

The Interstate 110 (Harbor Freeway/Transitway) High-Occupancy Toll Lanes Project

LOS ANGELES COUNTY, CALIFORNIA
DISTRICT 7 – LA – 110, (PM 9.7/20.70)
DISTRICT 7 – LA – 105 (PM R4.9/R9.6)
EA 07-274400

Draft Environmental Impact Report/ Environmental Assessment

February 2010



**Prepared by the
State of California Department of Transportation**

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

The Interstate 110 (Harbor Freeway/Transitway) High-Occupancy Toll Lanes Project

Improve the operation of High-Occupancy Vehicle lanes by converting to High-Occupancy Toll lanes on Interstate 110, from 190th Street to Adams Boulevard (postmiles 9.7 to 20.70) in Los Angeles.

DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2) C

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327

THE STATE OF CALIFORNIA
Department of Transportation

Feb. 12, 2010
Date of Approval


RON KOSINSKI
Deputy District Director
California Department of Transportation

Summary

The project as proposed and presented in this Environmental Impact Report/Environmental Assessment (EIR/EA) is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The California Department of Transportation (Caltrans) is the lead agency under CEQA. In addition, the Federal Highway Administration (FHWA)'s responsibility for environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

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, it is quite often the case that a "lower level" document is prepared for NEPA. One of the most commonly seen joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

Following receipt of public comments on the Draft EIR/EA and circulation of the Final EIR/EA, Caltrans will be required to take actions regarding the environmental document. Caltrans will determine whether to certify that the EIR and issue Findings and a Statement of Overriding Considerations under CEQA and to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) under NEPA.

Purpose

The purpose of the proposed project is to lessen congestion, promote throughput, and maximize efficiency on I-110, a heavily traveled north-south corridor connecting the South Bay to downtown Los Angeles. The project will also serve to encourage mode shift and carpooling.

Need

I-110 connects downtown Los Angeles, a major employment center, with the South Bay communities and the Port of Los Angeles. During peak hours, I-110 experiences heavy congestion and traffic flow inefficiency, leading to commuter delays.

Summary of Potential Impacts

The project involves minor impacts to environmental justice populations and hazardous materials due to the proximity of a landfill. There is a possibility for minor temporary construction impacts to the following resources: air quality, hazardous materials, noise, and storm water runoff.

Table of Contents

Chapter 1 Proposed Project	1
1.1 Introduction.....	1
1.2 Purpose and Need.....	4
1.3 Project Description	7
Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures	11
2.1 Human Environment.....	13
2.1.1 LAND USE.....	13
2.1.2 GROWTH	18
2.1.3 COMMUNITY IMPACTS	20
2.1.4 UTILITIES/EMERGENCY SERVICES.....	31
2.1.5 TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES	32
2.1.6 CULTURAL RESOURCES.....	34
2.2 Physical Environment.....	37
2.2.1 HYDROLOGY AND FLOODPLAIN	37
2.2.2 WATER QUALITY AND STORM WATER RUNOFF	39
2.2.3 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY	41
2.2.4 PALEONTOLOGY.....	43
2.2.5 HAZARDOUS WASTE/MATERIALS	44
2.2.6 AIR QUALITY.....	49
2.2.7 NOISE AND VIBRATION	71
2.2.8 ENERGY.....	75
2.3 Biological Environment.....	76
2.3.1 NATURAL COMMUNITIES.....	76
2.3.2 PLANT SPECIES.....	76
2.3.3 ANIMAL SPECIES	77
2.3.4 THREATENED AND ENDANGERED SPECIES.....	78
2.3.5 INVASIVE SPECIES	79
2.4 Construction Impacts.....	80
2.5 Cumulative Impacts.....	82
2.5.1 AFFECTED RESOURCES.....	82
Chapter 3 California Environmental Quality Act (CEQA) Evaluation.....	85
3.1 Determining Significance under CEQA.....	85
3.2 Discussion of Significance of Impacts.....	85
Chapter 4 Comments and Coordination	97
4.1 Scoping	97
4.2 Consultation with Agencies.....	97
4.3 Public Participation	98
Chapter 5 List of Preparers	103
Chapter 6 Distribution List.....	104
APPENDICES.....	106

List of Tables

Table 1 Planned Projects Within the Study Area	15
Table 2 Parks and Recreational Facilities	16
Table 3 Racial and Ethnic Characteristics of Los Angeles County and the Project Study Area	21
Table 4 Age Characteristics of the Project Study Area	22
Table 5 Housing Characteristics of the Project Study Area	23
Table 6 Racial and Ethnic Characteristics of the SCAG Region	26
Table 7 Ambient Air Quality Standards.....	53
Table 8 Health Effect Summary From Criteria Pollutants	55
Table 9 Designations of Criteria Pollutants in the SCAB*	57
Table 10 Existing and Future Emissions by Project Alternatives*	60
Table 11 2012 Changes in Total Project MSAT Emission Estimates*	66
Table 12 2035 Changes in Total Project MSAT Emission Estimates*	67
Table 13 Noise Abatement Criteria	71
Table 14 Existing and Future Estimated CO ₂ Emissions by Project Alternatives**	89
Table 15 Climate Change Strategies.....	93

List of Figures

Figure 1 Project Vicinity	1
Figure 2 Project Location Map	2
Figure 3 Adams Boulevard Pedestrian Plaza (conceptual).....	8
Figure 4 Wilmington-Gramercy Right-of-Way.....	45
Figure 5 Wilmington-Gramercy Right-of-Way and Artesia Transit Center.....	45
Figure 6 Wilmington-Gramercy Right-of-Way.....	46
Figure 7 Caltrans Site 16	46
Figure 8 Caltrans Freeway Project 3, Site 15	47
Figure 9 National MSAT Emission Trends 1999 – 2050 For Vehicles Operating on Roadways Using EPA’s Mobile6.2 Model	63
Figure 10 Common Activity Noise Levels	72
Figure 11 California Greenhouse Gas Inventory	88
Figure 12 Relationship Between CO ₂ Emissions and Vehicle Speed.....	91
Figure 13 Outcome of Strategic Growth Plan	92

Chapter 1 | Proposed Project

1.1 | Introduction

The California Department of Transportation (Caltrans), in conjunction with the Los Angeles County Metropolitan Transportation Authority (Metro), proposes to convert existing High-Occupancy Vehicle (HOV) lanes to High-Occupancy Toll (HOT) lanes on Interstate 110 in Los Angeles County from 182nd Street in the south to Adams Boulevard in the north. The existing freeway experiences congested conditions during peak hours. To ensure the existing HOV lanes operate at their maximum efficiency, the region must find ways to better manage the flow of traffic. Figures 1 and 2 show project vicinity and location maps.

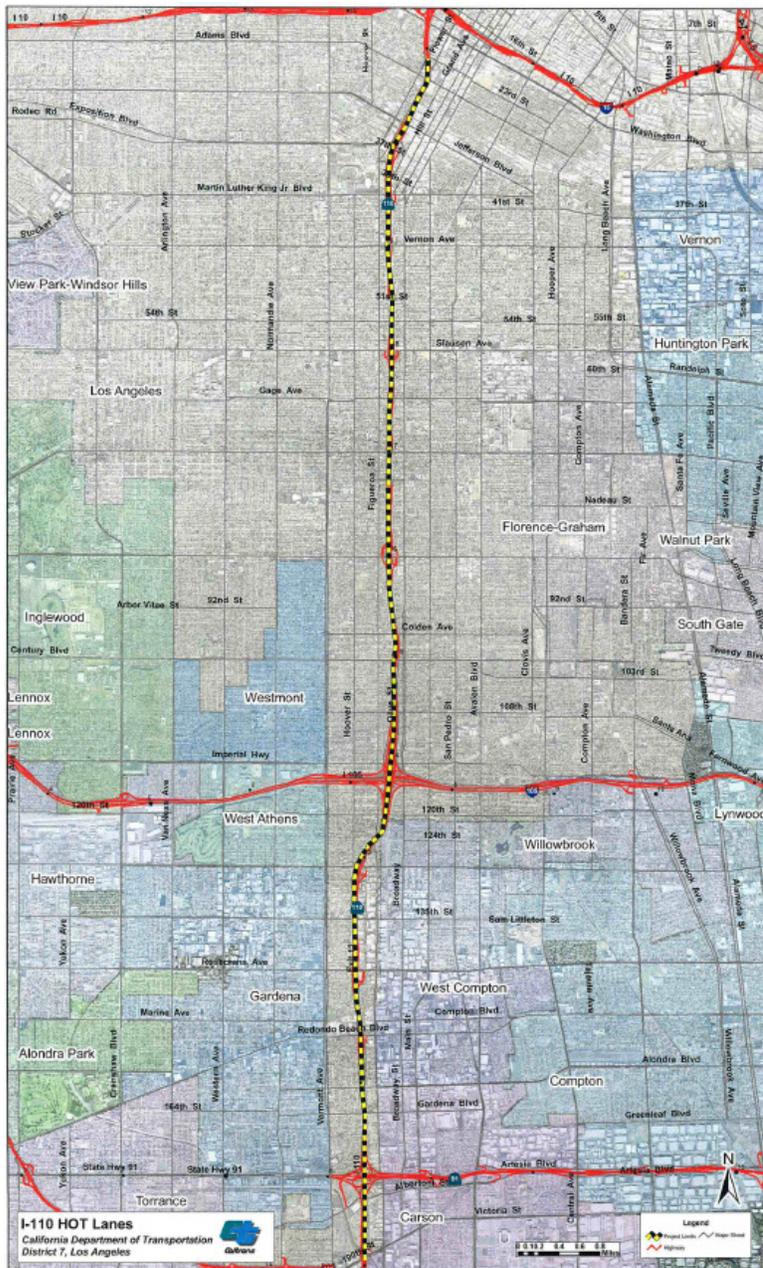
Figure 1 | Project Vicinity



Approved by the Federal Highway Administration as an Interstate Route in 1978, the Harbor Freeway (I-110) passes through or adjacent to the cities of Los Angeles, Gardena, and Carson, and the unincorporated communities of Willowbrook and West Compton, and is a north-south transportation corridor connecting the South Bay cities with Los Angeles' Central Business District. The majority of I-110 runs through the Harbor Gateway, a north-south strip of land annexed by the City of Los Angeles that connects the city to the Port of Los Angeles as well as to the communities of San Pedro and Wilmington. North of the project limits at the 110/101 interchange, I-110

becomes the commonly known Pasadena Freeway or Arroyo Seco Parkway, the first freeway in California and a State Scenic Highway.

Figure 2 | Project Location Map



The Harbor Transitway is the dedicated high-occupancy vehicle structure that runs in the median of I-110. It is open to vehicles with two or more passengers and serves buses operated by Metro, the Los Angeles Department of Transportation, the Orange County Transportation Authority, the City of Gardena, and the City of Torrance. Ten bus stops are located on the transitway within project limits, as well as a connection stop to the Green Line, an east-west commuter light rail operated by Metro.

Land uses in the project vicinity are varied and diverse. Adjacent to the project limits, land uses encompass residential, business/retail, and industrial uses, as well as parklands.

The proposed project is being funded by a grant from the United States Department of Transportation to implement the region's Congestion Reduction

Demonstration Program, as administered by Metro. The Program consists of multiple projects aimed at reducing gridlock in the Los Angeles area, notoriously known for traffic congestion. Congestion pricing, the proposed ExpressLanes project in particular, is one of the methodologies being considered to relieve congestion in the region.

This project is included in the Southern California Association of Governments' 2008/09 Regional Transportation Plan (RTP) and the cost-constrained Regional Transportation Improvement Program (RTIP).

1.2 | Purpose and Need

Purpose

The purpose of the proposed project is to provide congestion relief in the corridor by encouraging carpooling and mass transit choices, as well as introducing more transportation options to commuters. The project will serve to redistribute the existing and future traffic volumes on I-110 in order to maximize the efficiency of the High-Occupancy Vehicle lanes, thereby also increasing the capacity of the mixed-flow lanes.

Depending on the alternative selected, the project will also serve to relieve the bottleneck at the end of the Harbor Transitway at Adams Boulevard by adding an additional turn lane at the off-ramp and an additional through-lane on Adams Boulevard.

Need

Currently, Los Angeles County has 470 lane miles of HOV facilities, or 36% of the total 1320 HOV lane miles in the State of California. In order to preserve the effectiveness of the lanes as well as encourage the formation of new HOV lanes, capacity must be efficiently managed. Congestion pricing, the technology to be employed on the HOT lanes, is one of the tools with which this can be achieved.

According to the Southern California Association of Governments County Population Forecasts, the population of Los Angeles County was approximately 10,329,000 in 2005 and will increase to approximately 12,249,000 in 2020, illustrating 19% growth. There are significant and numerous obstacles to building new freeways in the already-crowded Los Angeles Region, and changes must be made to the ways we utilize our existing transportation infrastructure.

Moreover, the South Bay communities have also experienced significant growth. According to the South Bay Cities Council of Governments, the population of the subregion grew from 748,271 in 1990 to 932,596 in 2000, a nearly 20% increase, and is further expected to grow to approximately 1 million by 2035. Interstate 110, a key north/south corridor connecting downtown Los Angeles and the South Bay, is operating at or beyond its practical capacity during peak hours.

The average freeway speed during the afternoon peak period in the Los Angeles region was approximately 25 miles per hour in 2003, and is projected to deteriorate to 21 miles per hour by 2035. As population increases, and downtown Los Angeles remains an area of employment density, more options must be made available to area commuters who utilize the I-110 corridor. Increased transportation efficiency will improve movement of people and goods and encourage the continued economic vitality of the region.

Currently, the Harbor Transitway ends and much HOV traffic is funneled through the off-ramp at Adams Boulevard. The HOV off-ramp at Adams is adjacent to the Adams Boulevard off-ramp for the mixed-flow lanes, and both ramps have the option to turn right or left onto either westbound or eastbound Adams Boulevard, respectively. This

intersection is currently a bottleneck. Increasing throughput on the HOV off-ramp necessitates improvements to the Adams Boulevard intersection.

The Southern California Association of Governments' Draft 2008 Regional Transportation Plan discusses the need to address travel demand through Travel Demand Management (TDM) strategies, which are designed to influence an individual's travel behavior by making alternatives to the single-occupant automobile more attractive, especially during peak commute periods, or by enacting regulatory strategies. Some examples of TDM strategies are carpools and vanpools, public transit, non-motorized modes, congestion pricing, and providing the public with reliable and timely traveler information. The Metro 2008 Long Range Transportation Plan advocates and supports the implementation of incentives and disincentives to encourage alternatives to driving alone, including congestion pricing/toll lanes or other roadway pricing options.

Charging single-occupant vehicles, which would normally not be eligible to use the existing HOV lanes, a toll to use the HOT lanes when there is capacity available, will also free capacity in the mixed-flow lanes.

Legislative Policies

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU), passed in 2005, grants states broad authority to implement Express Lanes or HOT Lanes on interstate and non-interstate facilities. Section 1121 of SAFETEA-LU replaces Section 102(a) of Title 23 of the United States Code (23 U.S.C.) with a new Section 166. The new legislation allows states to charge tolls to vehicles that do not meet the established occupancy requirements to use an HOV lane, provided that the agency meets certain criteria to enroll participants, collect fees electronically, manage demand by varying tolls, and enforce against violations.

In September 2008, Governor Schwarzenegger approved Senate Bill 1422, which authorized a value-pricing and transit development program involving HOT lanes on I-110 in Los Angeles County. This project is part of the Los Angeles Regional Congestion Reduction Demonstration Initiative, and is one of two demonstration projects.

Independent Utility of the Project

This project is made possible by a United States Department of Transportation grant meant to test innovative strategies to alleviate congestion, maximize freeway capacity usage, and fund additional transit alternatives. As a part of this program, Los Angeles County will receive \$210 million in federal grant money to fund new infrastructure, including expanded and upgraded transit improvements along the I-110 and I-10 corridors. This may include new buses and rail cars, expanded vanpools, enhanced Park & Ride lots, increased local bus access, and traffic management and support systems. Known as the Los Angeles Region Congestion Reduction Demonstration Initiative, these projects comprise a multifaceted approach to managing regional traffic. However, the High-Occupancy Toll Lanes project will act as a stand-alone project and would be usable and a reasonable expenditure even if no additional transportation improvements in the area are made. The proposed project does not restrict considerations of alternatives for other reasonable foreseeable transportation

improvements. Therefore, based on the above and pursuant to 23 CFR 771.111(f), this project has independent utility and logical termini.

1.3 | Project Description

The project is located in Los Angeles County on I-110 from 182nd Street to Adams Boulevard, a distance of approximately 11 miles. I-110 within the project area is a freeway with typically four general-purpose lanes in each direction, and also includes a segment of a dedicated elevated structure for buses and high-occupancy vehicles (HOV), the Harbor Transitway. Auxiliary lanes have been provided along certain segments of the freeway. At the widest points, the freeway has a maximum of 6 mixed-flow lanes in each direction. South of I-105, a single HOV lane is provided in each direction. North of I-105, a second HOV lane is provided in each direction until Adams Boulevard.

Caltrans, in cooperation with Metro, proposes to convert the existing HOV lanes on I-110 to HOT lanes. This work will remain within the prism of the roadway and installed on existing structures as much as possible. The lanes will be managed through congestion pricing to maintain a threshold of 45 miles per hour. If the lane speeds drop below this threshold, single-occupant vehicles will lose the opportunity to utilize the lane. Vehicles meeting the existing carpool lane occupancy requirement will continue to access the HOT lanes without paying a toll. The conversion involves the installation of overhead electronic tolling equipment and signage, both traditional static and variable message signs.

This conversion also necessitates other improvements in and around the existing HOV lanes to optimize the efficiency and encourage free-flowing conditions.

The Adams Boulevard overcrossing would be widened to add a westbound right-turn exclusive lane to access Figueroa Way. This would entail removal and replacement of the existing sidewalk, pulling it further north to allow room for the turning lane. Consequently, the Figueroa Way HOV collector will be re-stripped to add a second lane.

Project Alternatives

This section describes the proposed alternatives under consideration. Given that the project is a demonstration project, no significant variation on the build alternative is proposed at this time. Furthermore, the federally-granted funding source mandates that the project implement congestion pricing.

Alternative 1 | No-Build Alternative

The No-Build alternative proposes to maintain the existing conditions of the roadway without any improvements. This alternative would not meet the purpose and need for the project, as it would allow congested conditions to persist on I-110. It does not encourage mode shift (e.g., carpools, vanpools, or transit). It also does not meet the project's funding requirements and stipulations.

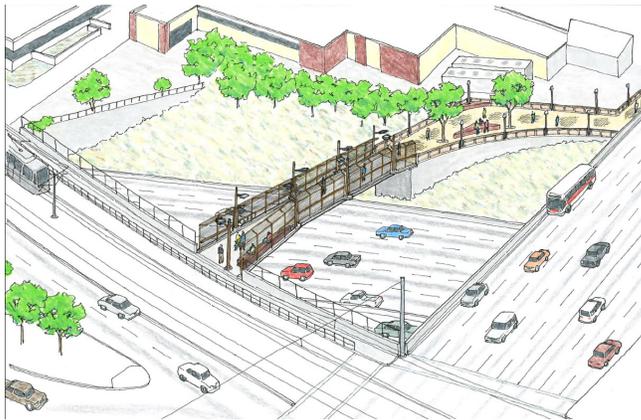
Alternative 2 | Conversion of HOV lanes to HOT lanes (“ExpressLanes”)

Alternative 2 proposes to convert HOV lanes to HOT lanes (“ExpressLanes”) on I-110. Work would include installation of electronic tolling equipment and signage. The

project's northerly terminus at the Adams Boulevard off-ramp would be modified by removal of the median to provide for one right turn and two left turn lanes.

The Adams Boulevard overcrossing would be widened to add a second right-turn lane in the westbound direction. This would entail removal of the existing sidewalk. Consequently, the Figueroa Way HOV collector would have to be re-stripped for a second lane to allow continuity of both right-turn lanes.

Figure 3 | Adams Boulevard Pedestrian Plaza (conceptual)



The sidewalk would be replaced by a pedestrian plaza (see Figure 3) that would extend away from the structure to the north and connect to Flower Street north of the intersection, closer to the Expo Line's 23rd Street Station, currently under construction. In this instance, the crosswalk traversing Figueroa Way and Flower Street may be re-aligned to connect with the terminus of the pedestrian structure.

project also proposes to modify the egress area on the HOV direct connectors. This would allow single-occupant vehicles, who bought access to the lanes on I-110, the opportunity to utilize the HOV direct connectors to I-105, and exit from the HOV lanes once entrance to the mixed-flow lanes is available.

In order to accommodate HOT lanes customers who must transition to Interstate 105, the

Project Operational Plan

The congestion pricing project is based on a concept of toll collection called dynamic pricing. Tolls are continually adjusted throughout the day according to traffic conditions and are designed to keep the traffic moving in the HOT lanes at speeds of at least 45 miles per hour. The toll rates will vary by the level of traffic congestion as measured by travel speeds, with higher rates being charged when congestion levels are high, such as peak travel periods, and lower rates when congestion levels drop off. The object of the dynamic pricing concept is to ensure a safe, reliable, predictable commute for HOT lane users, reinforce efforts to increase vehicle occupancy rates and transit ridership, optimize vehicle throughput at free-flow speeds, and demonstrate the potential to generate revenue to sustain the financial viability of the HOT lanes.

Toll rates have been set at a minimum of \$0.25 per mile and a maximum of \$1.40 per mile. Minimum peak tolls will be no less than 150% of MTA transit fare on the HOT lanes, so as to encourage transit ridership.

All vehicles will be considered customers, regardless of vehicle occupancy, and therefore will be required to have a transponder while in the HOT lanes.

All vehicles meeting the current carpool lane minimum-vehicle occupancy requirement, motorcycles, and privately-operated buses would continue to access the lanes without charge.

If travel speeds in the lanes drop below 45 mph for longer than 10 minutes, tolling will shut down and vehicles not meeting existing carpool minimum occupancy requirements will no longer be able to enter the lanes.

Metro is considering making toll and/or transit credit programs available to frequent transit riders on the I-110 HOT lanes.

Trucks (3+ axles) will not be allowed in the HOT lanes. Emergency vehicles may use the HOT lanes when responding to incidents.

Gross revenues collected from the HOT lanes will pay for HOT lane operating and maintenance expenses. State law requires that excess revenues are reinvested in transit and carpool lane improvements in the corridor where generated.

Alternatives Considered but Eliminated From Further Discussion

In addition to the alternatives discussed in this document, other alternatives were considered during the Project Initiation phase, but subsequently eliminated from further consideration. They include:

Barrier-separated facility. A barrier-separated facility would construct the HOT lanes separate from the adjacent mixed-flow lanes by a physical barrier such as a concrete barrier in the buffer zone. This alternative is more effective to deter lane crossing and toll evasion compared to a HOT lanes facility that only utilizes solid stripes. This alternative was rejected due to the high capital cost to widen the freeway which would allow construction of a sufficiently wide buffer zone for the physical barrier and standard shoulders, high maintenance costs to maintain the physical barrier, and the lack of flexibility to easily modify the layout of the HOT lanes facility.

Operational alternatives. Alternatives to the project operational plan were also considered, including requiring all vehicles, regardless of occupancy, to pay a toll to use the HOT lanes. This alternative was rejected due to anticipated impacts to environmental justice populations.

Replacement of the existing Adams Boulevard sidewalk. An existing outrigger bent to the north of the Adams Boulevard overcrossing prevents the timely replacement and reconstruction of a traditional sidewalk on the north side of Adams Boulevard, due to Expo Line construction work in the vicinity. As impacts to pedestrians would occur if the sidewalk was not reconstructed as a part of this project, this design variation was rejected.

Permits and Approvals Needed

As nearly all work will be done within the prism of existing State right-of-way, no permits or approvals will be necessary to construct the project.

A cooperative agreement will be negotiated with the Los Angeles Department of Transportation to complete the work on the Figueroa Way HOV bypass as a part of this project, but will not be acquired as State right-of-way.

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

As part of the scoping and environmental analysis conducted for the project, the following environmental issues were considered but no adverse impacts were identified. Consequently, there is no further discussion regarding these issues in this document.

- **Coastal Zone.** The project boundaries do not lie within the Coastal Zone; therefore, consistency with the California Coastal Act is not applicable.

California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by the California Coastal Act are similar to those for the CZMA; they include the protection and expansion of public access and recreation, the protection, enhancement and restoration of environmentally sensitive areas, protection of agricultural lands, the protection of scenic beauty, and the protection of property and life from coastal hazards. The California Coastal Commission is responsible for implementation and oversight under the California Coastal Act.

- **Wild and Scenic Rivers.** The project area does not cross or have proximity to any Wild and Scenic Rivers or any rivers under study for designation as a Wild and Scenic River.

Projects affecting Wild and Scenic Rivers are subject to the National Wild and Scenic Rivers Act (16 USC 1271) and the California Wild and Scenic Rivers Act (Pub. Res. Code Sec. 5093.50 et seq.).

There are three possible types of Wild and Scenic Designations:

- **Wild:** undeveloped, with river access by trail only
- **Scenic:** undeveloped, with occasional river access by road
- **Recreational:** some development is allowed, with road access
- **Parks and Recreational Facilities.** The proposed project does not impact any parks or recreational facilities. There will be no right-of-way acquisitions or acquired easements of any park or recreational facility.
- **Farmlands/Timberlands.** The project area does not contain any farmlands or timberlands. The project would not result in termination of lands under Williamson Act Contracts. The project is not located in Timber Production Zones and does not pose significant impacts to forest resources.

The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (FPPA, 7 USC 4201-4209; and its regulations, 7 CFR Part 658)

require federal agencies, such as FHWA, to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

The California Timberland Productivity Act (TPA) of 1982 (Government Code Sections 51100 et seq.) was enacted to help preserve forest resources. Similar to the Williamson Act, this program gives landowners tax incentives to keep their land in timber production. Contracts involving Timber Production Zones (TPZ) are on 10-year cycles.

- Relocations. The project does not involve any residential or commercial right-of-way acquisitions or relocations.

Caltrans Relocation Assistance Program (RAP) is consistent with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of 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.

- Wetlands or Other Waters. The project area does not contain or encroach upon any wetlands or other waters of the United States.
- Visual Resources. The project will not result in significant visual impacts. It is not located on a State Scenic Highway, nor will it have significant effects on any scenic resource.

Availability of Technical Studies/Reports for Public Review

The ensuing discussion as reported in this EIR/EA is based on technical studies prepared by an interdisciplinary team for the proposed project. All technical studies and reports are available for public review (reference List of Technical Studies) by request, or at the following location:

Caltrans District 7 Headquarters

100 South Main Street, Los Angeles, California 90012

2.1 | Human Environment

2.1.1 | LAND USE

Existing Land Use. The area surrounding the proposed project is comprised of various land uses along I-110. This is a densely populated area consisting of residential development (both single- and multiple-family units) commercial shopping centers and strip malls, and industrial uses such as a large quarry.

The Harbor Freeway (I-110) was constructed from 1952-1970. Cities located directly adjacent to the project area include the City of Los Angeles, as well as a small portion of unincorporated Los Angeles County at the I-110/I-105 interchange known as Willowbrook. Cities surrounding, but not immediately adjacent to, the project area include Carson, Gardena, and other areas of unincorporated Los Angeles County, including the communities of West Athens and West Compton.

The cities and communities surrounding the project area developed in the late nineteenth century as farmland, and developed as Los Angeles County grew more populated in the twentieth century. The City of Gardena began as a small farming community in the 1880s. It was incorporated in 1930 and named Gardena for its green valley or “garden spot” created by the nearby Laguna Dominguez slough and channel. The city is located southwest of the project area.

The City of Carson remained unincorporated land until 1968. Until this time, the area had been used for neighboring cities’ refuse dumps, landfills, and auto dismantling plants. As a result, following incorporation the residents of Carson set out to beautify their city. Today Carson boasts residential neighborhoods, commercial districts, and parks.

During the incorporation of these cities, as well as the City of Los Angeles, several acres of land were left unincorporated and are under the jurisdiction of Los Angeles County. The United States Census Bureau has identified many areas of Los Angeles County as Census Designated Places (CDPs). The communities of West Athens and West Compton surround the study area and have been identified as CDPs. These communities consist primarily of residential neighborhoods with some commercial buildings. Willowbrook has also been designated as a CDP and is located directly adjacent to the project area. The name Willowbrook was first officially used in 1903, when the Willowbrook Tract was first recorded with the County Recorder. This area grew into a residential neighborhood with some rural areas. However, with the increase in population in the south-central area of Los Angeles, Willowbrook now looks like its neighboring residential communities with commercial facilities.

The majority of the project area is located within the City of Los Angeles, within three community plan areas: South Los Angeles, Southeast Los Angeles, and the Harbor Gateway. According to the City’s General Plan and community plans, designated land uses within this area are varied and include residential, commercial, industrial, open space, and public facilities. Based on information gathered from Geographic Information Systems (GIS) data, aerial maps, and site surveys, existing land uses within the Los Angeles portion of the project area include primarily residential properties and industrial businesses. A number of oil wells are located within this area near El Segundo Boulevard. Near the northern limit of the study area at Adams

Boulevard, land uses transition into the more commercial uses of downtown Los Angeles, where several public facilities such as the Los Angeles Coliseum, the Los Angeles Sports Arena, and Exposition Park are located adjacent to the project area on Figueroa Avenue. There are also several parks, churches, schools, and a fire station within this portion of the project area.

A small portion of the project area, east of I-110 and south of I-105, lies within an unincorporated area of Los Angeles County called Willowbrook, which is an area without an individual community plan. According to the County's General Plan, existing and designated uses within this area include residential, commercial, open space, and industrial uses. Existing land uses within this portion of the project study area include a mix of industrial and heavy industrial areas between the Carson border and West El Segundo Boulevard, where land uses change to primarily residential properties that continue to the Los Angeles city border. Athens Park, located at the corner of El Segundo Boulevard and South Broadway, as well as several churches, are also within this area.

Future Land Use. Regionally, development trends in the greater Los Angeles area are shifting from development of vacant lands to infill, redevelopment, and transit-oriented development. According to the City's general plan, current land use policy encourages future development to occur in neighborhood districts, commercial and mixed-use centers, along boulevards, industrial districts, and in proximity to transportation corridors and transit stations. The goal of these policies is to create a healthier, more equitable, and more livable city.

Land use policies for future development within unincorporated areas are geared towards the implementation of smart growth policies, environmental management, and provision of healthy and livable communities. These policies include transit-oriented development, infill development, Brownfield redevelopment, and appropriate densification of existing urban areas.

In addition to land use policy, transportation improvements within the greater Los Angeles area are focused on re-working the existing system and transitioning to a more transit-based system that will encourage transit-oriented development and improve area circulation and health for area residents. Along the I-110 corridor, the proposed project is part of a larger congestion-relief plan for the highway system within the project study area and beyond. In addition, the funds raised by the I-110 HOT lanes must be re-invested in the I-110 corridor.

Nearly all of the land within the study area is already developed; therefore, opportunities for future development within this area are largely limited to redevelopment or infill projects. There are several redevelopment project areas that lie within the project study area, including the Broadway Manchester Recovery Development Project, the Vermont/Manchester Recovery Redevelopment Project, and the Exposition/University Park Project. The Broadway/Manchester and Vermont/Manchester projects are in place for the revitalization of several blighted areas with extreme need for redevelopment; whereas the Exposition/University Park project is in place to manage the continued operation of the cultural district of Exposition Park. In addition to development projects, several transportation projects are planned within the study area (see Table 1).

Table 1 | Planned Projects Within the Study Area

Name	Jurisdiction	Project Description	Status
Interstate 10 Highway Improvements (PM 18.3/31.3)	Caltrans	Roadway and ramp rehabilitation	Construction scheduled for April 2011
Interstate 10 Highway Improvements (PM 18.3/21.6)	Caltrans	Rehabilitation/replacement of existing HOV lanes	Under construction
Interstate 10 Highway Improvements (PM 31.2/33.4)	Caltrans	Construction of new HOV lanes	Construction scheduled for September 2013
Interstate 110 Highway Improvements (PM 20.0/21.4)	Caltrans/Exposition Line Construction Authority	Construction of light rail transit crossings	Construction scheduled for 2010

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

Federal Transportation Improvement Program (FTIP). The FTIP/FSTIP (Federal Statewide Transportation Improvement Program) contains all capital and non-capital transportation projects or identified phases of transportation projects in the State of California that are proposed for federal funding under the Federal Transit Act and Title 23 of the United States Code. In addition, all projects that are deemed regionally significant, regardless of the funding source, are included in the FSTIP. Federally funded transportation projects must conform to the FTIP/FSTIP prior to being approved.

State Transportation Improvement Program (STIP). The STIP is a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the Transportation Investment Fund and other funding sources. Projects receiving STIP funding must be programmed prior to moving forward with implementation.

Southern California Association of Governments Regional Transportation Plan (RTP). The 2008 RTP is prepared by the Southern California Association of Governments (SCAG) and presents the transportation vision for six counties in the Southern California region, including the counties of Los Angeles, Orange, San Bernardino, Imperial, Riverside, and Ventura. The plan identifies priorities for transportation planning within this region, sets out goals and policies, and identifies performance measures for transportation improvements to ensure that future projects are consistent with other planning goals for the area. Projects being constructed within the SCAG region must be listed in the RTP.

Los Angeles County General Plan. The County's General Plan provides policy and guidance for future growth within unincorporated areas of the county. The plan also provides a foundation on which detailed plans, such as community plans or specific plans, may be based. The Mobility Element includes policies for the development of a multi-modal transportation system that will move people, goods, and services in an environmentally and socially responsible way. Projects proposed within unincorporated portions of Los Angeles County must be consistent with land uses identified in the General Plan.

City of Los Angeles General Plan. The City’s General Plan contains goals and policies for future development within the city. The General Plan Framework Element provides overall policy and direction for the entire plan. The City’s 35 community plans collectively make up the land use policy for the City. Portions of the project study area lie within the South Los Angeles, Southeast Los Angeles, and Harbor Gateway community plan areas. The Transportation Element identifies goals, objectives, and policies to achieve long-term mobility and accessibility within Los Angeles. Projects proposed within the city must be consistent with land uses identified in the General Plan Framework and associated community plans.

Environmental Consequences

Alternative 1 | No-Build. The no-build alternative would maintain existing conditions. Land uses would not change. However, if the project is not implemented, the existing HOV lanes along I-110, which are currently operating at or beyond their practical capacity during peak hours, would no longer provide the travel time advantage needed to encourage more HOV formation. This alternative, therefore, is not consistent with existing local, regional, and other plans and policies related to land use in the area.

Alternative 2 | Conversion of HOV lanes to HOT lanes. Implementation of the build alternative would accommodate existing and projected traffic levels within the I-110 corridor and associated interchanges within the project area, and would therefore result in improved circulation along this highway system. Because the project is located within a developed area of Los Angeles, no changes to existing or planned land uses are anticipated; rather, the project would improve access to and from these existing land uses. In addition, the project would be consistent with goals and objectives included in the City’s and County’s General Plans related to integrated congestion management of regional transportation systems.

Avoidance, Minimization, and/or Mitigation Measures

Because the project would be consistent with applicable land use plans and policy, no avoidance, minimization, or mitigation measures would be required.

Parks and Recreational Facilities

Table 2 lists the parks and recreational facilities located in the project area, their locations and jurisdictions, and the type of park (neighborhood denotes a smaller park, whereas community denotes a larger facility with more amenities).

Table 2 | Parks and Recreational Facilities

Name	Location	Jurisdiction	Type
Algin Sutton Recreation Center	W 90 th St. and S Hoover St.	City of Los Angeles	Community
Athens Park	W El Segundo Blvd. and S Broadway	Unincorporated Los Angeles County (Athens)	Community

Mount Carmel Park	W 70 th St. and Menlo Ave.	City of Los Angeles	Neighborhood
Rosecrans Recreational Center	Vermont Ave. and W 149 th St.	City of Los Angeles	Community
48 th Street Park	W 48 th St. and S Hoover St.	City of Los Angeles	Neighborhood
James Park	St. James Park	City of Los Angeles	Neighborhood

Environmental Consequences

Alternative 1 | No-Build. The no-build alternative would have no impacts on parks or other recreational facilities.

Alternative 2 | Conversion of HOV lanes to HOT lanes. The project would accommodate existing and projected traffic levels within the I-110 corridor and associated interchanges within the project area, and would therefore result in improved circulation along this highway system. The project would not result in any land use or access changes that would affect existing or planned parks in the area. The project would not result in either direct or indirect “use” of a Section 4(f) resource; therefore, further analysis under Section 4(f) is not required.

Temporary impacts related to construction of the project could include noise, air pollutant emissions, and traffic-related impacts. However, major construction activities such as earthmoving and other major structure work would be minimal. With implementation of standard construction best management practices (BMPs), these would not be expected to substantially affect those using existing parks or other recreation facilities. Following construction, operation of the project would not result in any impacts to these facilities. Because the project is located within a developed area of Los Angeles, no changes to existing or planned land uses are anticipated; rather, the project would alleviate congestion and improve access to and from these existing land uses. Therefore, no adverse impacts to parks and/or other recreational facilities would occur.

Avoidance, Minimization, and/or Mitigation Measures

Because the project would not result in any impacts to parks or other recreational facilities, no avoidance, minimization, or mitigation measures are required.

2.1.2 | GROWTH

Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969, require evaluation of the potential environmental consequences of all proposed federal activities and programs. This provision includes a requirement to examine indirect consequences, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations, 40 CFR 1508.8, refer to these consequences as secondary impacts. Secondary 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. 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..."

Under NEPA and CEQA, growth inducement is not necessarily considered detrimental, beneficial, or environmentally significant. Typically, the growth-inducing potential of a project is considered significant if it fosters growth or a concentration of population in excess of what is assumed in relevant master plans, land use plans, or in projections made by regional planning agencies. Significant growth impacts could be manifested through the provision of infrastructure or service capacity to accommodate growth beyond the levels currently permitted by local or regional plans and policies. In general, growth induced by a project is considered a significant impact if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth significantly affects the environment in some other way.

Affected Environment

According to SCAG's latest RTP, the Southern California Region is running out of room for low-density developments, and geographical features such as the Pacific Ocean to the west and mountains to the east present natural borders to continued urban spread. In addition to spatial constraints, environmental concerns and transportation limitations are presenting ever-increasing challenges to the continued growth in the area. These, among other factors, are leading to changing growth policy throughout the Los Angeles area, where growth is being focused inward and toward a sustainable future.

According to the County's General Plan, policy is based on building a sustainable future through "smart growth" practices. Because future growth will deal more with redevelopment of existing urban areas, the County's General Plan includes a range of strategies to deal with existing growth challenges such as infrastructure, economic development, public health and safety, and natural resources. Within the project study area, transit-oriented and economic development strategies are considered key in revitalizing existing neighborhoods.

According to the City's General Plan, policies related to growth are based on a SCAG forecast that the City's population could increase from 1990 numbers by approximately

820,000 residents and employment by approximately 390,000 jobs by 2010. Rather than promoting this growth, the City's policies are geared toward accommodating such growth should it occur. The focus of these policies is directing growth in a way that will support economic development, minimize environmental impacts, and enhance quality of life. The City's primary strategies include transit-oriented development, sustainable infill development, and infrastructure investments.

Environmental Consequences

Alternative 1 | No-Build. Under the no-build alternative, existing conditions would remain and no growth-related impacts would occur. However, the existing HOV lanes would operate at the current level of efficiency and congested conditions would remain in the mixed-flow lanes. Continued congestion along this highway corridor and associated regional systems could hinder implementation of other redevelopment and transportation plans which rely upon access to and from highway corridors.

Alternative 2 | Conversion of HOV lanes to HOT lanes. Most project improvements associated with Alternative 2 would take place within existing right-of-way, with minimal exceptions. No new areas of development would be opened and no existing access patterns would be altered. The project is located in a highly developed area of Los Angeles County and only aims to redistribute the existing traffic volumes, rather than substantially adding capacity. Therefore, growth-related effects as a result of the project would be minimal to none.

Avoidance, Minimization and/or Mitigation Measures

No growth-inducing impacts would occur as a result of implementation of the project. Therefore, no avoidance, minimization, and/or mitigation measures are proposed.

2.1.3 | COMMUNITY IMPACTS

Community Character and Cohesion

REGULATORY SETTING

The National Environmental Policy Act of 1969 as amended (NEPA), established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 U.S.C. 4331[b][2]). The Federal Highway Administration in its implementation of NEPA (23 U.S.C. 109[h]) directs that final decisions regarding 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, 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.

AFFECTED ENVIRONMENT

The project area is comprised of residential, commercial, and industrial neighborhoods. These neighborhoods are identifiable by the City-designated neighborhood signage posted throughout the study area. Within the City of Los Angeles, these designated neighborhoods contribute to community identity and cohesion. The neighborhoods include Harbor Gateway, Athens on the Hill, Mid-City, Furniture and Decorative Arts District, Broadway Square, Century Palms, Athens Village, Rosewood, Vermont Knolls, and Figueroa Corridor. Other neighborhoods are designated by physical boundaries such as major corridors and local commercial convenience centers. Within these, schools, churches, and community centers are recognized as factors that contribute to the cohesive feel of these communities.

Area communities that may be affected by the project were identified using census tracts, block groups, block boundaries, school district boundaries, and/or municipal boundaries. Once this preliminary study area was identified, it was further defined by formal neighborhood designations and any physical delineators that contribute to a sense of neighborhood cohesion. The project area is defined as the area generally bounded by I-10 to the north, SR-91 to the south, Broadway Street to the east, and Figueroa and Vermont Streets to the west. The area covers approximately 8.78 square miles of densely populated land located within the City of Los Angeles and unincorporated Los Angeles County.

Race and ethnicity. Table 3 illustrates the racial and ethnic characteristics of the project area and outlines the racial and ethnic breakdown for Los Angeles County as a whole. In general, as of 2005-2007, Los Angeles County is predominantly White and

Hispanic¹, accounting for approximately 51 percent and 47 percent of the population, respectively. “Some other race” accounted for 26 percent of the county’s population. Asian populations accounted for approximately 13 percent of the population, and collectively, Black or African-American, American Indian and Alaska Native, Native Hawaiian and other Pacific Islander, and those that identified as “two or more races” accounted for less than 15 percent of the county population.

Table 3 | Racial and Ethnic Characteristics of Los Angeles County and the Project Study Area

	Los Angeles County		Study Area Total	
	2000	2005-2007	2000	2009
Total population	9,519,338	9,883,649	111,069	114,933
White	4,637,062 49%	4,870,294 51%	26,992 24%	22,420 20%
Black/African-American	930,957 10%	883,911 9%	30,195 27%	29,947 26%
American Indian/Alaska Native	76,988 0.1%	48,176 0.5%	n/a	n/a
Asian	1,137,500 12%	1,279,403 13%	7,117 6%	7,783 7%
Native Hawaiian/other Pacific Islander	27,053 0.03%	26,705 0.3%	n/a	n/a
Some other race	2,239,997 24%	2,494,726 26%	46,765 42%	54,783 48%
Two or more races	469,781 5%	280,434 3%	5837 (white non-Hispanic) 5%	5094 (white non-Hispanic) 4%
Total minority	4,882,276 51%	5,013,355 50%	84,077 76%	92,513 81%
Hispanic or Latino	4,242,213 45%	4,658,878 47%	57,129 60%	85,315 74%

Census data shows that the project area is predominantly Hispanic, at approximately 74 percent of the population. Black or African-American is the next largest populations, accounting for 26 percent of the project area population. The White racial category accounts for only 19.5 percent of the population. Asian populations and people that are “two or more races” account for less than 15 percent of the population collectively.

As of 2005-2007, the Hispanic population is the most prevalent minority population in Los Angeles County. The most recent census data from 2009 indicates that the Hispanic population in the project area is 23.5 percent higher than the Hispanic population of the county. The Black or African-American population is higher in the project area than the county by almost 17 percent. Overall, the percentage of non-white populations within the project area is 80 percent, as compared to the percentage of non-white populations within Los Angeles County at 49 percent.

¹ Racial groups listed in the 2000 Census as Black or African-American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, Some Other Race, or Two or More Races are categorized as minorities. Persons of Hispanic origin are reported not as a race, but as an ethnic group and are calculated as a proportion of all races.

Between 2000 and the data collected in 2005-2007 and 2009, the project area showed an approximate 4.8 percent increase in its minority population, whereas the County of Los Angeles experienced a 0.7 percent decrease in its minority population.

Age. As of 2009, of the total population within the study area, (114,942 persons), approximately 59.8 (68,743 persons) were of working age, defined as between 18 and 64 years of age. Additionally, approximately 33 percent (38,047 persons) were under 18 years and approximately 7 percent (8,152 persons) were 65 years and over. As shown in Table 4, between 2000 and 2009 the age characteristics within the project area remained relatively constant.

In 2005-2007, the age characteristics within the project area were similar to those of Los Angeles County. In the county, the working age populations constituted approximately 63 percent of the population, as compared to the project area at approximately 60 percent.

The median age of the project area is approximately 26 years, whereas the median age of Los Angeles County is approximately 34 years. Additionally, the population of residents under the age of 18 in the project area is slightly higher than that of the county.

Table 4 | Age Characteristics of the Project Study Area

	Project area		Los Angeles County	
	2000	2009	2000	2005-2007
Total population	111,069	114,942	9,519,338	9,883,649
Under 18 years	37,629	38,047	2,667,978	n/a
	33.80%	33.10%	28.00%	26.50%
18 to 64 years	65,996	68,743	5,924,689	n/a
	59.40%	59.80%	62.20%	63.20%
65 years and over	7,444	8,152	926,673	n/a
	6.70%	7.00%	9.70%	10.20%
Median age	26	25.9	32	34.1

Housing. As of 2009, there were 34,560 housing units within the study area, of which 32,118 were occupied, representing a vacancy rate of approximately 7 percent. As shown in Table 5, between 2000 and 2009, the number of housing units increased by approximately 3.3 percent in the study area. Table 5 also shows that the majority of units in the project area are occupied by renters rather than owners.

Table 5 | Housing Characteristics of the Project Study Area

	2000	2009	Percent Change 2000-2009
Housing Units	33,387	34,560	3%
Owner-occupied	9208 28%	9875 29%	7%
Renter-occupied	21,462 65%	22,243 64%	4%
Total	30,670	32,118	7%
Vacancy rate	2717 8%	2442 7%	-1%

Economy. In 2009, Los Angeles County had a population of 10,363,800 residents; an increase of 844,500 persons since 2000. The County's population alone would make it the eighth-largest state in the nation. The study area itself has a population of 34,560 persons.

According to the California Employment Development Department (EDD) and U.S. Census, Los Angeles County has seen an increase in its unemployment rate from 8.2 percent in 2000 to 11.0 percent in 2009. Year-over-year employment losses were evident in nearly all of the major employment sectors; health services was the only exception. Container traffic at the Ports of Los Angeles and Long Beach has decreased 19 percent since 2008.

Of the population in Los Angeles County, approximately 75 percent has a high school diploma or higher; 28 percent of the population has a bachelor's degree or higher.

Los Angeles County has a diverse economic base. Per the California EDD, the leading industries in 2007 are tourism and hospitality with 456,000 workers, professional and business services with 288,000 workers, entertainment (motion picture/television production) with 244,000 workers, and wholesale trade and logistics with 199,000 workers. Within the project area, light industrial uses are primarily located at the most northern and southern areas. Neighborhood commercial businesses are scattered throughout the entire project area, though they are concentrated mostly on the outskirts, surrounding the residential uses directly adjacent to the project area.

The U.S. Census shows the median household income (MHI) in Los Angeles County as \$52,628, which is greatly disparate to the MHI of the project area, at \$26,044. United States Department of Health and Human Services 2009 Poverty Guideline states that an MHI at or below \$22,050 is considered poverty level.

Surface street on- and off-ramps within the project area are located at Redondo Beach Boulevard, Rosecrans Avenue, El Segundo Boulevard, 111th Street, Century Boulevard, Manchester Avenue, 76th Street, Gage Avenue, Slauson Avenue, 51st Street, Vernon Avenue, Martin Luther King Jr. Boulevard, Exposition Boulevard, and Adams Boulevard. Generally, businesses surrounding these on- and off-ramps include gas stations, fast-food restaurants, and strip malls. Access to these on- and off-ramps, which currently provide access to these existing businesses, will not be affected by the proposed project.

Construction and operation of the proposed project would not displace any populations, residences, or businesses. Therefore, there would be no direct loss of tax revenue generation to the City of Los Angeles or to Los Angeles County.

Any revenues generated from the operation of the HOT lanes would be used for the operation and maintenance of the lanes, with any excess funds being reinvested within the corridor, as required by law.

Community Facilities and Services. Several businesses are located within the study area, which include restaurants, grocery stores, and several locally-owned businesses. Along the two main corridors of Broadway and Figueroa Streets are several one-story commercial strip malls with ethnic markets and shops catering to the local population. Most of the businesses within the study area are locally-owned shops and markets typically located within strip malls. Other businesses include a large industrial center located south of El Segundo Boulevard on either side of Broadway. Also, a quarry is located on the west side of Broadway, south of Rosecrans.

Several public (belonging to the Los Angeles Unified School District) and private schools (some operated by churches) are located within the project area. Specifically, 23 elementary, middle, and high schools are located within or on the cusp of the study area boundaries and are mostly found north of the I-105 interchange. The University of Southern California is a large private institution located west of the Adams Boulevard exit. The Mark Twain Branch of the Los Angeles Public Library System is adjacent to the study area limits, and is located just west of Figueroa Street. Some recreational and park facilities are located in the project area. Please see Section 2.1.1, Land Use, for further discussion on recreational facilities.

ENVIRONMENTAL CONSEQUENCES

Alternative 1 | No-build. Under the no-build alternative, existing conditions would remain and no impacts to the regional economy, available housing, or demographic makeup would occur. No impacts to existing businesses or clientele would occur, nor would there be impacts to existing fiscal conditions in the region. However, congestion along the I-110 corridor would not be alleviated, and funding through toll collection would not be available for improvements to the corridor, including alternate transportation methods.

Alternative 2 | Conversion of HOV to HOT lanes. While construction-related employment associated with the proposed project would be incrementally positive to the regional economy, operation of the proposed project would not directly impact the regional economy. The proposed project is expected to improve the efficiency of the transportation corridor, thereby reducing travel times for commercial and business traffic within the region. Implementation of the project would therefore result in positive impacts to the regional economy. No additional regional or community-level impacts are anticipated. No displacement of populations, residences, or businesses would occur as a result of project implementation. Construction of the project would not cause changes to local or regional population characteristics, locations of employment centers, or regional facilities such as parks, airports, or universities.

Construction impacts. Since the majority of work will be done within the prism of the roadway, construction impacts will be minor and may consist of short-term impacts to

air quality and noise levels. Facility closures, if any, will likely be done during the night-time hours so as to impact as few users as possible. Pedestrian traffic at Adams Boulevard will be impacted with the removal of the sidewalk at the north side of the Adams Boulevard Overcrossing, but this impact is expected to be minor, and detours will be provided.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Impacts to community character and cohesion are not anticipated to occur; therefore, no avoidance, minimization, and/or mitigation measures are proposed.

Pedestrian traffic on Adams Boulevard will be detoured during construction of the pedestrian plaza. Currently, crossings are located to the west at Flower Street and to the east at Grand Avenue. It is expected that pedestrian foot traffic will be detoured to the other side of Adams Boulevard at these intersections.

Impacts to noise levels and air quality during construction will be lessened with implementation of Caltrans Standard Specifications for noise and fugitive dust and equipment emission and adherence to South Coast Air Quality Management District rules and regulations.

Environmental Justice

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 Clinton on February 11, 1994. This Executive Order 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 2009 this was \$22,050 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. The Department's commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which can be found in Appendix C of this document.

AFFECTED ENVIRONMENT

As the impacts to environmental justice populations could potentially include all users of the I-110 freeway rather than those in closer proximity to it, a larger study area has been defined and analyzed to determine the project's impacts to environmental justice populations. For the purposes of this section, the term "region" refers to the population located within the Southern California Association of Governments (SCAG) planning area, which includes the counties of Los Angeles, Ventura, Orange, Riverside, San Bernardino, and Imperial. The term "study area" encompasses the population of Los Angeles County.

Table 6 | Racial and Ethnic Characteristics of the SCAG Region

	Los Angeles County		San Bernardino County		Riverside County		Imperial County		Ventura County		Orange County	
	2000	2005-2007	2000	2005-2007	2000	2005-2007	2000	2005-2007	2000	2005-2007	2000	2005-2007
Total population	9,519,338	9,883,649	1,709,434	1,982,845	1,545,387	2,002,663	142,361	157,829	753,197	794,412	2,846,289	2,988,407
White	4,637,062	4,870,294	1,006,960	1,212,611	1,013,478	1,250,130	70,290	111,449	526,721	550,348	1,844,652	1,887,652
Black or African-American	930,957	883,911	155,348	179,176	96,421	119,264	5,624	5,661	14,664	16,480	47,649	51,363
Am. Indian/Alaska Native	76,988	48,176	19,915	18,296	18,168	16,815	2,666	2,558	7,106	6,164	19,906	14,229
Asian	1,137,500	1,279,403	80,217	116,526	56,954	101,235	2,836	2,891	40,284	51,967	386,785	474,311
Native Hawaiian/other Pacific Islander	27,053	26,705	5,110	5,558	3,902	5,274	119	106	1,671	2,278	8,938	9,210
Some other race	2,239,997	2,494,726	355,843	381,177	288,868	437,833	55,634	31,206	133,178	140,756	421,208	478,725
Two or more races	469,781	280,434	86,041	69,501	67,596	72,112	5,192	3,958	29,573	26,419	117,151	72,917
Total minority	51.29%	50.72%	41.09%	38.84%	34.42%	37.58%	50.63%	29.39%	30.07%	30.72%	35.19%	36.83%
Hispanic or Latino	4,242,213	4,658,878	669,387	906,472	559,575	843,337	102,817	N/A	251,734	291,402	875,579	987,368

THIS PAGE INTENTIONALLY LEFT BLANK

Minority populations. Los Angeles County has a markedly higher level of minorities, including Hispanic and African-American, as compared to the region (see Table 6). The remaining five counties in the region have populations that range from 29 to 38 percent minority, compared to the study area's minority population of approximately 50 percent.

Mobility and transit-dependence. The region has a workforce of approximately 6.8 million people, defined as workers aged 16 and over. Of these, roughly 2.67% depend on public transportation for their commute to work. However, the study area contains a higher percentage of transit-dependent commuters. The Los Angeles County workforce numbers approximately 3.8 million, and of those, roughly 6.6% utilize public transportation. The percentage of transit-dependent workers in the study area is more than double that of the six-county region.

Income. The median family income for a four-member family within the region is \$51,093. The counties with the highest and lowest median family incomes are Ventura and Imperial Counties, respectively. The median family income for the study area, Los Angeles County, is approximately \$5,000 less than that of the region, at \$46,452.

Similarly, the six-county region counts 11.8% of its families as making at or less than \$22,050 per year, putting them at or below the federal poverty threshold. Los Angeles County, however, counts 14.4% of its families as below the poverty threshold, a nearly 3% increase over the region as a whole. Los Angeles County experiences the highest poverty level of the six-county region, with the exception of Imperial County. With approximately 2.2 million four-member families in Los Angeles County, this amounts to about 300,000 families living in impoverished conditions.

There is a disproportionate number of low-income and minority populations living in the project area. Impacts to these populations are discussed below.

ENVIRONMENTAL CONSEQUENCES

This project is unique in that the impacts to environmental justice populations are primarily due to the operational characteristics of the project rather than its construction. There is no right-of-way acquisition involved in the project, and the anticipated result of the project is that congestion is lessened in the corridor, which would be a net benefit to environmental justice populations that both live near and utilize the I-110 freeway.

Transponders. Operationally, it will be a requirement of the HOT lanes project that every user, whether they are paying for access to the lanes or are a high-occupancy vehicle who is eligible to access the lanes without paying tolls, will need to acquire a transponder. A deposit will be required to secure a transponder to use the lanes. It is a possibility that account maintenance fees will be required to retain a HOT lane account, and there may be a minimum balance requirement to avoid any penalty fees. At this time, the Metro Board of Directors has not yet formally approved a fee structure for transponders and account policies.

The requirement for all users, including those who currently access the HOV lanes at no charge, to purchase or lease a transponder, along with the implementation of any account maintenance fees charged during the life of the demonstration project (aside

from tolls), to continue to use the converted HOT lanes represents an adverse impact to environmental justice populations (more specifically, low-income users).

Tolls. Implementation of the project would require that every single-occupant vehicle using the HOT lanes would be required to pay a toll. This toll would range from \$0.25 to \$1.40 per mile, and would never be less than 150% of base transit fare during the peak period on the Harbor Transitway, in order to encourage transit use. The lanes will be actively managed through variable pricing based on availability and demand in order to maintain at least 45 miles per hour on the lanes. Although the tolls vary, once a user enters the HOT lane, his or her toll price is locked in until they exit the lanes.

One main tenet of the project is that it intends to provide commuters on the I-110 corridor more choices. Single-occupant vehicle users of the freeway can choose to pay a toll and utilize the lanes where before the option did not exist. Motorists can choose to use or not use the lanes based on their own opinion of value versus time, moreover, transit buses will continue to use the lanes at no additional charge. Therefore, as a result of the tolls, no disproportionately high or adverse impacts would occur on environmental justice populations.

Construction-related impacts. Since the construction work associated with conversion of the lanes will generally remain within the prism of the roadway, construction impacts to environmental justice populations will be minimal.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Related transit improvements. This project is funded by a grant from the U.S. Department of Transportation as a part of the Urban Partnership Agreement Program. The Los Angeles County Congestion Demonstration effort is being lead by Metro and includes other projects intended to enhance mobility in the Los Angeles Region. \$210.6 million in federal grant funding has been awarded to Metro and its partner agencies in order to implement these projects, the HOT lanes being one of them. Some of this grant funding has been used to greatly enhance transit service along I-110 through the purchase of new transit buses. Although these transit enhancements are not considered a part of the HOT lanes project, they both are a part of the larger Congestion Reduction Demonstration Program. It is the goal of the HOT lanes project to improve efficiency on the HOV lanes to allow for increased throughput for passenger cars as well as transit buses. These related transit enhancements serve as an incremental net benefit to environmental justice populations who are more likely to be transit-dependent.

Construction impacts. Any lane or facility closures will be done in accordance with the project's Traffic Management Plan so as to minimize impacts. Any construction-related air quality or noise impacts will be minimized through implementation of Caltrans Standard Specifications.

Tolls and transponder requirement. Metro plans to waive the transponder deposit fee for those who use a credit card to set up his or her account. As low-income households are less likely to have a credit card or bank account, this is not intended necessarily as mitigation for environmental justice populations, but as another option afforded to HOT lane users.

HOT lane households who make at or below \$35,000 per year and live within 5 miles of the I-110 corridor will be eligible for a credit that can be applied towards either the transponder deposit or the prepaid toll balance due upon account activation.

As a requirement of the State legislation authorizing the HOT lanes project, Metro commissioned its own Low-Income Commuter Assessment. The assessment recommended measures Metro could implement to further minimize the impact to environmental justice populations. These measures include:

- Waiving account setup fees for low-income commuters
- Waiving or reducing minimum monthly fees for low-income commuters
- Consider requiring lower minimum account balances for accounts not linked to a credit card.

At this time, the Metro Board of Directors has not formally approved a fee structure.

2.1.4 | UTILITIES/EMERGENCY SERVICES

Regulatory Setting

California Code of Regulations Street and Highways Code Sections 700-711 discuss utility relocation policies and procedures. Public Resources Codes 21083, 21087 and the California Environmental Quality Act Guidelines Section 15126.2(a) require lead agencies to assess the impact of a proposed project by examining alterations in the human use of the land, including public services. Public Utilities Commission General Order 131-D provides guidance for transportation projects that involve relocation of 50kV or higher transmission lines.

Affected Environment

Utilities. Domestic water services in the study area are provided by the Los Angeles Department of Water and Power. Wastewater collection and treatment services are provided by the Sanitation Districts of Los Angeles County. Natural gas services in the area are provided by the Southern California Gas Company, and electricity is provided by Southern California Edison.

Emergency Services. Fire protection within the study area is provided by the City of Los Angeles and the County of Los Angeles. No fire departments are located within the study area; however, five have been identified just outside of the designated study area. The Orthopedic Hospital located north of Adams Boulevard is the only hospital located within the study area. The Memorial Hospital of Gardena was identified just outside of the study area boundaries.

Environmental Consequences

Impacts to public utilities/services are determined based on such factors as noise, air quality, safety, circulation, accessibility, and disruption of operation during both the construction and the operation of the proposed project alternatives. Implementation of the proposed project would not result in temporary or long-term impacts to emergency services. Emergency responders will be allowed to use the HOT lanes when responding to calls.

A review of the existing utility as-builts for the project area compared with the proposed project indicates that the project will not require the relocation of existing utilities.

Avoidance, Minimization, and/or Mitigation Measures

Coordination with local utilities has and will continue to occur during final design and construction of the project so as to avoid any possibility of interruption of utility service.

As with any freeway or highway construction project, it is a possibility that any lane or facility closures during construction could impact emergency service response time. During project construction, Metro will coordinate with local emergency service providers to keep them informed of the project construction schedule and any detour routes so as to avoid or minimize any impacts. Additionally, the project Traffic Management Plan will manage and minimize any circulation impacts during construction.

2.1.5 | TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

Regulatory Setting

The Department, as assigned by 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 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.

The Department is committed to carrying out the 1990 Americans with Disabilities Act (ADA) by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

Affected Environment

The existing I-110 corridor serves as a key transportation linkage between the South Bay and downtown Los Angeles, a major employment center. The corridor experiences heavy congestion during peak hours, generally from 7:00-9:00 AM and 3:00-7:00 PM.

Pedestrian structures. The Adams Boulevard overcrossing currently has pedestrian sidewalks on both the north and south sides, with crossings located at Flower Street to the west and Grand Avenue to the east. Depending on the alternative selected, it is anticipated that the crosswalk traversing South Flower Street may be realigned to be consistent with the pedestrian overcrossing structure that would replace the sidewalk on the north side of Adams Boulevard.

Environmental Consequences

This project is a demonstration project, the intent of which is to explore new and innovative ways of alleviating traffic congestion despite the limitations the existing corridor infrastructure presents. As a demonstration project, the HOT lanes are only legislatively authorized to operate for a one-year pilot program. At the end of the one-year period, Metro will prepare a report to the California state legislature on the demonstration program, which will include a summary of the program, a survey of its users, the impact on carpoolers, revenues generated, how transit service or alternative modes of transportation were impacted, any potential effect on traffic congestion in both the HOV and neighboring mixed-flow lanes, impacts on greenhouse gas emissions attributable to the HOT lanes demonstration project, and mitigation measures for the affected communities and commuters. At that time, Metro and the legislature will determine if the one-year pilot program will terminate or be extended.

The HOT lanes will be actively managed at all times to balance toll rates with the speed and demand of the lanes. When speeds fall below 45 miles per hour, the lanes will no longer offer single-occupant vehicles the opportunity to purchase access. The adjustment to the lanes will be constant, depending on the traffic flow and speeds.

This project will also test this type of lane-management congestion reduction strategy on the facility's level of service and the specific effects it will have on traffic flow. Given the experimental nature of this type of project, it is challenging to construct a framework for modeling the effects of the project on traffic flow reliably. However, Metro and Caltrans do expect that operational adjustments during the one-year pilot period will ultimately bring a yet-unknown level of service improvement within the corridor.

There will likely be temporary impacts to traffic operations in the corridor during construction of the tolling infrastructure.

Pedestrian and sidewalk impacts. As the sidewalk on the north side of Adams Boulevard would be removed, pedestrian traffic would be temporarily re-routed to the south side of Adams Boulevard between Flower Street and Grand Avenue. As the total length of the detour would be less than 1,000 feet, this represents only a minor, temporary impact to pedestrian traffic in the area.

Avoidance, Minimization, and/or Mitigation Measures

The qualitative judgment is that the traffic and pedestrian impacts will not be significant. Construction-related impacts will be minimized to the fullest extent possible through the Traffic Management Plan and staged construction.

As one purpose of the this demonstration project is to test the effects of congestion pricing in the corridor, traffic studies will be performed to determine the effects on level of service and on congestion in the corridor. The receipt of the funding grant from the U.S. Department of Transportation indicates that this project has a high likelihood of effectiveness in the I-110 corridor, and studies will be ongoing during the demonstration period to measure the performance of the HOT lanes.

2.1.6 | CULTURAL RESOURCES

Regulatory Setting

“Cultural resources” as used in this document refers to all historical and archaeological resources, regardless of significance. Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act of 1966 (NHPA), as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, FHWA, State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the Advisory Council’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA’s responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Pilot Program (23 CFR 773) (July 1, 2007).

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the “use” of land from historic properties. See Appendix B for specific information regarding Section 4(f).

Historical resources are considered under the California Environmental Quality Act (CEQA), as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires the Department to inventory state-owned structures in its rights-of-way.

Affected Environment

The project area is situated within the Los Angeles Basin, and runs in a north-south direction. Prior to urbanization, this area consisted of fertile, Tertiary-Quaternary alluvial soil. The soil matrix consists primarily of sandy loam and clay, produced through thousands of years of flooding from the Los Angeles, San Gabriel, and Rio Hondo Rivers and their many tributaries. Historically, this much of Southern California was low-lying grassland cut by small riparian zones near the rivers. The natural environment today has been drastically altered from historic times. The rivers and tributaries of the Los Angeles Basin have been channelized to prevent flooding in urban areas. The majority of the ground surface surrounding the project area has been disturbed by previous construction activities.

The project area is historically within the territory of the Gabrielino Indians. The Gabrielino were a cohesive society of people living in chieftains unified by language, religious practices, customs, economic trade, and marriage. Extensive knowledge of natural resources and settlement size allowed the Gabrielino to develop a

sophisticated economy of vast trade networks. The Gabrielino population declined dramatically after 1770 due to social upheaval from the settlement of the area by Spanish missionaries and settlers, increasing disease, poor diet, and migration out of the area.

The history of California can be divided into four major periods representing a span of roughly 500 years. These periods can be categorized as the Explorer Period (1542-1769), the Spanish Mission Period (1769-1822), the Mexican Period (1822-1846), and the American Period (1846-present day). The core cities within the South Bay corridor, including Torrance, Inglewood, Hawthorne, and Gardena, began to develop in the early 20th century after years of agricultural use. By the 1950s developers began converting the large land tracts into residential housing. Today, the areas in and around I-110 are a mix of industrial and commercial structures.

Area of Potential Effect. The Area of Potential Effect (APE) was established in consultation with Caltrans Professionally Qualified Staff (PQS) and the Project Manager on June 3, 2009. The APE was established as the Caltrans right-of-way of I-110 from Adams Boulevard to south of the interchange with State Route 91, and the Caltrans right-of-way of I-105 from the Van Ness Avenue overcrossing to the Wilmington undercrossing. The APE represents the maximum physical limit of the project, including the extent of all construction.

Background research. In order to identify cultural resources located in or in the vicinity of the project area, a Historic Property Survey Report and Archaeological Survey Report were completed in June 2009. A records search encompassing the area of potential effect was conducted at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS), located at California State University, Fullerton, on October 22, 2008. Sources consulted while conducting the records search include:

- National Register of Historic Places
- California Register of Historical Resources
- California Historical Landmarks
- Archaeological Site Records
- Hollywood United States Geological Service (USGS) 7.5' quadrangle map of 1974, photorevised 1981
- Inglewood USGS 7.5' quadrangle map of 1974, photorevised 1981
- Torrance USGS 7.5' quadrangle map of 1974, photorevised 1981

Native American Consultation. The Native American Heritage Commission (NAHC) was contacted in order to ascertain whether any Native American sacred lands or Traditional Cultural Properties were located in or near the project area. Reviews of the Sacred Land Files were requested on October 8, 2008. The NAHC responded on

October 8, indicating that there were no sites or traditional cultural properties in the project area.

Cultural Resource Findings. During the course of study, Caltrans PQS determined that no cultural resources were identified within the project APE. Bridges listed as Category 5 in the Caltrans Historic Highway Bridge Inventory are present within the APE; however, a Category 5 determination signifies that the bridge is not eligible for listing in the National Register.

Environmental Consequences

Under the implementation of either the no-build or build alternative, Caltrans has determined that no historic properties will be affected by the project.

Avoidance, Minimization, and/or Mitigation Measures

As there would not be any impacts to cultural resources as a result of the project, avoidance, minimization, and/or mitigation measures would not be necessary.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the Division of Environmental Planning, Cultural Resources Branch, 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.

2.2 | Physical Environment

2.2.1 | HYDROLOGY AND FLOODPLAIN

Regulatory Setting

Executive Order 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 requirements for compliance are outlined in 23 CFR 650 Subpart A.

In order 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 impacted 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.”

Affected Environment

The ensuing discussion was adapted from the Storm Water Data Report (January 2010) prepared for the project by Caltrans staff.

Environmental Consequences

The proposed restriping of the inside shoulders should have minimal impacts on the existing drainage systems, with the possibility of additional inlets. There will be no meaningful change in the rate of storm water runoff and no alterations to floodplain hydrology.

Since there would be no alteration to existing topography, the proposed project would not support incompatible floodplain development.

Avoidance, Minimization, and/or Mitigation Measures

A construction Storm Water Pollution Prevention Plan (SWPPP) would be prepared prior to the start of construction to ensure compliance with existing National Pollutant Discharge Elimination System (NPDES) permits. The SWPPP would identify potential sources of pollutants, describe erosion and sediment controls, contain non-storm water provisions, describe post-construction storm water management, describe waste

management activities, include a maintenance and inspection component, include a list of contractors, incorporate other storm water related plans if applicable, and would list the name of the preparer.

All appropriate storm water Best Management Practices will be included in the project specifications package.

2.2.2 | WATER QUALITY AND STORM WATER RUNOFF

Regulatory Setting

Section 401 of the Clean Water Act (CWA) requires water quality certification from the State Water Resources Control Board (SWRCB) or from a Regional Water Quality Control Board (RWQCB) when the project requires a CWA Section 404 permit. Section 404 of the CWA requires a permit from the U.S. Army Corps of Engineers (Corps) to discharge dredged or fill material into waters of the United States.

Along with CWA Section 401, CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit for the discharge of any pollutant into waters of the United States. The federal Environmental Protection Agency has delegated administration of the NPDES program to the SWRCB and nine RWQCBs. The SWRCB and RWQCB also regulate other waste discharges to land within California through the issuance of waste discharge requirements under authority of the Porter-Cologne Water Quality Act.

Storm water discharges from the Department's construction activities disturbing one acre or more of soil are permitted under the Department's Statewide Storm Water NPDES permit. These discharges must also comply with the substantive provisions of the SWRCB's Statewide General Construction Permit. Non-Departmental construction projects (encroachments) are permitted and regulated by the SWRCB's Statewide General Construction Permit. All construction projects exceeding one acre or more of disturbed soil require a Storm Water Pollution Prevention Plan (SWPPP) to be prepared and implemented during construction. The SWPPP, which identifies construction activities that may cause discharges of pollutants or waste into waters of the United States or waters of the State, as well as measures to control these pollutants, is prepared by the construction contractor and is subject to Department review and approval.

Finally, the SWRCB and the RWQCBs have jurisdiction to enforce the Porter-Cologne Act to protect groundwater quality. Groundwater is not regulated by Federal law, but is regulated under the state's Porter-Cologne Act. Some projects may involve placement or replacement of on-site treatment systems (OWTS) such as leach fields or septic systems or propose implementation of infiltration or detention treatment systems which may pose a threat to groundwater quality.

Affected Environment

Information contained within this section has been adapted from the Storm Water Data Report (Long Form) completed in January 2010 by Caltrans staff.

The project is located within Los Angeles River, Ballona Creek, and Dominguez Channel watersheds. The receiving waters within the project limits are the Los Angeles River and the Dominguez Channel.

According to the 303(d) list of impaired water bodies compiled by the California RWQCB, high priority pollutants in the Los Angeles River (Reach 2) are ammonia, coliform bacteria, copper, lead, nutrients (algae), oil and trash. The Dominguez Channel contains high priority pollutants of ammonia, copper, dieldrin (tissue), indicator

bacteria, lead (tissue), sediment toxicity, and zinc (sediment). The nearby Compton Creek contains coliform bacteria, copper, lead, pH, and trash pollutants at high priority levels.

There are no drinking water reservoirs or recharge facilities within the project limits.

Environmental Consequences

The project is anticipated to result in a total Disturbed Soil Area of 0.015 acres, or approximately 653 square feet. This includes the area for new bridge footings at the Adams Boulevard overcrossing and new sign posts along the route. A small amount of impervious area (less than two-tenths of an acre) will be added with the work to the Adams Boulevard overcrossing structure but this addition will be minor. The proposed project would not further impair the 303(d) listed water bodies.

Construction of the proposed project could affect water quality from construction activities. Since construction of the proposed project would be undertaken in accordance with the applicable National Pollutant Discharge Elimination System (NPDES) permits, impacts would be minimal and adverse impacts to water quality are not anticipated.

Avoidance, Minimization, and/or Mitigation Measures

The proposed project would be subject to the NPDES permitting process that contain standard provisions intended to provide a required level of storm water pollution prevention.

The Storm Water Data Report prepared for the project recommends treatment Best Management Practices (BMPs), design BMPs, and temporary construction BMPs to prevent contaminated or sediment-containing runoff from entering storm drains. These BMPs include biofiltration swales, detention devices, and gross solids removal devices. The type and final location of the proposed devices will be determined during final design.

2.2.3 | GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY

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.

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. The Department’s Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. The current policy is to use the anticipated Maximum Credible Earthquake (MCE), from young faults in and near California. The MCE is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

Affected Environment

The ensuing discussion is adapted from a Geotechnical Design Report (January 2010) by Parsons Brinckerhoff, Inc.

The topography along the project alignment is relatively level. The grade elevation along I-110 is approximately 32 feet at the I-110/SR-91 interchange, increasing gently to 150 feet in the vicinity of the I-105 interchange, then increasing to 244 feet in the area of the I-10 interchange. The surface drainage generally follows the grade of I-110.

The project alignment lies within Peninsular Ranges. A series of ranges is separated by longitudinal valleys, trending northwest-southeast, subparallel to faults branching from the San Andreas fault. The topographical trend is similar to the Coast Ranges, but the geology is more similar to the Sierra Nevada, with granitic rock intruding the older metamorphic rocks. The Peninsular Ranges extend into lower California and are bound on the east by the Colorado Desert. The Los Angeles Basin and island group (Santa Catalina, Santa Barbara, and the distinctly terraced San Clemente and San Nicholas islands), together with the surrounding continental shelf (cut by deep submarine fault troughs) are included in this province.

The project area is located in a seismically active part of southern California. Many faults, which are capable of producing earthquakes, exist in the Los Angeles area. These faults may cause strong ground shaking at these sites. Faults along the alignment from north to south with a high to moderate potential for shaking include the Newport-Inglewood-Rose Canyon fault zone, Puente Hills blind thrust, Upper Elysian Park blind thrust, and Hollywood Fault.

The project alignment from south to north is generally underlain by alluvium, alluvial fan deposits, and artificial fill deposits. Based on the “Preliminary Geologic Maps of the Long Beach and Los Angeles 30’ x 60’ Quadrangles, Southern California”, the I-110 alignment generally lies over Quaternary deposits.

The average perched groundwater depth is between 30 and 40 feet below ground surface (bgs). Based on Los Angeles County Flood Control, Shallow Aquifer Map of Fall 1978, the free groundwater level was at an approximate elevation of 30 feet bgs.

However, groundwater levels in the vicinity of Figueroa Street OC are erratic due to the influence of the Newport-Inglewood Fault zone. This influence can be seen by comparing the depth of water level before and after the fault.

No unique geologic or physical features are present in the project area.

Environmental Consequences

With the exception of additional bridge footings and approach retaining walls necessary for the construction of the pedestrian overcrossing at Adams Boulevard, drilling for sign structure foundations is the main construction work. The potential for liquefaction at the proposed sign structure locations is very low due to the presence of dense sandy materials, which are generally not susceptible to liquefaction.

Soils present at the project site are not anticipated to be corrosive to substructures, and any concrete substructures will be designed in accordance with Caltrans corrosion guidelines.

The degree of excavation and structural design involved with construction of the project is low, as most work will be done within the prism of the existing roadway, and relatively little soil will be displaced. Therefore, adverse impacts to geological features, groundwater, or other project-related effects due to seismic or geologic concerns are not anticipated.

Avoidance, Minimization, and/or Mitigation Measures

As no adverse effects to geology, seismicity, or geologic features are anticipated to occur, no avoidance, minimization, and/or mitigation measures have been proposed.

2.2.4 | PALEONTOLOGY

Regulatory Setting

Paleontology is the study of life in past geologic time based on fossil plants and animals. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized or funded projects. (e.g., Antiquities Act of 1906 [16 USC 431-433], Federal-Aid Highway Act of 1935 [20 USC 78]). Under California law, paleontological resources are protected by the California Environmental Quality Act, the California Code of Regulations, Title 14, Division 3, Chapter 1, Sections 4307 and 4309, and Public Resources Code Section 5097.5.

Affected Environment

A Paleontological Technical Review was prepared in December 2009 for the project. The project area was reviewed, along with the project scope of work, maps, and engineering layouts. The project area is heavily disturbed and urbanized.

Environmental Consequences

Due to the nature of the project area and work to be performed for the project, it is not anticipated that impacts to paleontological resources will occur.

Avoidance, Minimization, and/or Mitigation Measures

As impacts to paleontological resources are not anticipated, no avoidance, minimization, or mitigation measures are necessary. However, if paleontological resources are encountered during project construction, work in the area shall immediately halt until a qualified paleontologist is notified and examines the find. Construction may only resume in that area once it is cleared by the paleontologist.

2.2.5 | HAZARDOUS WASTE/MATERIALS

Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for “cradle to grave” regulation of hazardous wastes. 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 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976, the California Health and Safety Code, and Title 22 of the California Code of Regulations. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

Affected Environment

Information regarding hazardous wastes/hazardous materials was obtained from a Preliminary Hazardous Waste Assessment, prepared in September 2009. Key elements of the project scope of work will involve environmental issues common to

Figure 4 | Wilmington-Gramercy Right-of-Way



highway construction projects. These elements deal directly with the widening at Adams Boulevard and construction activities within State right-of-way where hazardous materials and health and safety may be a concern. These activities include (but are not limited to) installation of new sign foundations, construction of a pedestrian plaza at Adams Boulevard, and removal of yellow road striping.

Databases from the State Water Resources Control Board (GeoTracker), the Department of Toxic Substances Control (EnviroStor), and the Integrated Waste Management Board’s Solid Waste Information System (SWIS) were reviewed to determine if the project area requires any special consideration due to impacts from off-site hazardous waste sources.

Environmental Consequences

Existing areas with known environmental impacts are located either within or just outside the I-110 project area. These areas are chiefly located near the Artesia Transit Center and in the vicinity of the

110/105 interchange.

The Artesia Transit Center is at the southwest corner of the Route 91/I-110 interchange (see Figure 5). A portion of the transit center is occupied by an abandoned landfill. Investigation of the soil and groundwater throughout the site encountered contaminants of concern including methane, gasoline, diesel, trichloroethylene (TCE), perchloroethylene (PCE), vinyl chloride, 1,2-dichloropropane, copper, lead, and zinc. The TCE and PCE are primarily found in the southeast corner of the site. Groundwater at the site was reported at 25 feet below ground surface. Although the site is outside the project area, work in the project area may still encounter impacts related to migration of mobile contaminants of concern in soil vapor or groundwater.

On the east side of I-110 approximately between Gardena Boulevard to the north and 190th Street to the south is an area known as the Wilmington/Gramercy Right-of-Way (see Figures 4-6). This is the site of an industrial sump that was partially excavated and spread along the right-of-way owned by Caltrans and the Los Angeles

Figure 5 | Wilmington-Gramercy Right-of-Way and Artesia Transit Center



Department of Water and Power (LADWP). Currently, this site is regulated by the State Department of Toxic Substances Control (DTSC), which is mandating a remedial investigation and feasibility study. Investigation of the soil and groundwater throughout

Figure 6 | Wilmington-Gramercy Right-of-Way

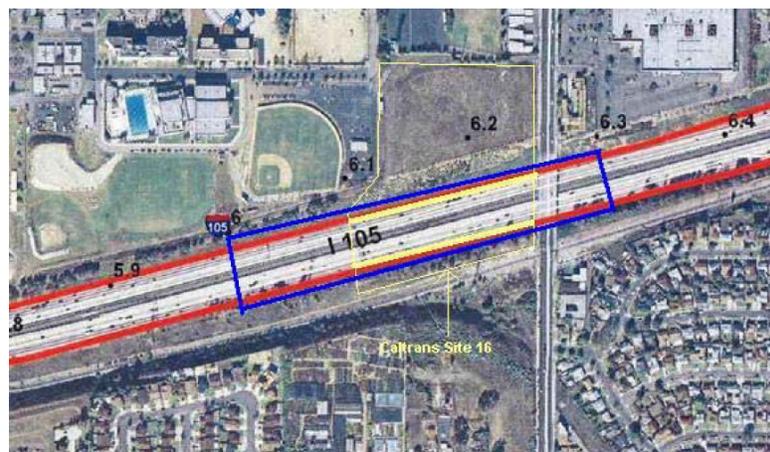


the site encountered contaminants of concern including aromatic volatile organic compounds, gasoline range organics, petroleum hydrocarbons, polynuclear aromatic hydrocarbons, styrene, halogenated volatile organic compounds, and metals. The groundwater level at the site was reported to be from 33 to 39 feet below ground surface. Construction activities at this area could encounter hazardous waste constituents, especially during installation of new sign structures requiring deep foundations that extend below the shallow soil cover in the site area.

An area known as Caltrans site 16 is located west of Normandie Avenue and extends under Route 105 in the City of Athens (see Figure 7). This site is also currently regulated by the DTSC, which is mandating an operation and maintenance program. Site 16 was used as a series of three landfills, one on top of the other. The upper layer of the mound is mainly soil with concrete and rubble, containing primarily lead contamination. The middle layer is a mixture of soil, concrete,

brick, wood and glass with no contamination. The lower-most layer was deposited between the mid-1940s and early 1950s as mainly landfill debris. The lowest layer is the most contaminated, exceeding one or more of the State and Federal action levels for lead, copper, zinc, total petroleum hydrocarbons, and semi-volatile organic compounds. Possible pathways of contamination include blowing dust and percolation downward to groundwater. A soil gas survey conducted in 2007 detected the following constituents of concern: methane, hydrogen sulfide, aromatic volatile organic compounds, and halogenated volatile organic compounds. Construction activities in this area could encounter hazardous waste constituents, especially

Figure 7 | Caltrans Site 16



during installation of new sign structures requiring deep foundations that extend below the shallow soil cover in the site area. Deed restrictions are also in place pertaining to protection of the landfill cap. Any disturbance of the geotextile clay cap or cap over the landfill is strictly prohibited and will require authorization from the DTSC.

The site known as Caltrans Freeway Project 3, Site 15, is located at the intersection of Western Avenue and 120th Street, just south of I-105 (see Figure 8). This

Figure 8 | Caltrans Freeway Project 3, Site 15



site consists of approximately five acres, sloping towards an existing railroad and creekbed. The site was used as an uncontrolled dump site beginning in 1928. Oil production activity has also occurred at and around the site, and oil storage tanks are

still in use on property adjacent to the northeast corner of the site. Preliminary investigations at the site indicate that hazardous wastes are present in the soil. Heavy metals have been detected at the central and western portions of the parcel from 10 to 15 feet deep. Total petroleum hydrocarbons and petroleum constituents are present on the western portion of the site from 10 to 40 feet deep. Possible pathways of contamination include blowing dust, surface water flowing into the creek, and percolation downward to groundwater. Possible receptors include onsite workers, residents in the area, and persons digging on the site. The site was fenced in 1987. Five groundwater monitoring wells have been installed at Site 15. Samples taken from these wells exceeded Maximum Contaminant Levels (MCLs) for several metals for drinking water, but volatiles and semi-volatiles were not detected.

Information about the project indicates surface and subsurface soils may be disturbed during construction. The pedestrian plaza at Adams Boulevard and excavation for sign foundations will disturb soil surface and/or subsurface, which will generate excess soil that will be potentially contaminated with aurally deposited lead (ADL) due to the historical use of leaded gasoline. Particulate emissions in engine exhaust contained lead from leaded gasoline, which was deposited adjacent to roadways and/or runoff to road embankments and along State right-of-ways. Since excess soil will be generated, analytical laboratory data on total and soluble lead concentrations in soil is needed to evaluate the degree of soil contamination within the project area. Laboratory analysis consists of total and soluble lead and analysis using the Toxicity Characteristic Leaching Procedure (TCLP). Soil data is then statistically evaluated to determine appropriate transportation and disposal for contaminated soil.

The scope of work may include removal of yellow thermoplastic traffic stripe marking during restriping of the HOT lanes. Yellow thermoplastic traffic striping and pavement marking contain lead and chromium that require special handling during removal and subsequent disposal. Residue produced from the removal of yellow thermoplastic contains heavy metals in concentrations that exceed thresholds established by the California Health and Safety Code and Title 22 of the California Code of Regulations. Yellow thermoplastic may produce toxic fumes when heated.

Avoidance, Minimization, and/or Mitigation Measures

It is recommended that any project-related activities at Caltrans site 16 that may affect surface or subsurface soil on Caltrans right-of-way in both eastbound and westbound directions of Route 105 between east of Western Avenue and Normandie Avenue in order to avoid disturbance of the landfill cap.

ADL and yellow thermoplastic striping. General Caltrans requirement for project specifications on construction projects requires project-specific Lead Compliance Plan (LCP) to prevent or minimize worker exposure to lead while handling removed yellow thermoplastic residue. Specific Cal-OSHA requirements for working with lead can be found in Title 8, California Code of Regulations, Section 1532.1, "Lead." The LCP shall contain the elements listed in Title 8, California Code of Regulations, Sections 1532.1(e)(2)(B) and 1532.2, and shall be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.

Hazards related to ADL and/or yellow thermoplastic stripe are addressed during pre-construction planning in the LCP, which is a project-specific document. Since ADL and yellow thermoplastic will be a concern during the construction phase, hazard awareness training is recommended as part of worker health and safety training.

Metal beam guard rails. If there is to be any relocation or replacement of metal beam guard rails (MBGR) during construction of the project, the proper handling and disposal of treated wood waste and possible ADL contaminated soil would be required. Treated wood waste requires proper management and disposal of treated wood posts, and installation of new MBGRs would generate excess soil that may contain ADL, also requiring proper management and disposal.

2.2.6 | AIR QUALITY

Regulatory Setting

The Clean Air Act as amended in 1990 is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for six criteria pollutants that have been linked to potential health concerns; the criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM), lead (Pb), and sulfur dioxide (SO₂).

Under the 1990 Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve Federal actions to support programs or projects that are not first found to conform to State Implementation Plan for achieving the goals of the Clean Air Act requirements. Conformity with the Clean Air Act takes place on two levels—first, at the regional level and second, at the project level. The proposed project must conform at both levels to be approved.

Regional level conformity in California is concerned with how well the region is meeting the standards set for carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and particulate matter (PM). California is in attainment for the other criteria pollutants. At the regional level, Regional Transportation Plans (RTP) are developed that include all of the transportation projects planned for a region over a period of years, usually at least 20. Based on the projects included in the RTP, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If the conformity analysis is successful, the regional planning organization, such as Southern California Association of Governments for the Los Angeles region and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the RTP is in conformity with the State Implementation Plan for achieving the goals of the Clean Air Act. Otherwise, the projects in the RTP must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as described in the RTP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires “hot spot” analysis if an area is “nonattainment” or “maintenance” for carbon monoxide (CO) and/or particulate matter. A region is a “nonattainment” area if one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as nonattainment areas but have recently met the standard are called “maintenance” areas. “Hot spot” analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA purposes. Conformity does include some specific standards for projects that require a hot spot analysis. In general, projects must not cause the CO standard to be violated, and in “nonattainment” areas the project must not cause any increase in the number and severity of violations. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

Affected Environment

The ensuing discussion is adapted from the Air Quality Report prepared for the project by the Caltrans District 7 Office of Engineering and Corridor Studies in February 2010.

The project site is located in the South Coast Air Basin (Basin) that includes the following counties: Orange, Los Angeles (non-desert portions), and the urban areas of Riverside and San Bernardino. Air quality regulation in the Basin is administered by the South Coast Air Quality Management District (SCAQMD).

The Basin climate is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern boundary and high mountains surround the rest of the Basin. The region lies in the semi-permanent high-pressure zone of the eastern Pacific. The resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms, and Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, ranging from low to middle 60s, measured in degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site that monitors temperature is the Los Angeles Civic Center Station (#045115) maintained by the Western Regional Climate Center. The annual average maximum temperature recorded from April 1906 to August 2009 at this station is 23.3°C (74°F), and the annual average minimum is 13.2°C (55.8°F). December and January are typically the coldest months in this area of the Basin.

The majority of annual rainfall in the basin occurs between November and April. Summer rainfall is minimal and generally limited to a few scattered thunderstorms in coastal regions and slightly heavier showers in the eastern portion of the Basin along the coastal side of the mountains. The Los Angeles Civic Center Station also monitors rainfall levels. Average monthly rainfall measured at this station varied from 9.91 centimeters (cm) (3.90 inches [in]) in February to 3.18 cm (1.25 in) or less between May and October, with an average annual total of 38.84 cm (15.29 in). Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground, the temperature of the lower air layer approaches the temperature of the base of the inversion cap (upper layer) until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed from the mid-afternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by mid-morning.

During evenings, surface or radiation inversions are formed when the ground surface becomes cooler than the air above it. The earth's surface undergoes such process on clear nights when heat energy is transferred from the ground to the cooler night sky. As the earth's surface cools during the evening hours, the air directly above it also cools while the atmosphere at higher altitudes remains relatively warm. This type of

inversion persists until sunrise when heat from the sun warms the ground, and the heating stimulates the air at ground level to break up the inversion.

Temperature inversion plays a significant role in determining ozone formation. Ozone precursors will mix and undergo photochemical reactions to produce smog. The closer the inversion cap is to the ground, the higher the concentrations of ozone precursors, and hence the ozone. Concentration levels of ozone are directly related to inversion layers height due to the limitation of the vertical mixing space.

Winds in the vicinity of the project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes. At night, the wind generally slows and reverses direction traveling towards the sea. Wind direction will also be altered by local canyons at times; however, the dominant wind direction rotates into the south and causes a minor wind direction maximum from the south during the transition period from one wind pattern to another. Wind speeds in the project area average about 6.4 kilometers per hour (kph) or 4 miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds together with a persistent temperature inversion limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, northerly or northeasterly winds, known as Santa Ana conditions tend to last for several days at a time.

The combination of temperature inversion and low velocity wind produces the greatest pollutant concentration. On days with no inversion or high wind, ambient air pollutant concentrations are at the lowest. During the days of inversion and low wind speed, air pollutants generated in urbanized areas are transported into Riverside and San Bernardino Counties. This condition is exacerbated during the summer, especially for ozone, when more hours of daylight result in more ozone.

In the winter, the greatest pollution problems are carbon monoxides (COs) and oxides of nitrogen (NOx) because of extreme inversions and air stagnation during the night and early morning hours. During the summer days, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form photochemical smog or ozone.

Criteria Pollutants. Since the passage of CAA and subsequent amendments, the EPA has established and revised the NAAQS. The NAAQS was established for six major pollutants or criteria pollutants. The NAAQS are two tiered: primary, to protect public health, and secondary, to prevent degradation to the environment (i.e., impairment of visibility, damage to vegetation and property). The six criteria pollutants are ozone, CO, PMs (PM₁₀ and PM_{2.5}), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead (Pb). Table 7 presents the state and national AAQS. Table 8 presents a summary of health effects that result from exposure to these pollutants. A brief explanation of each pollutant is presented below.

Ozone (O₃). Ozone is a toxic gas that irritates the lungs and damages materials and vegetation. Ozone is a secondary pollutant; it is not directly emitted. Ozone is a principal cause of lung and eye irritation in an urban environment. It is formed in the atmosphere through a series of reactions involving hydrocarbons (HC) and nitrogen oxides in the presence of sunlight.

Particulate Matter (PM₁₀ and PM_{2.5}). PM includes both aerosols and solid particles of a wide range of size and composition. Of particular concern are those particles between 10 and 2.5 microns in size (PM₁₀) and smaller than or equal to 2.5 microns (PM_{2.5}). The size of the PM is referenced to the aerodynamic diameter of the particulate. The PM₁₀ criteria are aimed primarily at what the EPA refers to as “coarse particles.” Coarse particles are often found near roadways, dusty industries, construction sites, and fires. The PM_{2.5} criteria, which are directed at particles less than or equal to 2.5 microns in size, are referred to as “fine particles.” These particles can also be directly emitted and they can also be formed when gases emitted from power plants, industries and automobiles react in the air. The principal health effect of airborne PM is on the respiratory system. Studies have linked particulate pollution with irritation of the airways, coughing, aggravated asthma, irregular heartbeat, and premature death in people with heart or lung disease.

Carbon Monoxide (CO). CO is a colorless and odorless gas, which, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can lead to headaches, aggravation of cardiovascular disease, and impairment of central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations are typically found near crowded intersections, along heavily used roadways carrying slow-moving traffic, and at or near ground level. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet [90 to 185 meters]) of heavily traveled roadways. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973.

Nitrogen Oxides (NO_x). Nitrogen oxides from automotive sources are some of the precursors in the formation of ozone and secondary PM. Ozone and PM are formed through a series of photochemical reactions in the atmosphere. Because the reactions are slow and occur as the pollutants are diffusing downwind, elevated ozone levels are often found many miles from the source of precursor emission. The effects of nitrogen oxides emission are examined on a regional basis.

Lead (Pb). Lead is a stable compound, which persists and accumulates both in the environment and in animals. In humans, it affects the blood-forming or hematopoietic, the nervous, and the renal systems. In addition, lead has been shown to affect the normal functions of the reproductive, endocrine, hepatic, cardiovascular, immunological, and gastrointestinal systems, although there is significant individual variability in response to lead exposure. 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 (i.e. lead smelters) and are not applied to transportation projects.

Sulfur Oxides (SO_x). Sulfur oxides constitute a class of compounds of which sulfur dioxide (SO₂) and sulfur trioxide (SO₃) are of greatest importance. The oxides are

formed during combustion of the sulfur components in motor fuels. Relatively few sulfur oxides are emitted from motor vehicles since motor fuels are now de-sulfured. The health effects of sulfur oxides include respiratory illness, damage to the respiratory tract, and bronchia-constriction.

Table 7 | Ambient Air Quality Standards

Pollutant	Averaging Time	State Standard	Federal Standard	Health and Atmospheric Effects	Typical Sources
Ozone (O ₃) ^a	1 hour 8 hours	0.09 ppm 0.070 ppm	– ^b 0.08 ppm	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include a number of known toxic air contaminants.	Low-altitude ozone is almost entirely formed from reactive organic gases (ROG) and nitrogen oxides (NO _x) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes. Biologically-produced ROG may also contribute.
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm ^c 6 ppm	35 ppm 9 ppm –	Asphyxiant. CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen.	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.
Respirable Particulate Matter (PM ₁₀) ^a	24 hours Annual	50 µg/m ³ 20 µg/m ³	150 µg/m ³ –	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 aerosol and solid compounds are part of PM ₁₀ .	Dust- and fume-producing industrial and agricultural operations; combustion smoke; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources (wind-blown dust, ocean spray).
Fine Particulate Matter (PM _{2.5}) ^a	24 hours Annual	– 12 µg/m ³	35 µg/m ³ 15 µg/m ³	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – considered a toxic air contaminant – is in the PM _{2.5} size range. Many 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 (including photochemical) reactions involving other pollutants including NO _x , sulfur oxides (SO _x), ammonia, and ROG.
Nitrogen Dioxide (NO ₂)	1 hour Annual	0.25 ppm –	– 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain.	Motor vehicles and other mobile sources; refineries; industrial operations.

Pollutant	Averaging Time	State Standard	Federal Standard	Health and Atmospheric Effects	Typical Sources
Sulfur Dioxide (SO ₂)	1 hour 3 hours 24 hours Annual	0.25 ppm – 0.04 ppm –	– 0.5 ppm 0.14 ppm 0.030 ppm	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.
Lead (Pb) ^d	Monthly Quarterly	1.5 µg/m ³ –	– 1.5 µg/m ³	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also considered a toxic air contaminant.	Primary: lead-based industrial process like battery production and smelters. Past: lead paint, leaded gasoline. Moderate to high levels of aerially deposited lead from gasoline may still be present in soils along major roads, and can be a problem if large amounts of soil are disturbed.

Sources: California Air Resources Board Ambient Air Quality Standards chart, 05/17/2006 (<http://www.arb.ca.gov/aqs/aqs2.pdf>)
Sonoma-Marina Area Rail Transit Draft Air Pollutant Standards and Effects table, November 2005, page 3-52.
U.S. EPA and California Air Resources Board air toxics websites, 05/17/2006

Notes: ppm = parts per million; µg/m³ = micrograms per cubic meter

^a Annual PM10 NAAQS revoked October 2006; was 50 µg/m³. 24-hr. PM2.5 NAAQS tightened October 2006; was 65 µg/m³.

^b 12/22/2006 Federal court decision may affect applicability of Federal 1-hour ozone standard. Prior to 6/2005, the 1-hour standard was 0.12 ppm. Case is still in litigation.

^c Rounding to an integer value is not allowed for the State 8-hour CO standard. A violation occurs at or above 9.05 ppm.

^d The ARB has identified lead, vinyl chloride, and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM10 and, in larger proportion, PM2.5. Both the ARB and U.S. EPA have identified various organic compounds that are precursors to ozone and PM2.5 as toxic air contaminants. There is no threshold level of exposure for adverse health effect determined for toxic air contaminants, and control measures may apply at ambient concentrations below any criteria levels specified for these pollutants or the general categories of pollutants to which they belong.

Table 8 | Health Effect Summary From Criteria Pollutants

Pollutant	Sources	Primary Effects
Ozone (O ₃)	Atmospheric reaction of organic gases with nitrogen oxides in the presence of sunlight.	Aggravation of respiratory diseases; irritation of eyes; impairment of pulmonary function; plant leaf injury.
Nitrogen Dioxide (NO ₂)	Motor vehicle exhaust; high temperature; stationary combustion; atmospheric reactions.	Aggravation of respiratory illness; reduced visibility; reduced plant growth; formation of acid rain.
Carbon Monoxide (CO)	Incomplete combustion of fuels and other carbon-containing substances, such as motor vehicle exhaust; and natural events, such as decomposition of organic matter.	Reduced tolerance for exercise; impairment of mental function; impairment of fetal development; impairment of learning ability; death at high levels of exposure; aggravation of some cardiovascular diseases (angina).
Particulate Matter (PM ₁₀ and PM _{2.5})	Fuel combustion in motor vehicles, equipment, and industrial sources; construction activities; industrial processes; residential and agricultural burning; atmospheric chemical reactions.	Reduced lung function; aggravation of the effects of gaseous pollutants; aggravation of respiratory and cardio-respiratory diseases; increased cough and chest discomfort; soiling; reduced visibility.
Sulfur Dioxide (SO ₂)	Combustion of sulfur-containing fossil fuels; smelting of sulfur-bearing metal ores; industrial processes.	Aggravation of respiratory and cardiovascular diseases; reduced lung function; carcinogenesis; irritation of eyes; reduced visibility; plant injury; deterioration of materials (e.g., textiles, leather, finishes, coating).
Lead (Pb)	Contaminated soil.	Impairment of blood function and nerve construction; behavioral and hearing problems in children.

Source: EPA, 2006a¹.

Attainment Status. The Basin is designated as in maintenance for NO₂ and CO and non-attainment for the following criteria pollutants: Ozone (1-hour and 8-hour), PM_{2.5}, and PM₁₀. A State Implementation Plan (SIP) is required for each criteria pollutant designated as in maintenance or non-attainment. The Basin currently has five applicable SIPs: The 1997 NO₂ SIP, 1997 Ozone SIP/AQMP (amended in 1999), the 2003 CO SIP, the 2002 PM₁₀ SIP, and 2007 8-hour ozone and PM_{2.5}. The 2003 AQMPs/SIPs were approved by SCAQMD and have received an adequacy finding by the EPA on the emissions budgets for conformity determination. The EPA issued final non-attainment area designations on April 15, 2004 for 8-hour ozone. Designations and Phase I of the implementation regulations were published in the Federal Register on April 30, 2004, effective June 15, 2004. An 8-hour conformity determination for SCAG's 2004 RTP and Regional Transportation Improvement Program (TIP or RTIP) was made by the FHWA and FTA on June 15, 2005. On November 9, 2005, the EPA issued a final rule that will take the next steps to protect the public from ground-level ozone pollution. This rule, called the Phase II Ozone Rule, describes the actions states must take to reduce ground level ozone.

On June 15, 2005 the 1-hour ozone standard was rescinded along with all non-attainment and attainment-maintenance designations. However, the 1-hour ozone NAAQS designation and classification status was retained in reference to the effective data of designation for the 8-hour NAAQS for purposes of the anti-backsliding regulations (40 CFR 51.905).

Designation of PM_{2.5} non-attainment areas was first published in the Federal Register on January 5, 2005, and became effective on April 5, 2005. On March 10, 2006, the EPA published a final rule that establishes the transportation conformity criteria and procedures for determining which transportation projects must be analyzed for local air quality impacts in PM_{2.5} and PM₁₀ non-attainment and maintenance areas (71 FR 12468). This rule requires PM_{2.5} and PM₁₀ hot-spot analyses to be performed for POAQC's in non-attainment/maintenance areas. Regional conformity determinations for PM_{2.5} have been made by the FHWA on March 30, 2006. On September 21, 2006, EPA revised its NAAQS for PM_{2.5} by strengthening the 24-hour standard from 65 µg/m³ to 35 µg/m³. Subsequently, EPA released new area designations in the Federal Register on November 13, 2009 (effective December 13, 2009), which did not change the attainment status for the Basin.

Recently, the approval of the 2005 CO Redesignation Request and CO Maintenance Plan for the Basin was published in the Federal Register on May 11, 2007, and became effective on June 11, 2007. As a result, the Basin was redesignated from non-attainment to attainment-maintenance for the CO NAAQS under CAA section 107 (d)(3)(E).

Finally, the 2007 AQMP, adopted by the AQMD governing board on June 1, 2007 includes basin strategies and control measures to attain the new Federal 8-hour ozone deadline by 2024; and the new annual and 24-hour PM_{2.5} standards by 2015 per 40 CFR §93.123(c)(4). The 2007 AQMP employs the most up-to-date science, analytical tools, the most recent planning assumptions (i.e., within the last five years), and approved motor vehicle emission model; and incorporates comprehensive strategies aimed at controlling pollution as required by the EPA. The 2007 AQMP has been incorporated into the SIP submittal by the California Air Resources Board (ARB) to address attainment strategies for PM_{2.5} and 8-hour ozone. Based on their review, the EPA has found that the "baseline" reasonable further progress motor vehicle emissions budgets for 8-hour ozone and PM_{2.5} in the 2007 South Coast SIP, as amended on April 30, 2008, are adequate for transportation conformity purposes. The EPA, at the same time, has found that the "SIP-based" motor vehicle emissions budgets for 8-hour ozone and PM_{2.5} in the amended 2007 South Coast SIP are inadequate for transportation conformity purposes (73 FR 28110).

The goal of a SIP is to secure an attainment designation for the criteria pollutant at a future year. As such, a SIP is created if a pollutant is in non-attainment. Of the six criteria pollutants, two are in attainment: lead and sulfur dioxide (SO₂); and two are in attainment-maintenance: NO₂ and CO. The remaining pollutants have or will have its respective SIP to address attainment for future years. The proposed project will comply with any federal, state, and local rules and regulations developed as part of implementing control measures in the respective SIPs. Table 9 below lists the designations per federal and state NAAQS:

Table 9 | Designations of Criteria Pollutants in the SCAB*

Pollutants	Federal	State
O ₃ (1-hour)	Revoked by EPA (June 15, 2005)	Extreme non-attainment
O ₃ (8-hour)	Severe-17 non-attainment	
CO	Attainment-maintenance	Attainment
PM ₁₀	Serious non-attainment	Non-attainment
PM _{2.5}	Non-attainment	Non-attainment
NO ₂	Attainment-maintenance	Attainment

Source: http://pd.dot.ca.gov/env/air/html/areadesig/canafed_index.htm

* ARB is considering designating SCAB (for NO₂) and LA County (for lead) as nonattainment for state standards.

Sensitive Receptors. Generally, sensitive receptors are facilities or land uses that include members of the population sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Sensitive receptors include residential areas, hospitals, elder-care facilities, rehabilitation centers, elementary schools, daycare centers, and parks. Residential, commercial, public facilities and institutions, and industrial land uses in the vicinity of the project are located throughout this highly urbanized corridor. 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.

Existing sensitive land uses in the project surrounding area include low, medium, and high one and two-story detached residences located west and east of I-110. The closest residences are located within 50 to 75 feet of the I-110 northbound and southbound shoulder. Other potentially sensitive uses in the area include public facilities and institutions, schools, hospitals, and industrial/commercial buildings. The closest schools to the project site are Norwood Street Elementary, and Central Continuation School, which are located approximately 0.5 to one mile from the project limits. University of Southern California as well as the LA Convention Center and Staples Center are also within one mile of the project limits. There are several hospitals/healthcare facilities located within two miles east and west of the project limits. Several industrial and commercial buildings exist within a 100-200 foot radius of the project limit. Park areas that consist of outdoor recreational facilities north and west of I-110 are within 2 miles of the proposed project area.

Environmental Consequences

Regional air quality analysis. The authority requiring projects to undergo a regional emissions analysis originates from Section 176 (c) of the Clean Air Act Amendments of 1990. The law is codified as Title 23 of the United States Code (23 USC) and is known as the Federal Transit Act. Currently, the Transportation Conformity Rule is classified as 40 CFR 51.390 and 40 CFR 93.100-93.128.

The Transportation Conformity Rule requires a regional emissions analysis to be performed by the MPO for projects within its jurisdiction. For the Basin, the MPO is the

SCAG. The regional emissions analysis includes all projects listed in the RTP and the RTIP. The Plan is a regional planning document spanning a 25-year period, and the TIP implements the Plan on a 4-year increment. Both the Plan and TIP must support an affirmative conformity finding to obtain the FHWA approval. Projects that are included in the regional analysis are listed in the TIP and referenced in the Plan. Projects in a Plan and TIP that have been approved by the FHWA are considered to have met the conformity requirement for regional emissions analysis.

SCAG's 2008 RTP was approved by FHWA on June 5, 2008 and the financially constrained 2008 RTIP was approved by FHWA on November 17, 2008. SCAG further prepared amendment #1 to the 2008 RTP and amendment #08-01 to the 2008 RTIP and adopted those on December 4, 2008, which were subsequently and approved by FHWA on January 14, 2009. The proposed project is included in amendment #1 of the 2008 RTP and amendment #08-01 of the 2008 RTIP. The project has not changed significantly with regards to scope and/or design concept from the regional emissions analysis supporting the currently conforming RTP and TIP. A comprehensive analysis of potential air pollutants has concluded that the proposed project is not likely to result in adverse impact on the ambient air quality in the project vicinity.

Local air quality analysis. The local analysis is commonly referred to as project-level air quality or "hot-spot" analysis. The primary focus is the operational impact on air quality created by the proposed improvement. Unlike a regional analysis, a local analysis is constrained in scope and is limited to a particular project. The criteria pollutants analyzed do not consist of all pollutants in non-attainment. The analysis is restricted to CO, PM₁₀, and PM_{2.5}. The analysis years consist of the year opening to traffic and the ultimate horizon year referenced in the approved Plan rather than a series of present and future years. The approach to the local analysis is tiered and is dependent on the status of the CO SIP: the CO analysis can be qualitative, quantitative, or computational. The PM₁₀ and PM_{2.5} analyses are qualitative in scope.

CO operational impact. The Basin is classified as in attainment-maintenance for CO as indicated in Table 7. A CO Maintenance Plan for the SCAB was approved effective June 11, 2007. In California, the procedure for performing a CO analysis is detailed in the CO Protocol developed by the Institute of Transportation Studies at the University of California, Davis. The EPA Region IX, in October of 1997, approved the CO Protocol. The US EPA deemed the CO Protocol as an acceptable option to the mandated quantitative analysis. The CO Protocol incorporates §93.115 – 93.117, §93.126 – 93.128 into its rules and procedures. The CO Protocol Flowcharts were utilized in determining the type of project-level CO analysis required for the proposed projects. A step-by-step response to each step and level along the flowchart is provided in the Air Quality Technical Study. Based on this analysis, the project is satisfactory and no further analysis, such as modeling, is needed.

Particulate matter (PM10 and PM 2.5). The Federal Clean Air Act (FCAA) section 176 (c)(1)(B) is the statutory criterion that must be met by all projects in non-attainment and maintenance areas that are subject to transportation conformity. It states that federally-supported transportation projects must not "cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area." To meet statutory requirements, EPA's March 10, 2006 final rule requires qualitative PM_{2.5} and

PM₁₀ hot-spot analyses to be performed for projects of air quality concern (POAQC). Qualitative hot-spot analyses would be done for these projects before appropriate methods and modeling guidance are available and quantitative PM_{2.5} and PM₁₀ hot-spot analyses are required under 40 CFR 93.123(b)(4). In addition, through the final rule, EPA determined that projects not identified in 40 CFR 93.123(b)(1) as POAQC have also met statutory requirements without any further hot-spot analyses (40 CFR 93.116(a)). The final rule requires Interagency Consultation concurrence on the project-level hot-spot analysis and findings for every project in a PM non-attainment and maintenance area, which is not fully exempt from conformity analysis requirement. Interagency Consultation concurrence is required for both projects where a detailed analysis is done, and for the decision that a project is not a POAQC and does not need a detailed analysis.

Based on a comparison of the proposed scope of the project with 40 CFR 93.123(b)(1), the proposed project would not be considered as a POAQC; therefore, a qualitative PM_{2.5} and PM₁₀ hot-spot analysis is not required. The final rule, however, requires that all projects that are not exempt from the requirements to determine conformity, be reviewed by the Interagency Consultation to determine if the project is a POAQC or not. Within the Basin, the Interagency Consultation takes the form of the SCAG Transportation Conformity Working Group (TCWG) where representatives from the FHWA, EPA, ARB, SCAQMD, and other local and state partners join and discuss transportation conformity issues. Pursuant to the requirements set forth in 40 CFR 93, the project summary was submitted for the Interagency Consultation. The summary and TCWG concurrence can be viewed in Appendix F of this document. On September 2008, the SCAG TCWG, in its monthly scheduled meeting, had discussed the project and concurred that the proposed project would not be a POAQC and would not cause or contribute to, or increase the severity of or exceedances of, or delay timely attainment of the NAAQS for PM_{2.5} and PM₁₀. The following discussion is presented for informational purposes only since the project has been determined as not a POAQC and a qualitative hot-spot analysis is deemed not required.

The representative air monitoring station to the project site is the Los Angeles – North Main Street Station. This monitoring station is located approximately 4 miles from the project at its closest approach. The surrounding land use at the Los Angeles – North Main Street station is generally commercial and industrial, which is similar to the land uses in the vicinity of the proposed project. Hence, the air quality concentrations monitored at the Los Angeles – North Main Street station is representative of the conditions at the proposed project area.

Table 10 | Existing and Future Emissions by Project Alternatives*

		Existing Year, 2009	Opening Year, 2012		Horizon Year, 2035	
			Emissions	Change from No-Build**	Emissions	Change from No-Build**
Direct PM _{2.5}	No-Build	44.9	42.8	-0.3	47.1	-2.3
	Build	X	42.5		44.8	
Direct PM ₁₀	No-Build	67.5	64.9	-0.3	72.4	-2.5
	Build	X	64.6		69.9	
Re-Entrained PM ₁₀	No-Build	140.3	140.3	-0.3	161.2	-0.4
	Build	X	140.0		160.8	

*Emissions in unit lb/day. **Minus (-) sign denotes a decrease from No-Build.

ARB's EMFAC2007 model was utilized in estimating existing and future project-level PM_{2.5} and PM₁₀ emissions for the project alternatives. A summary of total of tailpipe, brake wear, and tire wear PM_{2.5} and PM₁₀ emissions and PM₁₀ re-entrained road dust data are presented in Table 12. Re-entrained road dust computations were performed using the emission factor equations provided in the Fifth Edition, Volume I of EPA's AP-42 document dated November 1, 2006. Summaries of PM_{2.5} and PM₁₀ emissions in Table x indicate that the implementation of the project would result in reduction of PM_{2.5} and PM₁₀ emissions when compared to the No-Build scenario. It should be noted that this reduction in the Build emissions is despite the general increase in the truck traffic and total traffic volumes along I-110. This reduction in the PM emissions is primarily due to an increase in vehicle speeds and decrease in VMTs along certain segments with the implementation of the proposed project.

Construction impacts. According to 40 CFR §93.123(c)(5), hot-spot analyses are not required to consider construction-related activities that cause temporary increases in emissions. Temporary increases in emissions are defined as those that occur only during the construction phase and that last five years or less at any individual site.

Construction activities associated with the proposed project would be temporary and would last the duration of project construction. Currently, project construction is scheduled to start in July 2010 and anticipated date of completion is December 2011. The discussion has concluded that project construction would not create adverse pollutant emissions. Short-term impacts to air quality may occur during construction phase. Additional sources of construction related emissions include:

- Exhaust emission and potential odors from construction equipment used on the construction site as well as those used to transport materials to and from the site; and

- Exhaust emissions from the motor vehicles of the construction crew.

Project construction may result in temporary emissions of CO, NO_x, ROG, and PM₁₀. Stationary or mobile powered on-site construction equipment may include trucks, signal boards, backhoes, concrete saws, crushing and/or processing equipment, trenchers, pavers and other paving equipment. The amount of worker trips to the site is unknown at this time. However, given the high volume of traffic in this area, the addition of worker trips is anticipated to be inconsequential and is unlikely to contribute or affect traffic flow on local roadways; and therefore, construction related emissions may be considered temporary.

In order to further minimize construction-related emissions, all construction vehicles and construction equipment would be required to be equipped with the state-mandated emission control devices pursuant to state emission regulations and standard construction practices. After construction of the project is complete, all construction-related impacts would cease; resulting in a less than significant impact. Short-term construction PM₁₀ emissions would be further reduced with the implementation of SCAQMD's fugitive dust reduction measures (Rule 403). Note that Caltrans Standard Specifications for construction (Section 10 and 18 [Dust Control] and Section 39-3.06 [Asphalt Concrete Plants] must also be adhered to. Therefore, project construction is not anticipated to violate State or Federal air quality standards or contribute to the existing air quality violation in the air basin.

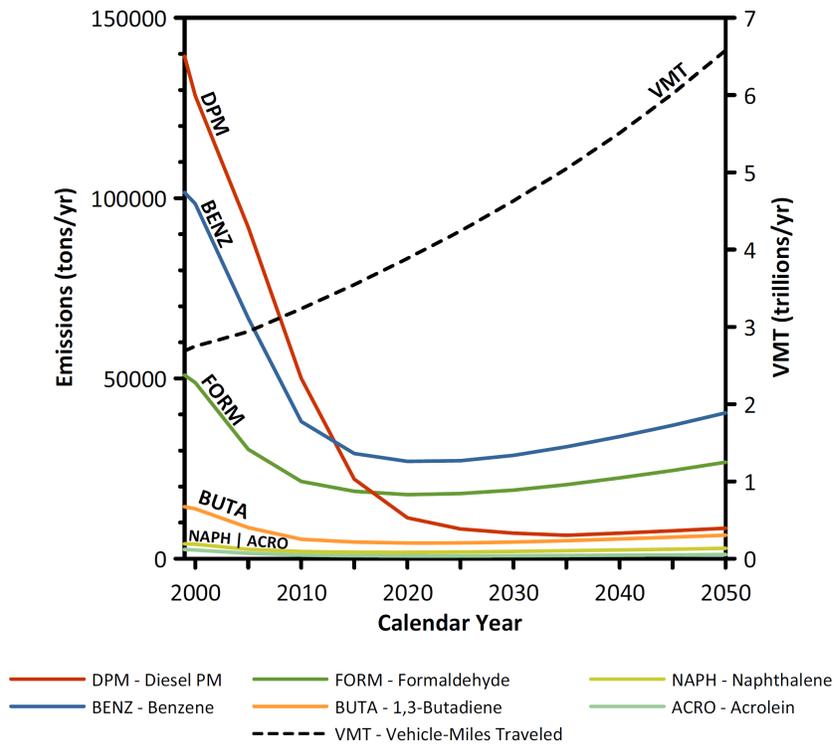
Prior to construction, Rule 403 entails the implementation of best available fugitive dust control measures during active operations capable of generating dust. All measures presented in Tables 1 through 3 of Rule 403 applicable to the construction activities associated with the project should be implemented to the greatest extent feasible. The proposed project will comply with any federal, state, and local rules and regulations developed as part of implementing control measures in the respective SIPs.

Mobile Source Air Toxics (MSATs). Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://cfcpub.epa.gov/ncea/iris/index.cfm>). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (<http://www.epa.gov/ttn/atw/nata1999/>). These are *acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter*. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (vehicle-miles traveled, VMT) increases by 145 percent as assumed, a combined reduction of 72 percent in the

total annual emission rate for the priority MSAT is projected from 1999 to 2050, as shown in Figure 9.

Figure 9 | National MSAT Emission Trends 1999-2050 for Vehicles Operating on Roadways Using EPA's Mobile6.2 Model



Note: (1) Annual emissions of polycyclic organic matter are projected to be 561 tons/yr for 1999, decreasing to 373 tons/yr for 2050.
 (2) Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of the National Environmental Policy Act (NEPA).

Nonetheless, air toxics concerns continue to be raised on highway projects during the NEPA process. Even as the science emerges, we are duly expected by the public and other agencies to address MSAT impacts in our environmental documents. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this emerging field.

Incomplete or Unavailable Information for Project Specific MSAT Impacts Analysis. In FHWA's view, 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. Environmental Protection Agency (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 have specific statutory obligations with respect to hazardous air pollutants and MSAT. The 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 (IRIS), which is “a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects” (EPA, <https://www.epa.gov/iris/>). Each report contains assessments of non-cancerous 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 (HEI). Two HEI studies are summarized in Appendix D of FHWA’s Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT 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 MSAT compounds at current environmental concentrations (HEI, <http://pubs.healtheffects.org/view.php?id=282>) or in the future as vehicle emissions substantially decrease (HEI, <http://pubs.healtheffects.org/view.php?id=306>).

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, since such information is unavailable. The results produced by the EPA’s MOBILE6.2 model, the California EPA’s Emfac2007 model, and the EPA’s DraftMOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES model are that MOBILE6.2 significantly underestimates diesel particulate matter (PM) emissions and significantly overestimates benzene emissions.

Regarding air dispersion modeling, an extensive evaluation of EPA’s guideline CAL3QHC model was conducted in an NCHRP study (http://www.epa.gov/scram001/dispersion_alt.htm#hyroad), which documents poor model performance at ten sites across the country – three where intensive monitoring was conducted plus an additional seven with less intensive monitoring. The study indicates a bias of the CAL3QHC model to overestimate concentrations near highly congested intersections and underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is

less difficult to manage for demonstrating compliance with National Ambient Air Quality Standards for relatively short time frames than it is for forecasting individual exposure over an entire lifetime, especially given that some information needed for estimating 70-year lifetime exposure is unavailable. It is particularly difficult to reliably forecast MSAT exposure near roadways, and to determine the portion of time that people are actually exposed at a specific location.

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, a concern expressed by HEI (<http://pubs.healtheffects.org/view.php?id=282>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (<http://www.epa.gov/risk/basicinformation.htm#g>) and the HEI (<http://pubs.healtheffects.org/getfile.php?u=395>) have not established a basis for quantitative risk assessment of diesel PM 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 EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order 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 EPA to determine a “safe” or “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a 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 a 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 a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld 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 safe or acceptable.

Because of the limitations in the methodologies for forecasting 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.

Relevance Of Unavailable Or Incomplete Information To Evaluating Reasonably Foreseeable Significant Adverse Impacts On The Environment, And Evaluation Of Impacts Based Upon Theoretical Approaches Or Research Methods Generally Accepted In The Scientific Community. Because of the uncertainties outlined above, a reliable quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger

projects, the amount of MSAT emissions from each of the project alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects. Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human environment."

MSAT Emissions in the Project Area. The FHWA, in its Interim Guidance published on September 30, 2009 (Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents) recommends a range of options deemed appropriate for addressing and documenting the MSAT issue in NEPA documents. This project is classified as serving to improve the operation of an existing highway without adding substantial new capacity but still may have meaningful differences in MSAT emissions among project alternatives. Therefore, level of emissions for the highest priority MSATs for the no-build and build alternatives was evaluated.

The basic procedure for analyzing emissions for on-road MSAT is to calculate emission factors using EMFAC2007 and apply the emission factors to speed and VMT data specific to the project. EMFAC2007 is the emission inventory model developed by the California Air Resources Board (CARB), which calculates emission inventories for motor vehicles operating on roads in California. The emission factors used in this analysis is from EMFAC2007 and is specific to the Los Angeles County portion of the South Coast Air Basin. Results were produced for the base year (2009), the first operational year once the project is complete (2012), and the horizon year, consistent with SCAG's RTP (2035). 2012 and 2035 analyses compared no-build conditions to expected conditions resulting from implementation of the project.

Table 11 | 2012 Changes in Total Project MSAT Emission Estimates*

Toxic Air Contaminant	Existing, 2009 (gms/day)	No-Build (gms/day)	2012 Build		
			Emissions	Δ% from Existing	Δ% from No Build
Diesel PM	3,280	2,710	2,849	-13.1	-5.1
Benzene	2,779	2,002	1,923	-30.8	-3.9
1,3-Butadiene	537	372	367	-31.7	-1.4
Acetaldehyde	798	601	614	-23.0	2.2
Acrolein	123	85	84	-32.0	-1.5
Formaldehyde	2,449	1,803	1,820	-25.7	0.9

* Minus (-) sign denotes a decrease from existing or no-build.

In general the "Build" alternative has higher emissions compared to the "No-Build" alternative for the years 2012 and 2035 (see Tables 9 and 10, respectively). However, analysis shows that MSAT emissions in 2012 and 2035 would be less than the existing (2009) conditions. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's and California's control programs that are projected to further reduce MSAT emissions.

Table 12 | 2035 Changes in Total Project MSAT Emission Estimates*

2035 Toxic Air Contaminant	Existing Emissions (gms/day)	2035 No Build Emissions (gms/day)	2035 Build Emissions		
			gms/day	Δ% from Existing	Δ% from No Build
Diesel PM	3,280	666	1,004	-69.4	50.8
Benzene	2,779	819	787	-71.7	-4.0
1,3-Butadiene	537	119	123	-77.1	3.0
Acetaldehyde	798	178	205	-74.3	-14.8
Acrolein	123	28	29	-76.7	2.9
Formaldehyde	2,449	571	630	-74.3	10.3

* Minus (-) sign denotes a decrease from existing or no-build.

Construction MSAT emissions. Construction activity may generate a temporary increase in MSAT emissions. Project-level assessments that render a decision to pursue construction emission mitigation will benefit from a number of technologies and operational practices that should help lower short-term MSAT. Construction minimization and avoidance measures includes strategies that reduce engine activity or reduce emissions per unit of operating time, such as reducing the numbers of trips and extended idling. Operational agreements that reduce or redirect work or shift times to avoid community exposures can have positive benefits when sites are near populated areas. For example, agreements that stress work activity outside normal hours of an adjacent school campus would be operations-oriented mitigation. Verified emissions control technology retrofits or fleet modernization of engines for construction equipment could be appropriate mitigation strategies. Technology retrofits could include particulate matter traps, oxidation catalysts, and other devices that provide an after treatment of exhaust emissions. Implementing maintenance programs per manufacturers’ specifications to ensure engines perform at EPA certification levels, as applicable, and to ensure retrofit technologies perform at verified standards, as applicable, could also be deemed appropriate. The use of clean fuels, such as ultra-low sulfur diesel, biodiesel, or natural gas also can be a very cost-beneficial strategy. The EPA has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions minimization measures for equipment used in construction.

Toxic Air Contaminants (TACs). In 1998, the EPA’s Office of Environmental Health Hazard Assessment (OEHHA) completed a comprehensive health assessment of diesel exhaust. This assessment formed the basis for a decision by the ARB to formally identify particles in diesel exhaust as a toxic air contaminant that may pose a threat to human health.

Diesel exhaust is a complex mixture of thousands of gases and fine particles (commonly known as soot) that contains more than 40 toxic air contaminants. These include many known or suspected cancer-causing substances, such as benzene, arsenic, and formaldehyde. It also contains other harmful pollutants, including nitrogen oxides and PM from diesel-fueled engines (diesel PM).

The ARB has found that diesel PM contributes over 70 percent of the known risk from air toxics and poses the greatest cancer risks among all identified air toxics. Diesel

trucks contribute more than half of the total diesel combustion sources. However, the ARB has adopted a Diesel Risk Reduction Plan (DRRP) with control measures that would reduce the overall diesel PM emissions by about 85% from 2000 to 2020. In addition, total toxic risk from diesel exhaust may only be exposed for a much shorter duration. Further, diesel PM is only one of many environmental toxics and those of other toxics and other pollutants in various environmental media may over shadow its cancer risks. Thus, while diesel exhaust may pose potential cancer risks to receptors spending time on or near high risk diesel PM facilities, most receptors' short term exposure would only cause minimal harm, and these risks would also greatly diminish in the future operating years of the project due to planned emission control regulations.

Naturally Occurring Asbestos (NOA). 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 commonly been used for unpaved gravel roads, landscaping, fill projects and other improvement projects in some localities. Asbestos may be released into the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of 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 the counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. The California Department of Conservation, Division of Mines and Geology have developed a map of the state showing the general location of ultramafic rock in the state. Los Angeles County is one of the counties identified as containing serpentinite and ultramafic rock. However, only the Catalina Island portion of Los Angeles County has been found to contain such rock; therefore, it is not found in the project area. Therefore, no potential impacts from naturally occurring asbestos during project construction would occur.

Avoidance, Minimization, and/or Mitigation Measures

Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in adverse or long-term conditions. Implementation of the following measures will reduce any air quality impacts resulting from construction activities:

The construction contractor shall comply with Caltrans' Standard Specifications Section 7-1.01F and Section 10 of Caltrans' Standard Specifications (1999).

Section 7, "Legal Relations and Responsibility," addresses the contractor's responsibility on many items of concern, such as: air pollution; protection of lakes, streams, reservoirs, and other water bodies; use of pesticides; safety; sanitation; and convenience of the public; and damage or injury to any person or property as a result of any construction operation. Section 7-1.01F 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.

Section 10 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are contained in Section 18.

Water or dust palliative will be applied to the site and equipment as frequently as necessary to control fugitive dust emissions.

Soil binder will be spread on any unpaved roads used for construction purposes, and all project construction parking areas.

Trucks will be washed off as they leave the right of way as necessary to control fugitive dust emissions.

Construction equipment and vehicles shall be properly tuned and maintained. Low-sulfur fuel shall be used in all construction equipment as provided in California Code of Regulations Title 17, Section 93114.

Locate equipment and materials storage sites as far away from residential and park uses as practical. Keep construction areas clean and orderly.

To the extent feasible, establish ESAs for sensitive air receptors within which construction activities involving extended idling of diesel equipment would be prohibited.

Use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic.

Cover all transported loads of soils and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the truck) to reduce PM10 and deposition of particulate during transportation.

Remove dust and mud that are deposited on paved, public roads due to construction activity and traffic to decrease particulate matter.

To the extent feasible, route and schedule construction traffic to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

Install mulch or plant vegetation as soon as practical after grading to reduce windblown particulate in the area.

Prior to construction, SCAQMD's Rule 403 entails the implementation of best available fugitive dust control measures during active operations capable of generating dust. All

measures presented in Tables 1 through 3 of Rule 403 applicable to the construction activities associated with the project should be implemented to the greatest extent feasible. The proposed project will comply with any federal, state, and local rules and regulations developed as part of implementing control measures in the respective SIPs.

Naturally Occurring Asbestos. While unlikely, if naturally occurring asbestos, serpentine, or ultramafic rock is discovered during grading operations, the SCAQMD should be notified per Section 93105, Title 17 of the California Code of Regulations.

2.2.7 | NOISE AND VIBRATION

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 such measures are not feasible. The rest of this section will focus on the NEPA-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 FHWA (and the Department, as assigned) involvement, the federal-Aid Highway Act of 1970 and the associated 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 contain 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 13 | Noise Abatement Criteria

Activity Category	NAC, Hourly A- Weighted Noise Level, dBA L_{eq}(h)	Description of Activities
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	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above
D	–	Undeveloped lands.
E	52 Interior	Residence, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Figure 10 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 10 | Common Activity Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft) Commercial Area	70	Vacuum Cleaner at 3 m (10 ft)
Heavy Traffic at 90 m (300 ft)	60	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	50	Large Business Office Dishwasher Next Room
Quiet Urban Nighttime Quiet Suburban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Rural Nighttime	30	Library
	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

In accordance with the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, August 2006*, a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming 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.

The Department's *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. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered

feasible. Other considerations include topography, access requirements, other noise sources and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents acceptance, the absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies input, newly constructed development versus development pre-dating 1978 and the cost per benefited residence.

Affected Environment

A noise review was conducted on October 16, 2008 for the proposed project. The Harbor Freeway within the project limits traverses a large area and therefore borders a multitude of land uses, including residential (both low and high density), commercial, industrial, and open space. There are sensitive noise receptors located in close proximity to the project limits, including approximately nine elementary schools, one junior high school, one community college, the University of Southern California, and three hospitals or clinics.

Environmental Consequences

According to the Caltrans Traffic Noise Protocol, this project is not expected to result in traffic noise impacts. The project will not involve construction of a new highway on a new location or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. Therefore, sensitive receptors in the area will not be impacted.

There is a potential for construction-related noise impacts, and noise levels generated during construction shall comply with all applicable local, state, and federal regulations. However, no adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans standard specifications and would be short-term, intermittent, and dominated by local traffic noise.

Avoidance, Minimization, and/or Abatement Measures

Since the project is not expected to result in traffic noise impacts, noise abatement is not necessary. Construction-related noise impacts may occur in the immediate area of construction. These temporary construction noise impacts will be minimized by implementation of the following measures:

Equipment noise control is needed to reduce the noise emissions from construction sites by mandating specified noise levels for design of new equipment, and updating old equipment with new noise control devices.

Mufflers are very effective devices that reduce the noise emanating from the intake or exhaust of an engine, compressor, or pump. All new and existing equipment will be equipped or retrofitted with mufflers that will result in an immediate noise reduction at the construction site.

Crawler-mounted equipment tracks will be periodically maintained and lubricated in order to lessen the sound radiating from the track assembly resulting from metal to soil and metal to metal contact.

Exhaust pipe heights will be lowered closer to the ground wherever possible in order to increase the effectiveness of barriers as noise control.

In-use site noise control is necessary to prevent existing equipment from producing noise levels in excess of specified limits. Any equipment that produces noise levels less than the specified limits would not be affected. However, those exceeding the limit would be required to meet compliance by repair, retrofit, or elimination. New equipment with the latest noise-sensitive components and noise control devices are generally quieter than older equipment, if properly maintained and inspected regularly. They should be repaired or replaced if necessary to maintain the in-use noise limit. All equipment applying the in-use noise limit would achieve an immediate noise reduction if properly enforced.

Site restrictions should be applied to achieve noise reduction through different methods, resulting in an immediate reduction of noise emitted to the community without requiring any modification to the source noise emissions.

Shielding with barriers should be implemented to reduce construction equipment noise. The placement of barriers will be carefully considered to reduce limitation of site access. Barriers may be natural or man-made.

Efficient rerouting of trucks and control of traffic activity on construction site will reduce noise due to vehicle idling, gear shifting and accelerating under load. Proper traffic control will result in efficient work and reduce noise levels. Additionally, rerouting of trucks does not reduce noise levels but transfers noise to other areas that are less sensitive to noise.

Time scheduling of activities should be implemented to minimize noise impact on exposed areas. Local activity patterns and surrounding land uses must be considered in establishing site curfews. However, limiting working hours can decrease productivity. Sequencing the use of equipment with relatively low noise levels versus equipment with relatively high noise levels during noise sensitive periods is an effective noise control measure.

Equipment location should be as far from noise sensitive land use areas as possible. Quieter equipment will be substituted or quieter construction processes will be utilized wherever possible at or near noise sensitive areas.

Educating contractors and their employees to be sensitive to noise impact problems and noise control methods may be one of the most cost-effective ways to help operators and supervisors become more aware of the construction site noise problem, and implement the various methods of improving the conditions. A training program for equipment operators is recommended to instruct them in methods of operating their equipment to minimize environmental noise. Many training programs are presently given on the subject of job safety. This can be extended to include the impact due to noise and methods of abatement.

The measures outlined above are preliminary and will be selected and/or finalized upon selection of an alternative and the completion of design plans.

2.2.8 | ENERGY

Regulatory Setting

The CEQA Guidelines, Appendix F, Energy Conservation, state that EIRs are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.

NEPA (42 USC Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

Environmental Consequences

When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the project would not have any meaningful or substantial energy impacts.

Avoidance, Minimization, and/or Abatement Measures

The project would not have substantial energy impacts. Therefore, consideration of avoidance, minimization, and/or abatement measures is not necessary.

2.3 | Biological Environment

2.3.1 | 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 [include fish passage as appropriate] 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 above in the Threatened and Endangered Species Section 2.3.4.

Affected Environment

The project setting is highly urbanized. Land use areas include primarily residential, commercial, and industrial.

Environmental Consequences

As the majority of the work will be done in the freeway median, there will be no impact to biological communities in the area. Existing habitat or wildlife corridors will not be affected.

Avoidance, Minimization, and/or Mitigation Measures

As there will be no impact to biological communities as a result of the implementation of either the build or no-build alternatives, no avoidance, minimization, and/or mitigation measures are proposed.

2.3.2 | PLANT SPECIES

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) share 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 afforded 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 2.3.4 in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including CDFG fully protected species and species of special concern, USFWS

candidate species, and non-listed California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et seq. See also 50 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 Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, Public Resources Code, Sections 2100-21177.

Affected Environment

The project setting is highly urbanized, with little to no open space. As the project area is primarily the median of the freeway, vegetation is limited to non-existent. At the Adams Boulevard overcrossing, there may be some minimal impacts to landscaped ornamental vegetation. This involves non-native species in an ornamental setting.

Environmental Consequences

Due to almost all impacts being confined to the existing prism of the roadway, and where there are impacts beyond, such as Adams Boulevard where vegetation is ornamental, impacts to plant species are extremely minimal.

Avoidance, Minimization, and/or Mitigation Measures

As the implementation of either the no-build or build alternatives will have none to minimal impacts to any plant species in the area, no avoidance, minimization, and/or mitigation measures are proposed.

2.3.3 | ANIMAL SPECIES

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 (NOAA) Fisheries and the California Department of Fish and Game (CDFG) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.4 below. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the Fish and Game Code
- Section 4150 and 4152 of the Fish and Game Code

Affected Environment

The project setting is highly urbanized, with surrounding land uses primarily including residential, commercial, and industrial. Open space is non-existent to limited. Wildlife in the project area is expected to be those species tolerant of human impacts. These would include American crow, pigeon, and house sparrow. Diversity is expected to be limited and numbers low.

Environmental Consequences

Almost all impacts are confined to the existing prism of the roadway. Where there are impacts beyond, such as Adams Boulevard, impacts to animal species are extremely minimal. At Adams Boulevard, and any other location where ornamental landscape might be impacted, there is the potential for impacts to nesting birds from construction noise or grubbing.

Avoidance, Minimization, and/or Mitigation Measures

If grubbing must occur during the bird nesting season, February 15 – September 1, a qualified biologist must be called to conduct a bird nesting survey prior to any clearing and grubbing activities. This should be done no more than one week prior to clearing and/or grubbing. If a songbird nest is found, a 150-foot radius no work zone must be implemented. If a raptor nest is found, a 500-foot radius no work zone must be implemented. The no work zones will remain in effect until the birds have fledged from the nest(s) in question.

2.3.4 | THREATENED AND ENDANGERED SPECIES

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 CFR Part 402. This act and subsequent 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, are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries) 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 is a Biological Opinion or an incidental take permit. 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 Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the 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 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 CDFG. For projects requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Affected Environment

The project setting is highly urbanized. Land use areas include primarily residential, commercial, and industrial.

Environmental Consequences

Due to the location of the project (in the median of urbanized freeways and an urbanized interchange), no sensitive species are expected in the project area.

Avoidance, Minimization, and/or Mitigation Measures

As no sensitive species are expected to reside in the project area, no avoidance, minimization, and/or mitigation measures are proposed.

2.3.5 | INVASIVE SPECIES

Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 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 guidance issued August 10, 1999 directs the use of the state’s noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

Avoidance, Minimization, and/or Mitigation Measures

None of the species on the California list of noxious weeds is currently used by Caltrans for erosion control or landscaping.

2.4 | Construction Impacts

Construction Noise. During construction activities, noise from the project work may intermittently dominate the noise environment in the immediate area of construction. However, to minimize these short-term noise impacts during construction, the Caltrans standard specifications, Section 7-1.01I, Sound Control Requirements, will be required as part of the project. The requirements state that noise levels generated during construction shall comply with applicable local, state, and federal regulations.

Construction equipment is expected to create noise ranging between 70-90 dBA at a distance of 50 feet. For each doubling of the distance from the construction site, noise is reduced by 6 dBA. However, no adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans standard specifications and would be short term, intermittent, and dominated by local traffic noise. Caltrans Sound Control Requirements include the following measures for minimization of noise impacts:

- Equipment Noise Control should be applied to revising old equipment and designing new equipment to meet specified noise levels.
- In-Use Noise Control where existing equipment is not permitted to produce noise levels in excess of specified limits.
- Site Restrictions is an attempt to achieve noise reduction through modifying the time, place, or method of operation of a particular source.
- Personal Training of operators and supervisors is needed to become more aware of the construction site noise problem, and are given instruction on methods that they can implement to improve conditions in the local community.

Water Quality Impacts Related to Construction Activities. In compliance with the Clean Water Act (Section 402), an NPDES permit will be obtained from the SWRCB. The NPDES permit contains requirements that protect water quality at the project location. The permit requires Caltrans to maintain and implement an effective Storm Water Management Plan (SWMP) that identifies and describes the Best Management Practices (BMPs) used to reduce or eliminate the stormwater runoff discharge of pollutants to waters of drainage conveyances and waterways. Caltrans construction BMP's (SWRCB approved), SWPPP, and WPCP also incorporate the requirements of the SWRCB NPDES permit to be implemented jointly by both Caltrans, and the contractor hired to construct the project, prior to construction.

Air Quality Impacts Related to Construction Activities. Construction-related activities would create temporary air quality impacts during the construction activities. Project construction is anticipated to occur during 2010. During activities such as grading/trenching, new pavement construction, and re-striping exhaust emissions dust are anticipated to create short-term impacts to air quality. These short-term impacts consist of emissions of CO, NO*, ROG* (*ozone precursors), and PM10 from construction equipment. Even though minor air quality impacts are anticipated, the emissions are temporary and not substantial. Therefore, project construction will not create adverse pollutant emissions for any of the build alternatives. In order to minimize construction-related emissions, several minimization measures are required as part of the project. They include:

- State-mandated emission control devices on all construction vehicles and equipment
- SCAQMD, Rule 403 Fugitive Dust Control Measures
- Caltrans Standard Specifications for construction (Sections 10 and 18 [Dust Control] and Section 39-3.06 [Asphalt Concrete Plants]) must also be adhered to.

Hazardous Waste. During construction, any disturbed materials potentially containing hazardous materials will be treated in accordance with Local, State, and Federal Regulations to ensure the safety of workers and the public. Proper off-site disposal of any soil containing unsafe levels of lead or other contaminants shall be implemented. Lead safe-work practices will be in place when workers conduct construction activities involving lead contaminated material in conformance with the Practices established by Local, State, and Federal regulations. Contaminated groundwater may be exposed during excavation of foundations. Proper measures involving containing, testing, transporting, and disposing of contaminated water will take place. Detailed compensatory measures will be included in the project once more developed plans and the EIR/EA are complete.

2.5 | Cumulative Impacts

REGULATORY SETTING

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this 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 types of 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.

CEQA Guidelines, Section 15130, describes when a cumulative impact analysis is warranted 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 NEPA, can be found in 40 CFR, Section 1508.7 of the CEQ Regulations.

2.5.1 | AFFECTED RESOURCES

Land use. The project area with regards to land use is contained within the existing I-110 roadway. No acquisitions of property will occur and therefore no conversion of existing land uses will occur. Accessibility will remain the same as existing conditions and no land uses will be affected. Therefore, implementation of the build alternative would not contribute to cumulative impacts with regards to land use.

Growth. The project is located in a heavily urbanized area with little to no undeveloped lands. The implementation of the build alternative for the project would not connect previously unconnected areas nor alter existing access patterns. The purpose of the project is to redistribute traffic on an already-congested freeway. As no growth impacts are expected to occur as a result of the project, cumulative impacts are not expected to occur.

Community impacts. The project would not involve acquisition of residences or businesses or disrupt existing access/travel to the communities in the project area. The conversion of the existing HOV lanes to toll lanes would not contribute to any adverse cumulative community impacts.

Utilities and emergency services. No utilities will be relocated as a result of implementation of the build alternative. No cumulative impacts to utility service are

anticipated. Emergency responders will be permitted to use the lanes when responding to calls and no access patterns will be altered as a result of the project.

It is a possibility that there may be cumulative impacts to emergency services during construction of the project. Construction activities associated with this project along with similar projects in construction at the same time have the potential to impede emergency service response time. This impact, however, will be minimized through the implementation of a Traffic Management Plan and pre-construction coordination with emergency service responders. It is anticipated that any related projects in the area would implement similar procedures.

Once operational, the project would create a beneficial impact to emergency service response times in the area.

Traffic and transportation, bicycle and pedestrian facilities. The intent of the project is to redistribute traffic volumes on the currently congested I-110. No adverse impacts to traffic flow are expected to occur, and comprehensive traffic studies are currently being performed to study the more precise effects of the project on the lanes. Once operational, the project will not contribute to a cumulative adverse effect on traffic in the area.

During construction, the project may have a cumulative impact with similar projects in construction at the same time. Any adverse effects on traffic flow will be minimized to the fullest extent possible by implementation of a Traffic Management Plan. It is anticipated that any other projects in construction in the area at the same time would implement similar measures.

Cultural resources. No previously identified cultural or archaeological resources were identified during a search of the project area. Without cultural or archaeological resources present in the project area, an adverse cumulative impact will not occur. Should the project encounter previously unknown cultural resources during construction, all work will stop until a qualified archaeologist can assess the nature and significance of the find. However, without known resources in the area, the potential for such an encounter is low.

Hydrology and floodplain, water quality and storm water runoff. The cumulative impact study area for water resources includes the immediate project area, located in the Los Angeles River, Ballona Creek, and Dominguez Channel watersheds. The project does not cross any waterways, nor does it impact any waters of the U.S.

During construction there is a possibility for cumulative impacts to storm water runoff if similar projects are in construction simultaneously. These impacts would be minimized through incorporation of storm water Best Management Practices and a Storm Water Pollution Prevention Plan, as required by law.

Geology, soils, seismicity, and topography. The cumulative impact study area for geology and soil resources is limited to the immediate project area. A small amount of soil disturbance will occur for alterations to the Adams Boulevard overcrossing and for new sign structures. However, potential impacts to soils and geology would be minimized through incorporation of geotechnical recommendations, engineering standards, and applicable regulations and practices. It is anticipated that similar

projects would adhere to similar standards, and as a result no cumulative impacts would occur.

Paleontology. The cumulative impact area for the project is limited to construction areas. As construction would be taking place in a heavily disturbed, urbanized area, the potential for impacts to paleontological resources is very low. If paleontological resources are encountered in the area, work will stop until the resource has been protected in place and evaluated by professionally qualified personnel. Due to these protective measures, potential for cumulative impacts is not anticipated.

Hazardous waste and materials. Cumulatively, this project is not expected to result in any adverse hazardous material impacts. All similar construction in the project area would be individually cleared of hazardous waste and/or identify any existing parcels that may contain hazardous materials.

Air quality. This project would improve traffic flow and reduce congestion, thereby improving air quality. The project would not serve as a traffic generator and would not increase capacity of the roadway. The project would not have any adverse cumulative impact on air quality. The modifications proposed at Adams Boulevard would remedy the existing heavy traffic congestion at the northern terminus of the I-110 HOV lanes. The Adams Boulevard modifications would reduce the number of idling cars and lessen the existing long queues during peak hours.

Noise and vibration. The cumulative impact area for noise and vibration is the proposed project area and those areas immediately adjacent. This project is not classified as a Type 1 project, which means the project will not involve construction of a new highway on a new location or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. Therefore, this project will not contribute to a cumulative noise impact.

There is the potential for a cumulative noise impact to occur during construction of the project, if similar highway projects are in construction at the same time. However, these impacts would be minimized with the implementation of standard construction noise abatement procedures, which are assumed to be included in other similar projects.

Energy. The cumulative impact area for energy consumption is the greater Los Angeles Basin. Other than temporary construction impacts, this project would not result in adverse cumulative impacts to energy resources.

Biological environment. No sensitive biological resources are located in the project area. This project would not cumulatively impact any biological resources.

Chapter 3 | California Environmental Quality Act (CEQA) Evaluation

3.1 | Determining Significance under CEQA

The proposed project is a joint project by the California Department of Transportation (Department) and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other action required in accordance with NEPA and other applicable Federal laws for this project is being, or has been, carried out by the Department under its assumption of responsibility pursuant to 23 U.S.C. 327. The Department 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 some 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 the Department 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.

3.2 | Discussion of Significance of Impacts

Community impacts. It was decided by project funding partners upon project conception that an EIR be written to address possible significant impacts to the surrounding communities, low-income and minority groups in particular. However, during project research and analysis, it was determined that adverse impacts would occur to the existing community but these impacts fell below a level of significance. In sensitivity to low-income households within the project area, Metro has posed several options for commuters to pay for a HOT lanes account, including offering a credit to be applied towards minimum account balances or transponders. The inclusion of these project features ensures that any impacts to the community remain below a level of significance.

LESS-THAN-SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT

Please refer to Chapter 2 for a more in-depth discussion of the less-than-significant effects of the proposed project.

SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

Community impacts. This project was initially thought to have significant community impacts, primarily to low-income populations. However, after analysis of the multiple available methods of toll payment and the credit Metro will make available to low-income commuters as a project component, it has been determined that any adverse impacts to the community will fall below a level of significance. Therefore, no mitigation has been proposed.

UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL EFFECTS

The project would not pose any unavoidable significant environmental impacts; consequently, there is no further discussion included in this document.

CLIMATE CHANGE

Regulatory Setting

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of GHG related to human activity that include carbon dioxide (CO₂), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. Assembly Bill 1493 requires the California Air Resources Board (CARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order to enact the standards California needed a waiver from the U.S. Environmental Protection Agency (EPA). The waiver was denied by EPA in December 2007. See *California v. Environmental Protection Agency*, 9th Cir. Jul. 25, 2008, No. 08-70011. However, on January 26, 2009, it was announced that EPA will reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks which will take effect in 2012. This standard is the same standard that was proposed by California, and so the California waiver request has been shelved.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by

the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state’s Climate Action Team.

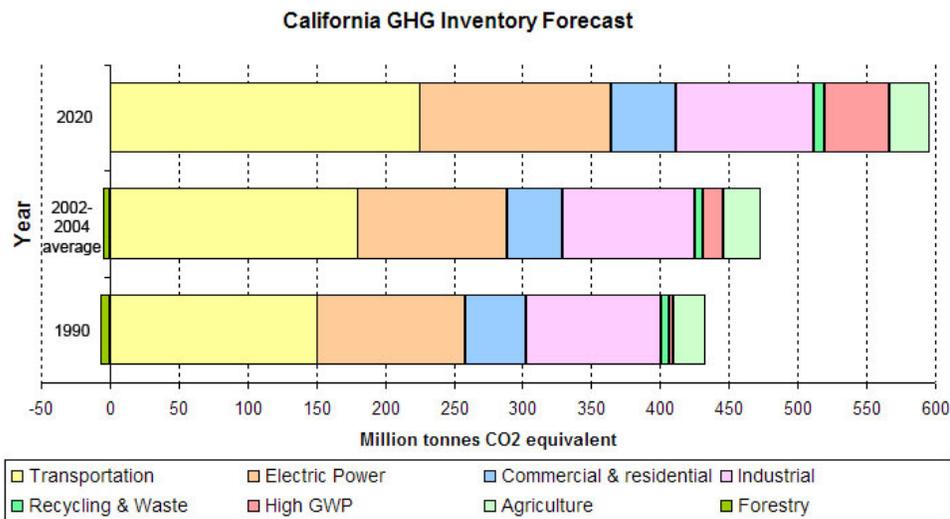
With Executive Order S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by 2020.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. California, in conjunction with several environmental organizations and several other states, sued to force the U.S. Environmental Protection Agency (EPA) to regulate GHG as a pollutant under the Clean Air Act (*Massachusetts vs. Environmental Protection Agency et al.*, 549 U.S. 497 (2007)). The court ruled that GHG does fit within the Clean Air Act’s definition of a pollutant, and that the EPA does have the authority to regulate GHG. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions.

According to Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate change in CEQA Documents (March 5, 2007), an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable.” See CEQA Guidelines sections 15064(i)(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. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

As part of its supporting documentation for the Draft Scoping Plan, CARB recently released an updated version of the GHG inventory for California (June 26, 2008). Shown below is a graph from that update that shows the total GHG emissions for California for 1990, 2002-2004 average, and 2020 projected if no action is taken.

Figure 11 | California Greenhouse Gas Inventory



Source : <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California’s GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation (see Climate Action Program at Caltrans (December 2006), Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006. This document can be found at: <http://www.dot.ca.gov/docs/ClimateReport.pdf>

Project Analysis

Project GHG Emissions

The project GHG emissions in opening year 2012 and horizon year 2035 are compared with two baselines, as follows:

- The changes in CO₂ emissions along the project corridor, compared with the CEQA baseline (i.e., emissions during the Notice of Preparation [NOP] year 2009).
- The changes in CO₂ emissions along the project corridor compared with the no-build scenario.

These comparisons provide disclosure of estimated changes in project emissions of GHGs based on forecast traffic data.

GHG Emissions Analysis

The proposed project is a transportation facility; therefore, the GHG emissions would only include the direct GHG emissions that would be generated by the construction and operational activities of the project. Sources of GHG emissions are the same as those

analyzed for criteria pollutant emissions and include GHG emissions from vehicles traveling along the project corridor.

Project-related GHG emissions (No Build and Build Alternatives) were calculated using the emission factors for off-road and on-road mobile sources, annual VMTs along the project roadways, and guidelines of the CCAR Protocol. Climate change, as it relates to man-made GHG emissions, is by nature a global and cumulative impact. According to the Association of Environmental Professionals (AEP), in its paper titled *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents*², “an individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases.” The following GHG emissions estimate is presented for the purpose of disclosing project-related emissions.

Table 14 summarizes the annual operational GHG emissions that would occur within the project limits during existing (2009), opening (2012) and horizon years (2035). Sources considered in these emission calculations are the same as those analyzed for criteria pollutants. Since CO₂ is the primary GHG of concern, estimation was limited to CO₂.

Table 14 | Existing and Future Estimated CO₂ Emissions by Project Alternatives**

Project Alternatives	Existing Year, 2009	Opening Year, 2012		Horizon Year, 2035	
		Emissions	Change from 2009	Emissions	Change from 2009
No-Build	296.2	296.9	0.7	303.5	7.3
Build	n/a	295.1	-1.1	301.7	5.5
Change Between No-Build and Build	n/a	-1.8	-	-1.8	-

*Emissions are in tons/day.

+ Minus (-) sign denotes a decrease from existing or no-build.

² AEP, 2007. Association of Environmental Professionals. *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents*.

Comparison with CEQA Baseline (Year 2009 Emissions). The data in Table 18 show that in the analyzed future years, annual operational CO₂ emissions would generally result in slight increases relative to the CEQA baseline. The increase is relatively more in 2035 compared to that in 2012. The 2012 build alternative would have a decrease in CO₂ emissions compared to the baseline year (2009).

Comparison with No-Project (NEPA Baseline). Table 18 shows that in the opening year (2012) and the horizon year (2035), there would be a decrease in project GHG emissions compared to the NEPA baseline (no-action).

It should be noted that the CO₂ emission factors assume certain reductions in vehicle emissions due to anticipated increase in efficiency of future vehicle models. However, the factors do not take into account additional reductions in vehicle emissions that would take place in response to AB 1493, when mobile source emission reductions are ultimately implemented through legislation.

One of the main strategies in the Department's Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph; the most severe emissions occur from 0-25 miles per hour (see Figure 11). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors GHG emissions, particularly CO₂, may be reduced.

Construction Emissions

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from 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 mitigated to some degree by longer intervals between maintenance and rehabilitation events.

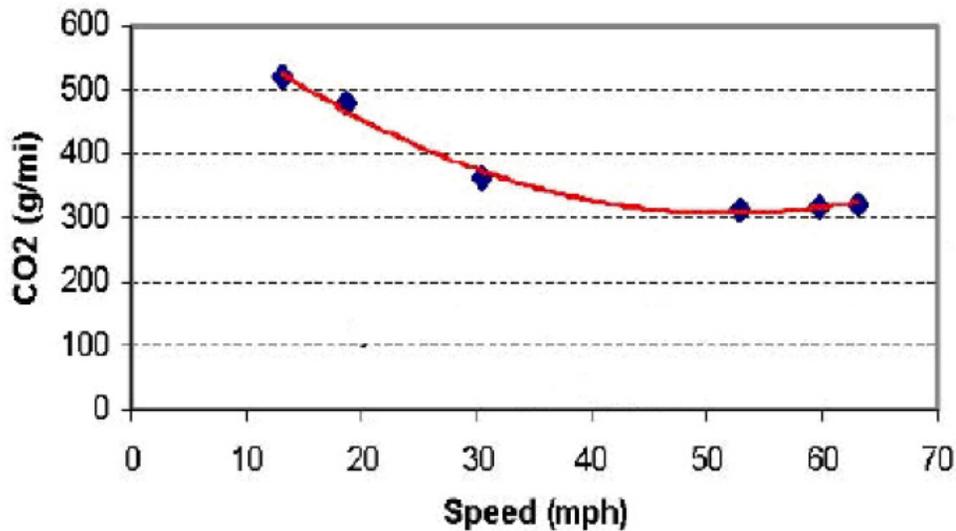
AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as CARB works to implement the Governor's Executive Orders and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$238.6 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding through 2016.³ As shown on the figure below, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a

³ Governor's Strategic Growth Plan, Fig. 1 (<http://gov.ca.gov/pdf/gov/CSGP.pdf>)

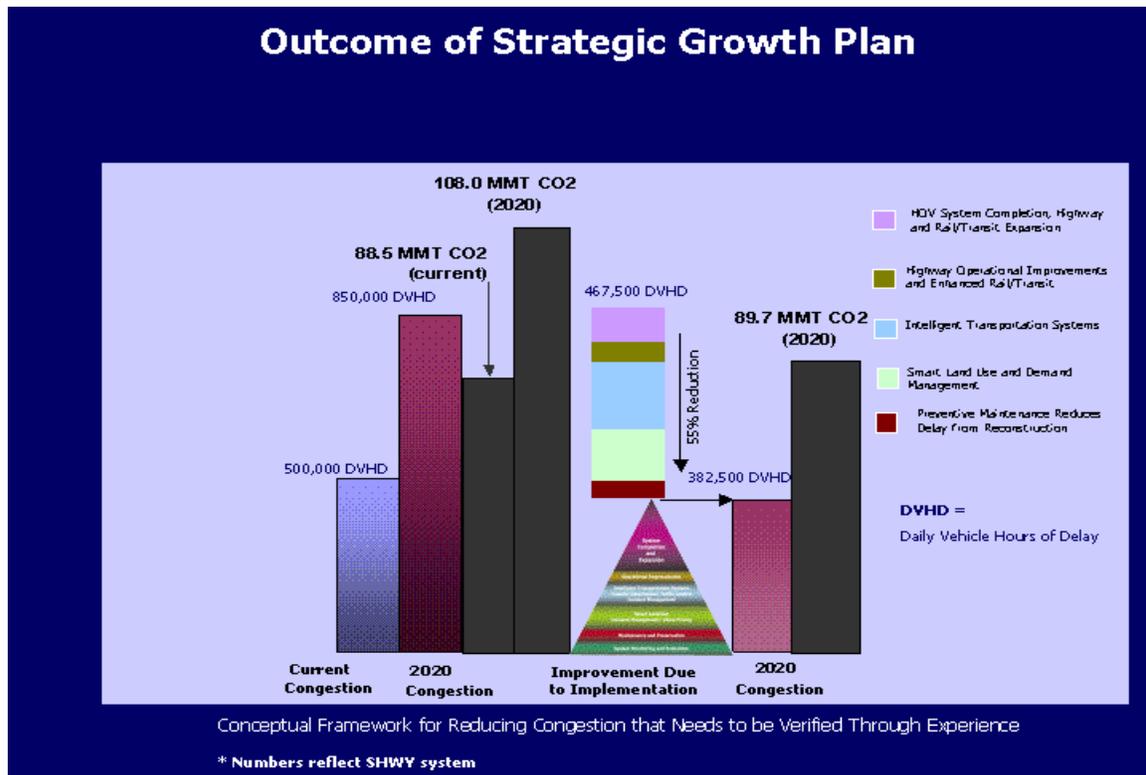
corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together yield the promised reduction in congestion. The Strategic Growth Plan relies on a complete systems approach of a variety of strategies: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements.

Figure 12 | Fleet CO₂ Emissions vs. Speed (Highway)



Source: Center for Clean Air Policy— [http://www.ccap.org/Presentations/Winkelman%20TRB%202004%20\(1-13-04\).pdf](http://www.ccap.org/Presentations/Winkelman%20TRB%202004%20(1-13-04).pdf)

Figure 13 | Outcome of Strategic Growth Plan



As part of the Climate Action Program at Caltrans (December 2006, <http://www.dot.ca.gov/docs/ClimateReport.pdf>), Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by EPA and CARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

Table 15 summarizes the Department and statewide efforts that Caltrans is implementing in order to reduce GHG emissions. For more detailed information about each strategy, please see Climate Action Program at Caltrans (December 2006); it is available at <http://www.dot.ca.gov/docs/ClimateReport.pdf>

Table 15 | Climate Change Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO ₂ Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.007	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.45 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 .36	3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.67

THIS PAGE INTENTIONALLY LEFT BLANK

To the extent that it is applicable or feasible for the project and through coordination with the project development team, minimization measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project.

Adaptation Strategies

“Adaptation strategies” refer to how Caltrans and others can 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, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California’s vulnerability to sea level rise caused by climate change.

The California Resources Agency (now the Natural Resources Agency, (Resources Agency)), through the interagency Climate Action Team, was directed to coordinate with local, regional, state and federal public and private entities to develop a state Climate Adaptation Strategy. The Climate Adaptation Strategy will summarize the best known science on climate change impacts to California, assess California's vulnerability to the identified impacts and then outline solutions that can be implemented within and across state agencies to promote resiliency.

As part of its development of the Climate Adaptation Strategy, Resources Agency was directed to request the National Academy of Science to prepare a *Sea Level Rise Assessment Report* by December 2010 to advise how California should plan for future sea level rise. The report is to include:

- relative sea level rise projections for California, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates;
- the range of uncertainty in selected sea level rise projections;
- a synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems;
- a discussion of future research needs regarding sea level rise for California.

Furthermore Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and

economy of the state. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. However, all projects that have filed a Notice of Preparation, and/or are programmed for construction funding the next five years (through 2013), or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data. (Executive Order S-13-08 allows some exceptions to this planning requirement.)

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted as part of Governor's Schwarzenegger's Executive Order on Sea Level Rise and is mobilizing to be able to respond to the National Academy of Science report on *Sea Level Rise Assessment* which is due to be released by December 2010. Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change impacts, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

A Notice of Preparation was filed on June 16, 2009 for the project. Therefore, this project is exempt from the requirements of Executive Order S-13-08. No further analysis is required.

Chapter 4 | Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including: project development team meetings, interagency coordination meetings, public informational meetings, and public hearings. This chapter summarizes the results of Caltrans's efforts to fully identify, address and resolve project-related issues through early and continuing coordination.

4.1 | Scoping

Scoping is a process designed to examine a proposed project early in the Environmental Impact Report / Environmental Assessment (EIR/EA) analysis and review process. Scoping is intended to identify the range of issues raised by the proposed project and to outline feasible alternatives or mitigation measures to avoid potentially significant environmental effects. The Scoping process inherently stresses early consultation with local agencies, responsible agencies, review agencies, trustee agencies, cooperating agencies, tribal governments, elected officials, interested/affected individuals, any other stakeholders, and any federal agency whose approval or funding of the proposed project will be required for completion of the project.

Scoping is considered an effective way to bring together and resolve the concerns of other agencies and individuals who may potentially be affected by the proposed project, as well as other interested persons, such as the general public, who might not be in accord with the action on environmental grounds.

At this time, the environmental document for the project is an Environmental Impact Report / Environmental Assessment (EIR/EA). The California Environmental Quality Act (CEQA) does require a formal scoping period for an EIR-level document. The hope was to ensure that the concerns of all stakeholders were known early in the process and incorporated into the environmental analyses and CEQA/NEPA document. During the scoping period, Caltrans solicited comments and input from all stakeholders and attempted to ensure their early involvement in the project development and environmental process.

Scoping was conducted from June 16, 2009 to July 15, 2009. Public Scoping Notification letters were mailed (postmarked June 18, 2009) to every individual, official, business, and agency listed in the project mailing list. To view the project mailing list, please refer to the Appendices section of this document.

4.2 | Consultation with Agencies

Notices of Scoping and Notice of Preparation were sent to all state and federal agencies with a stake or interest in the project. The Notice of Preparation briefly described the proposed project, location, potential environmental effects, and the type of environmental document being prepared.

4.3 | Public Participation

In addition to the commencement of the formal CEQA-mandated scoping for the EIR/EA process, Metro had undertaken a substantial public outreach process. This continued public scoping effort was aimed to solicit comments and input from the affected public in order to frame the issues that were important to the corridor communities. All comments recorded during the ongoing public outreach process initiated by Caltrans and Metro will be part of the public record.

Outreach activities conducted by Metro took a variety of forms, including manned booths at conferences, briefings with community-based organizations and city councils, public community workshops, e-blasts and flier distribution, and Corridor Advisory Group meetings. Information was also made available on Metro's project website, <http://www.metro.net/expresslanes>.

Conferences. Metro and its outreach consultants manned a Congestion Reduction Demonstration Project booth at two conferences in September 2008 (the Ward African Methodist Episcopal Church, 84th Session of the Southern California Annual Conference on September 24, 2008, and the Southern California Association of Non-Profit Housing on September 26, 2008) and Mobility 21, 7th Annual Southern California Transportation Summit, on October 20, 2008. Fact sheets in both English and Spanish were provided, and participants were invited to submit their input via comment cards, registration forms, and exit surveys.

Community briefings. Metro held community briefings with the following community-based organizations and City Councils. Not all meetings listed focused on the implementation of the HOT lanes on I-110, however; some briefings focused on the similar project on Interstate 10.

Metro TAC Focus Group (May 30, 2008)

San Gabriel Valley COG City Managers Steering Committee (June 4, 2008)

San Gabriel Valley Transportation Committee (June 12, 2008)

San Gabriel Valley Legislative Caucus (June 14, 2008)

Metro Task Force (June 18, 2008)

San Gabriel Valley Economic Partnership (June 25, 2008)

Foothill Transit Board Meeting (June 27, 2008)

US DOT Summit LA Area Chamber (June 27, 2008)

Technical Meeting at Caltrans (July 21, 2008)

Los Angeles Urban League (July 23, 2008)

San Gabriel Valley Economic Partnership (July 23, 2008)

South Bay Transportation Committee (July 24, 2008)

Los Angeles Alliance for a New Economy (July 25, 2008)

Los Angeles Neighbor Initiative (July 31, 2008)

City of Monrovia City Council (August 5, 2008)

Jack Gabig, Lions International (August 7, 2008)

South Bay Governance Council (August 8, 2008)

McCourt Group (Los Angeles Dodgers) (August 18, 2008)

Music Center (August 18, 2008)

City of San Gabriel City Council (August 19, 2008)

Rideshare Coordinators (August 19, 2008)

City of West Covina City Council (August 19, 2008)

Los Angeles Economic Development Corporation (August 20, 2008)

City of Paramount (September 3, 2008)

Crenshaw Chamber of Commerce (September 4, 2008)

Jacki Bacharach, Executive Director, South Bay Cities Council of Governments (September 4, 2008)

Fast (September 11, 2008)

City of El Monte City Council (September 16, 2008)

Vineyard Recreation Center JBAC-LA Community Workshop (September 20, 2008)

SCAG Briefing (September 23, 2008)

Harbor City/Harbor Gateway Chamber of Commerce (October 2, 2008)

SCAG Briefing (October 2, 2008)

Orthopedic Hospital (October 14, 2008)

Public Community Workshops. Metro and Caltrans invited interested community members to three I-110 Congestion Reduction Community Workshop Meetings located along the corridor. The purpose of these meetings was to give interested parties the opportunity to participate in identifying options that would increase traveling efficiency in the corridor.

Metro advertised the community workshops in both foreign-language and English newspapers. Advertisements were published in the following publications:

Downtown News: August 11 and September 8, 2008

Sing Tao (Chinese language): August 15 and 22, 2008

Chinese Daily News (Chinese language): August 15 and 22, 2008

Pasadena Star-News: August 22, 2008

San Gabriel Valley Tribune: August 22, 2008

Whittier Daily: August 15 and 22, 2008

Eastern Group Publications: August 11 and 21, 2008

Eastside Sun

Northeast Sun

Mexican-American Sun

Bell Gardens Sun

Commerce Comet

Montebello Comet

City Terrace Comet

ELA Brooklyn-Belvedere Comet

Monterey Park Comet

Wyvernwood Chronicle

Daily Breeze: September 10, 2008

Beach Reporter: August 28, September 5 and 11, 2008

Easy Reader: August 28, September 4 and 11, 2008

PV News: August 28, September 4 and 11, 2008

Gardena Valley News: August 28, September 4 and 11, 2008

Metro disseminated four separate e-mail blasts to their mailing list to inform as well as remind recipients of the community workshop meetings. On Friday, August 8, 2008, the meeting notification flyer was sent to 1062 e-mail addresses. Meeting reminder notifications were sent on August 14, September 2, and September 8, to 1135, 1247,

and 1267 e-mail addresses, respectively. Recipients included, but were not limited to: elected officials, city departments and staff, community groups, faith-based organizations, neighborhood councils, chambers of commerce, councils of government, businesses, transit advocates, transportation organizations, schools, youth organizations, medical facilities, downtown venues, parks and recreational facilities, and members of the general public.

A total of 38,000 flyers advertising the community workshops were distributed along the I-110 corridor for both the August and September meetings.

Meetings were held in an open house format. Metro, Parsons Brinckerhoff, and Caltrans staff manned various information stations, where they discussed the project, answered questions, and recorded attendees' comments. Metro also led question and answer sessions. Meetings were held and located as follows:

Saturday, August 16, 2008, Carson Civic Center

Wednesday, August 20, 2008, Constituent Service Center, Los Angeles

Friday, September 12, 2008, Carson Civic Center. This meeting was an agenda item on the monthly South Bay Governance Council Meeting.

Metro continues to hold public meetings at various points in the project development process to keep the public informed of project updates and provide a mechanism for community members to ask questions and voice concerns.

Corridor Advisory Group Meetings. Metro invited various community leaders and stakeholders along the I-110 corridor to participate in the Corridor Advisory Group (CAG). The purpose of the group is threefold. It provides feedback to the project team on study information and choices, particularly at project milestones. It also serves as a forum for collaborative discussions on specific project issues. Third, it serves as a link to wider constituencies within the community by helping to disseminate information about the project, and by sharing information learned from their community with the project team. The CAG has and will meet throughout the life of the project on a quarterly basis beginning in November 2008, with special unified sessions scheduled at major milestones.

Technical Advisory Group Meetings. The Technical Advisory Group (TAG) is comprised of agency representatives with technical expertise relative to the Congestion Reduction Demonstration Project, including Metro, Caltrans, Southern California Association of Governments (SCAG), Los Angeles Department of Transportation (LADOT), Metrolink, Federal Transit Administration (FTA), Federal Highway Administration (FHWA), Los Angeles County Department of Public Works, Foothill, Gardena, and Torrance Municipal Transit, San Gabriel Valley Council of Governments, South Bay Cities Council of Governments, Gateway Cities Council of Governments, and Los Angeles County Economic Development Corporation (LAEDC). Other agencies may be included over the course of the project. The role of the TAG is to evaluate and volunteer input on the technical aspects of the project and to consult with the Corridor Advisory Group.

Public Hearings on Toll Rates. State legislation authorizing the project, Senate Bill 1422, required Metro to hold a public hearing thirty days before the Metro Board of Directors adopts or adjusts a tolling policy. In an effort to solicit public participation, Metro held six hearings in locations encompassing both the I-10 and I-110 corridors. Hearings were held the following dates and locations:

Saturday, June 13, 2009, Metro Board Room, Los Angeles

Monday, June 15, 2009, Carson Community Center

Wednesday, June 17, 2009, Metro San Gabriel Valley Service Sector, El Monte

Thursday, June 18, 2009, Darby Park, Inglewood

Saturday, June 20, 2009, West Covina Civic Center

Monday, June 22, 2009, Civic Center Library, Torrance

Public notification of these hearings was done via articles in the Los Angeles Times, through the Corridor Advisory Groups, and meeting information posted on Metro's project website.

A public hearing will be scheduled after the approval of the draft EIR/EA. Ads shall be placed in local newspapers, and notification letters and flyers shall be sent to interested individuals, elected and city officials, and responsible review agencies.

Chapter 5 | List of Preparers

Caltrans District 7 Division of Environmental Planning

Ron Kosinski, Deputy District Director
Aziz Elattar, Office Chief
Gary Iverson, Branch Chief (Cultural Resources)
Garrett Damrath, Branch Chief
Allison Morrow, Environmental Planner (CEQA/NEPA)
Jason Roach, Associate Environmental Planner (Cumulative Impact Analysis)
Le Chen, Associate Environmental Planner (CEQA/NEPA)
Sarah Berns, Environmental Planner (GIS)
Paul Caron, Branch Chief (Biology)
Dawn Kukla, Branch Chief (Paleontology)
Michelle Goossens, Environmental Planner (Cultural Resources)

Caltrans District 7 Office of Environmental Engineering and Corridor Studies

Andrew Yoon, Senior Transportation Engineer (Air Quality)
MD Shaheed, Transportation Engineer (Air Quality)
Jin S. Lee, Senior Transportation Engineer (Noise & Vibration)
Hamid Sarraf, Transportation Engineer (Noise & Vibration)
Roland Cerna, Transportation Engineer (Noise & Vibration)
Steve Chan, Senior Transportation Engineer (Hazardous Materials)
Frank Gonzales, Transportation Engineer (Hazardous Materials)

Caltrans District 7 Division of Project Development

Greg Damico, Senior Transportation Engineer
Eugene Leibman, Transportation Engineer

Caltrans District 7 Division of Project Management

John K. Lee, Project Manager
Mirna Dagher, Project Manager

Caltrans District 7 Office of Engineering Services

Ralph Sasaki, Senior Transportation Engineer (Hydraulics)
Shirley Pak, Senior Transportation Engineer (Stormwater)
Sam Sukiasian, Senior Transportation Engineer (Geotechnical Design)
Kristopher Barker, Engineering Geologist (Geology)

Caltrans District 7 Office of Landscape Architecture

Jennifer Taira, Senior Landscape Architect (Visual Impact Assessment)
Rich Kester, Landscape Associate (Visual Impact Assessment)

Caltrans District 7 Office of Freeway Operations

Kirk Patel, Senior Transportation Engineer (Traffic Operations)

GPA Environmental

Richard Galvin, Vice President
Erinn Peterson, Associate Environmental Planner (Community Impact Assessment)

Parsons Brinckerhoff, Inc.

Regional Agency	Randy Floyd	Executive Director	Antelope Valley Transit Authority	42210 6th Street West	Lancaster, CA 93534
Regional Agency		Director, Transit Division	City of Santa Clarita Transit	28250 Constellation Road	Santa Clarita, CA 91355
Regional Agency		Director	Santa Monica Big Blue Bus	1660 7th Street	Santa Monica, CA 90401-9324
Regional Agency		Director	Torrance Transit	20500 Madrona Ave	Torrance, CA 90503-3692
Regional Agency	Aurora Jackson	Director of Transportation	Montebello Bus Lines	400 S. Taylor Ave	Montebello, CA 90640
Regional Agency		Director	Gardena Bus Lines	15350 South Van Ness	Gardena, CA 90249
Regional Agency		Director	Carson Circuit	3 Civic Plaza Drive	Carson, CA 90745
Regional Agency					
Regional Agency		Jeff Carpenter	CRA/LA	954 S Spring St, Suite 800	Los Angeles, CA 90013
Regional Agency			City of Los Angeles Department of Transportation	100 S Main St, 10th Floor	Los Angeles, CA 90012
Regional Agency			Southern California Association of Governments	818 W Seventh St, 12th Floor	Los Angeles, CA 90017
Regional Agency	Jacki Bacharach	Executive Director	South Bay Cities Council of Governments	5033 Rockvalley Road	Rancho Palos Verdes, CA 90275
Regional Agency			LAFCO for Los Angeles County	700 N Central Blvd., Ste 445	Glendale, CA 91203
Regional Agency			South Coast Air Quality Management District	21865 Copley Dr	Diamond Bar, CA 91765
Regional Agency	Rebecca DeLeon	Environmental Planning Team	Metropolitan Water District	700 N Alameda St, US3-230	Los Angeles, CA 90012
Regional Agency	Gail Goldberg	Director	Los Angeles Department of City Planning	200 N Spring St	Los Angeles, CA 90012
Regional Agency	Dean D. Efstathiou	Acting Director of Public Works	Los Angeles County Department of Public Works	900 S Fremont Ave	Alhambra, CA 91803
Regional Agency	John Todd	Assistant Chief	Los Angeles County Fire Department	1320 North Eastern Ave	Los Angeles, CA 90063
Regional Agency	Frank Gomez	Noise Division	Los Angeles County Health Services		
Regional Agency			County of Los Angeles Parks/Recreation	1200 W Seventh St Suite 700	Los Angeles, CA 90017
Regional Agency			Los Angeles County Dept of Public Health	313 N Figueroa St, Room 806	Los Angeles, CA 90012
Regional Agency	Paul D. McCarthy	Impact Analysis Section Head	Los Angeles County Dept of Regional Planning	Hall of Records, 13th Floor, 320 W Temple St	Los Angeles, CA 90012
Regional Agency	Stephen R. Maguin	Chief Engineer/General Manager	Los Angeles County Sanitation District	PO Box 4998	Whittier, CA 90607-4998
Regional Agency	H. David Nahai	Chief Executive Officer/General Manager	Los Angeles Department of Water and Power	PO Box 51111	Los Angeles, CA 90051-0100
Regional Agency	Leroy D. Baca	Sheriff	Los Angeles County Sheriff's Department	4700 Ramona Blvd	Monterey Park, CA 91754
	David L. Brewer III	Superintendent	Los Angeles County Unified School District	PO Box 3307	Los Angeles, CA 90051
Interested Parties			Automobile Club Southern California	PO Box 25001	Santa Ana, CA 92799-6001
Interested Parties			Southern California Edison	PO Box 800	Rosemead, CA 91770
Interested Parties	Dorothy Kieu Le	Planning and Policy Director	Los Angeles County Bicycle Coalition	634 S Spring St, Suite 821	Los Angeles, CA 90014
Interested Parties		Administrative Office	Legal Aid Foundation of Los Angeles	1102 Crenshaw Blvd	Los Angeles, CA 90019
Interested Parties			Los Angeles Alliance for a New Economy	464 Lucas Ave, Suite 202	Los Angeles, CA 90017
Interested Parties	Dr. Joseph K. Lyou	Executive Director	California Environmental Rights Alliance	PO Box 116	El Segundo, CA 90245-0116
Interested Parties			City of Los Angeles Chamber of Commerce	350 S Bixel St	Los Angeles, CA 90017
Interested Parties			City of Carson Chamber of Commerce	530 E Del Amo Blvd	Carson, CA 90746
Interested Parties			City of Gardena Chamber of Commerce	1204 West Gardena Blvd, Suites E & F	Gardena, CA 90247
Interested Parties			Harbor City/Harbor Gateway Chamber of Commerce	19401 South Vermont, Suite G104	Torrance, CA 90502
Interested Parties		Director	Exposition Construction Authority	707 Wilshire Blvd, 34th floor	Los Angeles, CA 90017
Interested Parties		Director	Los Angeles Orthopaedic Hospital Foundation	2400 S Flower St	Los Angeles, CA 90007
Interested Parties			Citizen's Campaign to Fix Expo	PO Box 781267	Los Angeles, CA 90016
Interested Parties				613 E 77th St	Los Angeles, CA 90001
Interested Parties				847 E 25th St	Los Angeles, CA 90011
Interested Parties				4703 S. Broadway	Los Angeles, CA 90037
Interested Parties				2119 Norwood St	Los Angeles, CA 90007
Interested Parties				2340 Portland St	Los Angeles, CA 90007
Interested Parties		Executive Director	Los Angeles Neighborhood Initiative	900 Wilshire Blvd	Los Angeles, CA 90017
Interested Parties		Public Relations Office	LA Trade Technical College	400 W. Washington	Los Angeles, CA 90015
Interested Parties		Associate Director, Local Govt Relations	University of Southern California	University Park Campus	Los Angeles, CA 90089
Interested Parties			L.A. U.R.A.	4514 Long Beach Ave.	Los Angeles, CA 90058
Interested Parties		Executive Director	All People's Christian Church	822 E 20th St	Los Angeles, CA 90011
Interested Parties			Figueroa Corridor Community Land Trust	152 W32nd St	Los Angeles, CA 90007
Interested Parties			Korean Culture Center	5505 Wilshire Blvd	Los Angeles, CA 90036
Interested Parties			Bowers and Sons Cleaners	2509 S Central Ave	Los Angeles, CA 90011
Interested Parties		Publisher, Editor-in-Chief	Metro Investment Report	811 W Seventh St, Ste. 900	Los Angeles, CA 90017

APPENDICES

Appendix A. CEQA Checklist

Supporting documentation of all CEQA checklist determinations is provided in Chapter 2 of this Environmental Impact Report/Environmental Assessment. Documentation of “No Impact” determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or compensation measures is under the appropriate topic headings in Chapter 2.

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 indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included in Section VI following the checklist. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
 II. AGRICULTURE 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. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

III. 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:

a) Conflict with or obstruct implementation of the applicable air quality plan?

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

d) Expose sensitive receptors to substantial pollutant concentrations?

e) Create objectionable odors affecting a substantial number of people?

IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	-------------------------------------

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

VIII. HYDROLOGY AND WATER QUALITY: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

IX. LAND USE AND PLANNING: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

X. MINERAL RESOURCES: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XI. NOISE: Would the project result in:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

XII. POPULATION AND HOUSING: Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

XIII. 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:

Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

XIV. RECREATION:

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?

XV. TRANSPORTATION/TRAFFIC: Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Result in inadequate parking capacity? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

XVI. UTILITIES AND SERVICE SYSTEMS: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| 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, 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Appendix B. Resources Evaluated Relative to the Requirements of Section 4(f)

This section of the document discusses parks, recreational facilities, wildlife refuges and historic properties found within or adjacent to the project area that do not trigger Section 4(f) protection either because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not 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 Historical Property Survey Report prepared for the project concluded that no properties that require evaluation are present within the project vicinity. Therefore, the provisions of Section 4(f) are not triggered.

Implementation of the build alternative would not change existing access points, acquire any right-of-way, or impact the protected, features, or attributes of any park or recreational areas in the vicinity of the project. For more information on specific parks and recreational areas near the project area, please see Section 2.1.1, Land Use. There are no existing or planned publicly owned parks, recreation areas, or wildlife or waterfowl refuges within or immediately adjacent to the disturbance limits of the proposed project. Therefore, the provisions of Section 4(f) are not triggered.

Appendix D. List of Technical Studies

Air Quality Technical Study (February 2010)

Natural Environment Study (December 2009)

Historic Property Survey Report/Archaeological Survey Report (June 2009)

Community Impact Assessment (prepared by Galvin Preservation Associates) (February 2010)

Geotechnical Design Report (prepared by Parsons Brinckerhoff) (January 2010)

Preliminary Hazardous Waste Assessment (September 2009)

Storm Water Data Report (prepared by Parsons Brinckerhoff) (February 2010)

Los Angeles Region Express Lanes Project, AB 1467 Application (March 2008)

Visual Impact Assessment (July 2009)

Noise Impact Assessment (June 2009)

Paleontological Technical Review (December 2009)

Traffic Report (February 2010)

Appendix E. Project Summary PM Form and TCWG Concurrence

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

RTIP ID# <i>(required)</i> LA0G092				
TCWG Consideration Date September 23, 2008				
Project Description <i>(clearly describe project)</i> This is a demonstration pilot project that would initially convert existing high occupancy vehicle (HOV) lanes to high occupancy vehicle toll (HOT) lanes along portions of the I-10 and the I-110 freeways in Los Angeles County. Please note: heavy duty diesel vehicles are not allowed in HOV or HOT lanes, and buses using these facilities will be CNG. Therefore, heavy duty diesel vehicles do not now, nor will they in the future, use these facilities. Single Occupancy Vehicles (SOV) or those vehicles that do not meet the minimum occupancy requirement, during times of excess capacity, could have the option of paying a fee to use the HOT lanes on these facilities. A fee structure would be designed to keep traffic on the HOT lanes moving at speeds of at least 45 mph. The fee structure would vary by time of day and level of traffic congestion. The fees collected in the future would pay for operating expenses and excess revenues would pay for transit improvements such as purchasing additional buses (CNG), enhancing transit centers and expanding park and ride facilities and HOV facility improvements.				
Type of Project <i>(use Table 1 on instruction sheet)</i> Change to existing state highway.				
County Los Angeles	Narrative Location/Route & Postmiles: I-10 from Alameda St./Union Station to I-605, PM 18 – 31 I-110 from 182 nd Street/Artesia Transit Center to Adams Blvd., PM 10 – 22. Caltrans Projects – EA# n/a			
Lead Agency: Los Angeles County Metropolitan Transportation Authority				
Contact Person	Phone#	Fax#	Email	
Stephanie Wiggins	213-922-1023	213-922-2228	wiggins@metro.net	
Hot Spot Pollutant of Concern <i>(check one or both)</i> PM2.5 X PM10 X				
Federal Action for which Project-Level PM Conformity is Needed <i>(check appropriate box)</i>				
Categorical Exclusion (NEPA)	X	EA or Draft EIS	FONSI or Final EIS	PS&E or Construction
EIRr				
Scheduled Date of Federal Action: 6/2009				
NEPA Delegation – Project Type <i>(check appropriate box)</i>				
Exempt		Section 6004 – Categorical Exemption		X
				Section 6005 – Non-Categorical Exemption
Current Programming Dates <i>(as appropriate)</i>				
	PE/Environmental	ENG	ROW	CON
Start			N/A	
End	6/2009	9/2009	N/A	12/2010

<p>Project Purpose and Need (Summary): <i>(attach additional sheets as necessary)</i></p> <p>Metro has been selected by the USDOT to conduct a congestion pricing demonstration project on portions of the I-10 and I-110 in Los Angeles County. This demonstration will assess the ability to increase throughput and manage the flow on the existing freeways through congestion pricing. (Throughput is the number of people who are moved, not the number of vehicles) Congestion pricing is an emerging field to help maximize the number of people who use transportation facilities.</p> <p>Key congestion pricing benefits could include reduction in delays, an increase in the predictability of trip times, improvements to transit speeds and reliability of service, increases in transit ridership, and reductions in fuel consumption and vehicle emissions.</p> <p>This pilot project will serve to demonstrate how congestion pricing can work for Los Angeles freeways. According to the 2000 Census, 70% of Los Angeles County commuters drive alone to work, and only 7% use transit. A goal of this project is to increase the mode shares of carpooling and transit, and the incentive is a faster travel time by maintaining the speed of 45 mph in the HOT lanes.</p>
<p>Surrounding Land Use/Traffic Generators <i>(especially effect on diesel traffic)</i></p> <p>The I-10 component of the demonstration project connects downtown Los Angeles with communities along the corridor to the I-605. The corridor generally includes residential and commercial uses. The I-110 component of the demonstration project connects downtown Los Angeles with communities along the I-110 corridor to the Artesia Transit Center. The corridor generally includes residential, commercial and industrial uses.</p>
<p>Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility</p> <p>Opening Year counts (2010):</p> <p>I-10 Corridor: 230,000 – 260,000 AADT; 10,200 – 15,700 truck AADT with trucks as 4 -6.5 percent of total vehicles</p> <p>I-110 Corridor: 260,000 – 350,300 AADT; 9,300 – 19,600 truck AADT with trucks as 3 – 7 percent of total vehicles</p>
<p>RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility</p> <p>This project is a one year pilot demonstration project.</p>
<p>Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT NA</p> <p>RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT NA</p>
<p>Describe potential traffic redistribution effects of congestion relief <i>(impact on other facilities)</i></p> <p>This project is expected to increase the occupancy of vehicles (increase person throughput) on the I-10 and I-110 freeways. It will not remove current mixed flow traffic lanes, but rather, offer a time incentive to carpool, vanpool and transit users. No potential diesel truck traffic redistribution effects are anticipated in the all-purpose lanes adjacent to the proposed HOT lanes during the timeframe of the pilot project.</p>
<p>Comments/Explanation/Details <i>(attach additional sheets as necessary)</i></p> <p>The project does <u>not</u> qualify as a project of air quality concern because the project would not result in any increase in the number of diesel trucks that would utilize these facilities. Trucks are not allowed to use these facilities; so, as previously noted, there are no impacts from trucks. Traffic analysis for this project is currently underway. Preliminary analysis indicates that the impact of this project on the two freeway segments is, at a minimum, neutral, and possibly even positive. The project sponsor intends to collect data the project's potential effects on the overall facility, including diesel trucks. This project's investment in transit service and improvements is anticipated to increase the mode share of transit, and as a result increase throughput in these corridors without increasing congestion. Diesel trucks are not allowed to use HOV or HOT lanes in California. The buses used on these facilities are and will continue to be fueled by CNG, not diesel. Therefore, these facilities have no, and will continue to have no, effect on diesel traffic in the all-purpose lanes adjacent to the proposed HOT lanes during the timeframe of the pilot project.</p>



Careers PROGRAMS & PROJECTS

Compass Blueprint

Environment

Air Quality

Energy

Environmental Impact Reports

Environmental Justice

Intergovernmental Review

Solid & Hazardous Waste Management

Water

Housing

Local Profiles

Overall Work Program

Regional Comprehensive Plan

Regional Transportation Improvement Program

Regional Transportation Plan

SB 375 Regional Implementation Process

State of the Region

Strategic Plan

Transportation

REGIONAL COUNCIL

Districts & Representatives

Executive Officers

TCWG Project-Level PM Hot Spot Analysis Project Lists

Review of PM Hot Spot Interagency Review Forms

September 2008	Determination
<p><u>IMP050507</u></p> <ul style="list-style-type: none"> Fig. 1 - Aten Road Map 2 of 3 Fig 2. - Aten Road Map 3A of 3 Fig 3. - Aten Rehab A Photo 	Not a POAQC - Hot Spot analysis not required.
<p><u>34770</u></p> <ul style="list-style-type: none"> Fig. 1 - Regional Location Fig. 2 - Local Vicinity 	Not a POAQC - Hot Spot analysis not required.
<p><u>LA0G092</u></p>	Not a POAQC - Hot Spot analysis not required.