doc		Landscape, Bio						
Visual Resources	In the event, landscaping cannot be replaced in some areas, or there is a net loss of landscaping, areas on I-105 east of I-710 will be identified for mass planting of trees and nectar/larval host plants.	Env Doc		Landscape, Bio						
Visual Resources	All trees removed will adhere to a replacement tree ratio of 1:1.	Env Doc		Landscape, Bio						
Visual Resources	Replacement costs for landscaping shall be no lower than $97,000 per acre.	Env Doc		Landscape						
Visual Resources	Eliminate visual clutter and distraction by consolidating facilities/signage where possible or placing facilities/signage close by.	Env Doc		Landscape						
Visual Resources	Design all visible concrete structures and surfaces to visually blend with the adjacent landscaping and natural plantings.	Env Doc		Landscape, PE, Structure						
Visual Resources	Any lighting replaced or relocated shall use Light Emitting Diodes (LED) lighting fixtures and glare shields to avoid lighting spillover.	Env Doc		Landscape, PE						
Visual Resources	Any replaced outside bridge railings will match the aesthetic design theme of the corridor.	Env Doc		Landscape, Structure						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Visual Resources	Retaining walls will conform to the standard District-7 aesthetic treatment of fractured rib texture. If the retaining wall exceeds 300 feet, a graphic theme will also be included.	Env Doc		Landscape, PE						
Visual Resources	The consultant landscape architect will coordinate with the District Landscape Architect to formulate initial planting concepts and replacement planting strategies.	Env Doc		Landscape						
Water Quality	A new calculation on NIS, PCTA, and treatment BMP will be more defined in the next phase of the SWDR.	Env Doc		Landscape, Design Stormwater						
Other	As part of the Plans, Specifications, and Estimates, a construction efficiency plan would be prepared, which may include the following: · Reuse of existing rail, steel, and lumber wherever possible, such as for falsework, shoring, and other applications during the construction process. · Recycling of asphalt taken up from roadways, if practicable and cost-effective. · Use of newer, more energy-efficient equipment where feasible, and maintenance of older construction equipment to keep in good working order. · Scheduling of construction operations to efficiently use construction equipment (e.g., only haul waste when haul trucks are full and combine smaller dozer operations into a single comprehensive operation, where possible). · Promotion of construction employee carpooling.	Env Doc		PE						
Climate Change	The project features would include some complete street elements, including ADA curb ramps and modification of signals at some ramp termini. In addition, as part of this project, metro would spend surplus toll revenue on increased transmit service and possibly award net toll grants to active transportation and transit projects in the corridor. These would facilitate multimodal transportation, which would help reduce GHGs.	Env Doc		Design						
Design	Metro and Caltrans will coordinate with the City of Los Angeles during the development and execution of the project TMP	Response to comments L-2.2		Design, DTP						
Design/Hydraulics	Caltrans will coordinate with both LA County Flood Control District and ACOE regarding permit requirements.	Response to comments L-5.2		Design, Hydraulics, Bio						
Parks and	The Project Team will coordinate with the County Parks	Public		RE,						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
recreation	and Recreation Department at least 60 days in advance of any work affecting any county's multi-use trails. If trail closure is needed, detour and other provisions shall be provided as indicated in the comment letter. See LA County Parks Comment Letter for more details.	comments/responses		Generalist/ECL						
Traffic	Metro will work with LAWA and LADOT to identify measures to reduce future delay at the affected intersections.	Public comments/responses		Traffic, PM, Metro PM						

PRE-CONSTRUCTION

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Biology	This project must employ all appropriate Stormwater and Erosion Control Best Management Practices, and these must be incorporated into the project specifications. Prior to the start of construction, all drain inlets and outlets must be protected to prevent construction materials and/or debris from entering drainages.	Env Doc		PE, RE						
Biology	The District Biologist must be invited to the pre-construction meeting with one week prior notice where proper disposal / identification of invasive species will be discussed.	Env Doc		Bio, RE						
Community Impact Assessment	It is important when conducting outreach to make sure communities know the above policies and Low-Income Assistance Plan are available. Outreach efforts should be made to notify members of the public of their existence and the qualifications required to use them.	Env Doc		PM/Metro Public Outreach						
Cultural Resources	Caltrans is developing a Historic Properties Treatment Plan (HPTP) to plan for the identification, evaluation, and treatment of archaeological resources should they be discovered during construction. The HPTP will be appended to the project Finding of Effect document. Provisions outlined in HPTP will be followed during construction.	Env Doc		Cultural						
Hazardous Waste	An Aerially Deposited Lead (ADL) site investigation shall be conducted within the project area to evaluate potential presence of ADL in soils that will be disturbed during soil excavation and earthwork planned for construction activities.	Env Doc		HW, RE						
Hazardous Waste	A Health and Safety Plan/Lead compliance plan shall be prepared for worker protection and public safety from exposure to contaminated soils during construction activities.	Env Doc		RE, HW						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Hazardous Waste	An Asbestos-Containing Materials (ACM) and Lead-Based Paint (LBP) surveys shall be done for work related to utility relocations, bridge alterations/demolitions, oil field appurtenances, or structures suspected to be coated with LBP or construction with ACM.	Env Doc		RE, HW						
Hazardous Waste	A Work Plan for thermoplastic paint removal, containment, profile, transportation, and disposal per Caltrans standard special provisions and standard specifications shall be prepared by the General Contractor.	Env Doc		RE, HW						
Visual Resources	Landscape Architect shall be included when designing suitable plant replacement palette.	Env Doc		Landscape, PE						
Water Quality	A SWPPP shall be prepare for the project and will address all construction-related activities, equipment, and materials that have the potential to affect water quality.	Env Doc		RE, Construction SWPPP						
Water Quality	Per NPDES requirements, a dewatering plan would be prepared to guide the response to undocumented soil or groundwater contamination.	Env Doc		RE, HW						

CONSTRUCTION

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Air Quality	The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2018). Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.	Env Doc		RE						
Air Quality	All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust during transportation.	Env Doc		RE						
Air Quality	Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to reduce PM emissions.	Env Doc		RE						
Air Quality	To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.	Env Doc		RE, DTM						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Air Quality	Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown PM in the area.	Env Doc		RE						
Air Quality	Water or a dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions must meet a "no visible dust" criterion either at the right-of-way line according to the SCAQMD Rule 403.	Env Doc		RE						
Air Quality	Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.	Env Doc		RE						
Air Quality	Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.	Env Doc		AQ, RE						
Air Quality	Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by CA Code of Regulations Title 17, Section 93114.	Env Doc		RE						
Air Quality	A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely re-vegetation of disturbed slopes as needed to minimize construction impacts to existing communities.	Env Doc		RE						
Air Quality	Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.	Env Doc		RE						
Air Quality	Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used.	Env Doc		RE, SWPPP						
Biology	If vegetation removal is needed, or loud machinery is to be used, it is recommended that all vegetation removal and loud noise-making machinery use occur outside of bird nesting season which is from February 1st- September 1st. Should vegetation removal or noise-making machinery be used during this period, the District Biologist shall be notified two weeks prior to the start of construction to determine if nesting birds are present. In the event that nesting birds are observed, the Resident Engineer (RE) should pause work until a qualified biologist has determined that fledglings have left the nest. If this is not possible, the RE should coordinate with the District Biologist to minimize the risk of violating the Migratory Bird Treaty Act (MBTA). Most likely, the District Biologist will recommend a buffer of 150 ft. for songbirds and a buffer of 500 ft. for raptors during all phases of construction. Nesting birds are protected under the MBTA and cannot be impacted by construction activities, including noise and dust pollution. If	Env Doc		Bio, RE						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
	vegetation is to be removed, this is a change in scope, and the Biology unit must be notified. No work shall commence until the vegetation to be removed has been surveyed for nesting birds and cleared by the District Biologist.									
Biology	Use existing pull outs and parking lots for staging and storing and avoid the removal of existing native vegetation.	Env Doc		Bio						
Biology	No work adjacent to the bed, bank, and channels of these waters will occur during the rainy season.	Env Doc		PE, Bio, RE						
Community Impact Assessment	If homeless individuals will need to be relocated from the right of way prior to construction of the proposed project, Caltrans will provide A Notice of Vacate which provides advance notice of the date on which belongings will be removed, information on where belongings will be stored and for how long, and information on community services available.	Env Doc		Homeless Liaison, RE						
Community Impact Assessment	As standard practice for all Caltrans construction projects that potentially have traffic impacts, a Traffic Management Plan will be established in order to minimize those effects. The full details of the plan will be determined in the next phase of project planning, but a TMP will typically include elements such as public information, motorist information, incident management, construction, demand management, and alternate routes or detours. Public information plans may include brochures and mailers, press releases/media alerts, paid advertisements, a project website, and information distributed by public meetings or public hearings in order to inform the public ahead of time of construction and delays. Information may be disseminated to motorists via traffic radio announcement, changeable message signs, temporary motorist signs, or any other signage that could give notice of construction. Special incident management may be put into place, where traffic management teams, Intelligent Transportation Systems (ITS), surveillance equipment, or tow/freeway service patrols could monitor and assist where needed. During construction, lane requirement charts, construction staging, or traffic handling plans may be utilized to minimize traffic impacts that result from reduced lane widths or closures, reduced shoulder widths or closures, lane shifts, ramp closures, or nightwork. Alternate routes or detours may be marked where available. Transportation Management Plans sometimes also include agreements with local agencies for coordination during construction. These agreements could provide for	Env Doc		DTM, RE						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
	enhanced infrastructure on arterial roads and intersections to handle detoured traffic, or even traffic personnel near the construction zone.									
Community Impact Assessment	For the bus stops affected by ROW acquisition in Alternative 3, notification must be given to the public and to the bus operator, Metro Local. The bus stops may need to be relocated or temporarily skipped during construction, and details of such arrangements will be planned in full during the next phase of the project. After construction is complete, the bus stops will be replaced near their current locations.	Env Doc		RE,						
Community Impact Assessment	The potential improvement measures to address I-105 Ramps Intersection in table X shall be incorporated into the project.	Env Doc		PE, Traffic						
Community Impact Assessment	A traffic management plan will be put in place for the duration of construction to minimize the effects of delays or closures.	Env Doc		DTM, RE						
Community Impact Assessment	All emergency and utility services will be contacted before construction and made aware of construction schedules and any road closures ahead of time.	Env Doc		RE						
Cultural Resources	Cul6 - If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the Coroner to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to California Public Resource Code (PRC) Section 5097.98, will then notify the Most Likely Descendant (MLD). At that time, the person who discovered the remains will contact the Caltrans District 7 Environmental Branch Chief or the District 7 Project Archaeologist so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.	Env Doc		Cultural						
Cultural Resources	Cul1- Health and Safety Plan: Caltrans has identified contaminated soils within eastern segment of the Focus Area. Caltrans will develop a Health and Safety Plan prior to the commencement of further phased efforts detailed in the CRMP to guide safety precautions for field crew and provide alternative treatment methods for archaeological sites with contaminated soils. The Health and Safety Plan will apply to all archaeological investigations within the	Env Doc		RE, Cultural						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
	Focus Area and will be appended to the CRMP, which will not require amending this PA.									
Cultural Resources	Cul2 - Archaeological Discoveries: If primary archaeological deposits are encountered during the pre-construction field efforts outlined in the CRMP, Caltrans will notify the PA parties of the find within 48 hours, provide basic information about the nature and context of the resource, and solicit comments or concerns. Caltrans, with input from the Native American Monitor, will simultaneously conduct boundary definition investigations for the resource, as outlined in the CRMP. Caltrans will assume any primary archaeological deposit within the Undertaking's Area of Direct Impact (ADI) to be eligible for listing on the National Register Under Criterion D. Based on the comments or concerns from the initial discovery notification and the results of the boundary definition efforts, Caltrans will determine if an assumption under additional National Register Criteria is appropriate and if the resource can be protected from effects through the establishment of an Environmentally Sensitive Area (ESA) during construction or if treatment through data recovery is necessary. If Caltrans determines that that the historic property can be protected from effects through the establishment of an ESA, no further ground disturbing investigations will take place within the property boundary. Caltrans will develop an ESA Action Plan to guide the enforcement of any ESAs during construction. The ESA Action Plan will be included in the Final Pre-Construction Testing Report. If Caltrans, in consultation with the PA Parties, determines that a historic property cannot be protected from effects of the Undertaking, Caltrans will provide a secondary notification and consult with the PA Parties on proposed treatment measures. The secondary notification will provide updated site description and boundary mapping, propose protection or treatment measures, and solicit comments.The PA Parties will have seven (7) days from the date of the secondary notification to provide comments. Caltrans will take all comments and concerns into account to determine the appropriate course of action and provide a final notification before moving forward.	Env Doc		RE, Cultural					
Hazardous Waste	Treated wood waste must be handled, stored, transportation, and disposed of per California regulations.	Env Doc		HW						
Noise	All acoustically feasible and reasonable soundwalls approved by benefitted received will be constructed.	Env Doc		PE, Noise						
Visual Resources	The use of recycled water is encouraged if available.	Env Doc		RE, PE						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Water Quality	All Construction Site BMPs would be installed, inspected and maintained to control and minimize the impacts of construction-related pollutants.	Env Doc		RE						
Water Quality	Should an excavation need to be dewatered, groundwater would be disposed of according to NPDES dewatering permit requirements.	Env Doc		RE, HW						

POST-CONSTRUCTION

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Community Impact Assessment	Metro currently has policies in place to allow for all groups to have equal opportunity to access and use the ExpressLanes for I-10 and I-110. It is recommended that these policies will continue to be in place and apply to the ExpressLanes on I-105 in order to minimize financial burdens on low-income drivers. As discussed in section 4.2.1.5, Toll Projects, the Low-Income Assistance Plan provides a $25 credit and waives the monthly maintenance fees, thus relieving financial stress caused by this new requirement. Frequent transit riders can also take advantage of the Transit Rewards Program to earn monetary credits toward ExpressLane tolls.	Env Doc		PM, Metro Public Outreach						
Right-of-way	Parcels that require TCEs for alternative 3 will be restored to their original use after project completion, after which TCEs are no longer necessary.	Env Doc		ROW, RE						
Section 4(f)	Access to parks will be maintained or provided at all time.	Env Doc		PE, RE						

PA&ED, PS&E

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Air Quality	Upon completion of the final environmental document and selection of the preferred alternative, Caltrans and Metro will coordinate with SCAG to determine the need for the preferred alternative to substitute the current TCM; and to proceed with the substitution as required	Response to comments F-1.1		AQ Specialist, Metro PM						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA

POST CONSTRUCTION

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Cultural Resources	Cul5 - Post-Construction Phase, Construction Completion Notification Report: Within 30 days of the completion of Construction, Caltrans will submit to the PA Parties for review and comment a letter report notifying the PA Parties that construction has concluded and summarizing the results of the monitoring effort. If appropriate, Caltrans will notify the PA Parties of a proposed Finding of No Adverse Effect-ESA for the Undertaking, as provided in Section 6.4.1 of the CRMP, and the Undertaking will not be subject to further review under this PA. Otherwise, Caltrans will continue consultation according to Section 6.4.2 of the CRMP and Stipulation III.C.3.c of this PA. If a PA Party objects in writing to the proposed Finding of No Adverse Effect-ESA, Caltrans will consult for no more than 30 days to attempt to resolve the objection. At the end of the 30-day window, Caltrans will take all comments and information gained through consultation into account and submit to the PA Parties a plan of action or notification that a Finding of No Adverse Effect is appropriate for the Project. Any further objection shall be resolved according to Stipulation VII.C of the PA. The Project will not be subject to further review following the completion of this process, unless otherwise resolved during consultation. Note: For mitigation if needed: Unless determined otherwise through consultation, the preference for alternative mitigation will be towards the development of an interpretive program of physical and/or digital exhibits open to the public. Caltrans will determine the nature, location, and content of the exhibits in consultation with the PA Parties. Caltrans will have no obligation to develop alternative mitigation options if the Project results in no	Env Doc		Cultural, RE						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA

PRIOR TO CONSTRUCTION AND

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Cultural Resources	Cul4 - Archaeological Discoveries: Caltrans will notify the PA Parties within 48 hours of the discovery of a potential historic property or unanticipated effect to a known historic property. The notification will include a description of the nature and location of the find, Action(s) taken to protect the find, notification of an assumption of eligibility under Criterion D and solicitation of significance under additional criteria, and proposed avoidance and treatment measures.The PA Parties will have 48 hours from the date of the notification to respond with comments and recommendations. Caltrans will take into account the comments and recommendations provided in carrying out the final treatment measures.	Env Doc		Cultural, RE						

PS/E, BEFOR ERTL

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Climate Change	GHG1 – In an effort to help reduce operational GHGs, the Project Team would, during the Design Phase, consider the design and installation of long-life pavement structures to minimize life-cycle costs.	Env Doc		Design						

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA

PS&E/BEFORE RTL AND

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Cultural Resources	Cul8 - Archaeological Monitoring Area (AMA). An Archaeological Monitoring Area will be instated to identify potential archaeological resources within the Archaeological Focus Area. A California Department of Transportation (Caltrans) Professionally Qualified Staff (PQS) qualified monitor (or similarly qualified archaeological consultant) along with a Native American observer will monitor all Project ground-disturbing activities within the Archaeological Focus Area. The Caltrans Resident Engineer will be responsible for identifying scheduled ground-disturbing Project activities and will immediately notify the Caltrans project archaeologist to schedule qualified archaeological and Native American monitors. The AMA will remain in force throughout the duration of the project. When construction activities are complete, the Resident Engineer will inform the Caltrans project archaeologist that construction work has been completed. Refer to Cultural Resources Management Plan for the full list of tasks included to protect potential archaeological resources.	Env Doc		Cultural, RE					

PS&E/BEFORE RTL

Category	Task and Brief Description	Source	Included in PS&E Package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA
Community Impact Assessment/EJ	Metro will continue to consider additional measures to assist low income drivers travelling on the corridor.	Public comments/responses		Metro PM/Generalist/EC, PM						
Community Impact Assessment/EJ	During the development of Final Design (PS&E) Caltrans & Metro will consider and incorporate measures that support equity, environmental justice and community values by minimizing construction impacts to those who may be directly impacted.	Public comments/responses		Metro PM/Generalist/EC, PM						

Appendix D. Notice of Preparation

NOTICE OF PREPARATION

To: Responsible, Trustee, and Federal Agencies

From: California Dept. of Transportation
100 South Main Street, MS 16A
Los Angeles, CA 90012

Subject: **Notice of Preparation of a Draft Environmental Impact Report**
Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Project Title: **I-105 ExpressLanes Project**

Project Location: **07-LA-105 PM R0.50/R18.15 through the cites of El Segundo, Inglewood, Hawthorne, Los Angeles, Lynwood, South Gate, Paramount, Downey, Norwalk, and unincorporated areas of Los Angeles County**

Project Description: **The California Department of Transportation (Caltrans), and the Los Angeles County Metropolitan Transportation Authority (Metro)** will study the possible implementation of ExpressLanes along Interstate 105 (I-105) between Interstate 405 (I-405) and Interstate 605 (I-605). The project will also study the I-105 west of the I-405 to Sepulveda Boulevard and east of the I-605 to Studebaker Road to identify potential signage locations and access points into the ExpressLanes.

This is to inform you that Caltrans will be the lead agency and will prepare an Environmental Impact Report (EIR) for the project described below. Your participation as a Responsible Agency or Trustee Agency is requested in the preparation and review of this document.

We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

A more detailed project description, location map, and the potential environmental effects are contained in the attached materials.

A copy of the Initial Study (___is) (__X__is not) attached.

Public scoping meetings will be held to provide an overview of the Project, summarize the environmental planning process, and receive input regarding the environmental issues and the suggested scope and content of the EIR. These meetings will include the required agency and public scoping. Please refer to the table below for meeting dates and locations:

I-105 EXPRESSLANES PROJECT Scoping Meeting Series – March 2018		
Meeting	Date and time	Location
Agency Scoping Meeting	Wednesday, 3/21/2018, 3:00 - 5:00pm	Lennox Park, Community Room: 10828 Condon Avenue, Lennox, CA 90304

I-105 EXPRESSLANES PROJECT Scoping Meeting Series – March 2018		
Meeting	Date and time	Location
Public Scoping Meeting #1	Wednesday, 3/21/2018, 6:00 - 8:00pm	Lennox Park, Community Room: 10828 Condon Avenue, Lennox, CA 90304
Public Scoping Meeting #2	Thursday, 3/22/2018, 6:00 - 8:00pm	Watts Labor Community Action Committee, Phoenix Hall: 10950 S. Central Avenue, Los Angeles, CA 90059
Public Scoping Meeting #3	Saturday, 3/24/2018, 9:30 -11:30 am	Paramount Community Center: 14400 Paramount Boulevard, Paramount, CA 90723

Please direct your response by April 16, 2018 to **Ronald Kosinski, Deputy District Director, Division of Environmental Planning, Caltrans District 7, 100 South Main Street, MS 16A, Los Angeles, CA 90012;** Telephone **(213) 897-0703**. Please supply us with the name for a contact person in your agency.

Date March 7, 2018

Signature Ronald Kosinski

Title Deputy District Director
Division of Environmental Planning
Department of Transportation, District 7

Appendix E List of Technical Studies

Traffic Study Report by WSP in January 2021

Scenic Resource Evaluation and Visual Impact Assessment by Caltrans in October 2019

Historic Property Survey Report by Caltrans in October 2019

Finding of Effect with Programmatic Agreement, March 2021

Archeological Survey Report by Caltrans in October 2019

Location Hydraulic Study Form by WSP in November 2019

Water Quality Assessment Report by WSP in November 2019

Geologic and Seismic Hazards Report by Diaz Yourman & Associates in May 2019

Preliminary Hazardous Waste Assessment by Caltrans in November 2019

Air Quality Report by Caltrans in February 2021

Traffic Noise Study Report by Caltrans in December 2019

Noise Abatement Decision Report by WSP in March 2020

Energy Study by ICF International in November 2019

Natural Environmental Study Minimal Impacts by Caltrans in September 2019

Paleontological Review Memo-to-File by Caltrans in October 2019

Community Impact Assessment by Caltrans in December 2019

Preliminary Drainage Report by HNTB Corporation in November 2019

Appendix F Project Level Conformity Determination

U.S. Department of Transportation
Federal Highway Administration

California Division

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (FAX)

February 24, 2021

In Reply, Refer To:
HDA-CA

Tony Tavares, District Director
California Department of Transportation
District 7
100 South Main Street, Suite 100
Los Angeles, CA 90012-3606

SUBJECT: Project Level Conformity Determination for the Interstate Route 105 (I-105) Express Lanes Project (MPO FTIP ID LA0G1324)

Dear Mr. Tony Tavares:

On January 22, 2021, the California Department of Transportation (Caltrans) submitted to the Federal Highway Administration (FHWA) a complete request for a project level conformity determination for the Interstate Route 105 (I-105) Express Lanes Project. The project is in an area that is designated Non-Attainment or Maintenance for Ozone, Carbon Monoxide (CO) and Particulate Matter (PM10, PM 2.5).

The project level conformity analysis submitted by Caltrans indicates that the project-level transportation conformity requirements of 40 CFR Part 93 have been met. The project is included in the Southern California Association of Governments' (SCAG) current Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP), as amended. The design concept and scope of the preferred alternative have not changed significantly from those assumed in the regional emissions analysis.

As required by 40 CFR 93.116 and 93.123, the localized PM2.5 and PM10 analyses are included in the documentation. The analyses demonstrate that the project will not create any new violations of the standards or increase the severity or number of existing violations.

Based on the information provided, FHWA finds that the Interstate Route 105 (I-105) Express Lanes Project conforms with the State Implementation Plan (SIP) in accordance with 40 CFR Part 93.

If you have any questions pertaining to this conformity finding, please contact Joseph Vaughn at (916) 498-5346 or Joseph.Vaughn@dot.gov.

Sincerely,

ANTONIO JOHNSON

Digitally signed by ANTONIO JOHNSON
Date: 2021.02.24 12:55:18 -08'00'

Antonio Johnson
Team Leader, Planning and Air Quality
Federal Highway Administration

Appendix G Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

November 2019

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

Toks Omishakin
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Appendix H Comments and Responses

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

July 6, 2020

Ron Kosinski
Deputy District Director
Caltrans District 7
Division of Environmental Planning
100 Main Street, MS 16A
Los Angeles, California 90012

Subject: Draft Environmental Assessment for the I-105 ExpressLanes Project, Los Angeles County, California

Dear Deputy Director Kosinski:

The U.S. Environmental Protection Agency has reviewed the above-referenced document. Our review is pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The proposed project would add one or two Express Lanes along roughly 18 miles of the I-105. Alternative 2 would convert the existing HOV lane into an Express Lane. Alternative 3, which is identified as the Locally Preferred Alternative, would convert the existing HOV lane into an Express Lane and add a second Express Lane. The EPA provides the following recommendations to assist the California Department of Transportation in determining whether a "Finding of No Significant Impact" can be concluded following the completion of the Environmental Assessment process.

Air Quality

The project would take place in a federal nonattainment area for ozone (extreme) and $PM_{2.5}$ (serious) and a maintenance area for PM_{10} and carbon monoxide. According to page 243, construction and operational emissions indicate that the project would adversely affect air quality during both phases. We appreciate Caltrans' efforts to consider methods to reduce impacts to air quality through the use of managed lanes and construction mitigation; however, given the poor air quality in the project area, and the presence of nearby sensitive receptors and other vulnerable populations, we encourage Caltrans consider additional opportunities to reduce the project's air quality impacts.

F-1.1

Recommendations for the Final EA:

- As described in our April 16, 2018 scoping comments, we recommend that Caltrans coordinate with the Southern California Association of Governments to determine whether the project would be considered a Transportation Control Measure, and, if so, whether it would require TCM substitution. Please document this coordination in the Final EA.
- Consider mitigation measures to reduce impacts to any nearby residential areas and sensitive receptors that would experience an increase in criteria pollutant or MSAT emissions from the project's operational phase.
- In addition to measures Air1 through Air13, we recommend the following mitigation for

Response to Comment F-1.1

Caltrans had begun coordination with SCAG in March 2018 regarding the potential requirement to substitute the current Transportation Control Measure (TCM). The I-105 HOV is currently modeled as a single lane HOV TCM in SCAG's regional emissions model. Caltrans, Metro, and SCAG had discussed in March 2018 that the current TCM may need to be substituted when a preferred alternative is selected and is determined that the status of the current TCM requires changes. Upon completion of the final environmental document and selection of the preferred alternative, Caltrans and Metro will coordinate with SCAG to determine the need for the preferred alternative to substitute the current TCM; and to proceed with the substitution as required.

Caltrans and Metro acknowledge all additional recommended measures and will include them to the greatest extent feasible. Most of the recommended measures are already included in the minimization measures Air1 through Air13 that apply to all the Build Alternatives and would reduce emissions from fugitive dust and vehicle exhaust during the construction phase of the project. Recommended measures would also be accomplished by implementation of the Caltrans Standard Construction Specifications and SCAQM rules and regulations applicable to the project.

For the operational phase of the project, majority of emissions associated with the project alternatives are from mobile sources. Poor levels of service associated with traffic congestion results in high average delays and lower vehicle speeds which increases emissions from vehicles and worsens local and regional air quality. The purpose of the proposed project is to improve existing congestion and enhance traffic operations and mobility on I-105. The project proposes to enhance operations and improve trip reliability and travel time within the corridor; and to improve the traffic flow by reducing the congested areas and offering the motorists a faster and reliable commute.

consideration:

Mobile and Stationary Source Controls
- Lease or buy newer, cleaner equipment using the best available emissions control technologies.
- Use lower-emitting engines and fuels, including electric, liquified gas, hydrogen fuel cells, and/or alternative diesel formulations, where feasible.

Administrative Controls
- Coordinate with appropriate air quality agencies to identify a construction schedule that minimizes cumulative impacts from other planned projects in the region, if feasible.
- Avoid routing truck traffic near sensitive land uses to the fullest extent feasible.
- Use cement blended with the maximum feasible amount of industrial materials that can be reused to reduce greenhouse gas emissions from cement production.
- Use lighter-colored pavement where feasible.
- Recycle construction debris to the maximum extent feasible.
- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking.[1]
- Reduce construction-related trips of workers and equipment, including trucks.

F-1.1 cont'd

Environmental Justice

The project has the potential to disproportionately impact low-income drivers who may be unable to afford the cost of using tolled Express Lanes. The Draft EA briefly describes Metro's "ExpressLanes Final Low-Income Assessment Report" and highlights two barriers that low-income drivers would face in using Express Lanes that were identified in the report. Measure EJ1 indicates that provisions of Metro's existing Low-Income Assistance Plan would apply to the I-105 Express Lanes, including offering a $25 credit, waiving the monthly maintenance fee, and allowing participation in a Transit Rewards Program and a Carpool Loyalty Program. Measure EJ2 highlights the importance of public outreach to ensure that users of the I-105 are aware of the Low-Income Assistance Plan.

Recommendations for the Final EA:

F-1.2

- Provide additional information from the equity assessment performed for Metro's Express Lanes program. Summarize additional key findings on the effects of toll lanes on low-income motorists. Clarify whether the current Low-Income Assistance Plan addresses all main equity concerns identified in the report. If it does not, please also clarify whether there are any additional recommendations from the report that could be addressed through the proposed project, if appropriate.
- Consider including additional measures to ensure that the project is implemented in the most equitable manner possible (e.g., offering additional credits that can be used to acquire transponders or pay tolls).

Impacts to Waters of the U.S.

The Draft EA states that Alternative 3 would require a Clean Water Act Section 404 permit for impacts to the Dominguez Channel and concludes that these impacts would be less-than-significant because the

[1] Suitability of control devices is based on: whether there is reduced normal availability of the construction equipment due to increased downtime and/or power output, whether there may be significant damage caused to the construction equipment engine, or whether there may be a significant risk to nearby workers or the public.

Response to F-1.1 cont'd

Based on Appendix E in FHWA's Updated Interim Guidance Update on MSAT in NEPA (October 18, 2016), FHWA has provided guidance on strategies for construction MSAT emissions. Those strategies include reduction of operating times, reducing the number of trips and extended idling as well as use of verified emissions control technology retrofits or fleet modernization of engines. This guidance is consistent with Caltrans Standard Specifications for Construction cited in Measure Air1. This measure includes restrictions in unnecessary vehicle idling, use of clean engine technologies, use of low sulfur content diesel fuels, use of emission control devices, reduction in traffic congestion related to project activities and other measures to reduce the emissions of MSATs. The project also proposes to improve the traffic flow by reducing the congested areas and offering the motorists a faster and reliable commute. Based on the elements proposed in the project, analyses to evaluate impacts from MSAT were conducted as provided in the February 2021 AQR; and showed that all future Build Alternatives would result in decrease in all priority MSAT emissions when compared to the 2017 Baseline. While increase in most MSAT emissions is anticipated for the Build Alternatives when compared to the No-Build Alternative in each respective future year, Alternative 2 would result in decrease in DPM when compared to the No-Build Alternative throughout all future years.
Consistent with the requirements of CEQA and NEPA, if new or substantially worse impacts are determined during final design to occur for the preferred alternative, additional environmental evaluation such as a supplemental EIR/EA, focused on those new or substantially worse impacts, could be required.

scope of work would be minor (p. 321). The Dominguez Channel drains a highly industrialized area with numerous nonpoint sources of pollution. It contains persistent legacy pesticides, resulting in poor sediment quality both within the Channel and in adjacent Inner Harbor areas.[2] Given historical degredation on the Channel, as well as the many efforts to improve the watershed, the EPA recommends including additional information noted below in the Final EA to demonstrate that Caltrans is taking necessary and available steps to ensure that the proposed project satisfies CWA requirements.

Recommendations for the Final EA:

- Ensure that the Final EA characterizes waters of the U.S. in the project area. Include a detailed description of the historic degradation of the Dominguez Channel.
- Provide information from any jurisdictional delineations performed for the project.
- Provide a detailed description of work proposed within WOUS. For example, please explain what type of drainage would be installed within the Dominguez Channel. Include maps that indicate where the project would impact WOUS.
- Include estimates for temporary and permanent direct and indirect impacts to affected WOUS.
- Describe measures that would be taken to avoid and minimize impacts to WOUS.
- Include a commitment to coordinate with the U.S. Army Corps of Engineers and the EPA to determine appropriate mitigation for any impacts to wetlands.
- Confirm coordination with the Regional Water Quality Control Board and include additional information characterizing past and current efforts to address the health of the watershed. Confirm that the project will not negatively affect ongoing and planned improvement efforts.

F-1.3

We appreciate the opportunity to provide feedback on the Draft EA. Please send an electronic copy of the Final EA when it becomes available to capilla.morgan@epa.gov. If you have any questions, please contact me at 415-947-4167, or Morgan Capilla, the lead reviewer for this project, at 415-972-3504 or capilla.morgan@epa.gov.

Sincerely,

For Jean Prijatel
Manager, Environmental Review Branch

cc via email:
Brenda Powell-Jones, Caltrans
Kelly Dunlap, Caltrans
Veronica Li, U.S. Army Corps of Engineers
Lijin Sun, South Coast Air Quality Management District
L.B. Nye, Los Angeles Regional Water Quality Control Board

[2] https://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/Water_Quality_and_Watersheds/dominguez_channel/summary.shtml

Response to Comment F-1.2

Additional information about the equity assessment performed for Metro Express Lane Program, including the key findings has been added. Please see Section 2.1.6.3 of the final EIR/EA for details.
Metro has implemented the recommendations from the Low Income Impact Analysis completed for the I-10/110 ExpressLanes. The Analysis made the following recommendations: establish “low-income” threshold of $35,000 per year (2009 $) along with a potential alternative threshold about $10,000 higher; suggested Metro consider providing toll credits; consider accommodating the needs of low-income commuters who might not have bank or credit card accounts; potential performance measures; and survey approaches.

Metro currently has a Low Income Assistance Plan (LIAP) that defines low income as twice the Federal poverty level, provides a $25 one-time credit, and waives the $1 monthly maintenance fee. In addition, Metro provides the option of opening a cash account for those who do not have a credit card. For more details, please go to metroexpresslanes.net. Metro’s LIAP maintains, on average, more than 16,200 active accounts (2.85% of all accounts). Overall, based on recent internal data, LIAP users took nearly 1.3 million trips during the first 11 months of 2019. This represents 4.3 percent of all trips and more than 5.8 percent of HOV2 or HOV3 trips. In 2019, each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes. Metro regularly conducts outreach to inform the public of the availability of the LIAP and will continue to consider additional measures to assist low- income drivers.

Response to Comment F-1.3

The following discussion has been added in the Biological Section 2.2.10.2: "Historically, Dominguez channel and the area around the channel consisted of marshes and mudflats. Near the beginning of the 20th century, channels were dredged, marshes were filled, wharves were constructed, the Los Angeles River was diverted, and a breakwater was constructed in order to allow deep draft ships to be directly offloaded and products swiftly moved. The Dominguez Slough was completely channelized in the mid 1900's in an effect to provide flood protection to much of the South Bay area.

Compton creek was once one of the many tributary channels of the Los Angeles River. Located entirely within the alluvial, coastal floodplain of the Los Angeles River, this low-gradient stream was historically dominated by freshwater marshes and willow-cottonwood forest. This water system was eventually channelized and is now constrained within a concrete box channel for most of its flow. The lower 2.7 miles have reinforced sides and an earthen bottom, and supports a mixture of native riparian vegetation and invasive species. It also supports a residual avian wetland community including red-winged blackbird, great blue heron, green-backed heron, black-crowned night heron, great and snowy egret, killdeer, black-necked stilt, and mallard, in addition to a variety of native and exotic song-birds."

The following discussion has been added in the Biology Section 2.2.10.3:
"Temporary access to the channel and creek for a short period of time would be needed to build false work and to remove the false work after construction is done at this location. The false work is anticipated to be outside of Compton Creek and Dominguez channel.

At the Dominguez Channel, Alternative 3 would involve widening of the freeway bridge by 10' on each side of the bridge. In order to accommodate this widening, bridge abutments would be extended, and the western maintenance path along the Dominguez Channel directly under the bridge and within approximately 200 feet north of the bridge, which does not include the channel wall, would be lowered by 1.5' to provide maximum required vertical clearance. In addition, due to the lowering of the maintenance path at this location, there is a potential for stormwater runoff pooling, therefore a channel wall scupper would be created at this location for draining potential pooled water. At Compton Creek, this alternative would also involve similar bridge widening and extension of bridge abutments. Project would employ all appropriate Stormwater and Erosion Control Best Management Practices, Prior to the start of construction, all drain inlets would be protected to prevent construction materials and/or debris from entering the channel and creek.

An encroachment permit would be needed from the Los Angeles County Flood Control District, and a Section 408 permit may also be needed. In addition, it is anticipated that Section 404, Section 401 and 1600 permits will be needed from the U.S. Army Corps of Engineers Regional Water Quality Control Board, and the California Department of Fish and Wildlife. Further coordination with the Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife and Los Angeles County Flood Control District regarding the above permits will be done during the Design Phase, when the project scope is more refined."

State Agency Letter – CA Highway Patrol

State of California — Transportation Agency

Memorandum

Date: May 29, 2020

To: Southern Division (501)

From: **DEPARTMENT OF CALIFORNIA HIGHWAY PATROL**
Special Projects Section

File No.: 063.A10212.A14630.Noc.Doc

Subject: ENVIRONMENTAL DOCUMENT REVIEW AND RESPONSE
SCH# 2018031037

Special Projects Section (SPS) recently received the referenced "Notice of Completion" environmental impact document from the State Clearinghouse (SCH).

Due to the project's geographical proximity to the Southern Division, please use the attached checklist to assess its potential impact to local Area operations and public safety. If it is determined that departmental input is advisable, your written comments referencing the above SCH number must be sent to the lead agency and emailed to state.clearinghouse@opr.ca.gov. Your written comments must be received by SCH no later than **July 6, 2020**. For reference, additional information can be found in General Order 41.2, Environmental Impact Documents. S-1

For project tracking purposes, SPS must be notified of Southern Division's assessment of the project (including negative reports). Please e-mail a copy of Area's response to Associate Governmental Program Leah Mora at LeMora@chp.ca.gov. For questions or concerns, please contact Mrs. Mora at (916) 843-3370.

Christopher Narvaez, For
L. NARVAEZ, SSM III
Commander

Attachments: Checklist
Project File

Safety, Service, and Security — *An Internationally Accredited Agency*
CHP 51 (Rev. 06/2013) OPI 076

Response to Comment S-1

Metro and Caltrans have coordinated and held several meetings with CHP to discuss this project including the Concept of Operations and enforcement. In addition, CHP, Metro, and Caltrans conducted a field visit of the I-105 to review the feasibility of proposed observation and enforcement areas.

Local Agency Letter 1 – Los Angeles World Airports

Los Angeles World Airports

July 31, 2020

Mr. Ronald Kosinski, Deputy District Director
Caltrans District 7
Division of Environmental Planning
100 S Main St, MS-16A
Los Angeles, CA 90012

RE: LOS ANGELES WORLD AIRPORTS COMMENTS - I-105 EXPRESSLANES PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT

Dear Mr. Kosinski:

Los Angeles World Airports (LAWA) submits these comments for consideration for the Los Angeles County Metropolitan Transportation Authority's (Metro) Draft Environmental Impact Report/Environmental Assessment (EIR/EA) for the **I-105 ExpressLanes Project.**

A central east-west corridor, Interstate 105 (I-105), connects to the 3rd busiest airport in the world, Los Angeles International Airport (LAX), which also handles over 2.4 million tons of cargo per year and is a major employment center for the region. The I-105 freeway experiences heavy congestion throughout the day and demands on the facility exceed the capacity in both the General Purpose and High Occupancy Vehicle lanes. During peak periods, travel times over the 16-mile corridor can be two to three times longer than off-peak periods.

The Draft EIR/EA indicated that your Project analyzed eight intersections for traffic signal improvements, of which, only one was near LAX, the I-105 WB Ramps/Imperial Highway ramp. For people traveling to and from LAX to fully benefit from the I-105 ExpressLanes project, LAWA is requesting that the project analyze and provide improvements to mitigate the delays at the following locations near LAX: **L-1**

- I-105 WB Off-Ramp/NB Sepulveda Boulevard
- I-105 EB On-Ramp/Imperial Highway
- Sepulveda Boulevard/Imperial Highway
- Aviation Boulevard/Imperial Highway

Historically, these locations experience a significant level of congestion and delay throughout the day.

1 World Way Los Angeles California 90045-5803 Mail P.O. Box 92216 Los Angeles California 90009-2216 Telephone 855 463 5252 Internet www.lawa.org

Response to Comment L-1

The intersections referenced in the comment are discussed in Section 2.1.9.4, Table 2-58, and Section 2.1.9.6. Tables 2-96 and 2-97 of the Final EIR/EA. Of the four intersections, Sepulveda/Imperial Hwy and Aviation/Imperial Hwy show an increase in delay within Level of Service F in the 2047 PM Peak period compared to the No Build alternative. Metro will work with LAWA and LADOT to identify measures to reduce future delay at these intersections.

At times, this delay severely impacts access to and from airport property. Any additional delays to traffic at these locations could cause additional backups for the movement of vehicular traffic through this area.

When comparing the dual ExpressLanes (alternative 3) to the no-build for the above locations, the Project's original data shows improvements and delays of up to 4 seconds in its 2027 anaylsis for AM and PM traffic. However, in 2047, the data indicates a 21 to 23-second increase in delay during the PM peak hour at the intersections of Sepulveda Boulevard/Imperial Highway and Aviation Boulevard/Imperial Highway.

L-1 cont'd

Project staff has indicated that these delays could potentially be addressed through modified traffic signal timing since default timing was assumed for the original analysis. LAWA would like to request that the study also include and define what the modified traffic signal timing improvements will be as well as the new Level of Service (LOS) for these locations that were not defined as part of the Draft EIR/EA.

We appreciate your consideration of these issues in the Final EIR/EA phase of the Project. We hope that both Metro and Caltrans will work with LAWA to address the needs of those traveling to and from LAX.

Thank you in advance for your consideration of our comments.

Sincerely,

Justin Erbacci
Chief Executive Officer
Los Angeles World Airports

cc: Samantha Bricker, Chief Environmental and Sustainability Officer
Michelle Schwartz, Chief External Affairs Officer
Robert Falcon, Deputy Executive Director, Planning and Development
Mark Adams, Director of Government Affairs
John Bulinski, Caltrans District 7 Director
Phillip Washington, Metro Chief Executive Officer

Local Agency Letter 2 – LA Department of Transportation

CITY OF LOS ANGELES
CALIFORNIA

Seleta J. Reynolds
GENERAL MANAGER

DEPARTMENT OF TRANSPORTATION
100 South Main Street, 10th Floor
Los Angeles, California 90012
(213) 972-8470
FAX (213) 972-8410

ERIC GARCETTI
MAYOR

July 27, 2020

Ronald Kosinski, Deputy District Director
Caltrans, District 7
Division on Environmental Planning
100 South Main Street, MS-16A
Los Angeles, Ca 90012

I-105 EXPRESSLANES PROJECT – DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) [SCH #2018031037]

Dear Mr. Kosinski:

The City of Los Angeles Department of Transportation (LADOT) appreciates the opportunity to review the Draft Environmental Impact Report (DEIR), dated April 2020, for the proposed I-105 Expresslanes Project. According to the Project Description, the project would convert the existing HOV operation on the I-105 Freeway to an Expresslanes operation from the City of El Segundo (west of the I-405) to the City of Norwalk (east of the I-605). LADOT fully concurs with the Purpose and Need statements of the EIR and agrees that implementation of the project will create a strong asset for enhancing operations, managing congestion and improving traffic flow through the corridor. Nonetheless, in order to ensure appropriate redress to potential project impacts to the City of Los Angeles, we respectfully offer the following comments for your consideration:

TRAFFIC STUDY REPORT - As part of the mitigation package discussed in the Access and Circulation section (2.1.9.6) of the report, the project cites a potential signal phasing and lane configuration improvement (Table 2-98) at the I-105 EB Ramps & Central Avenue intersection in the City of Los Angeles. Therefore, in order to confirm the details of the analysis that provides the basis for this proposal, LADOT requests to receive a complete copy of the project Traffic Study Report in order to ensure that appropriate understanding and consideration to the design and implementation of this improvement is given. **L-2.1**

TRAFFIC MANAGEMENT PLAN - As discussed in the Avoidance, Minimization, and/or Mitigation Measures section (2.1.9.7) of the report, the development of a comprehensive Traffic Management Plan (TMP), will be critical to ensuring that potential project impacts are minimized. Therefore, in order to further this objective, LADOT requests that coordination with appropriate City staff be provided during the development and execution of the project TMP. **L-2.2**

It should be noted that all transportation improvements and associated traffic signal work within the City of Los Angeles will require final review and approval through the City's Bureau of Engineering B-Permit Program. Other suggested cooperative mitigation should be coordinated through LADOT's West Los Angeles and Coastal Planning and Development Review Office.

Response to Comment L-2.1
The Traffic Study Report and appendices have been provided to LADOT.

Response to Comment L-2.2
Metro and Caltrans will coordinate with the City of Los Angeles during the development and execution of the project TMP.

CONCLUSION

LADOT appreciates Caltrans' leadership in advancing this important project. It is LADOT's opinion that the environmental report adequately discloses the potential transportation changes and impacts to the I-105 corridor and adjacent intersections attributable to the Project. The City of Los Angeles holds congestion relief, reduction of single occupant vehicles, and coordination with regional partners as guiding principles in our goal of Moving LA Forward. Therefore, in order to ensure the best possible strategy for fully addressing the potential impacts of this project, it is imperative that the final environmental impact review process ensure ongoing collaboration with LADOT so that critical coordination details can be fully explored and a final collaborative addressment plan can be determined. L-2.3

If you have any questions, please contact Robert Sanchez at Robert.sanchez-jr@lacity.org.

Sincerely,

Edward Guerrero Jr.
Senior Transportation Engineer

c: *Council District 8*
Council District 11
Council District 15

Response to Comment L-2.3
Caltrans and Metro will continue to coordinate with the City during later phases of the project.

Local Agency Letter 3 – City of Paramount

THE CITY
Safe, Healthy, and Attractive

Planning Department
(562) 220-2036

July 27, 2020

ATTN: Ronald Kosinki, Deputy District Director
Caltrans District 7
Division of Environmental Planning
100 S Main St, MS-16A
Los Angeles, CA 90012

RE: Draft Environmental Impact Report/Environmental Assessment (EIR/EA), Project Report, Concept of Operations and Traffic & Revenue Study for the I-105 ExpressLanes Project

Dear Mr. Kosinki:

This letter is in regard to request for comments to the release of the Draft Environmental Impact Report/Environmental Assessment (EIR/EA), Project Report, Concept of Operations (ConOps) and Traffic & Revenue Study for the I-105 ExpressLanes Project. The City of Paramount ("City") appreciates the opportunity to comment on the project. The City generally supports the project with minimized impact to private property, particularly properties along the entrances, exits, and junctions within City boundaries. L-3.1 Additionally, the City supports the project so long as a permanent and fair percentage of revenue generated through the project is directed to the City. The City also seeks to retain local control of expenditures received from the conversion of HOV (high occupancy vehide) lane(s) into HOT (high-occupancy toll) lane(s). L-3.2

The City is particularly concerned about any air and water quality impacts that may result from the project during the HOT lane-conversion time. We are committed to maintaining clean air and water and encourage the project to exceed all South Coast Air Quality Management District and State Water Resources Control Board and Regional Water Quality Control Boards requirements. L-3.3 Furthermore, the City requests that the project result in maximum pedestrian safety improvements. Please note that it is essential for the ExpressLanes and West Santa Ana Branch light rail corridor projects to coordinate to the benefit of the Paramount community with shared and enhanced measures and results. L-3.4 Finally, for communication and explanation purposes, the City requests a Paramount-specific project guide to be widely distributed to the Paramount community-at-large.

Thank you again for the opportunity to review and comment on the project. We look forward to reviewing the Final EIR and commenting on future developments.

If you have any questions, please contact me at (562) 220-2048 or by email at jcarver@paramountcity.com.

CITY OF PARAMOUNT

John Carver
Planning Director

Response to Comment L-3.1
The goal of Alternative 3 (dual ExpressLanes), which is now the Preferred Alternative, is to minimize right of way impacts to the greatest extent possible. Alternative 3 would require structure widenings that are detailed in Table 1-2 on page 30 of the EIR. Alternative 3 would stay mostly within the existing Caltrans right of way except for partial acquisitions and Temporary Construction Easements that are detailed in Table 2-44 on page 99 of the EIR. Alternative 3 would not require any full property takes.

Response to Comment L-3.2
The tolling authority granted by the California Transportation Commission to Metro for the I-105 ExpressLanes project in October 2019 states that the project will adhere to Streets and Highways Code 149.7, which specifies that revenue generated from the operation of the toll facility will be used to pay for debt, operation and maintenance, and reserves. All remaining revenues are to be spent within the corridor that it was generated. Because the project is expected to have a funding gap of $501 million that will require bonding against toll revenue, toll revenue generated by the I-105 ExpressLanes would go first to debt service and then to pay for operations and maintenance.

Response to L-3.2 cont'd
Metro also intends to use toll revenue to fund increased transit service operating in the corridor, as is currently done on the I-10/110 ExpressLanes though it is possible that virtually all of the toll revenue generated will be used to pay for debt service and operations and maintenance. After all of these items are paid for, if there is additional revenue remaining then Metro would grant net toll revenue to projects in the I-105 corridor on a competitive basis. To date, there have been 2 rounds of net toll grants on the I-10 and I-110 corridors in 2014 and 2016

Response to Comment L-3.3
Analyses have been completed to evaluate and assess air quality impacts due to the implementation of the proposed project. As the proposed project is within the jurisdiction of South Coast Air Basin (SCAB), contractors working on this project must comply with South Coast Air Quality Management District (SCAQMD) Rule 403, Fugitive Dust Control Rule. Furthermore, the Caltrans Standard Specifications mandate the contractors to comply with all air pollution control rules, regulations, ordinances, and statues that apply to work activities that will be performed under this construction contract, including air pollution control rules, regulations, ordinances and statues provided in the Government Code 11017(Pub Con Code 10231).

Response to Comment L-3.4
Build Alternative 3 proposes to replace sidewalks, ADA ramps, and bikeway connections in accordance with local City standards at the following locations: Imperial Highway between Mona Blvd. and Fernwood Ave., Dominguez Channel Walkway, and Central Avenue, Fir Street, Bullis Road, and Harris Avenue where they intersect the I-105 freeway. The I-105 ExpressLanes and West Santa Ana Branch (WSAB) project teams have been working closely to accommodate a new Metro C (Green) Line platform connection to the WSAB and the ExpressLanes project. The two teams will continue to coordinate to maximize efficiency and reduce potential impacts to the public. Fact sheets on the project and on ExpressLanes in general can be found at metro.net/105expresslanes. When the project enters the construction phase, then Metro can work with the City of Paramount to identify potential methods to effectively reach the community.

Public Works Department
Arturo Cervantes, P.E., Assistant City Manager/Director of Public Works
8650 California Avenue, South Gate, CA 90280-3004
P: (323) 357-9657 F: (323) 563-9572
www.cityofsouthgate.org

July 27, 2020

Mr. Ronald Kosinski
Deputy District Director
Division of Environmental Planning
Caltrans, District 7
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: CITY COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT/ ENVIRONMENTAL ASSESSMENT AND SECTION 4(F) DE MINIMIS EVALUATION FOR THE I-105 EXPRESSLANES PROJECTS DATED APRIL 2020 (DRAFT EIR)

Dear Mr. Kosinski:

The City Has reviewed the Draft EIR and offers the following comments:

- During the project's scoping process, the City submitted the following comments and notes that they were not addressed by incorporating them into the project, and hereby submits them again:
  - Consider incorporating a fifth alternative as means to mitigate potential impacts to low income motorists. This alternative could include one High-Occupancy Vehicle (HOV) lane and one express lane. This proposal aims to avoid financial impacts to low-income families. **L-4.1**
    - How was this comment taken into consideration? Was it demonstrated that the proposal for two express lanes out performs the proposal for an express lane and a standard HOV lane when you consider the core project purpose?
  - What is the anticipated benefit by having an express lane versus a general purpose lane? **L-4.2**
    - How was this comment taken into consideration? Was it demonstrated that the proposal for two express lanes out performs the proposal for four general

Response to Comment L-4.1

The City's scoping comments were considered. However, adding ExpressLanes to the I-105 while maintaining the existing HOV lane would present significant operational challenges. First, access into the innermost lane, whether it is ExpressLanes or a HOV lane, would require cars to weave and merge past the #2 lane, which could be either HOV or ExpressLanes. This could result in safety issues and a reduction of roadway capacity due to the large number of cars weaving between the two lanes. Second, two sets of signage would be required, one for the HOV lane and one for the ExpressLanes. HOV signs would designate the minimum occupancy requirement to travel in the HOV lane, which lane is the HOV lane, and where drivers can enter and exit. In addition, the ExpressLanes would require toll rate signs, toll gantries for the ExpressLanes, advance signage to notify drivers of ingress/egress locations, and travel time signs. It would be difficult and additional ROW would be needed to install the required signage and still meet MUTCD (Manual of Uniform Traffic Control Devices) regulations. Third, enforcement of toll payment in the ExpressLanes and occupancy requirements in the HOV lane would be extremely challenging because vehicles would be able to switch between the two lanes to avoid toll payment. In addition to operational challenges, an HOV lane would not utilize lane capacity as much as ExpressLanes would. During the AM westbound and PM eastbound peak periods in 2027, dual ExpressLanes maximize throughput by utilizing between 68-81% of lane capacity, whereas a dual HOV lane would utilize 41-65% of lane capacity. As with the current HOV lane, carpools would also remain free in the ExpressLanes; only single occupant vehicles would pay a toll. Furthermore, Metro has a Low Income Assistance Plan to help low income users access the ExpressLanes. More details on the Low Income Assistance Plan can be found at metroexpresslanes.net.

purpose lanes and one express lane when you consider the core project purpose?

- If an HOV lane is not considered, a tier system for fees should be offered to consider low income families.
  - What was the basis for not proposing a tiered system of fees for the project, to accommodate low income communities?

L-4.3

- Consider programming revenue from the project by reinvesting it in local transportation projects along the I-105 Freeway. This could mitigate potential impacts to low income families.
  - What was the basis for not making this proposal a part of the project?
- Provide data on express lane utilization by low income families in the I-10 and I-110 corridors.

L-4.4

  - Was it verified that such projects provide the same benefit to low income families, when you consider utilization?
- Consider local hire and job creation policies that can benefit impacted adjacent communities.
  - What was the basis for not making this proposal a part of the project?

- How many commuters that are single occupancy drivers use the existing express lanes in Southern California?

L-4.5

- What are the percentages other than the standard vehicle (single commuter driver) that currently use the exiting express lanes in Southern California?
- What is the expected speed of the proposed express lanes during peak hours? What is the degraded speed for express lanes?
- The draft EIR does not identify how commuter would know what toll charges are during different levels of congestion and capacity.
- Would the express lanes be toll free to be used by commuters outside peak hours?

L-4.6

- The draft EIR does not list the benefits to local communities even if additional improvements are not made to the I-105 in the future?
- The draft EIR does not provide or describe the incentives and rewards programs that Metro uses to encourage carpooling and transit use on the express lanes.

Response to Comment L-4.2

This project did not analyze the addition of a general-purpose lane for two main reasons. The first is that it would not meet the purpose and need for the project, one of which is to sustain and manage mobility. Because general purpose lanes allow unrestricted use, the capacity created by an additional GP lane would quickly be filled and any mobility benefits provided could not be sustained. On the other hand, the ExpressLanes manage demand by charging a higher toll when there is heavier congestion and a lower toll when there is less congestion. Furthermore, the ExpressLanes incentivize carpooling and transit use by allowing free use by carpools and buses and only charging single occupant vehicles. As a result, the ExpressLanes maximize utilization and passenger throughput. To illustrate this point, the traffic forecast indicates that for Alternative 3 in the 2027 eastbound peak period, an ExpressLane segment carries on average about 1,544 vehicles per hour and 2,130 persons. By comparison, each general-purpose lane on the I-105 in the 2027 eastbound peak period carries about 1,358 vehicles per hour and 1,358 persons. Furthermore, speeds on the ExpressLanes average 54 miles per hour and in the general-purpose lane it is 32 miles per hour. So not only are the ExpressLanes carrying 57% more people and 14% more vehicles, they are operating at higher speeds than general purpose lanes. The reason for this difference is the ExpressLanes can, through the use of tolling, operate closer to its capacity of 1,900 vehicles per hour than general purpose lanes can. Second, the addition of a general-purpose lane on the I-105 conflicts with State and Federal requirements, as well as with our region's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). SB 375 requires reductions in greenhouse gas emissions, and the addition of general-purpose lanes is in conflict with that goal. In addition, consistency with the Southern California Association of Governments Regional Transportation Plan (RTP) is required to demonstrate air quality conformity and finalize the Environmental Document.

The City appreciates the opportunity to comment on the Draft EIR. Should you have any questions regarding this letter, please do not hesitate to contact Jose Loera, City Traffic Engineer, at (323) 563-9578 or by email at jloera@sogate.org.

Sincerely,

CITY OF SOUTH GATE

For

Arturo Cervantes, P.E.
Assistant City Manager/Director of Public Works

AC:lc
l-ac137

Response to L-4.2 cont'd

Southern California is classified as a non-attainment zone for Federal ozone and Particulate Matter (PM) 2.5 air quality standards. As a result, projects can only be included in the RTP that do not create new air quality or worsen existing violations. The I-105 ExpressLanes meets this standard and helps the RTP meet air quality conformity that a general-purpose lane would not likely be able to do.

Response to Comment L-4.3

The toll rate is the primary method for managing congestion on the ExpressLanes and must be adjusted to the appropriate level to maintain speeds of 45 MPH or greater. Therefore, any toll rate discounts would hinder Metro's ability to manage congestion. The only discount provided is a 15% discount to Clean Air Vehicles (CAVs) because Metro is legally required by State law to provide a CAV discount. The estimated cost of dual ExpressLanes (Alternative 3) is $676 million and $175 million is available from Measure M. Therefore, the funding gap is currently $501 million. One way to fill this funding gap is to bond against future toll revenue. However, if there are no additional funding sources then it is possible that virtually all of the toll revenue generated will be needed to pay for debt service and operations and maintenance. Metro intends to use net toll revenue to pay for increased transit service in the I-105 corridor as is done on the I-10 and I-110 corridors ($8 million annually), and if possible net toll grants to transportation projects in the I-105 corridor. However, the ability to provide net toll revenue for transit service and grants will ultimately depend on actual construction costs, toll revenue, and how much debt there will be.

Response to L-4.3 cont'd
Metro currently has a Low Income Assistance Plan (LIAP) that defines low income as twice the Federal poverty level, provides a $25 one-time credit, an waives the $1 monthly maintenance fee. In addition, Metro provides the option of opening a cash account for those who do not have a credit card. For more details, please go to metroexpresslanes.net. Metro will continue to consider additional feasible/reasonable measures to help low-income travelers.

Response to Comment L-4.4
Metro's Low Income Assistance Plan (LIAP) maintains, on average, more than 16,200 active accounts (2.85% of all accounts). Overall, based on recent internal data, LIAP users took nearly 1.3 million trips during the first 11 months of 2019. This represents 4.3 percent of all trips and more than 5.8 percent of HOV2 or HOV3 trips. Based on recent internal data, in 2019 each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes. This project will benefit the community in three ways: 1) reduce overall corridor congestion in both the ExpressLanes and general purpose lanes; 2) shift vehicles from local arterials to the freeway away from local communities; and 3) Metro intends to provide toll revenue to increase transit in the corridor which outreach to the low income community has demonstrated as their top priority.

Response to Comment L-4.5
This project is currently in the environmental phase and no contracts have been awarded for construction. Metro has a local hire policy if/when this project reaches the construction phase. More details can be found at metro.net/PLA. For Alternative 3, the average speed in the express lanes during the westbound AM peak in 2027 would be 52 miles per hour, and for Alternative 1, 43 miles per hour. In the eastbound PM peak in 2027, the average speed in the express lanes would be 54 miles per hour, and for Alternative 1, 34 miles per hour. Federal law considers an HOV facility as degraded if the average traffic speed during the morning or evening weekday peak commute hour is less than 45 miles per hour (mph) for more than 10 percent of the time over a consecutive 180-day period. Metro does not have data on ExpressLanes usage for other ExpressLanes in southern California (i.e., SR-91, I-15 in San Diego County). On the I-10/110 ExpressLanes, the occupancy split is 30% HOV3+, 26% HOV2, and 44% SOV.

Response to Comment L-4.6
Toll rate signs would be located before every ingress/egress location that tells drivers what the toll rate is to the next ingress/egress location and to the end of the corridor. The ExpressLanes will always be free to carpools that meet occupancy requirements. The ExpressLanes would operate 24/7, so single occupant vehicles would always be required to pay a toll to use the ExpressLanes regardless of the time of day. Details on the Low Income Assistance Plan and other incentive programs can be found on Section 2.1.6.3 of the EIR and at metroexpresslanes.net. Details on estimated toll rates can be found in the Traffic and Revenue Study and at 105virtualforum.com, in the "Alternatives and Design" tab, Traffic and Revenue (T&R) presentation.

Local Agency Letter 5 – LA County Public Works

From: noreply@salesforce.com on behalf of Wilbur Babb
To: wongp@metro.net; Josh Francis; Edna Jimenez; Edgar Gutierrez
Subject: Thank you for your inquiry Toan [ref:_00Df42UDS._500f4TX2WY:ref]
Date: Tuesday, July 7, 2020 5:01:59 PM

---------- Original Message ----------
From: Toan Duong [tduong@dpw.lacounty.gov]
Sent: 7/7/2020, 4:57 PM
To: 105expresslanes@metro.net
Cc: jdulay@dpw.lacounty.gov; jsuarez@dpw.lacounty.gov; jrietze@dpw.lacounty.gov; lthang@dpw.lacounty.gov; wjohnson@dpw.lacounty.gov
Subject: I-105 EXPRESS LANES PROJECT DEIR/EA/Section 4(f)

DRAFT ENVIRONMENTAL IMPACT REPORT (RPPL2020003038)

ENVIRONMENTAL ASSESSMENT\SECTION 4(F) DE MINIMIS DETERMINATION

I-105 EXPRESS LANES PROJECT

Thank you for the opportunity to review the subject project. The project proposes to improve existing congestion, and thus enhance traffic operations and mobility on the I?105 Freeway. The project seeks to convert the existing HOV lanes to Express Lanes, and there for addressing the existing degradation of the HOV lanes by deploying dynamic pricing to optimize existing capacity.

We concur with section4(f) de minimis determination. We have the following comments for the DEIR:

1. **1.5 Project Description, Existing Facilities, Page 20**

   Include Westmont/West Athens to the list of unincorporated communities, not cities.

L-5

2. **2.1 Human Environment, 2.1.1 Land Use, 2.1.1.2 Consistency with State, Regional, and Local Plans and Programs, Page 48**

Response to Comment L-5
Westmont/West Athens have been added to the list of unincorporated communities.

Separate Lennox, Westmont, and Willowbrook from the list of cities and specify them as unincorporated communities for clarification.

3. **2.1 Human Environment, 2.1.2 Parks and Recreational Facilities, 2.1.2.2 Affected Environment, Pages 78 and 82**

Add Lennox as an unincorporated community to table 2-16 and label each community as "Not Applicable" as needed similar to table 2-17. L-5.1

4. **2.1 Human Environment, 2.1.4 Community Character and Cohesion, 2.1.4.2 Affected Environment, Page 90**

Update Willowbrook as an unincorporated community, not a city.

For questions regarding comments 1 to 4, please contact William Johnson of Public Works, Transportation Planning and Programs Division at (626) 458-3943 or wjohnson@pw.lacounty.gov

5. **2.2.10 Wetlands and Other Waters, 2.2.10.3 Environmental Consequences, Page 321**

5.1. Alternative 3 includes installation of drainage into the bank of Dominguez Channel. The Los Angeles County Flood Control District (LACFCD) was not listed as one of the permitting agencies. If a permit is needed from the LACFCD, the mitigation measures in the Water Quality and Storm Water Runoff section and Wetlands and Other Waters section should account for any additional mitigation resulting from obtaining a LACFCD permit. L-5.2

5.2. The project should ensure that the channel flow capacity is not affected from any new connection.

5.3. If LACFCD access to the Dominguez Channel or Compton Creek

Response to Comment L-5.1
The document has been revised to incorporate this comment.

Response to Comment L-5.2
LACFCD has been added as a potential permitting agency. Caltrans will coordinate with both LA County Flood Control District and ACOE regarding permit requirements.
.

Channel is impacted, then mitigations should be provided and included in the DEIR.

6. **2.2.11 Plant Species, 2.2.11.4 Avoidance, Minimization, and/or Mitigation Measures, Pg. 325**

6.1. If the project has a pullout or parking lot for staging/storing within the LACFCD right-of-way, how will Caltrans avoid the removal of existing native vegetation?

L-5.3

7. **General Comment – Project construction**

7.1. If channel access is required for the proposed work, permittee shall notify LACFCD's Stormwater Engineering Division, Operations Section at (626) 458-6177, 72 hours prior to channel access.

7.2. Construction/access to the channel will require a 5-day clear forecast from the National Weather Service.

7.3. Permittee shall be responsible for all resolution of any complaints deriving from the proposed activities (i.e. smell, noise, etc.).

7.4. Permittee shall repair any damage to LACFCD facilities caused by the proposed activities.

L-5.4

For questions regarding comments 5 to 7, please contact Jason Rietze of Public Works, Stormwater Planning Division at (626) 300-3248 or jrietze@pw.lacounty.gov.

If you have any questions or require additional information, please contact Toan Duong of Public Works, Land Development Division, at (626) 458-4921 or tduong@pw.lacounty.gov.

Response to Comment L-5.3
Caltrans will not be staging/storing within the LACFCD right-of-way.

Response to Comment L-5.4
Caltrans will coordinate with LA County Flood Control District as indicated in the comment during the Design Phase regarding permit requirements

Sincerely,

Toan Duong

Civil Engineer

Los Angeles County Public Works

Office: (626) 458-4921

ref:_00Df42UDS._500f4TX2WY:ref

Local Agency Letter 6 – South Coast Air Quality Management District

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

SENT VIA E-MAIL:
105ExpressLanes@metro.net
Ronald Kosinski, Deputy District Director
California Department of Transportation, District 7
Division of Environmental Planning
100 South Main Street, MS-16A
Los Angeles, CA 90012

July 6, 2020

Draft Environmental Impact Report/Environmental Assessment (Draft EIR/EA) for the Proposed I-105 Express Lanes Project (SCH No.: 2018031037)

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated into the Final EIR/EA.

South Coast AQMD Staff's Summary of Project Description
The Lead Agency proposes to convert the existing 17.6 miles of high occupancy vehicle (HOV) lane to express toll lanes along Interstate 105 (I-105) between the interchange of I-105 and Interstate 405 in the City of Los Angeles and the interchange of I-105 and Studebaker Road in the City of Norwalk (Proposed Project). The Lead Agency proposes three alternatives to implement the Proposed Project as follows.

- Alternative 1 is the No-Build Alternative and does not include any improvements to the existing configurations for I-105.
- Alternative 2 is the Build Alternative 1 and will convert the existing HOV lane to one express lane in each direction. Roadway widening up to eight feet would be required in some locations to accommodate three new merge lane locations and an additional 12-foot weave lane at ingress/egress locations.
- Alternative 3 is the Build Alternative 2, which will convert the existing HOV lane to one express lane in each direction and construct a new 11-foot express lane in each direction. Roadway widening up to 25 feet would be needed to accommodate the second express lane configuration, five new merge lane locations, five new/extended auxiliary lanes, and an additional 12-foot weave lane at ingress/egress locations.

Construction of the Proposed Project is expected last approximately four years[1]. Based on a review of Figure 2-25, *Sensitive Receptors*, in the Draft EIR/EA[2] and aerial photographs, South Coast AQMD staff found that sensitive receptors such as residential uses, schools, daycare centers, and elderly care facilities are located in close proximity to the Proposed Project.

Summary of South Coast AQMD Staff's Comments on the Air Quality Analysis
In the Draft EIR/EA, the Lead Agency conducted the regional air quality conformity analysis and the project-level, hot-spot analyses for CO, PM2.5, and PM10. The Lead Agency concluded that the Proposed Project meets the regional conformity requirements; is not required to conduct a detailed quantitative CO hot-spot analysis; and is not a project of air quality concern for particulate matter[3]. However, although construction activities are expected to last four years and would likely take place in

[1] Draft EIR/EA. Page 313.
[2] *Ibid.* Pages 223-232.
[3] *Ibid.* Page 344.

lane in each direction, which could bring traffic and diesel particulate matter emissions closer to nearby sensitive receptors. However, the Lead Agency did not conduct a mobile source Health Risk Assessment (HRA) in the Draft EIR/EA. Therefore, South Coast AQMD staff recommends the regional and localized air quality impacts analysis and HRA be included in the Final EIR/EA as substantial evidence to support that the Proposed Project would not result in significant air quality impacts or expose nearby sensitive receptors to substantial pollutant concentrations. Detailed comments are included in the attachment. The attachment also includes a list of air quality mitigation measures to reduce construction emissions that the Lead Agency should include in the Final EIR/EA.

Conclusion

Pursuant to California Public Resources Code Section 21092.5(a) and CEQA Guidelines Section 15088(b), South Coast AQMD staff requests that the Lead Agency provide South Coast AQMD staff with written responses to all comments contained herein prior to the certification of the Final EIR/EA. In addition, issues raised in the comments should be addressed in detail giving reasons why specific comments and suggestions are not accepted. There should be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice (CEQA Guidelines Section 15088(c)). Conclusory statements do not facilitate the purpose and goal of CEQA on public disclosure and are not meaningful, informative, or useful to decision makers and to the public who are interested in the Proposed Project. Further, if the Lead Agency makes the findings that the recommended new mitigation measure is not feasible, the Lead Agency should describe the specific reasons supported by substantial evidence for rejecting it in the Final EIR/EA (CEQA Guidelines Section 15091).

South Coast AQMD staff is available to work with the Lead Agency to address any air quality questions that may arise from this comment letter. Please contact me at lsun@aqmd.gov if you have questions or wish to discuss the comments.

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

Attachment
LS
LAC200604-01
Control Number

ATTACHMENT

1. Regional Air Quality Impact Analysis during Construction
In the Draft EIR/EA, the Lead Agency did not quantify the Proposed Project's construction emissions because construction activities will not last for more than five years[4]. South Coast AQMD staff disagrees. The Proposed Project will be constructed over a four-year period in which diesel-powered construction equipment will be used (e.g., crawler tractors, excavators, graders, rollers, rubber tired loaders, scrapers, rough terrain forklifts, and paving equipment)[5]. The Lead Agency also anticipates the use of on-road gasoline vehicles by construction workers as well as on-road diesel-powered, heavy-duty trucks for material deliveries and debris hauling[6]. The use of off-road and on-road construction equipment will result in construction emissions and should be quantified and disclosed in the Air Quality Analysis in the Final EIR/EA as substantial evidence to support that the Proposed Project will not result in significant regional air quality impacts. The regional construction emissions should be compared to South Coast AQMD's recommended regional air quality CEQA significance thresholds to determine the level of significance for the Proposed Project's air quality impacts under CEQA (see Comment No. 2). L-6

2. South Coast AQMD's Recommended Regional Air Quality CEQA Thresholds of Significance
CEQA thresholds of significance assist a Lead Agency in determining whether a project may cause significant environmental impacts. While CEQA permits a Lead Agency to apply appropriate thresholds to determine the level of significance, the Lead Agency may not apply thresholds in a manner that precludes consideration of substantial evidence demonstrating that there may be a significant effect on the environment. Evaluation of air quality impacts, unlike some other impact areas, easily lends itself to quantification. Not only does quantification make it easier for the public and decision-makers to understand the breadth and depth of the potential air quality impacts, but it also facilitates the identification of mitigation measures required to reduce any significant adverse air quality impacts. Lead agencies can develop and publish their own significance thresholds or use significance thresholds recommended by other public agencies or experts (CEQA Guidelines Sections 15064 and 15064.7(c)). South Coast AQMD's CEQA thresholds of significance for air quality provide a clear quantitative benchmark to determine the significance of a project's air quality impacts. Therefore, for most projects within the South Coast Air Basin, South Coast AQMD's air quality CEQA thresholds of significance for construction and operation[7] are used to determine the level of significance for a project's air quality impacts. L-6.1

As stated in Comment No. 1, the Lead Agency did not quantify the maximum construction emissions for the Proposed Project. The Lead Agency should quantify those emissions and compare them to South Coast AQMD's regional air quality CEQA significance thresholds in the Final EIR/EA to determine the level of significance for the Proposed Project's construction air quality impacts[8]. Using South Coast AQMD's CEQA significance thresholds would clearly identify whether the Proposed Project would result in significant air quality impacts under CEQA, disclose the magnitude of the impacts, facilitate the identification of feasible mitigation measures and alternatives, and evaluate the level of impacts before and after mitigation measures.

[4] Draft EIR/EA. Page 243.
[5] *Ibid.* Page 313.
[6] *Ibid.*
[7] South Coast AQMD. March 2015. *South Coast AQMD Air Quality Significance Thresholds*. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.
[8] *Ibid.*

Response to Comment L-6

Under the transportation conformity regulations 40 CFR 93.123 (c)(5), construction-related activities that cause temporary increases in emissions are not required in a hot-spot analysis. Construction emissions are temporary because at no single location will any construction activity last more than 5 years for build alternative. As such, construction emission analysis under transportation conformity is not triggered.

Operation of this project has been included in the regional planning conducted by the SCAG and the emissions from the project included in the regional emission modeling for conformity purposes. Air pollutants generated during project construction will be minimized by compliance with required emissions minimization and control measures in the Caltrans Standard Construction Specifications and SCAQMD's Rule 403 for Fugitive Dust.

Also refer to the response to SCAQMD Comment No. 1 regarding quantification of construction emissions using the RCEM by Sacramento Metropolitan AQMD (SMAQMD).

Response to Comment L-6.1

As the CEQA Lead, Caltrans determines applicability of utilizing thresholds to evaluate the significance of certain impacts. Caltrans has not currently approved or adopted use of locally adopted CEQA thresholds of significance; but determines significance of impacts based on a project-by-project basis and upon the context of applicable CEQA checklist questions. For informational purposes, however, temporary construction emissions were estimated using the SMAQMD's latest Roadway Construction Emissions Model and is provided in the February 2021 AQR.

3. Localized Air Quality Impact Analysis during Construction
Based on a review of Figure 2-25: *Sensitive Receptors*, in the Draft EIR/EA[9] and aerial photographs, South Coast AQMD staff found that existing schools, daycare centers, and elderly care facilities are located within 500 feet of the Proposed Project. However, the Lead Agency did not analyze the Proposed Project's localized air quality impacts from the use of diesel-powered construction equipment in the Draft EIR/EA. Localized air quality impacts from construction activities can cause direct physical changes to the environment by resulting in incremental increases in emissions in and around the Proposed Project's construction zones, which should be considered in evaluating the significance of the environmental effects of a project (CEQA Guidelines Section 15064). Therefore, South Coast AQMD staff recommends that the Lead Agency quantify the Proposed Project's localized emissions from construction activities and disclose them in the Final EIR/EA to serve as substantial evidence that any nearby sensitive receptors are not adversely affected by emissions from construction activities that are occurring in close proximity during a four-year construction period. South Coast AQMD's guidance for performing a localized air quality impact analysis is available on South Coast AQMD website[10]. L-6.2

4. Mobile Source Health Risk Assessment
As stated above, sensitive receptors are located in close proximity to the Proposed Project. Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants. One of the Build Alternatives (Alternative 3), if selected as the preferred alternative for the Proposed Project, will include a new 11-foot express lane in each direction along the 17.6-mile segment of I-105. With the addition of a new express lane, it is reasonably foreseeable that vehicular traffic and diesel particulate matter (DPM) emissions will be brought closer to nearby sensitive receptors and result in greater exposures to those receptors. The California Air Resources Board (CARB) has identified DPM as a toxic air contaminant based on its carcinogenic effects. Therefore, South Coast AQMD staff recommends that the Lead Agency conduct a mobile source HRA[11] and compare cancer risk to South Coast AQMD's CEQA significance threshold of 10 in one million[12] to determine the level of significance for the Proposed Project's health risk in the Final EIR/EA. The HRA can serve as substantial evidence to support that the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations. L-6.3

5. Additional Recommended Air Quality Mitigation Measures
CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize or eliminate any significant adverse impacts. South Coast AQMD staff recommends the following additional mitigation measures be incorporated in the Final EIR/EA to further reduce construction emissions and health risks to sensitive receptors.

a) Require the use of zero-emissions (ZE) or near-zero emissions (NZE) heavy-duty trucks during operation, such as trucks with natural gas engines that meet CARB's adopted optional NOx emission standard of 0.02 grams per brake horsepower-hour (g/bhp-hr). At a minimum, require that operators of heavy-duty trucks visiting the Proposed Project during operation commit to

[9] *Ibid.* Pages 223-232.
[10] South Coast AQMD. *Localized Significance Thresholds*. Accessed at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.
[11] South Coast AQMD. "*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.
[12] South Coast AQMD has developed the CEQA significance threshold of 10 in one million for cancer risk. When South Coast AQMD acts as the Lead Agency, South Coast AQMD staff conducts a HRA, compares the maximum cancer risk to the threshold of 10 in one million to determine the level of significance for health risk impacts, and identifies mitigation measures if the risk is found to be significant.

Response to L-6.1 cont'd
Construction related emissions of criteria pollutants have been estimated using the Sacramento Metropolitan AQMD's RCEM. Results are included in the February 2021 AQR. While the model was developed for Sacramento conditions in terms of fleet emission factors, silt loading, and other modeling assumptions, it is considered adequate for estimating road construction emissions by the SCAQMD in its CEQA guidance and is used for that purpose in this project analysis.
The SMAQMD model employs a simplified methodology to assess emissions of linear construction projects based on such basic project data inputs as project lengths, daily soil import/exports, types of projects, disturbed area, etc. The model utilizes its program algorithm to calculate emissions from such sources as soil hauling, worker commute, fugitive dust, off-road equipment that are expected from a typical roadway construction project. As indicated above, regional significance thresholds, such as those from SCAQMD, do not apply to Caltrans projects unless adopted as a regulation. Caltrans standard construction measures ensure that construction emissions do not cause air quality impacts.

using 2010 model year[13] or newer engines that meet CARB's 2010 engine emission standards of 0.01 g/bhp-hr for particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks. Include analyses to evaluate and identify sufficient power available for ZE trucks and supportive infrastructure in the Energy and Utilities and Service Systems Sections of the Final EIR/EA, where appropriate.

To monitor and ensure ZE, NZE, or 2010 model year trucks are used at the Proposed Project, the Lead Agency should require that operators maintain records of all trucks associated with the Proposed Project's operation, and make these records available to the Lead Agency upon request. The records will serve as evidence to prove that each truck called to the Proposed Project during operation meets the minimum 2010 model year engine emission standards. Alternatively, the Lead Agency should require periodic reporting and provision of written records by operators, and conduct regular inspections of the records to the maximum extent feasible and practicable.

b) Require construction equipment such as concrete/industrial saws, pumps, aerial lifts, material hoist, air compressors, forklifts, excavator, wheel loader, and soil compactors be electric or alternative-fueled (i.e., non-diesel). Information on companies and electric powered equipment that can and should be used during construction is available at: https://www.forconstructionpros.com/construction-technology/article/21107531/electrified-construction-equipment-gaining-momentum. L-6.4

c) Require the use of off-road diesel-powered construction equipment that meets or exceeds the CARB and U.S. Environmental Protection Agency (USEPA) Tier 4 Final off-road emissions standards for equipment rated at 50 horsepower or greater during construction of the Proposed Project. Such equipment will be outfitted with Best Available Control Technology (BACT) devices including a CARB certified Level 3 Diesel Particulate Filter (DPFs). Level 3 DPFs are capable of achieving at least 85 percent reduction in particulate matter emissions[14]. A list of CARB verified DPFs are available on the CARB website[15].

To ensure that Tier 4 Final construction equipment or better would be used during the Proposed Project's construction, South Coast AQMD staff recommends that the Lead Agency include this requirement in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant construction equipment for use prior to any ground disturbing and construction activities. A copy of each unit's certified tier specification or model year specification and CARB or South Coast AQMD operating permit (if applicable) shall be available upon request at the time of mobilization of each applicable unit of equipment. Additionally, the Lead Agency should require periodic reporting and provision of written construction documents by construction contractor(s) to ensure compliance, and conduct regular inspections to the maximum extent feasible to ensure compliance.

In the event that construction equipment cannot meet the Tier 4 Final engine certification, the Project representative or contractor must demonstrate through future study with written findings supported by substantial evidence that is approved by the Lead Agency before using other

[13] CARB adopted the statewide On-Road Truck and Bus Regulation in 2010. The Regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. More information on the CARB's Truck and Bus Regulations is available here: https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.
[14] CARB. November 16-17, 2004. *Diesel Off-Road Equipment Measure – Workshop*. Page 17. Accessed at: https://www.arb.ca.gov/msprog/ordiesel/presentations/nov16-04_workshop.pdf.
[15] *Ibid*. Page 18.

Response to Comment L-6.2

To address the potential for localized particulate emissions from heavy-duty trucks and construction equipment adjacent to sensitive receptors, appropriate measures will be implemented during construction activities in accordance with the Caltrans' Standard Specifications and local ordinances. Construction activities for the project will also implement and adhere to all applicable Rules enforced by SCAQMD, including Rules 401, 402, and 403. Avoidance, Minimization and/or Mitigation Measures for construction impacts are described in Section 2.2.5 of the Draft EIR/EA.

***Response to Comment L-6.3**

See response at the end of the letter.

Response to Comment L-6.4

The construction of this project will involve dozens, if not hundreds of separate construction contractors. Controlling the equipment of these separate companies is not feasible and recommended measures may give small business/disadvantage business a disadvantage when competing for the contract of the project. However, the ARB Truck and Bus regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions.

technologies/strategies. Alternative applicable strategies may include, but would not be limited to, construction equipment with Tier 4 Interim or Tier 3 emission standards and reduction in the number and/or horsepower rating of construction equipment.

d) Maintain equipment maintenance records for the construction portion of the Proposed Project. All construction equipment must be tuned and maintained in compliance with the manufacturer's recommended maintenance schedule and specifications. All maintenance records for each equipment and their construction contractor(s) should be made available for inspection and remain on-site for a period of at least two years from completion of construction.

e) Encourage construction contractors to apply for South Coast AQMD "SOON" funds[16]. The "SOON" program provides funds to applicable fleets for the purchase of commercially-available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.

f) Minimize or limit idling of all construction equipment to five minutes or less. This is consistent with the CARB's idling policy[17].

[16] South Coast AQMD. Available at: http://www.aqmd.gov/home/programs/business/business-detail?title=off-road-diesel-engines.
[17] CARB. June 2009. *Written Idling Policy Guidelines*. Accessed at: https://www.arb.ca.gov/msprog/ordiesel/guidance/writtenidlingguide.pdf.

Response to L-6.4 cont'd

Newer heavier trucks and buses are required to meet PM filter requirements beginning in January 1, 2012. Lighter and older heavier trucks have been replaced starting January 1, 2015. By January 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. Thus, by the time this project construction is underway, most, if not all, haul trucks will be updated without any mitigation from this project Additionally, as noted above, contractors will comply with all laws applicable to the project including compliance with Caltrans Standard Specification for Construction and SCAQMD rules and regulations, including compliance with the CARB's idling policy.

***Response to Comment L-6.3**

Caltrans assessed MSAT emissions based on the forecast traffic activities data for future years as well as the baseline year as provided in Section 4.3.6 of the February 2021 AQR. The latest version of EMFAC2017 and speciation factors from CARB were utilized in estimating emissions of all 9 priority MSAT including DPM. Emissions were estimated by using travel activity data forecasted for each segment along the corridor (presented in Appendix E of the February 2021 AQR) and summed up for a corridor-level analysis in Table 36 of the February 2021 AQR. Based on the results of the segment-MSAT emissions or corridor-level emissions, Alternatives 2 and 3 in all future years resulted in decrease in emissions of all MSATs, including DPM, when compared to the 2017 baseline. When compared to the No-Build Alternative in each respective future year, Alternatives 2 and 3 resulted in increase in most MSAT emissions except DPM. Emissions of DPM for Alternative 2 resulted in decrease when compared to the No-Build Alternative in all future years.

Per the FHWA's Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA (October 2016), information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The U.S. EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments, and they have specific statutory obligations with respect to hazardous air pollutants and MSAT. The U.S. EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects." Each report contains assessments of noncancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute. Two Health Effects Institute studies are summarized in Appendix D of the FHWA's Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to mobile source air toxic compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of mobile source air toxic compounds at current environmental concentrations or in the future as vehicle emissions substantially decrease .

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70-year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology, which affects emissions rates, over that time frame, because such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime mobile source air toxic concentrations and exposure near roadways, determine the portion of time that people are actually exposed at a specific location, and establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, which is a concern expressed by HEI. As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for mobile source air toxic compounds and, in particular, for diesel particulate matter. The U.S. EPA and the Health Effects Institute have not established a basis for quantitative risk assessment of diesel particulate matter in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the U.S. EPA as provided by the Clean Air Act to determine whether more stringent controls are required to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires the U.S. EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in 1 million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in 1 million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in 1 million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in 1 million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld U.S. EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting the health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

To further illustrate the points made above, the FHWA reviewed health risk assessments for a hypothetical roadway under a National Cooperative Highway Research Program research project and three major roadway projects (FHWA-AZ-EIS-14-01-F):

The FHWA's review focused on the methodologies used in the studies and the findings related to the incremental health risk attributable to the projects. All four of the health risk assessments involved very conservative assumptions regarding emissions and exposure. For example, each of the studies assumes constant near-term emissions rates, even though national projections by the U.S. EPA and the emissions analysis for this project show that there will be a large decline in emissions over the lifetime of the project. Likewise, all 4 of the modeling studies assume constant breathing of outdoor air at a fixed location for either 30 years (1 study) or 70 years (3 studies). They assume that people will not change residence (which occurs every 8 years on average in the United States), change jobs (which occurs every 3 years on average), or travel to different parts of a metropolitan area over the course of a given day (even though people travel 26 miles per day on average). The studies even assume that students will remain at elementary schools 24 hours per day for 30 or 70 years. These assumptions are not realistic and introduce a considerable amount of uncertainty into the results. Even with these

conservative assumptions, the 4 studies all report very low risk. Estimated incremental cancer risk from vehicle traffic at the worst-case location in each study ranged from 0.08 case of cancer per million people to 2 cases per million people. As a point of reference, the risk management framework in the U.S. EPA's Air Toxics Risk Assessment Reference Library defines risk levels between 1 in 1 million and 100 in 1 million as "acceptable." (A risk level of "1 in 1 million" is frequently mentioned in discussions of cancer risk, but under U.S. EPA risk assessment guidelines, this represents a level below which risk is considered "negligible" and is not a standard or other type of pass/fail threshold). For noncancerous health risks, the U.S. EPA uses a metric known as the "hazard quotient," where the estimated risks for each pollutant are added together, and a total of less than 1 is considered acceptable. Each of the locations modeled in 3 of the studies had hazard quotients from vehicle emissions of less than 1, in most cases much less; the remaining study did not calculate a hazard quotient. In short, none of these health risk assessments for major roadway projects (including the 2 examples provided by the U.S. EPA) identified health risks in excess of the "acceptable" thresholds in the U.S. EPA's risk management framework.

To help put these low health risks from roadway emissions into perspective, the FHWA compared them with health risks from traffic fatalities. In 2010, there were 2.47 million deaths in the United States, and 32,728 of these were due to traffic fatalities, meaning that the risk of dying in a traffic accident in 2010 was 0.0106 percent. Converted to terms of risk per million people, this represents a risk of 106 in 1 million per year, or 7,420 in 1 million as a 70-year lifetime risk, consistent with cancer risk estimation. While this risk is very high, and while the FHWA is actively working to improve highway safety, most people seem to consider this risk "acceptable" in the sense that they do not avoid vehicle trips to reduce it. In addition, if the MSAT risk estimates in the studies summarized above are correct, it means that the incremental risk of cancer from breathing air near a major roadway is several hundred times lower than the risk of a fatal accident from using a major roadway. The U.S. EPA must make decisions regarding acceptable risk when it develops regulations to control hazardous air pollutants (air toxics) under Titles II and III of the Clean Air Act. The U.S. EPA's National Emission Standards for Hazardous Air Pollutants for benzene emissions is based on attaining a risk level of no more than 100 cases of cancer per 1 million people. The U.S. EPA's 2007 MSAT rule, covering vehicles, fuels, and fuel containers, is designed to result in a remaining risk of approximately 5 in 1 million. Both of these risk levels, considered acceptable by the U.S. EPA as an outcome of its rulemaking processes, are much higher than the estimated risk from the highway projects that the FHWA reviewed.

Local Agency 7 – South Bay Cities Council of Governments

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June 26, 2020

Ronald Kosinski, Deputy Director RK
Dawn Kukla, Office Chief
Caltrans District 7
100 S. Main Street, MS – 16A
Los Angeles, CA 90012

SUBJECT: I-105 ExpressLanes Draft EIR/EA Comments

Dear Mr. Kosinski and Ms. Kukla:

The South Bay Cities Council of Governments (SBCCOG) has reviewed the draft EIR for the proposed I-105 ExpressLanes Project and is raising the following concerns that should be addressed in the Final Draft and Response to Comments:

1. When the I-110 ExpressLanes were constructed, Metro committed to comply with state law by allocating surplus net revenue generated by those ExpressLanes towards local improvements in a defined corridor surrounding the I-110 Freeway. As a result, the net project revenues are funding expanded transit and a host of related capital projects on adjacent streets throughout the corridor.

   The SBCCOG had expected a similar approach would be used to link the I-105 ExpressLanes to adjacent arterials. During the Metro Staff presentation at the California Transportation Commission hearing on September 25, 2019, we learned that the project will require issuance of a significant amount of revenue bonds to be repaid from toll revenues to cover Metro's debt service for the capital costs of the project and that the debt service may equal the entirety of the anticipated net toll revenues.

   Metro staff, Caltrans, local jurisdictions and the SBCCOG are developing a set of capital projects, known as the Integrated Corridor Management Program, aimed at better integrating the I-105 freeway (including its ExpressLanes) with the adjacent arterials. However, the draft EIR/EA limits the scope of the project to the ExpressLanes and re-configuration of the general-purpose lanes on the freeway deck, with no funding being made available for related roadway and transit projects in adjacent communities. L-7

   The off-freeway elements of the I-105 ExpressLane project have not been integrated into the EIR/EA and no state funding has been committed to ensure that the freeway corridor is properly served by an integrated corridor improvement program that includes the ExpressLanes and related improvements on adjacent streets. In addition, by using all of the bond revenues for on-freeway improvements, there will probably not be any net revenues for off-freeway improvements until the bonds are paid off, some thirty years in the future.

LOCAL GOVERNMENTS IN ACTION

Carson El Segundo Gardena Hawthorne Hermosa Beach Inglewood Lawndale Lomita
Manhattan Beach Palos Verdes Estates Rancho Palos Verdes Redondo Beach Rolling Hills
Rolling Hills Estates Torrance Los Angeles District #15 Los Angeles County

Response to Comment L-7

The I-110/I-10 ExpressLanes and I-105 ExpressLanes have been granted tolling authority under different state statues. The I-110/I-10 ExpressLanes were authorized under SB 1422, which contained a provision that "All remaining revenue generated by the demonstration program shall be used in the corridor from which the revenue was generated exclusively for preconstruction, construction, and other related costs of high-occupancy vehicle facilities and the improvement of transit service in the corridor, including, but not limited to, support for transit operations pursuant to an expenditure plan adopted by the LACMTA." On the other hand, the tolling authority granted by the CTC to the I-105 ExpressLanes project in October 2019 states that the project will adhere to Streets and Highways Code 149.7, which specifies that "revenue generated from the operation of the toll facility will be used to pay for debt, operation and maintenance, and reserves. All remaining revenues are to be spent within the corridor that it was generated." Because the project is expected to have a funding gap that would require debt financing against future toll revenue, the toll revenue generated by the I-105 ExpressLanes would first go to debt service repayment and then operations and maintenance. Metro also intends to use net toll revenue to increase transit service in the corridor. If there is toll revenue remaining after these items are paid for, then Metro would grant funds to projects in the I-105 corridor on a competitive basis as has been done on the I-10 and I-110 ExpressLanes in 2014 and 2016.
In June 2020, the Metro Board approved allocating $20,000,000 in Measure R funds for the I-105 Integrated Corridor Management (ICM) project to develop, design and construct detection, traffic management, communications and traffic control systems that will enable real-time traffic management capabilities between Caltrans and local agencies on I-105. With these funds, the ICM project is fully funded.

We oppose the segmentation of the two project elements and believe that it will result in cumulative impacts that should be explicitly addressed in the DEIR/EA. Limiting the scope allows Caltrans to conclude that all EIR/EA project evaluation categories result in no impact or less than significant impacts because the project is limited to the current I-105 right of way. This could lead to significant unintended consequences if not addressed now. Combining these two projects would ensure that adjacent communities receive tangible benefits as soon as the I-105 ExpressLane opens rather than being forced to wait until Metro has paid off the bonds and begins to generate net revenues sufficient to fund related projects.

L-7 cont'd

In a letter sent October 2019, the SBCCOG expressed our concern that the off-freeway elements defined in the Integrated Corridor Management Program be part of the project. Once again, SBCCOG requests that the EIR/EA address the cumulative impacts of limiting the project scope to the freeway and not addressing the adjacent roadways. SBCCOG also requests that the EIR/EA include suitable mitigations within the project for off freeway impacts and that there be consideration to scoping the project and size of the bond issuance to include those elements.

2. The DEIR/EA needs to provide additional clarity on the tolling and operating rules/assumptions that were used for the ridership and revenue analyses and for the concept of operations. For example, what vehicle occupancy requirements will be used to determine waiver of a toll? Will 2+ occupancy exempt the vehicle from tolls or will the minimum threshold for exemption be 2+ during off-peak and 3+ (or more) during peak periods? Or something else? Will dynamic tolling be activated 24 hours, 7 days per week and on holidays? Will zero emission vehicles be allowed to use the ExpressLane without tolls or at a discounted toll? If there are tolls for single occupant zero emission vehicles, will they be collected at any time or will single occupant zero emission vehicles be limited to off-peak hours?

L-7.1

3. SBCCOG wants to ensure that there are sufficient access/egress locations for the ExpressLanes on the I-105 freeway. We cannot determine the number and location of the proposed lane access/egress locations and weaving lane distances for each location in the draft EIR/EA. Although the DEIR/EA states that there would be three more access/egress locations in Alternative 2 and 5 more locations in Alternative 3, we could not find a map or drawing of the conceptual locations and weaving lane lengths for each of the ExpressLane locations in Alternative 2 and Alternative 3.

   The DEIR/EA needs to clearly describe the current HOV access/egress locations in both eastbound and westbound directions and the proposed ExpressLane locations in Alternative 2 and Alternative 3.

4. The DEIR notes that there would be 37 CHP observation areas within the project, but the location of the areas is not mapped for either Alternative 2 or 3. The DEIR should include a map of the proposed locations.

L-7.2

Response to L-7 cont'd

Per CEQA, project segmentation cannot occur as a means to avoid identifying and addressing project impacts. Two tests are used to determine segmentation - Logical termini and independent utility. These items are addressed on page 19 of the environmental document. The project also analyzed potential traffic impacts at ramp termini and major intersections near the freeway on pages 163-177. For those ramp termini intersections that are forecast to see a significant increase in delay, mitigation measures are identified in Table 2-98.

Response to Comment L-7.1

In the DEIR/EA, Page 108 states "Alternative 3 maintains the existing HOV 2+ occupancy policy for toll free travel, whereas Alternative 2 assumes an increase in occupancy policy to HOV 3+ for toll free travel." In the Traffic and Revenue Study, a variety of scenarios were analyzed including HOV2 (dual lanes only), HOV 3 peak/2 off peak, (both single and dual lanes) and HOV3+ (both single and dual lanes) to determine the financial feasibility for each scenario. The FEIR also states on page 22 "Dynamic pricing allows for the adjustment of toll rates in real-time based on actual traffic conditions. Prices in the ExpressLanes will be higher with increased congestion, and lower when traffic is light. ExpressLanes would require single occupant vehicles to pay a toll while vehicles that meet the current carpool policy could utilize the facility toll free. Trucks, other than 2-axle light duty trucks, would not be allowed to utilize the ExpressLanes and clean air vehicles would receive a 15% toll discount. Clean air vehicles are defined as zero emission vehicles or transitional zero emission vehicles which display a DMV-issued clean air vehicle decal."

Thank you for providing an opportunity to comment on this DEIR/EA. We look forward to working with Caltrans and Metro as the project is developed in conjunction with the related streets that are described in the Integrated Corridor Management Plan.

With gratitude,

Christian Horvath, Chair
South Bay Cities Council of Governments

c.c.: Shahrzad Amiri, L. A. Metro
Jacki Bacharach, SBCCOG
Nancy Pfeffer, Gateway COG
City of Bellflower
City of Compton
City of Downey
City of Long Beach
City of Lynwood
City of Norwalk
City of Paramount
City of Santa Fe Springs
City of South Gate

3

Response to L-7.1 cont'd

Section 6J on page 6-6 of the Draft Project Report says "For consistency, the Project is expected to have operational characteristics similar to the existing I-10/I-110 ExpressLanes. These include: 24/7 operation; dynamic pricing (tolls would vary based on congestion); a 15-percent discount for qualifying Clean Air Vehicles; transit corridor enhancement; Low Income Assistance Plan, Carpool Loyalty, and Transit Rewards program implementation; and dedicated CHP enforcement and Freeway Service Patrol (FSP) incident management. Generally, the project assumes that existing ingress/egress locations on the I-105 HOV lane will be maintained for the I-105 ExpressLanes. This information has been added to the description of Alternative 3 in Section 1.6 of the FED. Additional details on ingress/egress locations can be found in the Draft Project Report in Table 5-74 and in the Concept of Operations in Figure 16 on page 26.

Response to Comment L-7.2

Proposed CHP enforcement areas are shown on a map in Figure 1-2, Section 1.6 of the ED. Additional details on CHP enforcement areas can be found in the Project Report in Table 5-76.

Local Agency Letter 8 – City of Lynwood

From: Lorry Hempe <lhempe@lynwood.ca.us>
Sent: Tuesday, June 23, 2020 7:25 AM
To: Babb, Wilbur <BabbW@metro.net>
Cc: Tyrone Peter <tpeter@willdan.com>; Thomas Thornton <tthornton@lynwood.ca.us>; Laura Ochoa <lochoa@lynwood.ca.us>
Subject: REQUEST FOR A VIRTUAL MEETING WITH METRO AND CALTRANS STAFF

Re. I-105 Express Lanes Project

Wilbur

We are currently working with Caltrans to build a bike trail on Caltrans ROW (north of I-105) from Birch St. to Wright Rd. . The plans are 100% complete. We hope to go into construction no later than early fall. We would like to discuss the I-105 Express Lanes Project with your team and how it could potentially impact the construction and use of this bike trail. L-8

Sincerely,

Lorry Hempe
Public Works Special Projects Manager
Public Works Department
City of Lynwood
11330 Bullis Road
Lynwood, CA 90262
(310)603-0220, ext. 500
lhempe@lynwood.ca.us

Response to Comment L-8

Metro, Caltrans, and the City of Lynwood met on July 1st, 2020 and again on March 9, 2021 to discuss the project. The project plans were shared with the City, which accounts for this bike trail. It was concluded that there would be no conflict between the bike trail and the I-105 ExpressLanes Project.

Local Agency Letter 9 – Metropolitan Water District

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

June 22, 2020

Mr. Ronald Kosinski
Deputy District Director
Caltrans District 7
Division of Environmental Planning
100 South Main Street, MS-1 6A
Los Angeles, CA 90012

Dear Mr. Kosinski

Notice of Public Hearing and Availability of the Environmental Impact Report/Environmental Assessment for Interstate 105 – High Occupancy Toll Lanes

The Metropolitan Water District of Southern California (Metropolitan) reviewed the Notice of Public Hearing and Availability of an Environmental Impact Report (EIR)/Environmental Assessment (EA) for the Interstate 105 – High Occupancy Toll Lanes Project (Project). The California Department of Transportation is acting as the Lead Agency under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) for the Project. The proposed Project consists of the conversion of existing east and westbound Interstate 105 High Occupancy Vehicle (HOV) lanes to up to two Express Lanes, potential widening of up to 25 feet and modification of up to 23 ramps between Interstates 605 and 405. This letter contains Metropolitan's response to the public notice as a potentially affected public agency.

Metropolitan is a public agency and regional water wholesaler. It is comprised of 26 member public agencies, serving approximately 19 million people in portions of six counties in Southern California, including Orange County. Metropolitan's mission is to provide its 5,200 square mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Our review of the Notice indicates that Metropolitan owns and operates several pipelines and appurtenant facilities that intersect the project corridor, of which include: Sepulveda Feeder, Palos Verde Feeder, West Coast Feeder, Middle Feeder and South Coast Feeder. The aforementioned pipelines and appurtenant facilities transport treated water to Metropolitan member agencies. Metropolitan is concerned with potential impacts to the pipelines and appurtenant facilities that may result from the construction and implementation of the proposed Project. The enclosed map shows Metropolitan facilities in relation to the proposed project. It will be necessary for the California Department of Transportation to consider these facilities in its project planning.

L-9

Response to Comment L-9
Caltrans had prepared exhibits showing the 5 MWD lines that are within the project limits. Work can be conducted around the MWD pipes without disruption.

Metropolitan must be allowed to maintain its rights-of-way and requires unobstructed access to its facilities in order to maintain and repair its system. In order to avoid potential conflicts with Metropolitan's facilities and rights-of-way, we require that any design plans for any activity in the area of Metropolitan's pipelines or facilities be submitted for our review and written approval. Metropolitan will not permit procedures that could subject the pipelines to excessive vehicle, impact or vibratory loads. Any future design plans associated with this project should be submitted to Metropolitan's Substructures Team. Approval of the project should be contingent on Metropolitan's approval of design plans for portions of the proposed project that could impact its facilities.

L-9.1

Detailed prints of drawings of Metropolitan's pipelines and rights-of-way may be obtained by calling Metropolitan's Substructures Information Line at (213) 217-7663 or via email at EngineeringSubstructures@mwdh2o.com. To assist the applicant in preparing plans that are compatible with Metropolitan's facilities and easements, attached are the "Guidelines for Improvements and Construction Projects Proposed in the Area of Metropolitan's Facilities and Rights-of-Way". Please note that all submitted designs or plans must clearly identify Metropolitan's facilities and rights-of-way.

Additionally, Metropolitan encourages projects within its service area to include water conservation measures. Water conservation, reclaimed water use, and groundwater recharge programs are integral components to regional water supply planning. Metropolitan supports mitigation measures such as using water efficient fixtures, drought-tolerant landscaping, and reclaimed water to offset any increase in water use associated with the proposed project.

L-9.2

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future documentation and plans for this project. For further assistance, please contact Ms. Jolene Ditmar at (213) 217-6184 or jditmar@mwdh2o.com.

Very truly yours,

Sean Carlson
Team Manager, Environmental Planning Section

JD:rdl
Sharepoint\Caltrans\Interstate 105 – High Occupancy Toll Lanes

Enclosures:

(1) Map
(2) Planning Guidelines

Response to Comment L-9.1
At this point, no impacts to MWD facilities have been identified.

Response to Comment L-9.2
Caltrans will uphold all regulations and follow best management practices to include water conservation measures as part of the project.

Local Agency Letter 10 – LA County Parks & Recreation

Response to Comment L-10
Additional Parks and Recreational facilities have been added.

COUNTY OF LOS ANGELES
DEPARTMENT OF PARKS AND RECREATION
"Parks Make Life Better!"
Norma E. Garcia, Acting Director

June 18, 2020

Mr. Ronald Kosinski
Deputy District Director
Caltrans District 7
Division on Environmental Planning
100 Main Street, MS 16A
Los Angeles, CA 90012

Dear Mr. Kosinski:

I-105 EXPRESSLANES PROJECT
DRAFT ENVIRONMENTAL IMPACT REPORT/ ENVIRONMENTAL ASSESSMENT AND SECTION 4(F) DE MINIMIS EVALUATION

The I-105 ExpressLanes Project proposes to convert the existing high-occupancy vehicle (HOV) lanes to dynamically-priced, high-occupancy toll lanes, also called ExpressLanes, in the eastbound and westbound directions of Interstate 105 in Los Angeles County from the terminus of the existing HOV lanes west of Interstate 405 in the City of Los Angeles to Studebaker Road in the City of Norwalk. There are three project alternatives, which include two build alternatives and one "no-build" alternative. The draft environmental document has been reviewed for potential impacts on the facilities of the Department of Parks and Recreation (DPR). The placement of new associated signage; roadway widening; street and bridge reprofiling; reconstruction of existing high way; and realignment, widening and conversion of existing ramps, interchanges, bridge structures, retaining walls, and sound walls, will potentially result in the requirement of acquisition or temporary construction easements on certain DPR facilities. Not all DPR facilities were analyzed in the environmental document. Please find below DPR's comments:

Comments on the Draft EIR/EA

L-10

Page 77, Table 2-16: Parks and Recreational Facilities within Proximity of the Project Area, the following DPR facilities are also located within a 0.5-mile radius of the proposed project, please add these facilities to the table:

City/Area	Park/Recreation Facility Name	Address	Size (Acres)	Distance from I-105 Freeway

Planning and Development Agency • 1000 S. Fremont Avenue, Unit #40, Alhambra, CA 91803 • (626) 588-5322

Los Angeles	Compton Creek Walking Path	E 118th St and Slater St Los Angeles, CA 90059	2.07	~0.1 miles
Lennox	Lennox Park	10828 South Condon Avenue Lennox, CA 90304	5.64	~0.2 miles
Lennox	Lennox Community Garden	South Inglewood Avenue and West 112th Street Lennox, CA 90304	0.12	< 0.1 miles
Los Angeles	Martin Luther King Jr. Fitness Garden	11833 Wilmington Avenue Los Angeles, CA 90059	0.36	~0.1 miles
	San Gabriel River Trail			Crosses under I-105
	Los Angeles River Trail			Crosses under I-105

L-10 cont'd

Page 78 & 79, Table 2-16, please correct the sizes of the following DPR facilities:

- George Washington Carver Park - ~~6.13~~ 7.07
- Mona Park - ~~8.06~~ 7.8
- Earvin Magic Johnson Park - ~~98.72~~ 103.59
- Chester Washington Golf Course - ~~N/A~~ 125.39

Page 432, Table A-1, several of DPR's facilities were evaluated and listed on this table because they were determined to have no permanent incorporation and no proximity impacts as a result of the Build Alternatives. The following DPR facilities are also located within 0.5 mile of the proposed project, but are not listed on Table A-1. It is unclear if the proposed project will require acquisition or temporary construction easements on these facilities. Please evaluate these facilities with respect to the requirements of Section 4(f):

- Los Angeles River Trail
- Lennox Community Garden

- Martin Luther King Jr. Fitness Garden
- Faith and Hope Park

Multi-Use Trails

DPR requests that the project proponent notifies the Department a minimum of 60 days in advance of any work that may affect County multi-use trails. To ensure safety of all trail users, the multi-use trail surface shall be maintained free of debris, steel or similar metal plates shall not be utilized on the trail surface, and construction equipment shall not be staged within County multi-use trails unless under a temporary trail closure. In the event any construction equipment is utilized above the trail, all appropriate protections shall be put in place.

If temporary trail closures are required during construction, the project proponent must coordinate with the Department to identify multi-use trail detours if possible. In consultation with the Department, the project proponent will need to provide advance public notification and temporary trail signage for any multi-use trail closures or detours. At the conclusion of construction, County multi-use trails shall be restored to conditions consistent with County of Los Angeles Trails Manual, including provisions for any existing amenities such as fencing or signage. For further details regarding County multi-use trail requirements, please contact Mr. Robert Ettleman at (626) 588-5323 or rettleman@parks.lacounty.gov. Any work affecting existing County multi-use trails may require a right-of-entry permit from this Department. For inquiries on the right-of-entry permit from the Department, please contact Ms. Diane Thorne at (626) 588-5324 or dthorne@parks.lacounty.gov.

L-10.1

Thank you for including this Department in the review of this document. If you have any questions, please contact Jui Ing Chien of my staff at jchien@parks.lacounty.gov or (626) 588-5317.

Sincerely,

Sean Woods
Chief of Planning

SW:CL:JIC:ev

c: Parks and Recreation (A. Bokde, C. Lau, M. O'Connor, L. Barocas, J. Chien, R. Ettleman, D. Thorne)

Response to Comment L-10.1

The Project Team will coordinate with the LA County a minimum of 60 days in advance of any work that may affect County's multiuse trail, as indicated in the comment.

The following comments were received on several platforms: emails from the general public (Ge), online submission through a google form (Go), the virtual open house (VOH), the virtual public hearing (VPH), social media via Facebook comment (SM), and earned media via comments on Metro's blog, The Source (EM).

Comments submitted via email from the General Public (Ge)

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
Ge-1 Nancy Luque Email 07/27/20	Outreach, Transportation/ Traffic	Could hear the public hearing on our land line but unable to participate in the Q & A. Tried and perhaps others when they didn't respond either. Then you send a text and no response from those who didn't respond when their number was called. I was number 2451. Not being able to see your presentation (slides) would it be possible to receive them by mail? I believe your public hearing was lacking the ability to truly give the community an opportunity to be part of it. Narrowing the lanes (substandard) certainly make HOV vehicles and trucks much closer. Why don't we make vehicles smaller? Not sure if I understood correctly that HOV traffic would still be able to use these lanes after going HOT with a transmitter? Traffic coming from the I-105 now are using the exits at Studebaker just to use	Your comment has been noted. A recording of the public hearings and presentation slides have been posted to the project's webpage (metro.net/105expresslanes). Metro and Caltrans are not able to dictate the size of the vehicles but are able to reduce lane widths on state highways only when it's safe and feasible to do so. Trucks are restricted to using the two outermost lanes on the freeway, and at this time the project intends to keep the width of the outermost lane at 12 feet. In regards to HOT lanes and minimum occupancy requirements for toll free travel, Metro currently anticipates Alternative 3 will have a HOV2+ occupancy requirement, so two person carpools would be able to travel toll free. Regarding the high accident rate at Studebaker, the project will include additional traffic calming measures to improve safety and reduce speeds as the I-105 approaches Studebaker. In Alternative 3, the second ExpressLane would begin/end at Bellflower Blvd., and no additional lanes would be added between Bellflower and Studebaker Road. The project studied the possibility of constructing a roundabout at the 105/Studebaker intersection, but this was rejected primarily due to significant right of way impacts. The ExpressLanes will also provide additional CHP enforcement, limiting the traffic to only the proper vehicles and prohibiting trucks from using that as a shortcut. Construction of a I-605/I-105 HOV direct connector is being evaluated as part

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
		city streets to get around the interchange. What would happen if you added another lane? Remember the tail of I-105 comes to a T at Studebaker and has many accidents where the vehicles don't realize they must stop. What do we do with that issue? Wouldn't it be better to fix the interchange which is a big problem rather than ignore it, cause the problem isn't going to go away. Please leave HOV as is and certainly one lane not two. NO, NO and NO to your plan.	of the I-605 Corridor Improvement Project (CIP), we advise you to review the draft environmental document for further information. If you still have additional comments or concerns, we advise you to provide comments via the I-605 CIP public comment period (https://www.metro.net/projects/i-605-corridor-hot-spots-program/i-605-corridor-improvements-project/).
Ge-2 Francisco Torrealba Email 07/22/20	General	Dear LA Metro, As per the information on the I-105 ExpressLanes Project, I wanted to request the Traffic & Revenue Study. Thank you in advance,	Stakeholder was sent a copy of the T&R Study on 07/23/20 via email.
Ge-3 Karen Hara 07/11/20	Environmental Justice	You IDIOTS, Just because your department makes a ton of money opening up an “Express Lane”, what you mean is you’ll be taking one or two lanes away from the public who paid for the freeway in the first place! You cater to the rich and you don’t care! This damn program isn’t even administered the same way in	In Alternative 3 (dual ExpressLanes) the number of general-purpose lanes will be maintained and not be impacted by the project. Only single occupant vehicles using the ExpressLanes would pay a toll and qualified carpools can continue to use the ExpressLanes free of charge with a transponder. General purpose lanes would remain free for all vehicles. Alternative 3 proposes to construct a second ExpressLane in each direction, new soundwalls, and auxiliary lane improvement between the 710 and Long Beach Blvd, and new ramp metering. The cost of these

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
		Northern California as it is in Southern California. In Northern California the public is allowed to use the Express Lanes" during non-rush hours. Just add more lanes! And your IDIOT manager who I heard on the radio or some show who said drivers should be charged by the distance they drive to come into the city is ridiculous. If you government people would do your jobs in the first place and make city housing AFFORDABLE to all, people wouldn't have to live far away to find housing! If there was affordable transportation that was safe to use, people would ride it like they do in New York or Paris or Tokyo! For every lane you take for Express lanes you should be building two additional lanes for regular people so we can have a faster, nicer way into the city, too. I believe NONE of the money you make from the Express Lanes should be used as bonuses when you're just doing your jobs (or perhaps you were appointed or YOU took bribes from your wealthy	improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the ExpressLanes project, which is the transportation sales tax measure passed by Los Angeles County voters in 2016. Without any other funding sources, there would be a funding gap of about $501 million that would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes. Even with the expected construction debt and operation and maintenance costs, Metro intends to provide funding to increase transit service in the corridor as is done on the I-10/110 corridors. Currently about $8 million in net toll revenue is granted to increase transit service on the I-10/110 freeways. It is also important to note that Southern California is classified as a non-attainment zone for Federal ozone and Particulate Matter (PM) 2.5 air quality standards. As a result, proposed projects must not create new air quality or worsen existing violations. The project with ExpressLanes is consistent with the latest 2020 RTP/SCS (Connect SoCal) in which the SCAG has satisfactorily demonstrated consistency with the purpose of the state air quality implementation plan (SIP) and that those transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant national ambient air quality standards.

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
		friends! No, you should not make the 105 freeway into an "Express Lane"!!! I believe you've already made up your minds so it doesn't matter what the public says.	
Ge-4 Carter Rubin 07/10/20	Operations	The express lane net revenue should go into bus service along the corridor.	Your comment has been noted. We are legally required to reinvest the toll revenue back into the corridor to pay for items such as construction debt (if any) and operation and maintenance costs. In addition, Metro intends to reinvest revenue towards improved transit service along the corridor, as is currently done on the I-10/110 ExpressLanes. Annually, about $8 million is granted to the Metro J (Silver) Line, Foothill Transit, Gardena Transit, and Torrance Transit for additional transit service operating on the I-10/110 freeways. Further coordination with local agencies and transit operators along the corridor will be required.
Ge-5 Francisco Torrealba 07/09/20	General	Please add me to the I-105 email subscription list	We will add you to the email list.
Ge-6 Tep Navarro 07/08/20	Environmental Justice	just the rich richer ??	Your comment has been noted.
Ge-7 Richard Van Vranken 07/08/20	Environmental Justice	I fail to understand how changing carpool lanes which requires 2+ people in a car and thus reduces, the number of cars on the road, to an express lane which only those who	Carpools will still be able to travel toll free on the HOT lanes, only those not meeting min. occupancy requirements will be required to pay a toll. Alternative 2 is assumed to require three persons per vehicle to travel toll free, and Alternative 3 is assumed to require two or more persons per vehicle to travel toll free. By

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
		can afford or want to pay helps the congestion on the freeway. In my view it's unfair and for the wealthy.	allowing single occupancy vehicles access to the HOT lane, this will allow for more capacity on the general-purpose lanes and help relieve traffic demand. Furthermore, Alternative 3 proposes to construct a second ExpressLane in each direction, new soundwalls, an auxiliary lane improvement between the I-710 and Long Beach Blvd, and new ramp metering. The combination of providing an additional lane of capacity and maximizing the utilization of that lane by allowing single occupant vehicles to pay to use it would free up capacity in the general-purpose lanes. As a result, performance in both the ExpressLanes and general-purpose lanes would improve. Surveys of ExpressLanes users in 2018 indicate that all income levels use the ExpressLanes: 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer). Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide.
Ge-8 Sean McKenna 07/08/20	Environmental Justice	Dear Metro Board, Freeway widening is a waste of resources. With the $473 million for Build Option 1, or the $763 million for Build Option 2 for the 105 Express Lanes project, Metro could instead invest in protected bike lanes and dedicated bus lanes on several different streets throughout the South LA/South Bay area, ensuring	Funding for the proposed I-105 ExpressLanes project was approved by Los Angeles County voters in 2016 through Measure M. Since the measure funds are tied directly to the 105 ExpressLanes project, it cannot be used for other types of projects that you mention. Alternative 3 would convert the existing HOV and add a second ExpressLane in each direction. The combination of additional capacity and maximizing utilization of that capacity by allowing single occupant vehicles to pay to use the ExpressLanes would improve performance in both the general-purpose lanes and ExpressLanes. Although Alternative 3 would reduce the width of the inside shoulder to 4 feet, the

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
		carbon-free active transportation that advances equity goals by improving mobility for all LA County residents, not just those who own cars. While dynamically-priced HOT lanes are in general a good idea, they simply don't work in Los Angeles. They are a good idea in the small- and medium-sized metropolitan areas that have excess HOV lane capacity available. Los Angeles County does NOT have the luxury of excess capacity in our HOV lanes. The 110 and the 10 are proof of that, with the Express Lanes failing to serve their purpose during rush hour. I have an Express Lanes transponder, but I find that it is only useful during heavy weekend traffic. Why would I pay upwards of $15 per trip on weekday rush hours to travel at 15mph instead of 10mph? The system already does not work as intended, so we should not be doubling down on it.	outside shoulder would mostly remain at its current width of 10 feet. Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the I-10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general-purpose lanes either decreased or stayed flat. As a result, travel time in the general-purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. The ExpressLanes benefit general purpose lane users because the ExpressLanes absorbed traffic volume increases that otherwise would have been in the general-purpose lanes. ExpressLanes also maximize throughput and provide the option to single occupant vehicles to pay to save time. The ExpressLanes also subsidize increased transit service serving the low-income community, among others. Metro data indicates that J (Silver) Line ridership has increased from 14,173 weekday boardings/4,178,964 annual boardings in 2014 to 17,558 weekday boardings/5,209,169 annual boardings in 2019. Results from the I-10 analysis are consistent with the traffic forecast on the I-105 – the ExpressLanes maximize vehicle throughput and general-purpose lane performance improves because traffic volume growth will be in the ExpressLanes, which frees up capacity in the general-purpose lanes. Furthermore, it should be noted that surveys of ExpressLanes users in 2018 indicate that all income levels use the I-10/110 ExpressLanes: 19% of respondents earn less than $50,000 annually, 25.9% earn

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
		Relatedly, increasing to HOV requirements to 3+ while allowing SOVs to pay a toll is NOT an equitable solution. It simply allows wealthy SOV drivers to take up space that would otherwise be used for free by HOV-2 vehicles. If you MUST choose a build-option, please do not add an extra lane within the existing roadway width. Lack of freeway shoulders is a serious problem in Los Angeles, and in all of California. There are accidents every day on every freeway in the Southland, and the massive disruption caused by a breakdown in lanes on a freeway not having any shoulders more than offsets the added capacity of one extra lane. Los Angeles County should follow the lead of areas like Minneapolis-Saint Paul, with shoulders serving as bus-only lanes during rush hour. This would incentivize express bus ridership and would do more to address traffic congestion than eliminating	between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer). Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. Less than 1.3% of commuting trips in LA County are by bicycles.

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
		shoulders in order to make an extra lane for wealthy SOV riders. Please consider what will actually be more efficient and climate-friendly for the region overall, not what's most convenient for wealthy people, especially in the face of the national reckoning around inequity that we are experiencing. From a climate-concerned, equity-oriented, transit-positive millennial resident of West Los Angeles:	
Ge-9 Amit Shah 07/07/20	General	Hi, Would appreciate if you could share the I-105 T&R Study. Thanks, Amit	We have sent you the Traffic and Revenue Study.
Ge-10 Pamela Garrett 07/07/20	General	I am writing to confirm that the Sound Wall Survey Response Form originally due by July 6 has had a date extension to July 27, 2020. If so, is this for both the mailer as well as online responses?	Your inquiry has been responded to on July 7, 2020. The comment period for submitting written comments was extended to July 27 but the deadline to submit the soundwall survey was July 6. However, you were given the option to submit the completed survey a few days after July 7.

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
Ge-11.1 Nancy Luque-Gallie 07/03/20	Parking	Inadequate parking for the Green line and park n ride. 2. Parking on city streets.	There are currently 13 C (Green) Line park and ride lots, and of those 13, 5 are paid lots. The purpose of parking fees is to manage parking demand at lots where demand exceeds capacity at highly utilized locations by balancing demand across available Metro resources and ensuring that spaces remain available throughout the day. By using pricing to manage and balance demand within the parking facilities, Metro can use its current resources to meet the demand and maintain flexibility for future land use. Transit options to C (Green) Line stations are also available for those who do not wish to pay for parking. Discounted monthly parking permits are also available for carpools of 3 or more transit patrons.
Ge-11.2 Nancy Luque-Gallie	Environmental Justice	Let's talk about your toll lanes when starting out price should be reasonable but if traffic increases, price goes up and on and on it goes. We are in troubling times with so many not working or perhaps looking for work. Do you think the little guy can afford your toll?	The toll rates are dependent on current levels of congestion and is set to maintain 45 miles per hour as often as possible. In the case of impacts to low income individuals, Metro ExpressLanes offers various assistance programs such as the low-income assistance program and transit rewards as a means to reduce barriers to using the ExpressLanes. The Low Income Assistance Plan provides a $25 credit and a waiver of the $1 monthly maintenance fee. Surveys of ExpressLanes users in 2018 indicate that all income levels use the ExpressLanes: 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer). Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. By adding a second ExpressLane in each direction, speeds and travel times would improve in both the general purpose and ExpressLanes, which would benefit all

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
			users of the freeway. The environmental document assumes a 2027 opening date for this project, and Metro's expectation is that the economy will recover to pre-COVID levels by that time.
Ge-11.3 Nancy Luque-Gallie	Enforcement	Vehicles exiting with only one (1) person. No enforcement.	As part of the proposed ExpressLanes project, additional enforcement, both electronically and with dedicated CHP patrols, will be implemented to enforce occupancy declarations.
Ge-11.4 Nancy Luque-Gallie	Safety	Addressing pedestrian traffic from Studebaker.	Caltrans has already installed additional signage and flashing beacons to improve safety and reduce speeds as the I-105 approaches Studebaker. Caltrans and Metro are continuing to work with the City of Norwalk and the California Highway Patrol to improve safety and deter illegal pedestrian use of the freeway shoulder.
Ge-11.5 Nancy Luque-Gallie	Transportation/ Traffic	The 105 as it ends comes to a T at Studebaker Road. There is an opening in the 105 that was left for park n ride lot but vehicles are not entering the park n ride lot, they are continuing on and exiting at Studebaker road. We also have an HOV lane exiting same area. Now we have there are two (2) lanes exiting onto Studebaker road instead of only one. This has impacted our community more than what it was suppose to be. There have been numerous vehicles going so fast over the years that they crash into a medical building or the tree. You are	Alternative 3 (Convert Existing HOV Lane to Two ExpressLanes) would not change the configuration of the I-105 and Studebaker Rd. intersection. The second ExpressLane would begin/end around Bellflower Blvd., and there would be no additional lanes added between Bellflower Blvd. and Studebaker Road. The ExpressLanes will provide additional CHP enforcement to help deter trucks from using that as a shortcut, and any single occupant vehicles using the Studebaker on/off ramp would be required to pay a toll. Caltrans has already implemented additional measures intended to improve safety in this section of the I-105. Finally, it should be noted that a roundabout was studied as part of this project at the I-105/Studebaker intersection as a way to both improve safety and reduce delay. However, a roundabout was rejected primarily because of significant right of way impacts. Metro will continue to work with Caltrans and the City of Norwalk to improve safety and reduce collisions at this

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		proposing changing HOV to HOT and perhaps adding another HOT lane. That would now be three (3) lanes exiting onto Studebaker road. Really? I understand you want to move traffic faster by having an HOT lane instead of HOV lanes. The HOV lane was for carpooling which is one reason for a park n ride. We have so many issues unaddressed in this area. We know progress must happen but when you have unfinished business and move on. I always told my children, clean up your mess before moving on to something else. HOW ABOUT YOU?	intersection. If ExpressLanes are implemented on the I-105, carpools would still be able to travel toll free. Alternative 2 (single ExpressLane) anticipates requiring three or more persons per vehicle for toll free travel, and Alternative 3 (dual ExpressLanes) anticipates requiring two or more persons per vehicle for toll free travel.
Ge-11.6 Nancy Luque-Gallie		The whole idea of carpooling was a parking area was needed and was also paid for out of carpool monies. What, carpooling now joins the normal freeway flow? 6. HOV only exiting at Studebaker road.	Carpools with transponders will be able to access the ExpressLanes toll free and can move between the general-purpose lanes at designated ingress/egress locations. If ExpressLanes are implemented on the I-105, carpools would still be able to travel toll free. Alternative 2 (single ExpressLane) anticipates requiring three or more persons per vehicle for toll free travel, and Alternative 3 (dual ExpressLanes) anticipates requiring two or more persons per vehicle for toll free travel.

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Ge-12 Michael Weston 06/16/20	General	Thank you for the response. Unfortunately, the links provided are not the ones I'm looking for. To be more specific, I'm requesting all attachments of the Project Report. Below is the list of attachments requested from page 14-1 of the Project Report: Attachment A: Project Map Attachment B: Lane Diagrams Attachment C: Layouts and Typical Cross Sections Attachment D: Cost estimates Attachment E: Design standards risk assessment Attachment F: Utility conflict matrix Attachment G: Right of way data sheets and exhibits Attachment H: Risk Register Attachment I: Stormwater Data Sheet Attachment J: TMP Data Sheet	Stakeholder was sent the requested documents on 06/18/20 via email.
Ge-13 Heni Lebatschi 06/12/20	Environmental Justice	Ladies and Gentlemen I am driver that uses the 105 routes on a daily basis. The 105 freeway was built for people like us with low income.	Alternative 3, which is the Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. This alternative would not change the number of general-purpose lanes, qualified carpools

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		We are stuck in traffic while the RICH pass us in the express lanes. The 10 and 110 are congested all the time, it will be the same for 105. Does money mean so much to you that you want to make our lives more miserable sitting in traffic for hours. Why do we have to pay for parking at the park and ride lots. People like us have to take the bus or train and now more burden on us. Please give me a response, why are you trying to make our life harder. Have some heart and compassion for us.	can still use the ExpressLanes for free, and the general-purpose lanes will remain free for all vehicles. Furthermore, Metro offers a Low Income Assistance Plan, which would provide a $25 credit and a waiver of the $1 monthly maintenance fee. Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. By adding a second ExpressLane in each direction and maximizing utilization of the lane by allowing single occupant vehicles to pay to use the lane, speeds and travel times would improve in both the general purpose and ExpressLanes, which would benefit all users of the freeway. The cost of these improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the 105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes. Metro also intends to use toll revenue to increase transit service in the corridor to benefit those who use transit, as is currently done with the I-

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			10/110 ExpressLanes. With respect to parking, there are currently 13 C (Green) Line park and ride lots, and of those 13, 5 are paid lots. The purpose of parking fees is to manage parking demand at lots where demand exceeds capacity at highly utilized locations by balancing demand across available Metro resources and ensuring that spaces remain available throughout the day. By using pricing to manage and balance demand within the parking facilities, Metro can use its current resources to meet the demand and maintain flexibility for future land use. Transit options to C (Green) Line stations are also available for those who do not wish to pay for parking. Discounted monthly parking permits are also available for carpools of 3 or more transit patrons.
Ge-14 Robert Quillin 06/11/20	General	On page: https://www.metro.net/projects/i105-expresslanes/upcoming-meetings/ On the right side ""Fact Sheets"" the link to: ExpressLanes Program Statistics (English) goes to a map. The link to: ExpressLanes Program Statistics (Spanish) is correct. Unfortunately, my Spanish is not reliable enough to depend on statistics with confidence.	This has been corrected, and the English fact sheet has been posed.

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Ge-15.1 Mauricio Nuñez 6/11/20	Transportation/ Traffic	I am against express lanes on the 105. 1. Any reduction in the public and open access, including the HOV lane will add more strain on one of the most congested freeways in Los Angeles.	As with the current HOV lane, the ExpressLanes would be free to qualified carpools with a transponder. Metro has a Low Income Assistance Plan that provides a $25 credit upon sign up and a waiver of the $1 maintenance fee. By continuing to provide toll free travel for qualified carpools and through the Low Income Assistance Plan, there would be no reduction in access to the ExpressLanes. In addition, the I-105 traffic forecast indicates that for Alternative 3 (dual ExpressLanes) travel times would decrease and speeds would increase in both the general-purpose lanes and the ExpressLanes, which would benefit all users of the facility.
Ge-15.2 Mauricio Nuñez, 6/11/20	Environmental Justice	2. The cost of express lanes is too high for the low-income members of the community along the 105. Thereby adding a longer commute time and increasing the negative sentiment of the Wealth GAP in this country between the haves and have not. 3. Our community bared the not only our share of the tax to build the freeway but also the years of construction. To now add a barrier for us to fully access the freeway while those in a more affluent class who live outside of the community to benefit from it, seems unfair.	The purpose of tolls is to manage demand on the ExpressLanes and maintain speeds of 45 miles per hour as often as possible on the ExpressLanes. To reduce barriers to using the ExpressLanes, low income residents can qualify for the Low Income Assistance Plan, which would provide a $25 credit and a waiver of the $1 monthly maintenance fee. Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. Metro has a Low Income Assistance Plan (LIAP) to reduce barriers to using the ExpressLanes. Based on recent internal data, in 2019 each

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			LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes. By adding a second ExpressLane in each direction (Alternative 3), speeds and travel times would improve in both the general purpose and ExpressLanes, which would benefit all users of the freeway. In addition, qualified carpools can continue to use the ExpressLanes free of charge with a transponder, the number of general-purpose lanes would not change, and general-purpose lanes would remain free to all vehicles.
Ge-16 Richard Huhn 06/11/20	Cultural Resources	Is the 105 freeway being widened east bound, between Prairie and Crenshaw in Hawthorne? My specific interest is the Beach Boy State Landmark on the North side of the freeway at 3701 119th Street.	Caltrans will avoid impacting the Beach Boy State Landmark.
Ge-17 Kirubiel Ayele BofA Securities, Inc. Email 06/11/20	General	Can I please have access to electronic copy of the Traffic and Revenue Study?	Your comment has been noted: You were sent the T&R Study on 06/11/20 via email.

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Ge-18 Steven Greene, M.Pl., Ph.D. HNTB Email 06/02/20	General	Please send me a copy of the Draft T&R Study for the I-105 ExpressLanes	Your comment has been noted: You were sent the T&R Study on 06/03/20 via email.
Ge-19 Peter Carter 05/29/20	General	Please add me to your list to receive an invitation to the project's virtual meeting in June.	We have added you to the email list for the June meeting.
Ge-20 Steve Washington 05/28/20	Transportation/ Traffic	I drive the 105 fwy each direction 5days a week (Inglewood to South Gate). I do not support any changes to the existing plan. What I do see is the Metro Line train running along the 105 is underutilized at 3/4 % empty. This is the plan that should be incentivized, and not more money wasted on fwy expansion.	Funding for the proposed I-105 ExpressLanes project was approved by voters in 2016 as part of Measure M. Since the measure funds are tied directly to the I-105 ExpressLanes project, it cannot be for other types of projects that you mention. Alternative 3 would convert the existing HOV and add a second ExpressLane in each direction. The combination of additional capacity and maximizing utilization of that capacity by allowing single occupant vehicles to pay to use the ExpressLanes would improve performance in both the general-purpose lanes and ExpressLanes. Although Alternative 3 would reduce the width of the inside shoulder to 4 feet, the outside shoulder would mostly remain at its current width of 10 feet. Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the I-10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general-purpose lanes either decreased or stayed flat. As a result, travel

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			time in the general-purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. The ExpressLanes benefit general purpose lane users because the ExpressLanes absorbed traffic volume increases that otherwise would have been in the general-purpose lanes. ExpressLanes also maximize throughput and provide the option to single occupant vehicles to pay to save time. The ExpressLanes also subsidize increased transit service. Metro data indicates that J (Silver) Line ridership has increased from 14,173 weekday boardings/4,178,964 annual boardings in 2014 to 17,558 weekday boardings/5,209,169 annual boardings in 2019. Results from the I-10 analysis are consistent with the traffic forecast on the I-105 the ExpressLanes maximize vehicle throughput and general-purpose lane performance improves because traffic volume growth will be in the ExpressLanes, which frees up capacity in the general-purpose lanes. Furthermore, it should be noted that surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid.

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Ge-21 Nancy Luque 08/08/20	Transportation/ Traffic	This is the problem at Studebaker where the park'n'ride and HOV EXIT 105. Accidents continue to occur when vehicles are exiting onto Studebaker. Guard rail is being repaired again, and again. Please no new lane for exiting 105 cause we have enough traffic and accidents now.	A proposed roundabout alternative was discussed with the City of Norwalk. At $13 million and 9 parcels impacted, which includes a medical building, the environmental impacts and costs were considered high and operational benefits nominal for this consideration be further evaluated. The I-105 ExpressLanes Project would not add any additional lanes at the Studebaker on/off ramp due to the issues raised in your comment. Furthermore, Caltrans has installed additional safety features to this section of the I-105 that are intended to help improve safety. Metro will continue to work with Caltrans and the City of Norwalk to improve safety and reduce accidents at this intersection.

Comments submitted via online Google Form (Go)

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Go-1.1 Rudy Ramirez 07/27/20	Transportation/ Traffic	Regarding the express lanes, it seen not to matter much. Reason the research is has been done now. But when the project is complete the traffic data has increased, and we are back to square one again. The 105 really can't be widen you only have so much room. Not unless the metro train is re design to double decker?	By reducing the left shoulder to 4 feet, buffer between the ExpressLanes and general purpose lanes to 2 feet, some of the freeway lanes from 12 feet to 11 feet, and spot widenings at selected locations, dual ExpressLanes (Alternative 3) can be accommodated mostly within the existing Caltrans right of way. Alternative 3 would require structure widenings that are detailed in Table 1-2 on page 30 of the EIR. Alternative 3 would stay mostly within the existing Caltrans right of way except for partial acquisitions and Temporary Construction Easements that are detailed in Table 2-44 on page 99 of the EIR. Alternative 3 would not require any full property takes.
Go-1.2 Rudy Ramirez	Noise/ Soundwalls	I would like to have the sound wall done the freeway noise in our home is outrageous and with sheriff helicopter landing yards away. It's over the top. Thank you	As a part of this project, LA Metro and Caltrans considered and evaluated proposed noise barriers (i.e. soundwalls), per Caltrans noise protocol, along the freeway. A Noise Study Report and Noise Abatement Decision Report was produced per Caltrans guidelines which depicted which soundwalls were reasonable and/or feasible. Each benefited receptor of the proposed soundwalls received a soundwall preference survey where they could state their opinion on whether they would be in favor of a new soundwall. If more than fifty percent of benefitted receivers are in favor of the soundwall, it will be built as part of the project.
Go-2 Karen Hara 07/27/20	Environmental Justice	Again, you don't address my problem that your "Express Lane" is only for the rich and not for the poor people who have jobs to get to during rush hour. You take lane(s) away but you don't give anything back to those who are not on the	Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018

		Express Lanes, who can't afford to pay your ridiculous fees every day during rush hour! You never open the Express Lane to regular traffic even if it's not "Rush Hour" like in No. Cal. You never talk about maintaining all roads not just for your Express Lanes. Stop using monies for giving out bonuses to management for doing their jobs for which they are well compensated for, already, and build new lanes and do maintenance on roads already built. Not only Express Lanes but all lanes of the freeways, highways! Stop wasting my monies on "research" when you know what the problems are. If you want to get people off the freeways you need good public transportation systems to get them into the city or work hubs. You need affordable housing within the city. You need to give purpose and jobs to the homeless and housing for them. So just do your job and "Do it!"	survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. Metro has a Low Income Assistance Plan (LIAP) to reduce barriers to using the ExpressLanes. Based on recent internal data, in 2019 each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes. The toll rate is set to maintain speeds at 45 miles per hour in order to maximize the number of vehicles using the ExpressLanes. The ExpressLanes would not change the number of non-tolled general-purpose lanes. Alternative 3, which is the Locally Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp - metering. By adding a second ExpressLane in each direction and maximizing the utilization of that lane capacity by allowing single occupant vehicles to pay to use the ExpressLanes, speeds and travel times would improve in both the general purpose and ExpressLanes, which benefits all users of the freeway. The cost of these improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the 105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes. State law requires that revenues generated by the ExpressLanes be spent in the corridor in which they are generated. This could include

			debt service and operations and maintenance. Metro also intends to use toll revenue to increase transit service in the corridor to benefit those who use transit as is currently done for the I-10 and I-110 ExpressLanes. The Metro J (Silver) Line, Foothill Transit, Gardena Transit, and Torrance Transit receive almost $8 million annually in net toll revenue to increase transit service on the I-10 and I-110 freeways. In addition, connections to the C (Green) Line are being improved with the soon to open Crenshaw Line and the Airport Metro Connector in the near future.
Go-3 Gerardo Leal 07/27/20	Transportation/ Traffic	Instead of screwing up the poor again just add another lane. The 105 bottlenecks to 3 lanes. Reason for the heavy traffic. We already pay enough in road taxes.	The I-105 ExpressLanes project includes the addition of auxiliary lanes between the I-710 interchange and the Long Beach Blvd. on/off ramps in both the eastbound and westbound directions. This location is the most significant bottleneck in the corridor. That being said, in many segments of the I-105 demand exceeds capacity so congestion occurs throughout the corridor and not only at locations where there are bottlenecks. The ExpressLanes, in particular Alternative 3, would provide additional lane capacity through dual ExpressLanes for almost the entire I-105 as well as maximize utilization of that lane capacity to the benefit of all users in the corridor. It is also important to note that Southern California is classified as a non-attainment zone for Federal ozone and Particulate Matter (PM) 2.5 air quality standards. As a result, proposed projects must not create new air quality or worsen existing violations. The I-105 ExpressLanes meets this standard that a general-purpose lane would not likely be able to meet. Neither Caltrans nor Metro have any authority over construction of more affordable housing. But your comment is insightful.
Go-4 Mario Dominguez Jr. 07/23/20	Environmental Justice	Could you please find a way to terminate the I-105 Express Lanes Project? I hate that you are implementing a project that will lead to us having to pay in order to use the Express Lanes. We pay enough	The Measure M expenditure plan that was approved by voters in 2016 allocates $175 million to the 105 ExpressLanes project. Alternative 3, which is the Locally Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. This alternative would

		already in taxes. Why are you people figuring out new ways to squeeze more money out of us? You now want us to pay for the right to drive fast in the Express Lanes, it is enough already. Can't you just take the $175 million dollars that you have from Measure M and use those funds for another project? I'm sure that Cal-Trans has plenty of other projects that also need funding. I understand that the goal is to alleviate traffic that we already have on the freeways. But why do we have to pay just to drive our freeways? Look I'm all for you guys readjusting and revising the HOV lanes. Do whatever you want with them. But don't make us pay. At least put it on the ballot and let the voters decide whether or not they want to pay too drive in the HOV lanes. I ask you to please blast the I-105 Express Lanes project out of existence. Please just abort it all together. Thank you.	not change the number of general-purpose lanes which is free to use for all users, and qualified carpools can still use the ExpressLanes for free. Only single occupant vehicles would pay to use the ExpressLanes under Alt. 3. By adding a second ExpressLane in each direction, speeds and travel times would improve in both the general purpose and ExpressLanes, which would benefit all users of the freeway. The reason for the improvement is that the ExpressLanes would absorb a large number of vehicle trips, which in turn frees up capacity on the general-purpose lanes. The cost of these improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the I-105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes. Not only would tolls help pay for construction of the project, they are also used to manage demand on the ExpressLanes in order to maintain speeds of 45 miles per hour as often as possible. Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid.
Go-5 Francisco Torrealba 07/22/20	General	Please add me to mailing list. Thank you.	You have been added to the project mailing list.

Go-6 Javier Gonzalez 07/21/20	Transportation/ Traffic	Fast track lanes do not work period. these lanes discourage carpooling and only benefit single riders of higher income willing to pay for use of these lanes. Therefore, it increases traffic tremendously on all other lanes" free-lanes", so I am completely opposed to this proposed change. I feel that this is purely a money-making scheme, and not designed to improve traffic conditions for the majority of commuters. It also works against disadvantaged communities creating a non-leveled playing field for everybody. So, keep it free for all carpool riders of 2 or more, keep it free for all commuters with current HOV stickers for hybrid vehicles. Worst option, have a 5-year phaseout period in order to give commuters enough time to make plans accordingly.	Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. Metro has a Low Income Assistance Plan (LIAP) to reduce barriers to using the ExpressLanes. Based on recent internal data, in 2019 each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes. Only single occupant vehicles pay tolls under Alt. 3; carpools can travel toll free in the ExpressLanes and travel in the general-purpose lanes remains free for all vehicles. Alternative 3 (dual ExpressLanes) would not change the number of non-tolled general-purpose lanes and would reduce delay and travel time in both the general purpose and ExpressLanes while also increasing vehicle throughput. The reasons for the performance improvement are the additional lane capacity provided by a second ExpressLane and the maximum utilization of that lane capacity by allowing single occupant vehicles to pay a toll to use the ExpressLanes. The cost of Alternative 3 is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the I-105 ExpressLanes Project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction

			bonds and operate and maintain the ExpressLanes. State law requires that revenues generated by the ExpressLanes be spent in the corridor in which they are generated including debt service and operations and maintenance. Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/ExpressLanes in 2009 (pre conversion to ExpressLanes) to 2018. On the I-10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general-purpose lanes either decreased or stayed flat. As a result, travel time in the general-purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210.
Go-7 Lee Reese 07/20/20	Transportation/ Traffic	I think this is awesome, and will reduce the amount of carpool cheaters. When can we do the 405 as well?	The I-405 between the US-101 and LA/Orange County line is identified as a Tier 1 (near-term) project in the Los Angeles County ExpressLanes Strategic Plan. Metro and Caltrans will begin preparation of the Environmental Document for the I-405 between the US-101 and I-10 in Fall 2020/Early 2021.
Go-8 Joe Torres 07/20/20	Environmental/ Justice	105 fwy should not have a fast pass, is already hard for people to travel a pay extra fees on carpool lanes	Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. Metro has a Low Income Assistance Plan (LIAP) to reduce barriers to using the ExpressLanes. Based on recent internal data, in 2019 each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates

			that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes. Only single occupant vehicles pay tolls; carpools can travel toll free in the ExpressLanes and travel in the general-purpose lanes remains free for all vehicles. The purpose of tolls is to manage demand on the ExpressLanes and maintain speeds of 45 miles per hour or greater as often as possible as well as help fund the cost of constructing the ExpressLanes project. Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the I-10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general-purpose lanes either decreased or stayed flat. As a result, travel time in the general-purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210.
Go-9 Savannah R 07/14/20	Transportation/ Traffic	Do not Convert to Express lanes. The carpool lane serves the purpose. Converting 105 to express lanes is waste of public spending	This project is being developed in response to voter approved Measure M to implement ExpressLanes on the I-105. Measure M dedicates $175 million for the 105 ExpressLanes project. Data collected on the current 105 HOV lane indicates that travel speeds in the eastbound PM peak average 21 miles per hour and it takes 44 minutes to travel from the I-405 to the I-605. In the westbound AM peak, travel speeds average 30 miles per hour and it takes 32 minutes to travel from the I-405 to the I-605. Federal law considers an HOV facility as degraded if the average traffic speed during the morning or evening weekday peak commute hour is less than 45 miles per hour (mph) for more than 10 percent of the time over a consecutive 180-day period. By Federal definition, certain segments of the I-105 are classified as degraded and actions must be taken to remediate this degradation. For more details, please see the 2017 California High Occupancy Vehicle Facilities Degradation Report and Action Plan prepared by Caltrans. One way to address HOV lane degradation is through conversion to ExpressLanes. Alternative

			3, which is the Locally Preferred Alternative, would convert the existing HOV into an ExpressLane and add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. This alternative would not change the number of general-purpose lanes, and qualified carpools can still use the ExpressLanes for free.
Go-10 Bill Aumack 07/14/20	Operations	There are no details to how this affects motorcycles. If the lanes are shrunk to a non-standard width, will bikes still be able to share lanes? Or will there be no more room for that? Are bikes required to pay to use the express lanes? $360 a month (assuming your averages of $6 in the am and $3 in the pm) is a sizeable amount to add to my budget that I now can get for free! And if lanes are smaller, maybe less useable and cost more. Please provide details for bikes. Thank you,	Current business rules on the I-10 and I-110 ExpressLanes do not require motorcycles to pay a toll or have a transponder to use the ExpressLanes. Business rules on the I-10 and I-110 ExpressLanes will be carried over to the I-105 ExpressLanes if the project is built.
Go-11 Nunez 07/14/20	Transportation/ Traffic	Many have already planned carpool and paid for electric vehicles or other vehicles with the understanding that carpool would be available for them, now there are more fees for all to pay to use the same lanes? How is paying to use the express lane benefitting/helping with congestion if all will be in the already impacted 4 lanes.	At the time of the opening of the ExpressLanes in 2012, the number of Clean Air Vehicle (CAV) decals issued statewide was 30,000. Since then, that number has increased almost 1000% to 302,453 as of January 1, 2018, with an average annual increase of approximately 54,000 decals per year. On the existing I-105 HOV lane, CAVs account for between 5-10% of traffic depending on direction and location. The higher number of CAVs is one reason congestion in the ExpressLanes has increased, and Metro had no ability to manage demand from CAVs because no tolls were being charged. As a result, the Metro Board voted in April 2018 to provide CAVs a 15% discount to use the I-10 and I-110 ExpressLanes to manage demand from CAVs. Metro expects business rules on the I-105 ExpressLanes to be the

			same as those on the I-10 and I-110 ExpressLanes, and the current CAV policy will remain in effect unless changed by the Metro Board. Alternative 3, which is the Locally Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. This alternative would not change the number of general-purpose lanes, and all vehicles can travel free in the general-purpose lanes. Qualified carpools can still use the ExpressLanes for free. Only single occupant vehicles would pay to use the ExpressLanes under Alt. 3. By adding a second ExpressLane in each direction and maximizing the utilization of that lane by allowing single occupant vehicles to pay to use the lane, speeds and travel times would improve in both the general purpose and ExpressLanes, which would benefit all users of the freeway. The occupancy policy for toll free travel on the I-105 ExpressLanes is currently assumed to be HOV 2+ which means 2-person or more carpools will travel toll free.
Go-12.1 Edward Salcedo 7/14/20	Transportation/ Traffic	Please do not take away the 105 carpool lane by making it a pay express lane. The 110 freeway is ruined and has a lot more traffic in the free lanes	Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the 10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general-purpose lanes either decreased or stayed flat. As a result, travel time in the general-purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. However, the increased throughput in the ExpressLanes has also increased delay in the ExpressLanes. To help address this, Metro is working to implement an occupancy detection system to electronically verify the number of occupants in the vehicle to deter occupancy misdeclarations. Furthermore, Metro is now charging clean air vehicles whereas previously clean air vehicles could travel toll free on the ExpressLanes. The ExpressLanes benefit general purpose lane

			users because the ExpressLanes absorbed traffic volume increases that otherwise would have been in the general-purpose lanes. ExpressLanes also maximize throughput and provide the option to single occupant vehicles to pay to save time. Results from the I-10 analysis are consistent with the traffic forecast on the I-105 the ExpressLanes maximize vehicle throughput and general-purpose lane performance improves because traffic volume growth will be in the ExpressLanes, which frees up capacity in the general-purpose lanes.
Go-12.2 Edward Salcedo	Environmental Justice	The 105 has a lot of low income and uninformed drivers which will lead to confusion and inability to pay for the express lanes. Drivers with a monetary advantage should not get preferential treatment on these public freeways.	Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. Metro has a Low Income Assistance Plan (LIAP) to reduce barriers to using the ExpressLanes. Based on recent internal data, in 2019 each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes. Only single occupant vehicles pay tolls under Alt. 3; carpools can travel toll free in the ExpressLanes and travel in the general-purpose lanes remains free for all vehicles. Furthermore, Alternative 3 would not change the number of general-purpose lanes on the I-105. Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the 10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased

			significantly (in some time periods 50%) while vehicle miles traveled in the general-purpose lanes either decreased or stayed flat. As a result, travel time in the general-purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. However, the increased throughput in the ExpressLanes has also increased delay in the ExpressLanes. To help address this, Metro is working to implement an occupancy detection system to electronically verify the number of occupants in the vehicle to deter occupancy misdeclarations. Furthermore, Metro is now charging clean air vehicles whereas previously clean air vehicles could travel toll free on the ExpressLanes. The ExpressLanes benefit general purpose lane users because the ExpressLanes absorbed traffic volume increases that otherwise would have been in the general-purpose lanes. ExpressLanes also maximize throughput and provide the option to single occupant vehicles to pay to save time. Results from the I-10 analysis are consistent with the traffic forecast on the I-105 the ExpressLanes maximize vehicle throughput and general-purpose lane performance improves because traffic volume growth will be in the ExpressLanes, which frees up capacity in the general-purpose lanes.
Go-13 Savanna Rams 07/14/20	Transportation/ Traffic	Do not Convert to Express lanes. The carpool lane serves the purpose. Converting 105 to express lanes is waste of public spending	Data collected on the current I-105 HOV lane indicates that travel speeds in the eastbound PM peak average 21 miles per hour and it takes 44 minutes to travel from the I-405 to the I-605. In the westbound AM peak, travel speeds average 30 miles per hour and it takes 32 minutes to travel from the I-405 to the I-605. Federal law considers an HOV facility as degraded if the average traffic speed during the morning or evening weekday peak commute hour is less than 45 miles per hour (mph) for more than 10 percent of the time over a consecutive 180-day period. By Federal definition, certain segments of the I-105 are classified as degraded and actions must be taken to remediate this degradation. For more details, please see the 2017 California High Occupancy Vehicle Facilities Degradation Report and

			Action Plan prepared by Caltrans. One way to address HOV lane degradation is through conversion to ExpressLanes. Alternative 3, which is the Locally Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. This alternative would not change the number of general-purpose lanes, and qualified carpools can still use the ExpressLanes for free. Alternative 3 would improve performance in both the general-purpose lanes and the ExpressLanes because of the additional lane capacity provided by a second ExpressLane and the maximum utilization of that lane capacity by allowing single occupant vehicles to pay a toll to use the ExpressLanes. Measure M, which was passed by Los Angeles County voters in 2016, dedicates $175 million for the I-105 ExpressLanes project.
Go-14 LaWanda Costello 07/10/20	General	Requesting a copy of the report	Stakeholder was sent a copy of the draft T&R study and links to the Draft EIR/EA, Project Report and ConOps were provided in an email on 7/15/20
Go-15.1 Cecilia Gonzalez 07/08/20	Transportation/ Traffic	ExpressLanes did nothing for the 110 to improve traffic. Not only did it make traffic worse, the prices are ridiculous when it would make any difference in travel time. You took away the free use for EV cars. I bought my EV with one of these 'perks' in mind and now you've taken it away. Please don't tell me the 15% of a joke discount is still available to me.	Tolls on the I-10 and I-110 ExpressLanes are determined by the level of congestion in the lanes, and tolls are set at a level to maintain 45 miles per hour as often as possible. At the time of the opening of the ExpressLanes in 2012, the number of Clean Air Vehicle (CAV) decals issued statewide was 30,000. Since then, that number has increased almost 1000% to 302,453 as of January 1, 2018, with an average annual increase of approximately 54,000 decals per year. On the existing I-105 HOV lane, CAVs account for between 5-10% of traffic depending on direction and location. Although CAVs reduce emissions, they do not inherently reduce congestion. The higher number of CAVs is one reason congestion in the ExpressLanes has increased, and Metro had no ability to manage demand from CAVs because no tolls were being charged. As a result, the Metro Board voted in

			April 2018 to provide CAVs that are single occupant vehicles a 15% discount to use the I-10 and I-110 ExpressLanes to manage demand from CAVs. However, CAVs that are carpools can still travel toll free on the ExpressLanes. Metro expects business rules on the I-105 ExpressLanes to be the same as those on the I-10 and I-110 ExpressLanes, and the current CAV policy will remain in effect unless changed by the Metro Board. Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the 10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general-purpose lanes either decreased or stayed flat. As a result, travel time in the general-purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. However, the increased throughput in the ExpressLanes has also increased delay in the ExpressLanes. To help address this, Metro is working to implement an occupancy detection system to electronically verify the number of occupants in the vehicle to deter occupancy misdeclarations. Furthermore, Metro is now charging clean air vehicles whereas previously clean air vehicles could travel toll free on the ExpressLanes. The ExpressLanes benefit general purpose lane users because the ExpressLanes absorbed traffic volume increases that otherwise would have been in the general-purpose lanes. ExpressLanes also maximize throughput and provide the option to single occupant vehicles to pay to save time. Results from the I-10 analysis are consistent with the traffic forecast on the I-105 – the ExpressLanes maximize vehicle throughput and general-purpose lane performance improves because traffic volume growth will be in the ExpressLanes, which frees up capacity in the general-purpose lanes.

Go-15.2 Cecilia Gonzalez	Environmental Justice	When it costs 15$ for a few exits during rush hour it makes next to no difference. You're trying to sell this change as a good thing for the 105, but it's just another way to collect money at the expense of commuters. Add a higher tax on gas, encourage people to go green instead.	Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. The toll rate is set to maintain speeds at 45 miles per hour in order to maximize the number of vehicles using the ExpressLanes. The ExpressLanes would not change the number of non-tolled general-purpose lanes. Alternative 3, which is the Locally Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. By adding a second ExpressLane in each direction and maximizing the utilization of that lane capacity by allowing single occupant vehicles to pay to use the ExpressLanes, speeds and travel times would improve in both the general purpose and ExpressLanes, which benefits all users of the freeway. The cost of these improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the I-105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes. State law requires that revenues generated by the ExpressLanes be spent in the corridor in which they are generated. This could include debt service and operations and maintenance. Metro also intends to use toll revenue to increase transit service in the corridor to

			benefit those who use transit as is currently done for the I-10 and I-110 ExpressLanes. The Metro J (Silver) Line, Foothill Transit, Gardena Transit, and Torrance Transit receive almost $8 million annually in net toll revenue to increase transit service on the I-10 and I-110 freeways. In addition, connections to the C (Green) Line are being improved with the soon to open Crenshaw Line and the Airport Metro Connector in the near future.
Go-16 Royal Harrington 07/06/20	Alternatives	I've been using the 105 freeway for as long as I can remember and even though there is congestion during peak hours such as in the morning, I don't believe the 105 needs an express lane. But if something MUST be done, I'd prefer alternative number two (2). Alternative number 3 is out of the question.	Your support for Alternative 2 has been noted.
Go-17 Jon Fukumoto 07/06/20	General	Against the 105 ExpressLanes.	Your Opposition to the I-105 Expresslanes has been noted.
Go-18 Hank Fung 06/29/20	General	I would like links to ALL the Draft EIR/EA and Project Report technical studies (stated in the appendix), and the Traffic and Revenue Study. For other highway projects this information was available for download along with everything else. Was this due to AB 434 compliance issues?	We have sent you a copy of the draft T&R study and links to the Draft EIR/EA, Project Report and ConOps were provided in an email on 7/7/20
Go-19 Elizabeth Lee 06/22/20	Right-of-way (ROW)	Hi - Trying to check if my residence location will be affected Is there a place to check by address?	Alternative 3 would require structure widenings that are detailed in Table 1-2 on page 30 of the EIR. Alternative 3 would stay mostly within the existing Caltrans right of way except for partial acquisitions and Temporary Construction Easements that are

		Thanks	detailed in Table 2-44 on page 99 of the EIR. Alternative 3 would not require any full property takes.
Go-20 Anthony Morrow 06/22/20	Transportation/ Traffic	I am not in favor of this project or any toll lane projects that involve conversion. The lanes in question were built with public funds and should remain accessible without toll. It is a misappropriation of funds and a deception of taxpayers to re-assign them as toll lanes or roads. STOP IT.	Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. The toll rate is set to maintain speeds at 45 miles per hour in order to maximize the number of vehicles using the ExpressLanes. The ExpressLanes would not change the number of non-tolled general-purpose lanes. Alternative 3, which is the Locally Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. The number of general-purpose lanes would not change, qualified carpools can use the ExpressLanes free of charge with a transponder, and the general-purpose lanes will remain free of charge to all vehicles. By adding a second ExpressLane in each direction and maximizing the utilization of that lane capacity by allowing single occupant vehicles to pay to use the ExpressLanes, speeds and travel times would improve in both the general purpose and ExpressLanes, which benefits all users of the freeway. The cost of these improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the I-105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction

			debt and operate and maintain the ExpressLanes. State law requires that revenues generated by the ExpressLanes be spent in the corridor in which they are generated. This could include debt service and operations and maintenance. Metro also intends to use toll revenue to increase transit service in the corridor to benefit those who use transit as is currently done for the I-10 and I-110 ExpressLanes. The Metro J (Silver) Line, Foothill Transit, Gardena Transit, and Torrance Transit receive almost $8 million annually in net toll revenue to increase transit service on the I-10 and I-110 freeways. In addition, connections to the C (Green) Line are being improved with the soon to open Crenshaw Line and the Airport Metro Connector in the near future.
Go-21 Mitch Rosen 06/22/20	General	Trying to reset my password I get: the password does not match your present password????? [email address redacted] - I lost my password 😜	Your comment has been noted.
Go-22 Eva Ybarra 06/22/20	General	I want to cancel my membership	Your comment has been noted.
Go-23 Faraz Aqil 06/22/20	Operations	On the issue of whether the Express Lane(s) should be free for cars with 2 people or more people or 3 people or more people, I strongly advise that LA Metro pick the 2 or more option. These Express Lanes are already going to be a big change to us locals in the area and many people are going to be frustrated that carpool lanes will be going away. To then tell those locals that on top of needing to register for the FasTrak system, that they now need to bring along 1 more person on their trips to not be	The occupancy policy for the I-105 ExpressLanes is currently assumed to be HOV 2+ for Alternative 3 (dual ExpressLanes) and an HOV 3+ for Alternative 2 (single ExpressLanes).

		charged (for something that should be free because ""Freeway"") will be too much for a lot of people. So again, I urge you to pick the 2 people or more are free option when deciding on the fares. Thank you for reading this.	
Go-24 Joe Vicelja 06/17/20	Transportation/ Traffic	$584 million for one additional carpool lane in each direction! How is that going to help the average citizen driving along this corridor? Only benefit is for those who can afford to pay the toll to dive alone. How much do you expect to collect in tolls? didn't see that in reports If you want to spend that kind of money, just add an additional lane in each direction for general traffic use and you would improve travel times by more than adding the carpool lane. Look at the 110 express lanes, they have not improved travel times, what makes you think they will improve on this route. If you really want to assist the motoring public extend the 105 to the 5 Fwy, so we don't have to make the circuitous route we must now travel and cause delays on the 605. This project will not benefit those of us who must commute along this corridor. That money can be used for	Alternative 3, which is the Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. This alternative would not change the number of general-purpose lanes, and qualified carpools can still use the ExpressLanes for free. Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the 10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general-purpose lanes either decreased or stayed flat. As a result, travel time in the general-purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. The ExpressLanes benefit general purpose lane users because the ExpressLanes absorbed traffic volume increases that otherwise would have been in the general-purpose lanes. By adding a second ExpressLane and allowing single occupant vehicles to pay a toll to use the ExpressLanes, the ExpressLanes maximize throughput. Results from the I-10 analysis are consistent with the traffic forecast on the I-105 – the ExpressLanes maximize vehicle throughput and general-purpose lane performance improves because traffic volume growth will be in the ExpressLanes, which frees up capacity in the general-purpose lanes. Surveys conducted of current ExpressLanes users in 2018 show that 19% of respondents earn less than

		better purposes and adding toll lanes is not the answer.	$50,000 annually, 25.9% earn between $50-$100,000, and 34.7% earn over $100,000 (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. For further details on the traffic and revenue study, please go to 105virtualforum.com, the Alternatives and Design tab, and then the Traffic and Revenue (T&R) link for a PowerPoint presentation on estimated toll rates, revenue, and project costs. It is also important to note that Southern California is classified as a non-attainment zone for Federal ozone and Particulate Matter (PM) 2.5 air quality standards. As a result, proposed projects must not create new air quality or worsen existing violations. The I-105 ExpressLanes meets this standard that a general-purpose lane would not likely be able to meet.
Go-25.1 Jackson Hurst 6/12/20	Alternatives	I have reviewed the environmental documents for the I-105 ExpressLanes Project and I approve and strongly support Alternative 3: Convert Existing HOV Lane to Two ExpressLanes (Non-standard Lane and Shoulder Widths).	Your support for Alternative 3 has been noted.
Go-25.2 Jackson Hurst	Transportation/ Traffic	The reason that I strongly support this alternative is because it will reduce traffic congestion and provide shorter travel times as referenced in the Draft Environmental Impact Report/Environmental Assessment and Section 4(F) De Minimis Evaluation Document.	Your comment and support for Alt. 3 have been noted.
Go-24 Eddie Garcia 06/17/20	Environmental Justice	I am completely against changing this into Express lane. It's completely unfair because a ton of blue-collar workers head to the airport and could not afford to pay for express-lane. It's already expensive in LA	Alternative 3, which is the Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. This alternative would not change the number of general-purpose lanes, and qualified carpools can still use the ExpressLanes for free. Furthermore,

		County area and would cause a hardship. Freeways are meant for only the rich and privileged. This needs to stop. It's not private roads. They are public and we already pay enough taxes and fees for registration that allow us to use these roads.	low income residents can qualify for the Low Income Assistance Plan, which would provide a $25 credit and a waiver of the $1 monthly maintenance fee. Surveys conducted of current ExpressLanes users in 2018 show that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-$100,000, and 34.7% earn over $100,000 (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Metro's Low Income Assistance Plan (LIAP) maintains, on average, more than 16,200 active accounts (2.85% of all accounts). Overall, based on recent internal data, LIAP users took nearly 1.3 million trips during the first 11 months of 2019. This represents 4.3 percent of all trips and more than 5.8 percent of HOV2 or HOV3 trips. In 2019, each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes. Metro will continue to consider additional measures to assist low income drivers. By adding a second ExpressLane in each direction, speeds and travel times would improve in both the general purpose and ExpressLanes to the benefit of all users. The cost of these improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the I-105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes.
Go-27.1 Juana Hernandez	Environmental Justice	Why we have to pay at park and rides this help poor people and need to get the bus	There are currently 13 C (Green) Line park and ride lots, and of those 13, 5 are paid lots. The purpose of parking fees is to manage parking demand at highly utilized locations by balancing

06/12/20		Some comments that can be made: The 105 freeway was built for the low-income communities like Lynwood. Why should we be stuck in traffic while the rich pass us in the express lanes? Why do we have to pay for parking at the park and ride lots? Low-income people who need to take the bus or train shouldn't be further burdened to pay for parking.	demand across available Metro resources and ensuring that spaces remain available throughout the day. By using pricing to manage and balance demand within the parking facilities, Metro can use its current resources to meet the demand and maintain flexibility for future land use. Transit options to Green Line stations are also available for those who do not wish to pay for parking. Discounted monthly parking permits are also available for carpools of 3 or more transit patrons. Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. Only single occupant vehicles pay tolls under Alt.3; carpools can travel toll free in the ExpressLanes and travel in the general-purpose lanes remains free for all vehicles.
Go-27.2 Juana Hernandez	Transportation/ Traffic	The 10 and 110 Express Lanes are congested all the time, and are a failure. Why do you want to do the same to the 105? Just for toll money?	Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the 10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general-purpose lanes either decreased or stayed flat. As a result, travel time in the general-purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. However, the increased throughput in the ExpressLanes has also increased delay in the ExpressLanes. To help address this, Metro is working to implement an occupancy detection system to electronically verify the number of occupants in the vehicle to deter occupancy misdeclarations. Furthermore, Metro is now charging clean air vehicles whereas

			previously clean air vehicles could travel toll free on the ExpressLanes. The ExpressLanes benefit general purpose lane users because the ExpressLanes absorbed traffic volume increases that otherwise would have been in the general-purpose lanes. ExpressLanes also maximize throughput and provide the option to single occupant vehicles to pay to save time. The ExpressLanes also subsidize increased transit service. Metro data indicates that J (Silver) Line ridership has increased from 14,173 weekday boardings/4,178,964 annual boardings in 2014 to 17,558 weekday boardings/5,209,169 annual boardings in 2019. Results from the I-10 analysis are consistent with the traffic forecast on the I-105 – the ExpressLanes maximize vehicle throughput and general-purpose lane performance improves because traffic volume growth will be in the ExpressLanes, which frees up capacity in the general-purpose lanes. By adding a second ExpressLane in each direction, speeds and travel times would improve in both the general purpose and ExpressLanes to the benefit of all users. The cost of dual ExpressLanes, a new auxiliary lane between Long Beach Blvd. and the I-710, and new soundwalls is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the I-105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes.
Go-27.3 Juana Hernandez	Parking	Why we have to pay at park and rides	There are currently 13 C (Green) Line park and ride lots, and of those 13, 5 are paid lots. The purpose of parking fees is to manage parking demand at highly utilized locations by balancing demand across available Metro resources and ensuring that spaces remain available throughout the day. By using pricing to manage and balance demand within the parking facilities, Metro can use its current resources to meet the demand and maintain flexibility for future land use. Transit options to C (Green) Line

			stations are also available for those who do not wish to pay for parking. Discounted monthly parking permits are also available for carpools of 3 or more transit patrons.
Go-27.4 Juana Hernandez	Environmental Justice	Why do we have to pay for parking at the park and ride lots? Low-income people who need to take the bus or train shouldn't be further burdened to pay for parking.	There are currently 13 C (Green) Line park and ride lots, and of those 13, 5 are paid lots. The purpose of parking fees is to manage parking demand at highly utilized locations by balancing demand across available Metro resources and ensuring that spaces remain available throughout the day. By using pricing to manage and balance demand within the parking facilities, Metro can use its current resources to meet the demand and maintain flexibility for future land use. Transit options to C (Green) Line stations are also available for those who do not wish to pay for parking. Discounted monthly parking permits are also available for carpools of 3 or more transit patrons.
Go-28.1 Gabriela Martinez 06/12/20	Right-of-Way	I honestly do not mind any plans with this freeway unless it impacts my property on State and Redwood. If my home will be taken down to expand the fwy then I am completely against it. Thank you	Alternative 3 would require structure widenings that are detailed in Table 1-2 on page 30 of the EIR. Alternative 3 would stay mostly within the existing Caltrans right of way except for partial acquisitions and Temporary Construction Easements that are detailed in Table 2-44 on page 99 of the EIR. The right of way impacts are on Imperial Highway between Mona and Fernwood Avenue. There are no right of way impacts expected at State and Redwood Avenue. For more details, please go to metro.net/105expresslanes and click on the presentation for the July 15, 2020 virtual public hearing. In addition, please go to 105virtualforum.com, to the "Alternatives & Design" tab, and click on the Design Features link for a PowerPoint presentation on design features.
Go-28.2 Gabriela Martinez	General	She also wants a map design demonstrating what Imperial HWY / Alameda / Long Beach will look like once the project is complete	For more details, please go to metro.net/105expresslanes and click on the presentation for the July 15, 2020 virtual public hearing. In addition, please go to 105virtualforum.com, to the "Alternatives & Design" tab, and click on the Design Features link for a PowerPoint presentation on design features.
Go-29 Jasmin	Environmental Justice	The 105 freeway was built for the low-income communities like	Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn

Lopez 06/12/20		Lynwood. Why should we be stuck in traffic while the rich pass us in the express lanes?	between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. Only single occupant vehicles pay tolls; carpools can travel toll free in the ExpressLanes and travel in the general-purpose lanes remains free for all vehicles. Metro has a Low Income Assistance Plan (LIAP) that provides a $25 one-time credit and waiver of the $1 monthly maintenance fee. The LIAP maintains, on average, more than 16,200 active accounts (2.85% of all accounts). Overall, based on recent internal data, LIAP users took nearly 1.3 million trips during the first 11 months of 2019. This represents 4.3 percent of all trips and more than 5.8 percent of HOV2 or HOV3 trips. In 2019, each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes. Alternative 3 (dual ExpressLanes) will improve performance in the general-purpose lanes. The reason for this improvement is that much of the future growth will be handled by the ExpressLanes, which will in turn free up capacity in the general-purpose lanes. As a result, the general-purpose lanes will be able to handle more vehicles and with less delay. This has also happened on the I-10 ExpressLanes. Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the 10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles

			traveled in the general-purpose lanes either decreased or stayed flat. As a result, travel time in the general-purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. However, the increased throughput in the ExpressLanes has also increased delay in the ExpressLanes. To help address this, Metro is working to implement an occupancy detection system to electronically verify the number of occupants in the vehicle to deter occupancy misdeclarations. Furthermore, Metro is now charging clean air vehicles whereas previously clean air vehicles could travel toll free on the ExpressLanes. The ExpressLanes benefit general purpose lane users because the ExpressLanes absorbed traffic volume increases that otherwise would have been in the general-purpose lanes. ExpressLanes also maximize throughput and provide the option to single occupant vehicles to pay to save time.
Go-30 Gabriela Soto-Martinez 06/11/20	Right-of-Way	I'm a Lynwood Resident my home is located on the side of the fwy. I hope this project doesn't involve eliminating properties.	Alternative 3 would require structure widenings that are detailed in Table 1-2 on page 30 of the EIR. Alternative 3 would stay mostly within the existing Caltrans right of way except for partial acquisitions and Temporary Construction Easements that are detailed in Table 2-44 on page 99 of the EIR. Alternative 3 would not require any full property takes.
Go-31 Andres Luna 06/11/20	Noise/ Soundwalls	Any Revenue for the county is fine by me, My question is will there be a Soundwall on the east bound of the 105 between Harris and Atlantic ave in Lynwood 90262. The fwy noise is getting annoying especially before the 710 interchange	As a part of Alternative 3 (Convert Existing HOV Lane to Two ExpressLanes) a soundwall on the EB of I-105 between Harris and Atlantic Ave is proposed. soundwall mailings were sent to residents for an opportunity to vote in favor or opposition to the proposed soundwall. This soundwall was approved as a part of Alternative 3.
Go-32 Dan Ince 06/09/20	Transportation/ Traffic	It seems to me that Metro never learns. The same rational of helping to mitigate the traffic was used when the Express Lanes were installed on the HOV lanes on the I110. All it did	Alternative 3, which is the Locally Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. This alternative would not change the number of general-purpose lanes, and qualified

		was to throw additional traffic into the non-Express Lanes which made the commute that much worse for the vast majority of commuters. This potential project on the I105 appears to throw an additional financial burden on the citizens/commuters who can least afford the cost of paying for the use a public roadway that was paid for by tax dollars. This appears to be more aimed at adding revenue to Metro's coffers than to help mitigate the traffic.	carpools can still use the ExpressLanes for free. Furthermore, low income residents can qualify for the Low Income Assistance Plan, which would provide a $25 credit and a waiver of the $1 monthly maintenance fee. Surveys conducted of current ExpressLanes users in 2018 show that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-$100,000, and 34.7% earn over $100,000 (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. By adding a second ExpressLane in each direction, speeds and travel times would improve in both the general purpose and ExpressLanes. The cost of these improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the I-105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes. Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the 10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general-purpose lanes either decreased or stayed flat. As a result, travel time in the general-purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. However, the increased throughput in the ExpressLanes has also increased delay in the ExpressLanes. To help address this, Metro is working to implement an occupancy detection system to electronically verify the number of occupants in the vehicle to deter occupancy misdeclarations. Furthermore, Metro is now charging clean air vehicles whereas previously clean air vehicles could travel toll

			free on the ExpressLanes. The ExpressLanes benefit general purpose lane users because the ExpressLanes absorbed traffic volume increases that otherwise would have been in the general-purpose lanes. ExpressLanes also maximize throughput and provide the option to single occupant vehicles to pay to save time. The ExpressLanes also subsidize increased transit service. Metro data indicates that J (Silver) Line ridership has increased from 14,173 weekday boardings/4,178,964 annual boardings in 2014 to 17,558 weekday boardings/5,209,169 annual boardings in 2019. Results from the I-10 analysis are consistent with the traffic forecast on the I-105 – the ExpressLanes maximize vehicle throughput and general-purpose lane performance improves because traffic volume growth will be in the ExpressLanes, which frees up capacity in the general-purpose lanes.
Go-33 Sandra Nuñez 06/08/20	Environmental Justice	At this time of economic hardship this idea of making the HOV lanes express lanes will cause further hardship on the people that already use the lanes to get to work. Since it's very expensive to live in the South Bay Area, lots live among cities off the 105fwy. Yes, we commute and carpool to save $. So, as the economy begins to open up imposing this at this time would further cripple those that are trying to work and follow the HOV laws. Many educators are travel along This rode. Electric and gas efficiency vehicles Have also been purchased to use the HOV lanes. Now the state wants to take more $$. Not acceptable.	The Environmental Document assumes that the I-105 ExpressLanes project would open to traffic in 2027 and it is our expectation that the economy will return to pre-COVID levels by then. With respect to Clean Air Vehicles (CAVs), at the time of the opening of the I-10/110 ExpressLanes in 2012, the number of CAV decals issued statewide was 30,000. Since then, that number has increased almost 1000% to 302,453 as of January 1, 2018, with an average annual increase of approximately 54,000 decals per year. On the existing I-105 HOV lane, CAVs account for between 5-10% of traffic depending on direction and location. The higher number of CAVs is one reason congestion in the ExpressLanes has increased, and Metro had no ability to manage demand from CAVs because no tolls were being charged. As a result, the Metro Board voted in April 2018 to provide CAVs a 15% discount to use the I-10 and I-110 ExpressLanes to manage demand from CAVs. Metro expects business rules on the I-105 ExpressLanes to be the same as those on the I-10 and I-110 ExpressLanes, and the current CAV policy will remain in effect unless changed by the Metro Board.

Go-34.1 Joel Rane 06/03/20	Transportation/ Traffic	Hello - I think this is a great project. I commute from the LAX area to Anaheim and it would provide an alternative.	Your support for the project has been noted.
Go-34.2 Joel Rane	Enforcement	HOWEVER please implement some kind of enforcement mechanism. Before March, I was sitting in traffic next to the carpool lane, and my estimate is that during a traffic jam, about 25-30% of the cars only had 1 occupant. In the 2 years I've been doing this commute, I've only seen 1 person get a ticket (on the 5 near Disneyland.)	Enforcement on the ExpressLanes would include dedicated California Highway Patrol (CHP) enforcement, dedicated observation/citation zones for the CHP, enforcement beacons, and possibly an Occupancy Detection System to verify the number of occupants in a vehicle.
Go-35 Kirubiel Ayele 06/01/20	General	Can you please send me electronic copy of the Traffic and Revenue Study? Hope everyone is doing well and staying safe!	Thank you for your comment. We sent you the T&R Study on 6/11/20.
Go-36 Dhaval Jogani 06/01/20	Transportation/ Traffic	I don't think this is a good idea as currently there are only 3 lanes on each side. Having express lane will lead to more traffic.	Your comment has been noted. Currently, the I-105 is congested in both the general purpose and High Occupancy Vehicle lanes particularly in the afternoon eastbound and morning westbound directions. As population and employment growth continues, future traffic conditions are expected to continue to worsen. To address current and future congestion, Alternative 3 would convert the existing HOV lane into an ExpressLane and add a second ExpressLane in each direction. Adding additional capacity and proactively managing that capacity through pricing will maximize utilization, resulting in reduced congestion on the freeway. The ExpressLanes would continue to allow qualified carpools the ability to travel toll-free with a transponder while also providing choice to single occupant drivers to pay a toll to save time when necessary. By charging tolls to single occupant

			drivers, toll revenue is generated that Metro intends to use to increase transit in the corridor to improve service and encourage people to use transit. As a result, all users would benefit - carpools would receive a faster trip than currently exists today, single occupant vehicles have the option to pay to travel faster, and transit users will gain increased transit service.
Go-37 Joaquin Morales 06/01/20	Operations	Can we have motorcycles take into consideration? The 105 has many motorcycle commuters.	Current business rules on the I-10 and I-110 ExpressLanes do not require motorcycles to pay a toll or have a transponder to use the ExpressLanes. Business rules on the I-10 and I-110 ExpressLanes will be carried over to the I-105 ExpressLanes if the project is built.
Go-38.1 Richard Marguliex 06/01/20	Alternatives	Alternate 3 is superior to Alternate 2 due to the 2-lane benefits for traffic flow.	Your support for Alternative 3 has been noted.
Go-38.2 Richard Marguilieux	Cost	This project's expected cost is too high. The money would be better spending on other Metro projects, such as Vermont Rail or Crenshaw North. VMT impacts, including induced demand should be addressed. If this project is to continue, costs above the Measure M estimate should be covered by Bonds against Future Toll revenues.	The Measure M expenditure plan that was approved by voters in 2016 allocates $175 million to the I-105 ExpressLanes project. Alternative 3, which is the Locally Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. This alternative would not change the number of general-purpose lanes, and qualified carpools can still use the ExpressLanes for free. Only single occupant vehicles would pay to use the ExpressLanes. By adding a second ExpressLane in each direction, speeds and travel times would improve in both the general purpose and ExpressLanes, which would benefit all users of the freeway. The reason for the improvement is that the ExpressLanes would absorb a large number of vehicle trips, which in turn frees up capacity on the general-purpose lanes. The cost of these improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the I-105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources,

			this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes. Not only would tolls help pay for construction of the project, they are also used to manage demand on the ExpressLanes in order to maintain speeds of 45 miles per hour as often as possible. Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. VMT Analysis was not required for this project and induced demand can be defined as people driving to see their friends and families rather than just calling.
Go-39 Robert Young 05/30/20	Transportation/ Traffic	How is changing the current HOV lanes to Express lanes going to enhance traffic flow; improve trip reliability and travel times; and sustain and manage mobility? It appears this is just another way to increase our cost of traveling without having to increase the gasoline taxes again. Looking forward to your answer.	Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by al
Go-40 Lisa Maurath 05/09/20	General	Please add me to the mailing list	You have been added to the project mailing list.
Go-41 Crystal	Noise/ Soundwalls	I do not believe that this wall is necessary. Those funds could be	Caltrans' protocol is to replace any existing soundwall that is being impacted as a result of a build alternative.

Joseph 05/28/20		better used and repaving our streets. By placing this wall against the freeway, it allows for the homeless population to further develop in this area potentially exposing the neighborhood to more debris and human waste. Not to mention the year to two years it will take to build this wall disrupting the side streets and the smaller areas around the freeway.	
Go-42 Martha Gomez 05/28/20	Transportation/ Traffic	I don't think is a good idea to convert the existing HOV to an Express Lane. In my opinion, it doesn't improve traffic congestion, it makes it worst. The only people that might pay the monthly fee are the ones that have to travel thru the 105 on a daily basis but for the rest is not worth it. I've seeing the Fwy's that have the Express Lanes almost empty and the rest of the lanes are packed like a parking lot. The most affected people will be the low-income people that live around the 105 fwy. We already pay a lot for property taxes to now have to pay to travel on the freeways. You can always add more lanes at the areas where they currently reduce to 3 lanes.... that will make a difference as this is where the traffic jams happen. There is more traffic on the 405 and 10 freeways and I don't see an	Currently, the I-105 is congested in both the general purpose and High Occupancy Vehicle lanes particularly in the afternoon eastbound and morning westbound directions. As population and employment growth continues, future traffic conditions are expected to continue to worsen. To address current and future congestion, Alternative 3 would convert the existing HOV lane into an ExpressLane and add a second ExpressLane in each direction. Adding additional capacity and proactively managing that capacity through pricing will maximize utilization, resulting in reduced congestion on the freeway. The ExpressLanes would continue to allow qualified carpools the ability to travel toll-free with a transponder while also providing choice to single occupant drivers to pay a toll to save time when necessary. By charging tolls to single occupant drivers, toll revenue is generated that Metro intends to use to increase transit in the corridor to the benefit of those who use transit. As a result, all users would benefit—carpools would receive a faster trip than currently exists today, single occupant vehicles have the option to pay to travel faster, and transit users will gain increased transit service. Surveys conducted of current ExpressLanes users in 2018 show that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-$100,000, and 34.7% earn over $100,000 (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the

		Express Lane there? why just where there's low income people?	ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. Metro has a Low Income Assistance Plan (LIAP) that provides a $25 one-time credit and waiver of the $1 monthly maintenance fee. The LIAP maintains, on average, more than 16,200 active accounts (2.85% of all accounts). Overall, based on recent internal data, LIAP users took nearly 1.3 million trips during the first 11 months of 2019. This represents 4.3 percent of all trips and more than 5.8 percent of HOV2 or HOV3 trips. In 2019, each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes. Only single occupant vehicles pay tolls under Alt. 3; carpools can travel toll free in the ExpressLanes and travel in the general-purpose lanes remains free for all vehicles. In addition to the I-105, ExpressLanes are being studied on the I-605 (https://www.metro.net/projects/i-605-corridor-hot-spots-program/i-605-corridor-improvements-project/), and Metro and Caltrans will soon begin preparing environmental documents for potential ExpressLanes on the I-405 between the US-101 and I-10 and on I-10 between I-605 and the Los Angeles/San Bernardino County line.

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
VOH-1 From Anonymous, 6/11/20	Right-of-Way	Do Any of these projects required to demolish any residential property specially around State and Redwood Ave in Lynwood? If residential properties are at risk can you please provide us a map to which properties will be impacted?	Alternative 3 would require structure widenings that are detailed in Table 1-2 on page 30 of the EIR. Alternative 3 would stay mostly within the existing Caltrans right of way except for partial acquisitions and Temporary Construction Easements that are detailed in Table 2-44 on page 99 of the EIR. The right of way impacts are on Imperial Highway between Mona and Fernwood Avenue. There are no right of way impacts expected at State and Redwood Avenue. For more details, please go to metro.net/105expresslanes and click on the presentation for the July 15, 2020 virtual public hearing. In addition, please go to 105virtualforum.com, to the "Alternatives & Design" tab, and click on the Design Features link for a PowerPoint presentation on design features.
VOH-2 From Anonymous, 6/11/20	Right-of-Way	Thank you (Do Any of these projects required to demolish any residential property specially around State and Redwood Ave in Lynwood? If residential properties are at risk can you please provide us a map to which properties will be impacted?)	Alternative 3 would require structure widenings that are detailed in Table 1-2 on page 30 of the EIR. Alternative 3 would stay mostly within the existing Caltrans right of way except for partial acquisitions and Temporary Construction Easements that are detailed in Table 2-44 on page 99 of the EIR. The right of way impacts are on Imperial Highway between Mona and Fernwood Avenue. There are no right of way impacts expected at State and Redwood Avenue. For more details, please go to metro.net/105expresslanes and click on the presentation for the July 15, 2020 virtual public hearing. In addition, please go to 105virtualforum.com, to the "Alternatives & Design" tab, and click on the Design Features link for a powerpoint presentation on design features.
VOH-3	Operations	Where do funds go from fees?	Tolls collected on the I-10/110 ExpressLanes are used to pay for operations and maintenance, Freeway Service Patrol tow trucks,

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From Anonymous, 6/11/20			California Highway Patrol enforcement, transit subsidies, and net toll grants that have been granted to mobility improvement projects such as active transportation, roadway, and transit projects. For the I-105 ExpressLanes project, Metro may need to bond against future toll revenue to pay for construction costs. If so, then net toll revenue would be used to repay those construction loans.
VOH-4 From Robert Q, 6/11/20	General	Could you share what the low-income user is currently? You mentioned that it would be used with this project also.	The Low Income Assistance Plan provides a one time $25 credit and a waiver of the $1 monthly maintenance fee. To qualify for the Low Income Assistance Plan, the applicant must be a resident of Los Angeles County and earn less than twice the Federal poverty level. For more details, please go to metroexpresslanes.net.
VOH-5 From Anonymous, 6/11/20	Construction	do you know which construction company has been awarded the bid?	This project is in the environmental phase, and a construction contract has not been awarded yet.
VOH-6 From Anonymous, 6/11/20		The primary goal of the ExpressLanes is “to move more people not cars”. How can Metro explain that person throughput significantly decreased, and congestion became much worse after I-10 and I-110 HOV lanes were converted to ExpressLanes?	The PDT analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the 10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general purpose lanes either decreased or stayed flat. As a result, travel time in the general purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. However, the increased throughput in the ExpressLanes has also increased delay in the ExpressLanes.

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
			To help address this, Metro is working to implement an occupancy detection system to electronically verify the number of occupants in the vehicle to deter occupancy misdeclarations. Furthermore, Metro is now charging clean air vehicles whereas previously clean air vehicles could travel toll free on the ExpressLanes. The ExpressLanes benefit general purpose lane users because the ExpressLanes absorbed traffic volume increases that otherwise would have been in the general purpose lanes. ExpressLanes also maximize throughput and provide the option to single occupant vehicles to pay to save time. The ExpressLanes also subsidize increased transit service. Metro data indicates that J (Silver) Line ridership has increased from 14,173 weekday boardings/4,178,964 annual boardings in 2014 to 17,558 weekday boardings/5,209,169 annual boardings in 2019. Results from the I-10 analysis are consistent with the traffic forecast on the I-105 – the ExpressLanes maximize vehicle throughput and general purpose lane performance improves because traffic volume growth will be in the ExpressLanes, which frees up capacity in the general purpose lanes.
VOH-7 From Anonymous, 6/11/20	Noise/ Soundwalls	Noise studies were done for 10 minutes in Norwalk. They were done about 10:00 am Will they do noise studies during the peak traffic hours. Say 5:00 am to 9:00 am, or 3:00 pm to 7:00pm?	24-hour consecutive long term noise measurements were conducted at appropriate locations within project limits.
VOH-8	General	will this presentation deck be available online?	The presentations from the live Question and Answer meeting on 6/11/20 and the virtual public hearing on July 15, 2020 as well as

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From Anonymous, 6/11/20			recordings of the meeting are available at metro.net/105expresslanes.
VOH-9 From Anonymous, 6/11/20	Alternatives	Will the walls as noise barrier allow for more homeless to begin more encampments?	The noise barriers are needed to abate noise impacts. The occurrence of homelessness encampments is beyond the project's control. Caltrans cannot predict where unsheltered persons experiencing homelessness will encamp. However, Caltrans collaborates closely with local city and county agencies and other stakeholders on efforts to address relocating unsheltered persons experiencing homelessness that are within the state highway system to COVID 19 safe appropriate locations within the city and county.
VOH-10 From Anonymous, 06/11/20	Alternatives	Currently, 70% of cars on I-10/110 ExpressLanes are single-occupancy vehicles. Why does Metro not consider adding a general lane on I-105? Has this option been studied? The fund of this project comes from LA taxpayers. Why do people in LA have to pay for using ExpressLanes? It sounds like a double tax. Is it a legitimate action for Metro and the county of LA?	This project did not analyze the addition of a general purpose lane for two main reasons. The first is that it would not meet the purpose and need for the project, one of which is to sustain and manage mobility. Because general purpose lanes allow unrestricted use, the capacity created by an additional GP lane would quickly be filled and any mobility benefits provided could not be sustained. On the other hand, the ExpressLanes manage demand by charging a higher toll when there is heavier congestion and a lower toll when there is less congestion. Furthermore, the ExpressLanes incentivize carpooling and transit use by allowing free use by carpools and buses and only charging single occupant vehicles. As a result, the ExpressLanes maximize utilization and passenger throughput. To illustrate this point, the traffic forecast indicates that for Alternative 3 in the 2027 eastbound peak period, an ExpressLane segment carries on average about 1,544 vehicles per hour and 2,130 persons. By

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			comparison, each general purpose lane segment on the I-105 in the 2027 eastbound peak period carries about 1,358 vehicles per hour and 1,358 persons. Furthermore, speeds on the ExpressLanes average 54 miles per hour and in the general purpose lane it is 32 miles per hour. So not only are the ExpressLanes carrying 57% more people and 14% more vehicles, they are operating at higher speeds than general purpose lanes. The reason for this difference is that the ExpressLanes can, through the use of tolling, operate closer to its capacity of 1,900 vehicles per hour than general purpose lanes can. Second, the addition of a general purpose lane on the I-105 conflicts with State and Federal requirements, as well as with our region's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) SB 375 requires reductions in greenhouse gas emissions, and the addition of general purpose lanes is in conflict with that goal. In addition, the project with ExpressLanes is consistent with the latest 2020 RTP/SCS (Connect SoCal) in which the SCAG has satisfactorily demonstrated consistency with the purpose of the state air quality implementation plan (SIP) and that those transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant national ambient air quality standards. In addition, consistency with the Southern California Association of Governments Regional Transportation Plan (RTP) is required to demonstrate air quality conformity and finalize the Environmental Document. The 2016 and 2020 RTP meet air quality conformity requirements and includes ExpressLanes on the I-105. Therefore, this project helps the RTP meet air quality conformity that a general purpose lane might not be able to do.

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VOH-11 From Anonymous, 06/11/20	Air Quality	My apologies if this was already covered, but what is the estimated change in fossil fuel emissions for each of Alternative 2 and 2?	Greenhouse Gas (GHG) emissions for each Alternative in each analysis year have been estimated along I-105 within the project limits and are presented in the February 2021 AQR and in the draft EIR/EA. The latest CT-EMFAC2017 and travel activities data provided by Metro were utilized to estimate operational GHG emissions for the 2017 baseline as well as for all future year Alternatives. A summary of GHG emissions for each Alternative in equivalents Carbon Dioxide (CO2e) was provided in Table 39 of the February 2021 AQR. According to the analysis, all future GHG emissions will result in decrease when compared to the 2017 Baseline. GHG emissions for all Alternatives are anticipated to decrease further as the years progress to 2047, consistent with the statewide goals to reduce GHGs. The GHG emissions are forecasted to reach the lowest in 2047 for all Alternatives. It should be noted that this progressive decrease in GHG emissions is achieved for each Alternative while VMT is projected to continue to increase in future years. When compared to the No-Build (Alternative 1) conditions in each analysis year, however, the Build Alternatives (2 and 3) are anticipated to result in increase in GHG emissions. While EMFAC2017 has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its GHG emission rates are based on tailpipe emission test data. Moreover, the model does not account for factors such as the rate of acceleration and vehicle aerodynamics, which influence the amount of emissions generated by a vehicle. GHG emissions quantified using CT-EMFAC or EMFAC2017 are therefore estimates and may not reflect actual physical emissions. Though

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			CT-EMFAC and EMFAC2017 are currently the best available tools for calculating GHG emissions from mobile sources, it is important to note that the GHG results are only useful for a comparison among alternatives.
VOH-12 From Anonymous, 06/11/20	Operations	When can you use the express lane for free (no toll) under scenario 3?	Alternative 3 assumes an occupancy requirement of 2 or more persons per vehicle (HOV2+) to go for free.
VOH-13 From Anonymous, 06/11/20	Environmental Justice	You mention the transit programs for equitable participation of the Express Lanes for low-income individuals. A common inquiry that has been asked of Metro since the inception of the I-110/I-10 ExpressLanes is that in order for a low-income individual to receive a no-cost out-of-pocket transponder, they need to produce a debit/credit card to have on record. Many low-income individuals do not have this. With additional ExpressLanes being proposed, how do you plan to address this short-coming, given that the HOV/Carpool Lanes originally were equitable for all, and did not require a transponder to be leased/rented/backed by a debit/credit card and account on	Debit & Credit Cards are not required to open an ExpressLanes Account. Accounts can be opened in person with cash and be refilled with cash alone. Our customers visit either one of our walk-in Customer Service Centers (El Monte or Torrance) to refill their active accounts.

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		record to use a freeway that was built with both local and federal funds.	
VOH-14 From Anonymous, 06/11/20	Funding	What is your specific financing plan? Will you consider the US DOT TIFIA credit assistance program?	A specific funding plan has not been finalized but Metro expects that the I-105 ExpressLanes will be funded by a combination of local Measure M sales tax funds, bonding against future toll revenue, and possibly State/Federal grants. One way to bond against future toll revenue is through a TIFIA loan and Metro is considering this option.
VOH-15 From Gabriela Martinez, 06/11/20	General	Thank you (Do you have a map design demonstrating what Imperial HWY / Alameda / Long Beach will look like once the project is complete?)	For more details, please go to metro.net/105expresslanes and click on the presentation for the July 15, 2020 virtual public hearing. In addition, please go to 105virtualforum.com, to the "Alternatives & Design" tab, and click on the Design Features link for a PowerPoint presentation on design features.
VOH-16 From Anonymous, 06/11/20	Transportation/ Traffic	The current design of the 105 from Vermont to Alameda has dismissed and disallowed proper ingress and egress to allow goods and services, trade and commerce for economic opportunity to come into the community. Why are you only providing small nuanced improvements which will cause the same problems for the community to continue?	The project would encourage economic opportunity and improve community livability because it is expected to: 1) reduce overall corridor congestion in both the ExpressLanes and general purpose lanes; 2) shift vehicles from local arterials to the freeway away from local communities; and 3) provide toll revenue to increase transit in the corridor.
VOH-17 From Anonymous, 06/11/20	Operations	What is the status of Metro's Tier 1 Network? Have you completed the Network PSR yet?	Metro is working with Caltrans to complete the Network Project Study Report.

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VOH-18.1 From Johnathan Lozano, 06/11/20	Environmental Justice	Why is there a $1 a month maintenance fee for the use of Express Lanes, when originally the lanes were Carpool Lanes that did not require such a fee to use. Given that the I-105 freeway was built using both local and federal public funds, how is this justified?	Metro does not make any money on the $1 monthly maintenance fee since account maintenance costs are greater than $1 per account. The $1 monthly maintenance fee was set by the Metro Board.
VOH-18.2 From Johnathan Lozano, 06/11/20	Operations	What is the current process of changing the occupancy requirements from HOV 2 to HOV3+? There is an option on the EIR that the I-105 Express Lane can become HOV 3+. What is the process for this, who decides, and how do constituents give feedback for this?	The occupancy policy of Alt. 3 is currently assumed to be HOV 2+. Operational adjustments to the tolled ExpressLanes may be implemented will be determined based on a number of factors such as traffic volume, levels of congestion, traffic forecasts, and whether additional capacity is being added. Because this project proposes to construct ExpressLanes on the I-105, the Metro Board will determine the minimum occupancy requirement for toll free travel. Should changes to occupancy requirements be made in the future, these changes will be made by LA Metro in consultation with Caltrans and in compliance with all applicable State and Federal laws, guidelines, and regulations.
VOH-19 From Anonymous, 06/11/20	Transportation/ Traffic	Under 23 U.S.C. § 166 HOV Facilities, existing HOV lanes may be converted to express lanes operations, subject to certain requirements. States must demonstrate that the existing HOV facility is not degraded and that the presence of tolled vehicles will not result in degradation. How do you	FHWA has allowed partially degraded HOV facilities to be converted in cases where conversion demonstrably reduces the degradation (which is possible based on added capacity, lane re-configuration, pricing and/or eligibility policy changes), and once converted - operators need to demonstrate annually that the facility is not degraded, and if so - that the presence of tolled vehicles is not causing the degradation, and prove what is being done to remediate it. On the I-105, the Traffic and Revenue (T&R) Study analyzed both Alternative 2 and 3 as well as

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		demonstrate that current I-105 HOV lanes are not degraded?	occupancy polices (HOV2+, HOV 3 peak/2 off peak, and HOV3+) in 2027 and 2047 to determine whether speeds can be maintained above 45 miles per hour and the toll rate required to do so. The T&R determined that the only scenario that would enter into HOV only mode (below 45 miles per hour) is Alternative 2 with a HOV 3 peak/2 off peak occupancy policy. Alternative 3 under any occupancy policy and Alternative 2 with an HOV 3+ policy is not forecasted to operate below 45 miles per hour and is not expected to be degraded. For more details please see Tables 6-3 and 6-4 in the T&R.
VOH-20 From Anonymous, 06/11/20	Air Quality	How does project address GHG and/or VMT reduction?	GHG emissions from transportation projects are divided into those produced during operation and those produced during construction. GHG emissions analyses are presented in the February 2021 AQR, Section 4.3.7. See response above for an analysis of operational GHG emissions. Construction GHG emissions were estimated for each project alternative using the SMAQMD's RCEM based on construction activities data such as equipment inventories and project construction scheduling information as well as emission factors from the EMAC2017 and OFFROAD. A summary of construction GHG emissions estimates for each Build Alternative is provided in Table 40 of the February 2021 AQR. According to the analysis, construction of the proposed project is anticipated to result in short-term degradation of air quality during construction by generating airborne dust from such activities as clearing, grading, hauling, demolition, or excavation for roadway improvements. Emissions from construction equipment powered by gasoline and

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			diesel engines are also anticipated. However, all construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations; and Section 14- 9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions. The forecast travel activities data in aggregate VMT provided by Metro are shown in Table 39 of the February 2021 AQR. According to the traffic forecast, the Build Alternatives will result in increase in VMTs when compared to the No-Build conditions or to the 2017 Baseline. Despite the increase in future forecast VMTs, each Build Alternative is anticipated to result in decrease in operational GHG emissions when compared to the 2017 baseline. See response to Comment VOH-20 above.
VOH-21 From Anonymous, 06/11/20	Operations	You mention an occupancy detection system that is going to be used. Why with this is there still a need for a transponder (with a $1 month fee if you are not low-income), when there can be other alternatives (like those in San Diego County) that don't require a transponder, read the plate, and the occupancy detection system	Metro recently began Pay As You Go, which allows vehicles to travel in the ExpressLanes without a transponder for a $4 fee + toll by reading the vehicle's license plate. However, no carpool or Clean Air Vehicle discounts can be provided when using Pay As You Go.

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		can tell how many individuals are in a vehicle, and automatically charge you a toll if you are not HOV compliant?	
VOH-22 From Anonymous, 06/11/20	Enforcement	What is penalty for being on express lane with no transponder and no passenger. 1warning? 2 ticket. What if they have no license plates?	When using Pay As You Go (license plate based tolling), which does not require a transponder, the first Notice sent is a Notice of Toll Evasion Violation, which will be for the toll amount + $4 processing fee. If the notice remains unpaid, a past due notice will be mailed out. Second Notice: Toll amount + $4 processing fee + $21 past due penalty. If the notice remains unpaid, a delinquent notice will be mailed out. Third Notice – Delinquent Notice: Toll amount + $4 processing fee + $21 past due penalty + $30 delinquent penalty. If the fee remains unpaid after the third notice, a hold may be placed on the vehicle's registration and/or sent to collections.
VOH-23 From Ernesto Castillo, 06/11/20	General	Can I get a notification of the video being posted?	Notification of video being posted was sent on 6/18/20 via eblast. Stakeholder was included on eblast distribution list. In addition, the presentation and a recording of the meeting is available at metro.net/105expresslanes.
VOH-24 From Anonymous, 06/11/20	General	Will this presentation be made available for everyone after this is over?	Presentation was made available to stakeholders on 6/18/20 via eblast. In addition, the presentation and a recording of the meeting is available at metro.net/105expresslanes.
VOH-25 From Anonymous, 06/11/20	General	a design map would be great as well	For more details, please go to metro.net/105expresslanes and click on the presentation for the July 15, 2020 virtual public hearing. In addition, please go to 105virtualforum.com, to the

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			"Alternatives & Design" tab, and click on the Design Features link for a PowerPoint presentation on design features.
VOH-26 From Anonymous, 06/11/20	General	How have Caltrans and Metro collaborated on this project?	For this project, Caltrans prepared the Environmental Document and Metro prepared the Project Report, Concept of Operations, Traffic Study Report, and Traffic and Revenue Study. Caltrans and Metro convene monthly PDT (Project Development Team) meetings to coordinate these efforts.
VOH-27 From Anonymous, 06/11/20	Transportation/ Traffic	of the on/off ramps proposed for improvements, Sepulveda was not included. Why was that and what are the plans to ensure that the traffic on that corridor is not impacted by the freeway or minimize the impact to that corridor?	The intersections referenced in the comment are discussed in the ED- see page 178 and 182 of the EIR/EA. Of the four intersections, Sepulveda/Imperial Hwy and Aviation/Imperial Hwy show an increase in delay and Level of Service F in the 2047 PM Peak period compared to the No Build alternative. Metro will work with LAWA and LADOT to identify measures to reduce future delay at these intersections.
VOH-28 From Arnie Corlin, 06/11/20	Transportation/ Traffic	The current design of the 105 from Vermont to Alameda has dismissed and disallowed proper ingress and egress to allow goods and services, trade and commerce for economic opportunity to come into the community. Why are you only providing small nuanced improvements which will cause the same problems for the community to continue?	The project would encourage economic opportunity and improve community livability because it is expected to: 1) reduce overall corridor congestion in both the ExpressLanes and general purpose lanes; 2) shift vehicles from local arterials to the freeway away from local communities; and 3) provide toll revenue to increase transit in the corridor.
VOH-29 From Anonymous,	Funding	The fund of this project comes from LA taxpayers. Why do people in LA have to pay for using ExpressLanes?	Only single occupant vehicles using the ExpressLanes would pay a toll under Alt 3. Qualified carpools can use the ExpressLanes free of charge with a transponder, and the general purpose lanes

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06/11/20		It sounds like a double tax. Is it a legitimate action for Metro and the county of LA?	remain free for all vehicles. The purpose of tolls is to manage demand on the ExpressLanes and maintain speeds of 45 miles per hour as often as possible on the ExpressLanes. In addition, tolls might be used to help fund construction of the project. In October 2019, the California Transportation Commission granted tolling authority to Metro for the I-105 ExpressLanes project.
VOH-30 From Jackie, 06/11/20	Construction	Hello, I joined the meeting late, can you provide the timeline of the project? When will the construction start? What will be the time of construction during the daytime?	If this project is constructed, the construction start date would depend on a number of factors, such as funding availability, right of way, and completion of required studies. The earliest that construction could begin is estimated to be 2023 and the project could open in 2026 or 2027. Details on construction have not been identified at this time and will be identified in future phases of the project.

Comments Submitted during the Virtual Public Hearing (VPH)

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VPH-1 From Robert Q, 07/15/20	Construction	What is the soonest this could be conceivably completed??	The Environmental Document assumes a 2027 opening date. It is possible for the project to be completed earlier but it will depend on a variety of factors including funding availability.
VPH-2 From Anonymous, 07/15/20	Funding	Is this project fully funded? Can this project be built in phases	This project currently has $175 million in Measure M funding and the project cost estimate is $676 million for Alternative 3, so the estimated funding gap is $501 million for Alternative 3. The project could potentially be built in phases but no decisions have been made to do so at this time.
VPH-3 From Anonymous, 07/15/20	General	There may not be questions because the links to this hearing didn't work	The technical issues experienced by a few participants were addressed and stakeholders were able to participate in the meeting.
VPH-4 From Anonymous, 07/15/20	General	The only working link I found was at the very bottom of the page on the GIS site, which I couldn't access with my phone	The technical issues experienced by a few participants were addressed and stakeholders were able to participate in the meeting.
VPH-5 From Anonymous, 07/15/20	General	Thank you...obviously I am on now (The only working link I found was at the very bottom of the page on the GIS site, which I couldn't access with my phone)	The technical issues experienced by a few participants were addressed and stakeholders were able to participate in the meeting.
VPH-6 From Robert Q, 07/15/20	Environmental Justice	If you run out of questions and need to fill some time.....: What are some of the benefits to ExpressLanes for low income people?	Metro currently has a Low Income Assistance Plan that provides a $25 credit when signing up for an account and a waiver of the $1 monthly maintenance fee. In addition, on the I-10 and I-110 ExpressLanes Metro provides about $8 million annually to increase transit service on those corridors including the Metro J

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		[That is, subsidized FasTrack {initial and ongoing and tolls} and increased transit availability.]	(Silver) Line, Foothill Transit, Gardena Transit, and Torrance Transit. Transit subsidies to the Metro J (Silver) Line using net toll revenue have helped increase ridership from 14,173 weekday boardings/4,178,964 annual boardings in 2014 to 17,558 weekday boardings/5,209,169 annual boardings in 2019. Finally, Metro has a transit rewards program that allows riders of selected transit routes to earn toll credits. More information can be found at metroexpresslanes.net. Metro will continue to consider additional measures to assist low income drivers.
VPH-7 From R, 07/15/20	General	Are you going to reschedule this hearing? I know we're all working within constraints here, but this is not really acceptable	The technical issues experienced by a few participants were addressed and stakeholders were able to participate in the meeting.
VPH-8.1 From Arnie Corlin, 07/15/20	Community Impacts	The manner with which the on and off ramp accessibility of the 110 and 105 into the South LA community currently discourages development for housing jobs and other economic opportunity for the community. The new proposed Fastrak lanes does not solve the problem and as a developer who regularly speaks to other developers and community members believe this lack of proper ingress and egress to the community will make the problem worse.	The project would encourage economic opportunity and improve community livability because it is expected to: 1)reduce overall corridor congestion in both the ExpressLanes and general purpose lanes; 2)shift vehicles from local arterials to the freeway away from local communities; and 3)Metro intends to provide toll revenue to increase transit in the corridor.

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		Why are developing a project which will discourage economic opportunity into the community?	
VPH-8.2 From Arnie Corlin, 07/15/20	Transportation/ Traffic	That answer is absolutely yes. Watts is going to be bypassed once again	Your comment has been noted.
VPH-8.3 From Arnie Corlin, 07/15/20	General	I have created a presentation for others to show why this project is poorly planned and has dismissed the community. Please forward my email to others to provide the presentation: [email redacted]	Your comment has been noted. We cannot forward contact of an attendee to other attendees.
VPH-9 From Teresa, 07/15/20	Noise/ Soundwalls	Will there be noise level readings during heavy traffic hours in Norwalk, near Domart/Borson/Curtis&King? Table 2-11 shows readings at 10:26.	24-hour consecutive long term noise measurements were conducted at appropriate locations within project limits. Appropriate numbers of short term measurements were conducted for the area represented by each long term measurement. Based on the results of long term measurements, we determine the peak noise levels and the time of the day/hour day occur for the area they represent. All short term measurements are then adjusted to their peak noise levels based on the long term measurement data. All noise levels shown for their respective sites represent adjusted peak noise levels. Therefore, it is, technically and procedurally, not necessary to conduct measurements at their peak times.

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			Also, please note that peak noise levels typically do not occur during rush hour/peak traffic volumes. When highway/freeway traffic volumes are at their capacity, then vehicle speeds go down resulting in lower noise levels. Peak noise times often occurs at just before and after rush hours.
VPH-10 From Anonymous, 07/15/20	Biological Resources	What are the procedures if a fossil is found during construction activities?	Caltrans halts work until coordination with a qualified paleontologist can be performed. Then regulations and best management practices follow.
VPH-11 From Anonymous, 07/15/20	Operations	Please clarify - HOV is still free if you have multiple occupants?	The ExpressLanes would be free to qualified carpools, which are currently assumed to be HOV 2+ for Alternative 3.
VPH-12 From Anonymous, 07/15/20	Funding	The manner with which this project is being planned is at very best- poorly planned. And further, is significantly underfunded.	Your comment has been noted. The Project Team has been following Federal and State Guidelines and practices in planning this project.
VPH-13 From Anonymous, 07/15/20	Environmental Justice	Was there an equity study conducted?	Section 2.1.6 beginning on page 102 of the environmental document is on Environmental Justice that is based on the I-105 ExpressLanes Community Impact Assessment (CIA) prepared by Caltrans. In addition, Chapter 8 of the Concept of Operations is on Environmental Justice and provides a socioeconomic analysis of the I-105 corridor. The environmental document recommends two measures to avoid, minimize, and/or mitigate potential impacts to low income populations. First, Metro currently has policies in place to allow for all groups to have equal opportunity to access and use the ExpressLanes for I-10 and I-110. It is recommended that these policies will continue to be in place and apply to the

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			ExpressLanes on I-105 in order to minimize financial burdens on low-income drivers. As discussed in section 4.2.1.5, Toll Projects, the Low-Income Assistance Plan provides a $25 credit and waives the monthly maintenance fees, thus relieving financial stress caused by this new requirement. Frequent transit riders can also take advantage of the Transit Rewards Program to earn monetary credits toward ExpressLane tolls. The Carpool Loyalty Program allows carpoolers the opportunity to win toll credits for future SOV travel on the ExpressLanes. Second, it is important when conducting outreach to make sure communities know the above policies regarding the Low-Income Assistance Plan. Outreach efforts will notify the public of the program. Metro will continue to consider additional measures to assist low income drivers.
VPH-14 From Anonymous, 07/15/20	Construction	How will homeless encampments be handled during construction?	If homeless individuals will need to be relocated from the right of way prior to construction of the proposed project, Caltrans will provide A Notice to Vacate which provides advance notice of the date on which belongings will be removed, information on where belongings will be stored and for how long, and information on community services available.
VPH-15 From Anonymous, 07/15/20	Air Quality, Noise/ Soundwalls	Will there be air quality or noise impacts?	Air quality analyses have been completed to assess and evaluate the regional and local impacts resulting from the implementation of the proposed project as provided in the draft EIR/EA and in the February 2021 AQR. The proposed project is identified in the latest conforming 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Amendment No. 3) and 2019 Federal Transportation

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			Improvement Program (FTIP) (Amendment No. 9); and has satisfactorily demonstrated conformity at the regional level. A project-level hot-spot analysis was conducted according to the EPA-approved Carbon Monoxide (CO) Protocol and the latest Transportation Conformity Guidance for PM2.5 and PM10. The proposed project satisfies all criteria in Section 4.7.2 of the CO Protocol and is therefore not anticipated to cause new violations of the CO standards. The proposed project has undergone an interagency consultation (IAC) via Transportation Conformity Working Group at the Southern California Association of Governments (SCAG) and evaluated its potential to cause air quality concern for PM10 and PM2.5. At its June 2019 meeting, stakeholders at the IAC concurred that the proposed project would not be of air quality concern for PM10 and PM2.5. As a result, the proposed project has satisfactorily demonstrated the project-level conformity requirements; and is not anticipated to worsen existing PM10 and PM2.5 violations or delay timely attainment of the standards. The proposed project will result in short-term degradation of air quality during construction by generating airborne dust from such activities as clearing, grading, hauling, demolition, or excavation for roadway improvements. Emissions from construction equipment powered by gasoline and diesel engines also are anticipated and would include criteria pollutants and Mobile Source Air Toxics (MSATs) from exhaust or road dust. Implementation of air quality measures Air1 through Air13 provided in the EIR/EA Section 2.2.5.5, including compliance with Caltrans' Standard Specifications and SCAQMD rules and

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			regulation, will ascertain that any temporary air quality impacts are minimized during construction.
VPH-16 From Anonymous, 07/15/20	Operations	I am thinking of buying an electric vehicle. Can I drive in the express lanes for free?	Clean Air Vehicles are currently provided a 15% toll discount on the I-10/110 ExpressLanes. It is anticipated that this policy will continue on the I-105 ExpressLanes.
VPH-17 From Anonymous, 07/15/20	Air Quality	What type of mitigation is proposed to reduce air quality to less than significant?	Implementation of air quality measures Air1 through Air13 provided in the EIR/EA Section 2.2.5.5, including compliance with Caltrans' Standard Specifications and SCAQMD rules and regulation, is anticipated to ascertain that any temporary air quality impacts are minimized during construction.
VPH-18 From Anonymous, 07/15/20	General	I am ok with releasing my email	Your comment has been noted.
VPH-19 From Anonymous, 07/15/20	Enforcement	What type of enforcement do you plan to use in the Express Lanes?	As part of the proposed ExpressLanes project, additional enforcement, both electronically and with dedicated CHP patrols, will be implemented. In addition, CHP observation and citation areas will be incorporated into the project. Additional details can be found in the Draft Project Report in Table 5-76.
VPH-20 From Anonymous, 07/15/20	Operations	is there a plan to raise the HOV occupancy in order to ride for free?	The occupancy policy of Alt. 3 is currently assumed to be HOV 2+. Operational adjustments to the tolled ExpressLanes may be implemented will be determined based on a number of factors such as traffic volume, levels of congestion, traffic forecasts, and whether additional capacity is being added. Because this project proposes to construct ExpressLanes on the I-105, the Metro Board will determine the minimum occupancy requirement for toll free travel. Should changes to occupancy requirements be made

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			in the future, these changes will be made by LA Metro in consultation with Caltrans and in compliance with all applicable State and Federal laws, guidelines, and regulations.
VPH-21 From Anonymous, 07/15/20	General	Are there other Express lanes planned in the region?	In 2017, Metro prepared the Los Angeles County ExpressLanes Strategic Plan. This plan identified corridors that might benefit from conversion to ExpressLanes and classified freeways into three tiers - 1, 2, and 3. Tier 1 projects are near-term higher priority, and tier 3 projects are long-term. The I-105, I-405, I-605, and I-10 freeways are Tier 1 projects. To read the plan, please go to metro.net/105expresslanes in the "Reports" tab in the right-hand column.
VPH-22 From Anonymous, 07/15/20	Operations	What is the money collected for tolls used for?	Tolls collected on the I-10/110 ExpressLanes are used to pay for operations and maintenance, Freeway Service Patrol tow trucks, California Highway Patrol enforcement, transit subsidies, and net toll grants that have been granted to mobility improvement projects such as active transportation, roadway, and transit projects.
VPH-23 From Anonymous, 07/15/20	Outreach	how many community outreach meetings were held about the project?	Four sets of public meetings were held during the PA/ED process, including: 1) Public Scoping Meetings in Spring 2018 (three meetings with one also offered via live webstream), 2) Community Update Meetings in Spring 2019 (2 meetings with one meeting also shared via video recording); 3) California Transportation Commission's Public Hearing in Fall 2019 for Metro's request for tolling authority (1 hearing with a live webstream); 4) in support of the release of the Draft environmental document, two online public participation events were held in Spring 2020, during the COVID-19 pandemic (one online presentation with Q&A as well as an online hearing). Each of these rounds of meetings included

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			comprehensive notification campaigns which also served to generate project awareness and encourage public participation. In addition, dozens of presentations were also made to local organizations and the outreach team participated at dozens of community events along the project corridor to share project information. In total, approximately 73 outreach actives were conducted.
VPH-24 From Anonymous, 07/15/20	Operations	Has there been less revenue from express lanes due to COVID-19? does Metro expect full recovery and express lanes to be at full capacity?	Metro's transit system and Metro ExpressLanes, along with other California and global toll system operators, has experienced reductions in traffic and revenue related to COVID-19. In discussion with our partner agencies, consultants, and underwriters Metro does expect a full recovery and a return to historic traffic and toll revenue levels. The timing of the economic return remains uncertain but all forecasts Metro has reviewed indicate traffic will return to pre-COVID-19 levels well before the I-105 ExpressLanes project opens in 2026/2027.
VPH-25 From Anonymous, 07/15/20	Transportation/ Traffic	Will the express lanes reduce congestion?	The traffic analysis for this project estimates total Vehicle Hours of Delay (VHD) on the I-105 freeway (General Purpose Lanes + High Occupancy Vehicle/High Occupancy Toll lanes) to be 21,597 hours per day in 2027 for Alternative 1 (no build). VHD in 2027 for Alternative 2 (Single ExpressLanes) is estimated to be 25,318 and for Alternative 3 (Dual ExpressLanes) is estimated to be 16,989. In 2047, VHD for Alternative 1 is estimated to be 25,792 hours per day, Alternative 2 is estimated to be 33,392 hours per day, and Alternative 3 is estimated to b 21,079. Compared to the no build Alternative 1, Alternative 3 will reduce daily VHD by 4,608 in 2027 and 4,713 in 2027. However, Alternative 2 will increase daily VHD by 3,721 in 2027 and 7,600 in 2047 compared to Alternative 1.

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VPH-26 From Anonymous, 07/15/20	Transportation/ Traffic	What are the benefits of an Express Lane?	On the I-10/110 ExpressLanes provide the following benefits: single occupant vehicles have the option to pay to use the ExpressLanes to save time when necessary, and by doing so maximize utilization of lane capacity. As a result, in FY2018 the ExpressLanes were 13 minutes faster than the GP lanes on I-110, and 14 minutes faster on I-10 in the AM peak direction (northbound I-110 and westbound I-10). The ExpressLanes also provide toll revenue to increase transit service in the corridor. Currently, about $8 million annually is granted to the Metro J (Silver) Line, Foothill Transit, Gardena Transit, and Torrance Transit to increase transit service on the I-10/110 freeways; carpools can continue to use the ExpressLanes free of charge with a transponder; and net toll grants have been provided to mobility improvement projects within the corridor.
VPH-27.1 From Mario Dominguez Jr., 07/15/20	Alternatives	Okay. Hello, my name is Mario Dominguez, Jr. I am a resident of the City of South Gate, and can you clarify something for me? Alternatives 2 and 3, do they both require the HOV lanes to be toll roads?	Alternative 2 would convert the existing HOV lane to an ExpressLane. Alternative 3 would convert the existing HOV lane to an ExpressLane and add a second ExpressLane in each direction. ExpressLanes are free for qualified carpools or discounted for clean air vehicles, and only single occupant vehicles in the ExpressLanes would pay a toll under Alt 3. There would be no change to the number of general purpose lanes, and general purpose lanes would remain free for all vehicles.
VPH-27.2 From Mario Dominguez Jr., 07/15/20	Operations, Environmental Justice, Transportation/ Traffic	"Okay. So just so I am clear. So, if you are single person driving on the -- both Alternative 2 and Alternative 3 and it's just a solo driver, they would have to pay the toll, but if you have	Only single occupant vehicles would pay a toll to use the ExpressLanes under Alt. 3, qualified carpools would continue to be able to use the ExpressLanes free of charge with a transponder. In addition, there would be no change in the number of general purpose lanes and the general purpose lanes would

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		multiple passengers, they wouldn't have to? What does that do? And would you -- is that a fee -- a fee required for that? Well, you see, the thing that I am having trouble with is, why does -- why does it have to be a Toll Road? I mean, we pay so much in taxes here in California. I have no problems with you guys expanding and tinkering and making all these adjustments with the lanes and widening them. But the bummer for me is that now we are forced to have to pay to drive our freeways, and -- I didn't sign up for that. I mean, if you really want folks to pay to drive the freeways, or just put it on the ballot and let the voters decide whether or not they want to pay to drive the freeways. And the one recommendation I would have to all you folks -- all you folks working on this, is there an alternative where we can drive our freeways and we	remain toll free. Alternative 3, which is the Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. By adding a second ExpressLane in each direction, speeds and travel times would improve in both the general purpose and ExpressLanes, which would benefit all users of the freeway. The reason for the improvement is that the ExpressLanes would absorb a large number of vehicle trips through the additional lane capacity and maximizing utilization of that lane by allowing single occupant vehicles to pay to use the ExpressLanes. The cost of these improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the I-105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes. The purpose of tolls are to help pay for construction of the project and to manage demand on the ExpressLanes in order to maintain speeds of 45 miles per hour as often as possible. The first phase of the bullet train is currently under construction.

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		don't have to pay? Do whatever adjustments and tinkering you want to do with the lanes, but I just don't want us to pay. I mean, you guys have a 175,000,000 to start it. I don't know where you are going to come up with the rest. And then on top of that, we are going to end up paying to make use of these lanes. One of the things that bums me out, you know, a while back there was a measure -- a proposition on the ballot years ago for -- to fund the bullet train that was going to LA to San Francisco. What happened to that? That never happened. How about using this Measure M money to get that up and running? If you go to China, you go to Japan, you go to Europe, they all have trains that go up to 200 miles per hour. Here in the US, we have none of that. We have none of that. All of our money, where does it go? It all goes to defense. So, I find it very disappointing that we -- now that there is no alternative. That we are going to have to pay to use our	

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		freeways. So that's my comment. Thank you."	
VPH-27.3 From Mario Dominguez Jr., 07/15/20	Transportation/ Traffic, Alternatives	Quite all right. So, like I was saying, a while back there was a measure on the ballot to pass -- to fund the bullet train from LA to San Francisco, and then it just puttered out. And, like, why don't we have this up and running now? What happened to funding that project? And why is it when you go to Asia, you know, to Japan, all over Europe, they all have trains that go up to 200 miles per hour? Here in the US, we don't have any of that. All the money goes to -- to what? Defense. We all fund defense; but, you know, it's sort of like all these high-tech rails projects, it's just doesn't happen here in the US. And I'm all for, you know, expanding and broadening lanes and doing all these adjustments you guys want to do; but to have us pay? That really is a bummer. If you can come up with alternative where we don't have to pay, that I am for. That's all I have got. Thank you.	This comment might be referencing the California High Speed Rail project, which has no relationship to the I-105 ExpressLanes project. However, the first phase of the bullet train is currently under construction. On the proposed I-105 ExpressLanes, only single occupant vehicles would pay a toll to use the ExpressLanes under Alt 3, and qualified carpools would continue to be able to use the ExpressLanes free of charge with a transponder. In addition, there would be no change in the number of general purpose lanes and the general purpose lanes would remain toll free.

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VPH-27.4 From Mario Dominguez Jr., 07/15/20	Funding	Sure, of course. Is the money, the 175,000,000, is it dead set to fund just this project? You can't divert it to fund anything else? So, I am sure you folks have, like, a dozen projects in the works, and they all need funding. I have no problem with you guys taking this money and diverting and going and exploring other stuff. Just the high occupancy lanes -- and we got to pay. That is such a downer, and I don't know what sort of feedback you guys have been getting. I can't imagine it's been all too positive.	The Measure M local sales tax that was passed by Los Angeles County voters in 2016 allocates $175 million for the I-105 ExpressLanes project. On the proposed I-105 ExpressLanes, only single occupant vehicles would pay a toll to use the ExpressLanes, and qualified carpools would continue to be able to use the ExpressLanes free of charge with a transponder. In addition, there would be no change in the number of general purpose lanes and the general purpose lanes would remain toll free.
VPH-27.5 From Mario Dominguez Jr., 07/15/20	Funding	Yes, Edgar. This is Mario Dominguez, again. I just want to ask. So, okay, the money is dead set to fund this project. Is there any way any one of you can just terminate it and just make it go away? Blast it out of existence, or it's just going to go through? Either Alternative 2 or Alternative 3? One of them is going to get funded, and there is just no way you can get rid of it? Is it just, you know, written in stone that it's going to happen?	The Environmental Document assumes a 2027 opening date. It is possible for the project to be completed earlier but it will depend on a variety of factors including funding availability.

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VPH-27.6 From Mario Dominguez Jr., 07/15/20	Transportation/ Traffic	It's Mario Dominguez, Jr. again of South Gate. There was one gentleman who was laying out the sort of plans, and how Tier 1 are the ones that are sort of like -- the ones that are -- like really going to happen. The next projects are set to happen, and he mentioned the 405 Freeway, and the 605 Freeway. Can you clarify -- so that I can really understand, what you are really going to do with the 105 with the HOV lanes? Is it the same approach that you are going to take with the 405 and the 605, and are we going to be paying for those HOV lanes also? Can you clarify that for me, please? Just to follow up on the -- what you said about the 405 and the 605. So, you are conducting these studies. Once that is completed, what is the next phase? Like, is it -- are these, like, dead set in stone that it's going to happen or do -- is it going to go on the ballot? Do voters get to decide? If you could just explain to me what the next step would be in that process?	The I-605 Corridor Improvement Project (https://www.metro.net/projects/i-605-corridor-hot-spots-program/i-605-corridor-improvements-project/) is studying potential ExpressLanes on the I-605 between the I-10 and I-105 freeways. This project expects to release its environmental document in 2021. Preparation of the environmental document for the I-405 between the 101 and 10 freeways is expected to begin in Fall 2020. The I-405 environmental document will also study potential ExpressLanes. Furthermore, the environmental document for potential ExpressLanes on the I-10 between the I-605 and Los Angeles/San Bernardino County line will begin in early 2021. For all of the corridors being studied, whether ExpressLanes are implemented will depend on several factors including: what the mobility benefits are of the single or dual ExpressLanes alternative compared to the no build and other altenatives; are there significant environmental impacts, and can they be mitigated; are there significant right of way impacts, and can those be addressed; and is the project financially feasible. Specifically on the I-105, the I-105 ExpressLanes project is currently in the environmental phase. Upon completion of the final Environmental Impact Report/Environmental Assessment (EIR/EA), the project can proceed to the next phase of the project, which is PS&E (Plans, Specifications, and Estimates). Upon completion of the PS&E phase, the project can then begin the construction phase.

Comments Submitted Via Social Media (SM)

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SM-1 From Marisela Rodriguez, 6/11/20	Transportation/Traffic	Wonder how this will affect traffic. As it is the 105 is already super congested.	In 2027, Alternative 2 would carry more vehicles than Alternative 1 but there would be a shift of vehicles from the ExpressLane to the general purpose lanes because a single ExpressLane would require 3 or more persons for free travel. This would worsen travel time from 29-30 minutes in Alternative 1 to 36-39 minutes in Alternative 2. Furthermore, Vehicle Hours of Delay (VHD) will increase from 21,597 hours per day in 2027 for Alternative 1 to 25,318 for Alternative 2. Compared to Alternative 1, Alternative 3 would carry more vehicles and reduce delay and travel time in both the general purpose lanes and ExpressLanes. In 2027 the end to end travel time during peak periods will be 29-30 minutes in the general purpose lanes in Alternative 1 and 27-28 minutes in Alternative 3. Furthermore, VHD will decrease from 21,597 hours per day in 2027 for Alternative 1 to 16,989 for Alternative 3. In 2047 Alternative 2 would carry more vehicles than Alternative 1 but there would be a shift of vehicles from the ExpressLane to the general purpose lanes because a single ExpressLane would require 3 or more persons for free travel. This would worsen travel time from 26-34 minutes in Alternative 1 to 47-55 minutes in Alternative 2. Furthermore, Vehicle Hours of Delay (VHD) will increase from 25,792 hours per day in 2047 for Alternative 1 to 33,392 for Alternative 2.

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			In 2047, Alternative 3 would carry more vehicles and reduce delay while offering comparable travel times in the general purpose lanes than Alternative 1. In 2047 the end to end travel time during peak periods will be 26-34 minutes in the general purpose lanes in Alternative 1 and 31-36 minutes in Alternative 3. Furthermore, VHD will decrease from 25,792 hours per day in 2047 for Alternative 1 to 21,079 for Alternative 3.
SM-2 From Louie Daniel Solis, 6/11/20	Hazards and Hazardous Materials	You guys should clean up all the homeless and debris along the 105fwy!	Caltrans has a Maintenance division that has a customer service request website. To place a request, you can fill out a form here: https://csr.dot.ca.gov/index.php/Msrsubmit
SM-3.1 From Ivan Twentythree Caravantes, 6/11/20	Alternatives	Like if we have a choice. They should have had 2 freeways on this freeway. But noooooo	Your comment has been noted.
SM-3.2 From Ivan Twentythree Caravantes, 6/11/20	General	No need	Your comment has been noted.
SM-4 From Mary Hicks, 6/09/20	General	NO	Your comment has been noted.

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SM-5 From Raquel Aguilar, 6/09/20	General	YES!	Your comment has been noted.
SM-6 From Anna Limon, 6/09/20	General	No!!	Your comment has been noted.
SM-7 From Diane Villar, 6/09/20	General	This is a terrible idea. Just like those 110 Express lanes.	Your comment has been noted. Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the 10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general purpose lanes either decreased or stayed flat. As a result, travel time in the general purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. However, the increased throughput in the ExpressLanes has also increased delay in the ExpressLanes. To help address this, Metro is working to implement an occupancy detection system to electronically verify the number of occupants in the vehicle to deter occupancy misdeclarations. Furthermore, Metro is now charging clean air vehicles whereas previously clean air vehicles could travel toll free on the ExpressLanes. The ExpressLanes benefit general purpose lane users because the ExpressLanes absorbed traffic volume increases that otherwise would have

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			been in the general purpose lanes. ExpressLanes also maximize throughput and provide the option to single occupant vehicles to pay to save time. The ExpressLanes also subsidize increased transit service. Metro data indicates that J (Silver) Line ridership has increased from 14,173 weekday boardings/4,178,964 annual boardings in 2014 to 17,558 weekday boardings/5,209,169 annual boardings in 2019. Results from the I-10 analysis are consistent with the traffic forecast on the I-105 – the ExpressLanes maximize vehicle throughput and general purpose lane performance improves because traffic volume growth will be in the ExpressLanes, which frees up capacity in the general purpose lanes. On the I-110, average speeds in the ExpressLanes were 13 minutes faster than the general purpose lanes during the AM peak period in the northbound direction.
SM-8 From Maria Martin, 6/09/20	General	And then we still have to pay??? NO	Only single occupant vehicles using the ExpressLanes would pay a toll under Alternative 3. Qualified carpools can use the ExpressLanes free of charge with a transponder, and the general purpose lanes remain free for all vehicles. The purpose of tolls is to manage demand on the ExpressLanes and maintain speeds of 45 miles per hour as often as possible on the ExpressLanes.
SM-9 From Gregory Gallegos, 6/09/20	General	Hell no	Your comment has been noted.
SM-10 From	General	No	Your comment has been noted.

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Lisette Soto, 6/09/20			
SM-11 From Vivi Vargas, 6/09/20	Transportation/Traffic	Yes, I think it's fine, if they do a second floor.... those that can afford to pay Can drive on it; therefore, less cars on the regular way.	Your comment has been noted.
SM-12 From Miguel Azul Torres, 6/09/20	Environmental Justice	No. That just another way of taking money from working class folks. Even if we are driving in a vehicle with 2/3 people, you still have to purchase a device to drive on that lane.	Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the Expresslanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. Only single occupant vehicles would pay a toll; qualified carpools can continue to use the ExpressLanes free of charge, although a transponder is required for toll free travel. For those who qualify, Metro has a Low Income Assistance plan that provides a $25 credit and a waiver of the $1 monthly maintenance fee. For more details, please go to metroexpresslanes.net. When opening an ExpressLanes account, a deposit is placed for the transponder and the deposit is refunded once the account is closed. In addition, carpool discounts are only provided to vehicles that have an ExpressLanes transponder.
SM-13 From	General	NO 👎	Your comment has been noted.

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Maria Patino, 6/09/20			
SM-14 From Griselda Ereza, 6/09/20	General	NO 👎	Your comment has been noted.
SM-15 From Eyvar De Leon, 6/09/20	Transportation/Traffic	Yessss More Money for the city and more traffic for us 😂 Se pasan	Your comment has been noted. Alternative 3, which is the Locally Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. This alternative would not change the number of general purpose lanes, and qualified carpools could still use the ExpressLanes for free. By adding a second ExpressLane in each direction, speeds and travel times would improve in both the general purpose and ExpressLanes, which would benefit all users of the freeway. The cost of these improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the I-105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes. State law requires that revenues generated by the ExpressLanes be spent in the corridor in which they are generated. This could include debt service and operations and maintenance. Metro also intends to use toll

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			revenue to increase transit service in the corridor to benefit those who use transit as is done for the I-10 and I-110 ExpressLanes. Currently, the Metro J (Silver) Line, Foothill Transit, Gardena Transit, and Torrance Transit receive almost $8 million annually in net toll revenue to increase transit service on the I-10 and I-110 freeways.
SM-16 From Darrin Turner, 6/09/20	Transportation/Traffic	Yes when it comes to the city of Lynwood why do they slow down on the freeway ???	The posted speed of the freeway does not change in Lynwood, so any reduced speeds are the result of increased congestion. The dual ExpressLanes would add additional capacity in the corridor that would improve traffic performance.
SM-17 From Griselda Sánchez Romo, 6/09/20	Environmental Justice	No- there is noooo benefit for individuals that are low income. These freeways are within low income communities that use this freeway on a daily basis. So are we also limiting them access if they are also tax payers? This is not the 110 freeway with multiple lanes leading to the nice area of downtown Los Angeles . The 105 freeway at some point only have 1 carpool, two open lanes, and one merging lane by the bellflower entrance/exit. I say no. But-- then again do we even have a fighting chance against Caltrans that can potentially give cities like Lynwood incentives for the Express lane.😔😔	Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the Expresslanes are used by all income levels. The I-105 ExpressLanes project will not change the number of non-toll general purpose lanes and qualified carpools can use the ExpressLanes free of charge with a transponder. Only single occupant vehicles using the ExpressLanes would pay a toll under Alt 3. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. To ensure access to the ExpressLanes for all users, Metro has a Low Income Assistance Plan (LIAP) that provides a $25 credit and a waiver of the $1 monthly maintenance fee. The LIAP that has more than 16,200 active accounts (2.85% of all accounts). Overall, based on recent internal data, LIAP users took nearly 1.3 million trips during the first 11 months of 2019.

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			This represents 4.3 percent of all trips and more than 5.8 percent of HOV2 or HOV3 trips. In 2019, each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes. Metro will continue to consider additional measures to assist low income drivers.
SM-18 From SparkyMark Johnson, 6/09/20	General	No way.	Your comment has been noted.
SM-19 From Victoria Victoria, 6/09/20	Outreach	No, thanks! Where do we vote? Where's the survey results? Last summer or spring CalTrans was at festival at Ham Park, I took a survey and they said I would get updates via email and nothing.	The public survey was conducted in 2019 to help promote project awareness, gauge the community's understanding of the ExpressLanes program, and generate stakeholder contact information to continue to inform them of project updates. The data collected through the surveys helped inform updates to project materials and other tactics to better present the project details and updates to the general public. Some key findings included: 77% agreed that there is major traffic on I-105; 40% demonstrated a strong understanding of the ExpressLanes program; 44% had previously used the Metro ExpressLanes of which 46% used it multiple times per week; and 51% confirmed that they were aware of the I-105 ExpressLanes project prior to the survey. The results of the survey were not intended for

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			publishing but are available upon request via email at 105expresslanes@metro.net or by calling 213-922-6565.
SM-20 From Laura Rodriguez-Gutierrez, 6/09/20	General	No.	Your comment has been noted.
SM-21 From Cindy Victoria Herrera, 6/09/20	General	No	Your comment has been noted.
SM-22 From Alain Alfredo Avila, 6/09/20	General	No hell no.	Your comment has been noted.
SM-23 From Bird Cornejo, 6/09/20	General	No	Your comment has been noted.
SM-24 From Jay Nueve, 6/09/20	General	No.	Your comment has been noted.

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SM-25 From Rodz Bernie, 6/09/20	Environmental Justice	You are crazy, thats just a new way to tax people!	Qualified carpools can use the ExpressLanes free of charge with a transponder, and the general purpose lanes remain free for all vehicles. Only single occupant vehicles using the ExpressLanes would pay a toll under Alt. 3. The purpose of tolls is to manage demand on the ExpressLanes and maintain speeds of 45 miles per hour as often as possible on the ExpressLanes. Metro analyzed traffic data on the I-10 freeway comparing the general purpose and HOV/Express lanes in 2009 (pre conversion to ExpressLanes) to 2018. On the 10 during the westbound AM peak vehicle miles traveled in the ExpressLanes increased significantly (in some time periods 50%) while vehicle miles traveled in the general purpose lanes either decreased or stayed flat. As a result, travel time in the general purpose lanes stayed flat or declined slightly. In addition, the I-10 ExpressLanes likely absorbed traffic volume from the I-210, which improved performance on the I-210. However, the increased throughput in the ExpressLanes has also increased delay in the ExpressLanes. To help address this, Metro is working to implement an occupancy detection system to electronically verify the number of occupants in the vehicle to deter occupancy misdeclarations. Furthermore, Metro is now charging clean air vehicles whereas previously clean air vehicles could travel toll free on the ExpressLanes. The ExpressLanes benefit general purpose lane users because the ExpressLanes absorbed traffic volume increases that otherwise would have been in the general purpose lanes. ExpressLanes also maximize throughput and provide the option to single occupant vehicles to pay to save time.
SM-26	General	Bad idea! Nope	Your comment has been noted.

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From Laura Alonsoi, 6/09/20			
SM-27 From Fausto Apodaca, 6/09/20	General	NO.	Your comment has been noted.
SM-28 From Valerie Vasquez, 6/09/20	General	Nope.	Your comment has been noted.
SM-29 From Marisela Rodriguez, 6/09/20	General	No!	Your comment has been noted.
SM-30 From Chuy Perez, 6/09/20	Funding	No. What is in it for us? Where is the money going to go? If the city will get revenue, who gets to vote on how the money is spent? So no for now!	Alternative 3, which is the Preferred Alternative, would add a second ExpressLane in each direction, construct new soundwalls, add a new auxiliary lane between the I-710 and Long Beach Blvd., and add new ramp metering. This alternative would not change the number of general purpose lanes, and qualified carpools could still use the ExpressLanes for free. By adding a second ExpressLane in each direction, speeds and travel times would improve in both the general purpose and ExpressLanes, which would benefit all users of the freeway. The

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			cost of these improvements is estimated to be $676 million if constructed by 2026. Currently, there is $175 million in Measure M funding for the I-105 ExpressLanes project, so the funding gap for Alternative 3 is estimated to be $501 million. Without any other funding sources, this funding gap would be filled by bonding against toll revenue and it is possible that virtually all of the toll revenue generated would be needed to repay the construction debt and operate and maintain the ExpressLanes. State law requires that revenues generated by the ExpressLanes be spent in the corridor in which they are generated. This could include debt service and operations and maintenance. Metro also intends to use toll revenue to increase transit service in the corridor to benefit those who use transit as is done for the I-10 and I-110 ExpressLanes. Currently, the Metro J (Silver) Line, Foothill Transit, Gardena Transit, and Torrance Transit receive almost $8 million annually in net toll revenue to increase transit service on the I-10 and I-110 freeways.
SM-31 From Wendy Renee, 6/09/20	Transportation/Traffic	No! just adding more traffic. Nobody is paying those absurd toll fees.	Tolls are set to maintain speeds of 45 miles per hour as often as possible. Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the ExpressLanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. Furthermore, only single

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			occupant vehicles using the ExpressLanes would pay a toll. Qualified carpools can continue to use the ExpressLanes for free with a transponder, and all vehicles can continue to use the general purpose lanes at no charge. Furthermore, Metro has a Low Income Assistance Plan (LIAP) that has more than 16,200 active accounts (2.85% of all accounts). Overall, based on recent internal data, LIAP users took nearly 1.3 million trips during the first 11 months of 2019. This represents 4.3 percent of all trips and more than 5.8 percent of HOV2 or HOV3 trips. In 2019, each LIAP transponder was used an average of 87 times, compared to 37 times for a transponder in a standard account. Furthermore, of these trips about 17.3 were made as a paying single occupant vehicle compared to 15.5 in a standard account. This indicates that having access to a LIAP account effectively addresses the cost-related barriers to use of the ExpressLanes.
SM-32 From Juan Escobar, 6/04/20	General	105 Fwy ExpressLanes Project Public Comment Period is Now Open from May 22 to July 6, 2020 Residents & Friends, METRO has opened Public Comment Period for the proposed I-105 ExpressLanes Project with public review and comment available from Friday, May 22, through Monday, July 6, 2020. The I-105 ExpressLanes Project is studying the possible	Thank you for spreading the word about the project.

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		implementation of ExpressLanes between I-405 and Studebaker Road. There are three (3) alternatives under consideration: (1) no build; (2) conversion of the existing HOV (high occupancy vehicle) into a single ExpressLane; (3) conversion of the existing HOV lane into an ExpressLane and the addition of a second ExpressLane in each direction. Both Alternatives 2 and 3 include new and rebuilt soundwalls, new and rebuilt retaining walls, structure widenings and the installation of tolling signage and infrastructure. Alternative 3 also includes auxiliary lane improvements between the I-710 and Long Beach Blvd. The attached trifold mailer has been sent to addresses within 750 feet of either side of the I-105 and, in addition, the attached fact sheet provides a high level summary of the project.	

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		Due to current COVID-19 restrictions, in-person public hearings will not be held in order to maintain social distancing requirements. However, a virtual open house is available at 105virtualforum.com that contains maps, narrated presentations, and other supporting materials you can review. In addition, a live presentation with Q&A will be held on Thursday, June 11, 2020, at 6pm and you can participate via the web or phone. For details, please visit the I-105 Expresslanes Project website at metro.net/105ExpressLanes or 105virtualforum.com Claudette Matthews Council Assistant for Council Member Ralph L. Franklin City of Inglewood, 4th District One W Manchester Boulevard Inglewood, CA 90301 City Council: [redacted] District Office: [redacted] Fax: [redacted] Email: [email redacted]	

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
SM-33 From David Galvan, 5/26/2020	Transportation/Traffic	How about adding a lane or 2 to the 105	Alternative 3, the Preferred Alternative, would add a second ExpressLane in each direction. However, this study did not analyze the addition of a general purpose lane for two main reasons. The first is that it would not meet the purpose and need for the project, one of which is to sustain and manage mobility. Because general purpose lanes allow unrestricted use, the capacity created by an additional GP lane would quickly be filled and any mobility benefits provided could not be sustained. On the other hand, the ExpressLanes manage demand by charging a higher toll when there is heavier congestion and a lower toll when there is less congestion. Furthermore, the ExpressLanes incentivize carpooling and transit use by allowing free use by carpools and buses and only charging single occupant vehicles. As a result, the ExpressLanes maximize utilization and passenger throughput. The reason for this difference is that the ExpressLanes can, through the use of tolling, operate closer to its capacity of 1,900 vehicles per hour than general purpose lanes can. Second, the addition of a general purpose lane on the I-105 conflicts with State and Federal requirements, as well as with our region's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) SB 375 requires reductions in greenhouse gas emissions, and the addition of general purpose lanes is in conflict with that goal. In addition, the project with ExpressLanes is consistent with the latest 2020 RTP/SCS (Connect SoCal) in which the SCAG has satisfactorily demonstrated consistency with the purpose of the state air quality implementation plan (SIP) and that those transportation activities will not cause new air quality violations, worsen existing

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			violations, or delay timely attainment of the relevant national ambient air quality standards.
SM-34 From Campbell Sadeghy, 5/26/2020	General	We need to add more lanes to the 105. Just converting the HOV to even two ExpressLanes won't cut it. At least one GP lane should be each way at minimum.	Alternative 3 would convert the existing HOV into ExpressLanes and construct a second ExpressLane in each direction. The number of general purpose lanes on the I-105 would remain the same. Alternative 4 would have maintained standard lane widths and shoulders and added a second ExpressLane in each direction. However, this alternative was rejected because it would result in significant, unavoidable environmental impacts. Therefore, Adding freeway lanes in addition to Alternative 3 is infeasible due to significant, unavoidable environmental impacts. It is also important to note that Southern California is classified as a non-attainment zone for Federal ozone and Particulate Matter (PM) 2.5 air quality standards. As a result, proposed projects must not create new air quality or worsen existing violations. In addition, the project with ExpressLanes is consistent with the latest 2020 RTP/SCS (Connect SoCal) in which the SCAG has satisfactorily demonstrated consistency with the purpose of the state air quality implementation plan (SIP) and that those transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant national ambient air quality standards.The I-105 ExpressLanes meets this standard that a general purpose lane would not likely be able to meet.

Comments Submitted Via Earned Media (EM)

Comment Code, Stakeholder Name & Date Received	Comment Topic(s)	Comment	Response
EM-1 From Don Hagstrom, 5/27/2020	Transportation/Traffic	You are right on most of this. Today, I-5 could probably have handled the I-105 extension since it is about to be 8+2 lanes. The bigger reason it was not extended, however, is that Norwalk objected to it. This is also the primary reason that the Green Line was not extended east to Norwalk Metrolink Station. One thing I would hope that freeway and transit advocates can agree upon (if this is possible) is that logically planned improvements should not be stopped if all required environmental studies and other studies are complete. Eminent domain makes sense when used for publicly useful infrastructure projects. Note on the I-105 west of Sepulveda: I think this was meant to be more of an easy transition onto Imperial Highway. By the time the I-105 was built (late 1980s / early 1990s), the Pacific Coast Freeway had long been shelved. The expressway-line elements of California 1 in and around the LAX /	Your comment has been noted

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		Westchester area were indeed eventually meant to be incorporated into a Pacific Coast Freeway.	
EM-2 From Don Hagstrom, 5/27/2020	Transportation/Traffic	Caltrans / Metro are already putting candle-stick dividers on the I-10 Express Lanes between I-710 and I-605. These dividers appear to be the California standard for express lanes. This would likely be the treatment for the I-105 Express Lanes as well.	Your comment has been noted
EM-3 From Mark R Johnston, 5/25/2020	Transportation/Traffic	So this becomes an even better reason why I use the Fly-A- Way bus to LAX and hopefully others will use Green and Crenshaw lines to LAX. The carpool, now toll lanes, are becoming nothing more than the Cadillac lanes for those who can pay for a responder or their business. But what I want to know is how are you going to keep people jumping in and out of these lane, short of putting some kind of divider.	Surveys of ExpressLanes users in 2018 indicate that 19% of respondents earn less than $50,000 annually, 25.9% earn between $50-100,000, and 34.7% earn more than $100,000 annually (20.4% did not answer), which indicates that the Expresslanes are used by all income levels. Those that choose to use the ExpressLanes are doing so because they value the time savings that the ExpressLanes provide. In fact, a 2018 survey of 81,000 ExpressLanes account holders indicated that 90% were satisfied with the time savings provided by ExpressLanes relative to the tolls paid. As part of the I-105 ExpressLanes project, Caltrans and Metro anticipate installing channelizers to prevent illegal ingress/egress into and out of the Expresslanes. Channelizers are currently in place on the I-10 and I-110 freeways. Furthermore, the ExpressLanes provide funding to CHP for dedicated enforcement of the ExpressLanes.
EM-4 From	Alternatives	As a recent commuter on the 105 from the 110 to El Segundo, Alternate 2 isn't worth the original $175M.	Your comment has been noted

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Richard, 5/27/2020		Alternate 3 is probably worth something like $250M, but nowhere near the $750M. Better bang for your buck is fast-tracking the Green Line Extension to Norwalk Metrolink or the Vermont Train. I supposed if the extra money was raised with a bond against future toll revenue, I could get behind this project.	
EM-5 From fine7760, 5/22/2020	General	A turnout was constructed so as the Green Line could have gone into LAX. Money from various sources, bribes disguised as political contributions, stopped that. The art space jobs had nothing to do with the LAX turn out since the line meanders thru former aerospace locations.	The Airport Metro Connector will provide a direct connection from the C (Green) Line to LAX. For more information, please go to https://www.metro.net/projects/lax-extension/
EM-6 From Rick Beaver, 5/22/2020	Transportation/Traffic	It is pretty ridiculous that Caltrans and Metro are changing many lanes of our freeways in to express toll lanes. For one thing if the Metro Green Line that runs along part of the I-105 Freeway was better planned it would have served a larger amount of people. The Metro Green Line never was connected to LAX, which was a mistake of our lifetime. It currently runs from Norwalk to the Redondo	The Airport Metro Connector will provide a direct connection from the Metro C (Green) Line to LAX. For more information, please go to https://www.metro.net/projects/lax-extension/

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		Beach Station (which is not near the beach) so essentially it runs from nowhere to nowhere. The only positive aspect that it connects up with the Metro Blue Line. The I-105 Freeway is ridiculous in the fact it was never connected to the I-5 Freeway like it should have been to begin with. It is becoming impossible to drive almost anywhere without having to pay toll. It is starting to remind me of other highways in the east. The current Harbor Transit/Tollway on the I-110 Harbor Freeway does not relieve traffic. Most people still use the regular lanes because the transit/tollway was never finished into Downtown Los Angeles, which makes no sense whatsoever. There are so many of our freeways that were never connected and do not serve the purpose it should have. Just like the Terminal Island Freeway which was never connected up the I-405 Freeway. All you are doing is making people pay toll for a system which does not work. Even when you make the current HOV lanes on the I-105 freeway into express toll lanes; most	

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		people will still use the regular lanes and the traffic will still be congested. Other than the new Crenshaw Line which has not yet opened and the new LAX people mover; I personally feel most of our tax money is wasted in this state, by your planning department which constantly comes up with plans that are inefficient for the LA Area.	

Appendix I State Historic Preservation Officer Concurrence Letter

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

March 10, 2021

VIA EMAIL

In reply refer to: FHWA_2019_1103_001
CATRA_2019_1104_001

David Price, Section 106 Coordinator
Cultural Studies Office
Division of Environmental Analysis
1120 N Street, PO Box 942873, MS-27
Sacramento, CA 94273-0001

Subject: Finding of Effect for the Proposed I-105 Express Lanes Project in Los Angeles County, California

Dear Mr. Price:

Caltrans is continuing consultation regarding the above project in accordance with the January 1, 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer (SHPO), and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (106 PA) and the January 2015 *Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Officer Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92* (5024 MOU). As part of your documentation, Caltrans submitted a Finding of Effect (FOE) and Draft Programmatic Agreement for the proposed project.

Caltrans, in cooperation with Los Angeles County Metropolitan Transportation Authority, proposes to enhance operations, improve traffic flow, manage mobility, and expand the ExpressLanes System within the Interstate 105 (I-105) corridor. The Undertaking includes two build alternatives to construct ExpressLanes in place of the existing High Occupancy Vehicle (HOV) lane. For a more detailed project description, please refer the Project Description (pages 2-22) and Attachment 1 of the FOE. The Area of Potential Effects (APE) Map is included in Attachment 2 of the FOE.

As part of its identification efforts Caltrans the following properties eligible within the APE for the project:

- The Century Freeway-Transitway Historic District (CFTHD) - determined eligible by Caltrans for the National Register of Historic Places (NRHP) under Criteria A and C at the state level, with a period of significance from 1968-1995.
- Domingues Channel Historic District (DCHD) - determined eligible by Caltrans under Criterion A and C at the local level of significance. Its period of significance is 1945-1969.
- Unknown number of potential archaeological properties

Pursuant to 106 PA Stipulation X.B.1.a, Caltrans found that the project will have no adverse effects to the CFTHD and the DCHS. I have no objections to this finding.

Archival research and pedestrian survey did not identify any known archaeological resources within the APE of either build alternative. However, research and Native American consultation identified an area within the footprint of Alternative 3 between Wilmington Avenue and Fernwood Avenue that is sensitive for buried archaeological resources. Due to access restrictions that stem from the fully-developed and highly-trafficked nature of the APE, Caltrans is unable to conduct any subsurface investigation in this sensitive location, and could thus not fulfill the responsibilities for identification of historic properties for the alternative. Caltrans therefore proposes to phase this element of identification, evaluation, and the application of the criteria of adverse effect, pursuant to Stipulation XII.A of the Section 106 PA and Stipulation XI.A of the 5024 MOU. The Gabrieleño Band of Mission Indians-Kizh Nation are a consulting party for the Project, and the tribe has been invited to be a Concurring Party to the project specific PA.

Comments regarding the PA will be addressed in a separate letter.

If you have any questions, please contact Natalie Lindquist at (916) 445-7014 with e-mail at natalie.lindquist@parks.ca.gov .

Sincerely,

Julianne Polanco
State Historic Preservation Officer