



EXECUTIVE SUMMARY

S.1 - Overview of the Project Area

The California Department of Transportation (Caltrans), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), the Gateway Cities Council of Governments (Gateway Cities COG), the Southern California Association of Governments (SCAG), the Ports of Los Angeles (POLA) and Long Beach (POLB) (collectively known as the Ports), and the Interstate 5 Joint Powers Authority (I-5 JPA) (collectively referred to as the I-710 Funding Partners), proposes to improve Interstate 710 (I-710, also known as the Long Beach Freeway) in Los Angeles County between Ocean Blvd. and State Route 60 (SR-60). The proposed project is referred to as the I-710 Corridor Project. I-710 is a major north-south interstate freeway connecting the City of Long Beach to central Los Angeles. Within the I-710 Corridor Project Study Area (Study Area), the I-710 serves as the principal transportation connection for goods movement between POLA and POLB, located at the southern terminus of I-710 and the Burlington Northern Santa Fe (BNSF Railroad)/Union Pacific Railroad (UP Railroad) rail yards in the Cities of Commerce and Vernon.

The existing I-710 Corridor has elevated levels of health risks related to high levels of diesel particulate emissions, traffic congestion, high truck volumes, high accident rates, and many design features in need of modernization (the original freeway was built in the 1950s and 1960s). The I-710 Major Corridor Study (MCS; March 2005), undertaken to address the I-710 Corridor's mobility and safety needs and to explore possible solutions for transportation improvements, was completed in March 2005 and identified a community-based Locally Preferred Strategy consisting of ten general purpose lanes next to four separated freight- movement lanes. Subsequent to the MCS, a Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was circulated for public review in 2012 which analyzed several build alternatives. Based on the feedback received during the 2012 public circulation period, as well as changes in key traffic conditions and traffic modeling assumptions, revised alternatives have been developed and prepared in this current Recirculated Draft Environmental Impact Report/ Supplemental Draft Environmental Impact Statement (RDEIR/ SDEIS).



The Study Area for the I-710 Corridor

The Study Area includes the portion of the I-710 Corridor from Ocean Blvd. in Long Beach to SR-60, a distance of approximately 19 miles. At the freeway-to-freeway interchanges, the Study Area extends east and west of the I-710 mainline for the Interstate 405 (I-405), State Route 91 (SR-91), Interstate 105 (I-105), and I-5 interchanges. This is the general Study Area for the I-710 Corridor Project. Specific study areas have been established for individual environmental analyses (e.g., health risk assessment area of interest or water quality areas).

S.2 - Purpose and Need

S.2.1 - Project Need

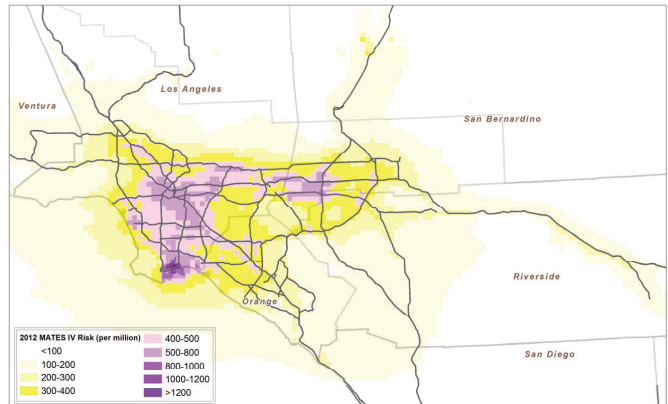
The I-710 Corridor is a vital transportation artery, linking the communities along it and the POLA and POLB to Southern California and beyond. An essential component of the regional, statewide, and national transportation system, it serves both passenger and goods movement vehicles. As a result of population growth, employment growth, increased demand for goods movement, increasing traffic volumes, and aging infrastructure, the I-710 Corridor experiences serious congestion and safety issues.



The I-710 is a major goods carrying corridor.

S.2.1.1 - Air Quality

The U.S. Environmental Protection Agency (EPA) has designated the South Coast Air Basin (Basin), which includes the Study Area, as an extreme ozone non-attainment area and a non-attainment area for small airborne particulate matter less than 10 and 2.5 microns (PM10 and PM2.5). Exposure to ozone, PM10, and PM2.5 levels above the Federal health standards is associated with many adverse health effects—including decreased lung function, aggravated asthma, increased lung and heart disease symptoms, and chronic bronchitis. Studies such as the South Coast Air Quality Management District (SCAQMD) Multiple Air Toxic Exposure Studies (MATES), the latest being MATES IV, have shown that elevated levels of nitrogen dioxide (NO2) and ultrafine particulates (UFPs) occur very near roadways. Sampling for these MATES has occurred as recently as 2012 and 2013; the highest levels of calculated cancer risk (approximately 1,400 in one million) in 2012 (the study analysis year) occur in the Study Area, particularly near the Ports, the rail yards, and along the I-710 freeway. These studies show that diesel particulate matter (DPM) is the greatest contributor to air-quality-related cancer risk in the Basin and that approximately half of the DPM is emitted by diesel trucks using the freeway and roadway systems.

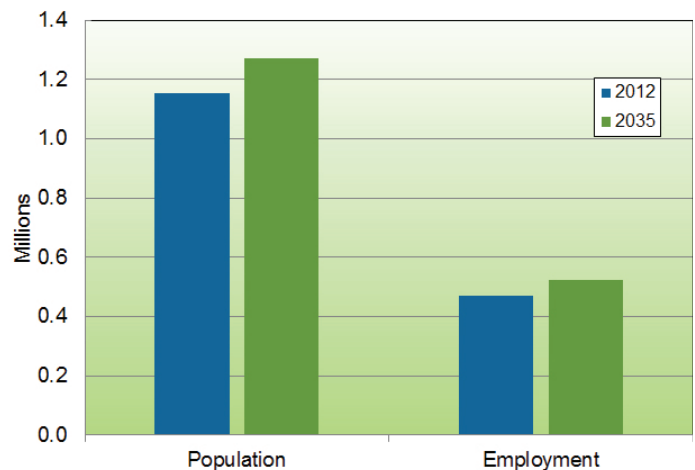


South Coast Air Quality Management District data shows high levels of air toxins along I-710 that can be harmful to human health.

S.2.1.2 - Capacity, Transportation Demand, and Safety

Capacity: Many segments of the I-710 mainline currently operate at level of service (LOS) E or F throughout the day, creating chokepoints and causing congestion on other segments of the mainline, as well as on parallel arterial highways. A unique factor affecting the capacity of the I-710 Corridor is the large numbers of heavy-duty trucks that use the I-710 Corridor to travel between POLB, POLA, and the rail freight intermodal yards located near I-5, and to warehousing and cargo distribution points scattered throughout the Southern California urban area. In the I-710 Corridor, capacity and congestion at local arterial intersections are also a concern.

I-710 Study Area Population and Employment Growth



SCAG's regional forecast data shows continued population and employment growth within Southern California over the next 25 years.

Transportation Demand: Combined port activity in the Study Area is expected to increase from the handling of 14.1 million annual twenty-foot equivalent units (TEUs) in 2012 to approximately 41.4 million annual TEUs in 2035. This forecast is consistent with SCAG’s 2012 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) Future Baseline Scenario for 2035. For comparative purposes, SCAG’s recent 2016 RTP/SCS Goods Movement Appendix indicates that total container volume for the Ports of Los Angeles and Long Beach is expected to grow to 36 million by 2035. The I-710 Corridor is, and is expected to remain, a primary route for trucks carrying containers to and from the Ports. This indicates that the existing transportation problems on the I-710 mainline and other Study Area roadways will get worse, and which in turn, will have the potential to adversely affect the competitive position of the Los Angeles region in the global economy.

The regional population is forecast to grow by 20 percent and the Study Area population is forecast to grow by 10 percent from 2012 to 2035. Employment will follow a similar pattern, with regional growth of 27 percent and Study Area employment growth of 11 percent. Growth will be lower in the Study Area because it is almost completely developed. Increases in population, employment, and goods movement between now and 2035 will lead to more traffic on the I-710 freeway and on the streets and roadways within the Study Area as a whole.

Safety: I-710 experiences elevated accident rates, exceeding the State average for similar facilities in many locations. High traffic volumes, existing freeway design, freeway congestion, and the interaction between cars and the high volume of trucks in the traffic stream on the I-710 mainline may be contributing factors to these existing accident rates. In the Study Area, according to the Caltrans Traffic Accident Surveillance and Analysis System (TASAS), truck-related

accidents range from 29 to 36 percent of the total number of accidents within the I-710 mainline study segments, which is higher than the State average.

S.2.1.3 - Roadway Design

The I-710 freeway was designed in the 1950s and 1960s, before the dramatic increase in imports from Asia and the containerization of oceangoing freight increased the cargo traffic at POLA and POLB, and before the extensive population growth in Southern California since 1960. In general, the I-710 freeway has remained relatively unchanged from when it was originally constructed. Due to growth in overall traffic volumes and the high level of truck traffic that has occurred in recent years, many aspects of the freeway design do not operate efficiently due to the heavy truck traffic and the size and relative lack of maneuverability of these trucks.



When State Route 7 (I-710) was built in the 1950’s, there was still a great deal of agriculture and open space in the surrounding area.

Design features that are most directly associated with the current operational problems in the I-710 Corridor include outdated local interchange designs, spacing between many of the I-710 mainline interchanges with local streets and nonstandard geometric features of freeway-to-freeway interchanges. On the I-710 freeway mainline, nonstandard weaving distances, narrow or nonexistent shoulders, narrow lane widths, varying number of through lanes, nonuniform ramp metering, and nonstandard pavement all contribute to current operational problems.



I-710 experiences high accident rates.



The “cloverleaf” interchanges built in the 1950’s are not able to handle today’s volume of traffic.

S.2.1.4 - Social Demands and Economic Development

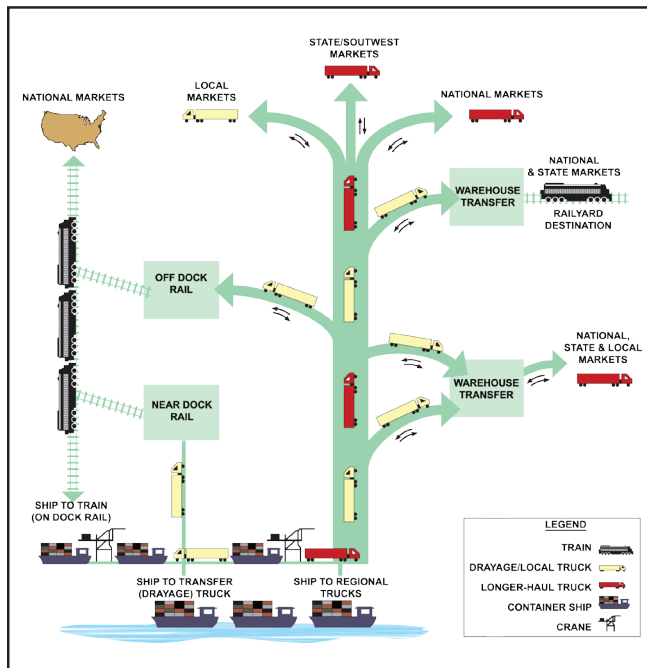
Current growth projections recently adopted by SCAG (SCAG 2016 RTP/SCS Growth Forecast, April 2016) indicate continuing growth in the Study Area. The population in Los Angeles County, as a whole, is expected to increase from 10.2 million in 2015 to 11.5 million in 2040, an increase of approximately 13 percent. This regional growth will continue to place demand on the I-710 Corridor.

With regard to economic development, the Gateway Cities Subregion experiences high levels of unemployment and poverty. In September 2016, unemployment rates in the Study Area ranged from 2.8 to 8.1 percent of the workforce within the affected communities, which in some cases is higher than Los Angeles County (5.2 percent) and State (5.5 percent) unemployment rates.

Highway congestion causes delays affecting personal mobility and goods movement and results in increased economic costs. Los Angeles County's goods movement system serves as a gateway for both international and domestic commerce, especially within the Study Area, where POLA, POLB, and the BNSF/UP Railroad intermodal rail yards are located.

S.2.1.5 - Modal Interrelationships and System Linkages

The I-710 Corridor serves regional, statewide, and national needs for both the general traveling public and the goods movement industry. The I-710 Corridor is the principal transportation connection between POLB/POLA and the BNSF/UP Railroad intermodal rail yards located in the Cities



Goods are moved to and from the ports by both trains and trucks.

of Vernon and Commerce. BNSF and UP Railroads provide freight movement to destinations throughout the United States. Together, POLB/POLA is one of the largest container ports in the world, and port activity is projected to nearly triple in volume by 2035. The I-710 Corridor also provides key interstate commerce connections to east-west freeways (I-405, SR-91, I-105, I-5, SR-60, and Interstate 10 [I 10]). From a system linkage standpoint, no improvements are planned to these facilities except for possible improvements to I-5 (from Interstate 605 [I-605] through the I-710 interchange). Also, the Gerald Desmond Bridge Project would replace the existing bridge and connects directly to the southern terminus of the I-710 Corridor.



I-710 provides a critical linkage for interstate commerce between the San Pedro Bay Ports, the BNSF and the UP rail yards, and the rest of the nation.

With the existing on-dock rail and intermodal facilities approaching capacity, demand for transport of goods by truck on the I-710 Corridor is expected to increase.

S.2.2 - Project Purpose

The purpose of the I-710 Corridor Project is as follows:

- Improve air quality and public health
- Improve traffic safety
- Modernize the freeway design
- Accommodate projected traffic volumes
- Address increased traffic volumes resulting from projected growth in population; and employment, and economic activities related to goods movement

The I-710 Corridor Project termini are logical, extending from the southern terminus of the I-710 Corridor to its connection to SR-60. This 19-mile Study Area is of sufficient length to address environmental matters on a broad scope. The I-710 Corridor Project would result in improvements to the current traffic conditions within the I-710 Corridor even if no additional transportation improvements are made in the area. As such, the I-710 Corridor Project has independent utility, as it does not rely on other projects to address the identified need in the Study Area. Furthermore, the I-710 Corridor Project would not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

For the purposes of this document, reasonably foreseeable improvements include any future development for which a General Plan or Specific Plan has been adopted that designates future land uses; projects for which the applicable jurisdiction has received an application for site development; or infrastructure improvement projects planned by the local jurisdiction or another public agency.

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- 1. Improve Air Quality & Public Health
 - 2. Improve Traffic Safety
 - 3. Modernize the Freeway Design
 - 4. Address Projected Traffic Volumes
 - 5. Address Projected Growth in Population, Employment and Activities related to Goods Movement (based on SCAG population projections and projected container volume increases at the two ports)
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S.3 - Proposed Project

S.3.1 - Costs and Schedule

Estimated costs for right-of-way acquisition/utility relocation and for construction are included in Table S-1.

Table S-1: Estimated Cost (in Billions \$'s)

Alternative	ROW/Utilities	Construction	Total
Alternative 5C	\$1.08	\$3.59	\$4.67
Alternative 5C, Option 1A	\$1.04	\$3.59	\$4.63
Alternative 5C, Option 2A	\$1.09	\$3.62	\$4.71
Alternative 5C, Option 3A	\$1.11	\$3.69	\$4.80
Alternative 7	\$1.65	\$6.32	\$7.97
Alternative 7, Option 1B	\$1.62	\$6.33	\$7.96
Alternative 7, Option 3B	\$1.68	\$6.44	\$8.12

Source: Draft Project Report (April 2017).
 Note: Estimates are in current year dollars and do not include support costs or programmatic elements.

S.3.2 - Motion 22.1

During the 2012 public circulation period, comments received from the public and agencies indicated strong support for the creation and inclusion of another alternative that retained the ZE/NZE freight corridor but did not add general purpose lanes on I-710. The Coalition for Environmental Health and Justice (CEHAJ), a coalition of organizations, associations, and community groups working to achieve environmental justice, community health, and overall quality of life in the Study Area, put forth a detailed and comprehensive proposal of an alternative called "Community Alternative 7" (CA-7) as a formal comment on the 2012 Draft EIR/EIS (see Comment No. IP-22 in Appendix S of this RDEIR/SDEIS). In parallel with the ongoing coordination and communication between CEHAJ and the I-710 Project Team, community members worked with the office of Los Angeles County Supervisor Hilda Solis to continue the effort to include CA-7 in the RDEIR/SDEIS. As a result, the Metro Board of Directors passed Board Motion 22.1 in October 2015. Also included as part of Motion 22.1 was direction to Metro to examine, in coordination with Caltrans, Gateway Cities COG, and other partner and responsible agencies, the feasibility of several study area elements to occur outside of but in parallel to the I-710 Corridor Project, including, but not limited to, a zero emission truck procurement and operations program, addition of bus stops with access points to bicycle paths, and to work with community groups to develop a Local and Targeted Hiring Policy and Project Labor Agreement for construction jobs and a First Source Hiring Policy for permanent jobs created by the I-710 Corridor Project. Table S-2 lists the elements of Motion 22.1 that are addressed in this RDEIR/SDEIS and where the discussion can be found.

Table S-2: Motion 22.1 Elements Location of Discussion in RDEIR/SDEIS

Motion 22.1 Item	Location of Discussion in RDEIR/SDEIS
A – Geometric design avoidance	Section 3.3.2.3
B – Zero emission trucks	Section 2.3.2.1, Section 3.13
C – New high frequency bus transit	Section 2.3.2.1, Section 3.5
D – Increased existing transit service	Section 2.3.2.1, Section 3.5
E – Traffic control measures/TSM/ITS	Section 2.3.2.1, Section 3.5
F – BACT construction equipment use	Section 3.24, Appendix F

Motion 22.1 Item	Location of Discussion in RDEIR/SDEIS
J – Upgrades to Los Angeles River Bike Path	On April 27, 2017, the Metro Board amended Motion 22.1 to advance the Los Angeles River Bike Path upgrades sooner and as a separate project; therefore, there is no discussion of this element in this RDEIR/SDEIS
K – Five new bike/pedestrian bridges	Section 2.3.2, Section 3.3, Section 3.5, Section 3.6
L – Complete streets that promote livable neighborhoods	Section 3.3
M – Maximize trees, shrubs, and foliage that are drought resistant and biosequestration/biofiltration	Section 2.3.2, Section 3.6
N – Identify additional BMPs	Section 2.3.2, Section 3.9
O – Avoid/minimize impacts to Los Angeles River, parks, trails, open space, wetlands, and native landscaping	Section 2.2.2, Section 3.3.2.3

BMP = Best Management Practices
 ITS = Intelligent Transportation Systems
 Metro = Los Angeles County Metropolitan Transportation Authority
 RDEIR/SDEIS = Recirculated Draft Environmental Impact Report/
 Supplemental Draft Environmental Impact Statement
 TSM = Transportation System Management
 BACT = Best Available Control Technology

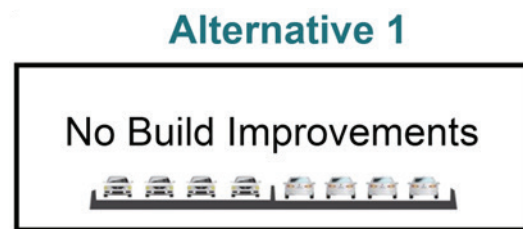
S.3.3 - Alternatives

This section describes the alternatives based on the MCS that were developed by a multidisciplinary technical team to achieve the I-710 Corridor Project purpose and subsequently were reviewed and concurred upon by the various committees involved in the I-710 Corridor Project community participation framework. Alternative 2 (Transportation Systems Management/Transportation Demand Management [TSM/TDM]), Transit, Intelligent Transportation Systems [ITS] and Enhanced Goods Movement), Alternative 3 (Maximum Goods Movement By Rail/Alternative Technology), and Alternative 4 (Arterial Highway and I-710 Congestion Relief Improvements) were considered but withdrawn from further environmental study as stand-alone alternatives during the process leading to the 2012 Draft EIR/EIS.

Additionally, Alternative 5A (Widening of I-710 to include ten general purpose lanes) and Alternatives 6A, 6B, and 6C (Widening of I-710 to include ten general purpose lanes and

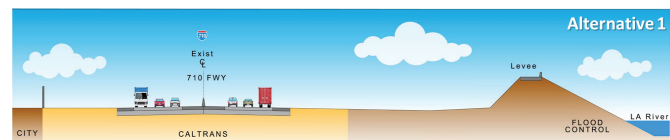
the addition of four separated freight movement lanes, with operational variations) were evaluated in detail in the 2012 Draft EIR/EIS. Because of the updates in traffic assumptions and data, resulting in a clearer understanding of the origin and destination of truck traffic within the project area, and the substantial comments received from agencies and the public concerned with potential right-of-way impacts, potential impacts to health and air quality associated with the addition of general purpose lanes, and other requests, Alternatives 5A, 6A, 6B, and 6C have been withdrawn from consideration.

The alternatives evaluated in the current RDEIR/SDEIS are Alternative 1 (No Build Alternative), Alternative 5C (I-710 Widening and Modernization), Alternative 7 (I-710 Modernization plus a Zero-/Near Zero-Emission Freight Corridor). Elements of several of the previously considered alternatives have been included in Alternatives 5C and 7.



S.3.3.1 - Alternative 1: No Build Alternative

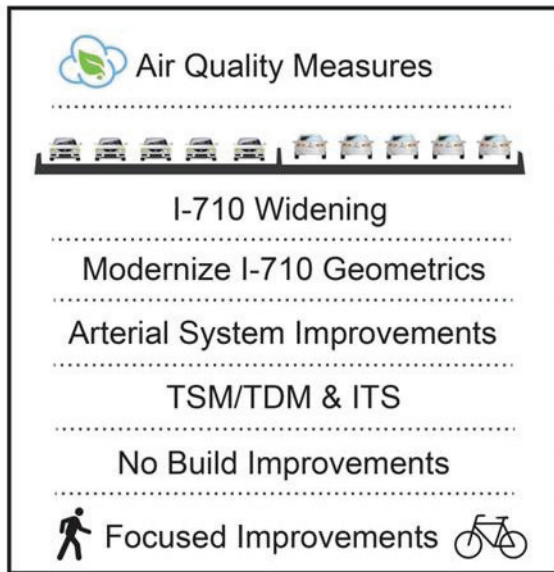
Alternative 1 would maintain the current configuration of the existing I-710 Corridor. There would be no capacity-increasing improvements to the I-710 mainline within the Study Area. Within the region, generally only approved and planned projects included in SCAG's 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Future Baseline Scenario and 2011 Federal Transportation Improvement Program (FTIP) are considered part of the Alternative 1. Alternative 1 provides the basis for comparison of 2035 no build conditions with the 2035 build alternatives.



S.3.3.2 - Alternative 5C: I-710 Widening and Modernization

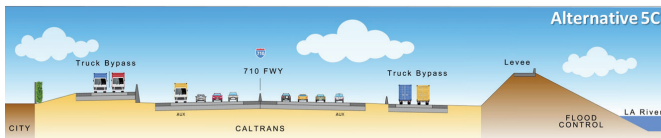
Alternative 5C proposes to widen the I-710 mainline by adding mixed-flow lanes (one in each direction) between I-405 and I-105, and between I-105 and SR-60. Truck bypass lanes are also proposed on I-710 through the I-405 interchange. This alternative will modernize the design at the I-405, SR-91, and I-5 interchanges, modernize and

Alternative 5C



reconfigure most local arterial interchanges throughout the I-710 corridor, modify freeway access at various locations, and shift the I-710 centerline at various locations to reduce right-of-way impacts. In addition to improvements to the I-710 mainline and the interchanges, Alternative 5C also includes:

- Zero Emission/Near Zero Emission Truck Technology Deployment Program, which would provide “clean emissions” trucks for operation on I-710 as well as electric charging and hydrogen refueling stations.
- Community Health and Benefit Program, which would fund projects targeted towards improving air quality and public health within the Study Area.
- I-710 TSM/TDM Congestion Relief Program that would provide funding for traffic signal upgrades and coordination, safety improvements, traffic calming measures, and intersection improvements on the arterial street system in the Study Area.
- Provision of or future provision of ramp metering at all locations and improved arterial signage for access to I-710.



- Parking restrictions during peak periods (7:00 a.m.–9:00 a.m. and 4:00 p.m.–7:00 p.m.) on four arterial roadways: Atlantic Blvd. between Pacific Coast Hwy. and SR-60; Cherry Ave./Garfield Ave. between Pacific Coast Hwy. and SR-60; Eastern Ave. between Cherry Ave. and Atlantic Blvd.; and Long Beach Blvd. between San Antonio Dr. and Firestone Blvd.

- I-710 Transit Program consisting of transit improvements such as increased service on all Metro Rapid routes and local bus routes in the Study Area, Blue Line and Green Line light rail service increases, and added express bus routes within the I-710 Corridor area.



- ITS improvements including updated fiber-optic communications to interconnect traffic signals along major arterial streets to provide for continuous, real-time adjustment of signal timing to improve traffic flow as well as freeway smart corridor strategies from the Los Angeles Gateway Freight Technology program that would deploy dedicated short-range communication units alongside I-710 to manage and control traffic in real time.



Additional changeable message signs would be added to provide critical information to motorists.

Some of the programmatic elements listed above would not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway, but instead would be implemented by Metro or other public agencies with jurisdiction over a particular element.

In addition to the transportation system improvements described above, Alternative 5C also includes:

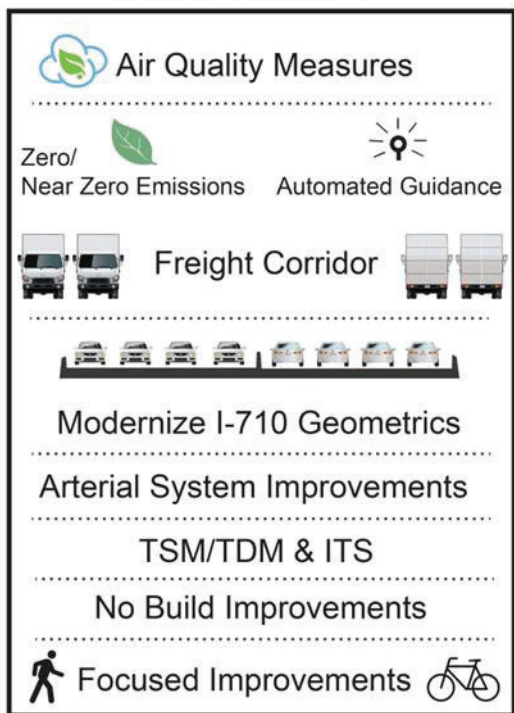


The I-710 Corridor Project includes a robust landscaping enhancement plan.

Visual/Aesthetic Features: Texture treatments (for structures, median barriers, etc.), planting, irrigation, opportunities for community identification, and concepts from the I-710 Corridor Aesthetics Master Plan (2014) will be incorporated into the project design to mitigate the visual and community impacts of the increased scale of the project improvements.

S.3.3.3 - Alternative 7: I-710 Modernization Plus Freight Corridor (Zero/Near Zero-Emission Vehicles)

Alternative 7

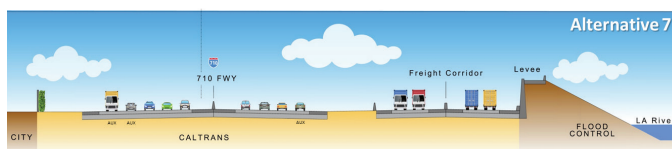


Alternative 7 includes all the components of Alternative 5C described above, but rather than the addition of mixed-flow through lanes and truck bypass lanes, Alternative 7 includes the addition of two separate truck-only lanes in each direction (a total of four lanes, on a combination of viaduct and/or retaining wall structures and at-grade roadbeds adjacent to, or in the median of, the freeway)

between Long Beach and Commerce, adjacent to the freeway, approximately 16 miles in length. This principal feature is referred to as a “Clean-Emission Freight Corridor.” This alternative would restrict the use of the freight corridor to zero-emission/near zero-emission (ZE/NZE) trucks rather than conventionally powered diesel trucks. The ZE/NZE truck technologies consist of trucks powered by means other than diesel (e.g., natural gas, hydrogen, and/or electricity), thereby producing zero to near-zero tailpipe emissions while traveling on the freight corridor; however, no specific technology is assumed in the environmental analysis, and the ZE/NZE trucks will not be limited to one particular technology as long as the emissions criteria are met.



Alternative 7 also includes an advanced technology feature that all trucks using the freight corridor will have an automated control system that will steer, brake, and accelerate the trucks under computer control while traveling on the freight corridor. This will safely allow for trucks to travel in “platoons” (e.g., groups of six-to-eight trucks) and increase the capacity of the freight corridor.



As with Alternative 5C, Alternative 7 will include additional aesthetic enhancements, and drainage/water quality features as follows:

Visual/Aesthetic Features: In addition to the visual/aesthetic features described above for Alternative 5C, specific aesthetic treatments will be developed for the freight corridor, including use of screen walls and masonry treatments on the freight corridor structures (including soundwalls).

S.3.3.4 - Design Options

For both Alternatives 5C and 7, design options are proposed that are variations to the alternatives, specific to discrete segments of I-710. In addition, one option only applicable to Alternative 7 provides for an operational variation to the freight corridor. These options have been fully analyzed in this RDEIR/SDEIS and will be considered during identification

of the Preferred Alternative for the project. These options are as follows:

- **Design Options 1A and 1B** apply to both Alternative 5C (1A) and Alternative 7 (1B) and aims to reduce impacts to the BNSF operations at the Hobart intermodal rail yard in Commerce, and would shift highway, collector-distributor road, and ramp alignments to achieve this aim without encroaching beyond State rights-of-way. However, local street circulation, highway alignment, and right-of-way requirements would differ between the two alternatives.
- **Design Option 2A** applies to Alternative 5C and would restore circulation between Shoreline Dr. and Pacific Coast Hwy. via the I-710 freeway with the addition of two grade separated ramps to provide connections between the northbound Shoreline Dr. entrance ramp to I-710 and the northbound Pacific Coast Hwy. exit ramp from I-710, and between the southbound Pacific Coast Hwy. entrance ramp to I-710 and the southbound Shoreline Dr. exit ramp from I-710.
- **Design Options 3A and 3B** apply to both Alternative 5C (3A) and Alternative 7 (3B) and aim to further improve safety and operation of the freeway by reducing weaving conflicts. In order to achieve the objective, the variation would reconfigure the SR-60, I-5, and Olympic Blvd. interchanges, and alter the freeway and local traffic circulation; however, the design options would vary between Alternative 5C and Alternative 7 in that different right-of-way limits would be required.
- **Option 7ZE** is applicable only to Alternative 7 and restricts use of the freight corridor to exclusively ZE trucks, excluding NZE trucks. This option is operational in nature and would not represent a difference in the geometric design of Alternative 7.

S.4 - Joint California Environmental Quality Act/National Environmental Policy Act Document

The proposed I-710 Corridor 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. Therefore, environmental documentation 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 applicable federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 United States Code (USC) 327. Caltrans is the lead agency under both NEPA and CEQA.

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

In June 2012, a Draft EIR/EIS for the I-710 Corridor Project was released for public circulation.

During the public circulation period (June 27 to September 28, 2012), three public hearings were held, and nearly 3,000 individual comments were received from members of the public, interested groups, organizations, public agencies, and elected officials. Among other issues, included in those comments was support for the project team to consider and analyze different alternatives, including a recurring request for an alternative that would add a four-lane ZE/NZE freight corridor with no expansion of general purpose lanes on I-710. In response to concerns raised during public hearings, as well as changes in transportation modeling and the progress of several reasonably foreseeable local projects, new alternatives were developed for the draft RDEIR/SDEIS. Responses to comments received during the 2012 public circulation period are included in Appendix S to this RDEIR/SDEIS.

During the 60-day recirculation period for the RDEIR/SDEIS, there will be an opportunity for public review and comment. After comments are received from the public and reviewing agencies on this RDEIR/SDEIS, Caltrans may undertake additional environmental and/or engineering refinements. A Final EIR/EIS will be made available to the public. The Final EIR/ EIS will include responses to comments received on the RDEIR/SDEIS and will identify the Preferred Alternative. The Final EIR/EIS will also contain responses to comments received during the 2012 public circulation period, which are also included in Appendix S to this RDEIR/SDEIS. As required under CEQA, responses to public agency comments will be made available at least ten days prior to Caltrans' approval of the Final EIR. Under NEPA, the Final EIS will be made available for public review at least 30 days prior to approval of the Record of Decision. Following completion of the Final EIR/ EIS, if the decision is made to approve the I-710 Corridor Project, a Notice of Determination will be filed with the State Clearinghouse for compliance with CEQA and a Record of Decision will be published in the Federal Register for compliance with NEPA.

S.5 - Environmental Consequences

The following sections summarize the impacts documented in the environmental analysis provided in Chapter 3.0 of this RDEIR/SDEIS. The environmental commitments and measures to minimize harm are listed in each topical section of Chapter 3.0 and the Environmental Commitments Record in Appendix F.

The environmental impacts described below for the build alternatives would not occur under Alternative 1 (No Build Alternative). Specific project benefits such as improved air quality, mobility, and safety would also not occur to the same extent under Alternative 1; however, other projects assumed in the no build condition would provide mobility and air quality benefits over the long term.

S.5.1 - Land Use

S.5.1.1 - Existing and Future Land Use

Build Alternatives: The build alternatives would impact existing commercial and service, industrial, open space and recreation, residential, transportation and utilities, and vacant land uses. Alternative 5C would convert approximately 538 acres of existing land uses (Alternative 5C, Option 1A, would convert approximately 536 acres of existing land uses; Alternative 5C, Option 2A, would convert approximately 545 acres of existing land uses; and Alternative 5C, Option 3A, would convert approximately 541 acres of existing land uses) to transportation land uses. Alternative 7 would convert approximately 748 acres of existing land uses (Alternative 7, Option 1B, would convert approximately 752 acres of existing land uses; and Alternative 7, Option 3B, would convert approximately 751 acres of existing land uses) to transportation land uses. Therefore, Alternative 7, Option 1B, would result in the greatest impact to existing land uses.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect growth, please see Section 3.2 of the RDEIR/SDEIS.

S.5.1.2 - Consistency with State, Regional, and Local Plans

Build Alternatives: While adoption of either build alternative would require SCAG, the County of Los Angeles, and several other regional and local agencies to amend their plans to reflect modifications to the I-710 mainline, interchanges, and arterial highways, as well as the elimination of any land uses that may need to be acquired for the project, the proposed build alternatives are generally consistent with these plans. Caltrans would need to amend its existing freeway agreements with cities where the build alternatives would add or remove connections to I-710, SR-91, or I-405. FHWA approval is required for any new connections to an Interstate highway. Additionally, the build alternatives are consistent with the five primary goals of the California Coastal Act.

S.5.1.3 - Parks and Recreation Facilities

Build Alternatives: The build alternatives would result in permanent direct impacts to parks and recreation facilities, including directly impacting Parque Dos Rios (permanent use of 1.68 acres under Alternative 5C and permanent use of the entire 8.6 acres of park space that would render the park non-functional under Alternative 7, as well as temporary construction easements under both alternatives) and full acquisition of the Compton Hunting and Fishing Club recreational facilities. Additionally, the build alternatives would result in permanent indirect impacts to Maywood River Park and Coolidge Park (low visual impacts), and to Bandini Park (permanent aerial easement required). Both build alternatives would require the construction of a wider bridge and resulting aerial easement over the DeForest Market Street Basin of the Deforest Treatment and Dominguez Gap Wetlands; and Alternative 7 would also permanently incorporate 5.4 acres from the West Basin of the wetlands. Both build alternatives would impact Cesar E. Chavez Park in the City of Long Beach due to the realignment of Shoreline Dr., and approximately 2.90 acres would be permanently impacted; but with the integration of land previously used for Shoreline Dr., the park would experience a net increase of 2.99 acres. After construction, there would be a net benefit to the public due to improved accessibility of the park through the consolidation of existing park parcels and because the project would result in a net increase of park acreage, resulting in a more functional park with a total of 28.38 acres of park area.



Cesar E. Chavez Park.

The build alternatives would improve regional or local bikeways with the addition of three pedestrian/bicycle-only overcrossings under both build alternatives, and five total proposed overcrossings under Alternative 5C. Access to the Los Angeles River Trail would be enhanced as a result of modifications to trail entrances at the arterial highways that cross the trail.

S.5.2 - Growth

S.5.2.1 - Build Alternatives

The improved mobility expected to be achieved as a result of build alternatives could have a slight influence on demand for residential and nonresidential uses in the cities and communities in the Gateway Cities subregion; however, it would not be expected to be sufficient to result in the need to modify adopted General Plans to allow for greater levels of development (residential and nonresidential). The I-710 build alternatives are expected to accommodate existing, approved, and planned growth in the area, but are not expected to influence the amount, timing, or location of growth in the area. Further, due to lack of vacant or less developed land within the I-710 Corridor, neither build alternative would facilitate new development by opening up access to previously undeveloped or less developed areas.



One purpose of the I-710 Corridor Project is to accommodate growth related to goods movement. Projects such as the new Gerald Desmond Bridge are examples of other projects in the I-710 Study Area planned to accommodate growth related to goods movement.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect the community, please see Section 3.3 of the RDEIR/SDEIS.

A key element of the project purpose of the I-710 Corridor Project is to address projected growth in population, employment, and economic activities related to goods movement. The increase in capacity on I-710 under the build

alternatives is not expected to influence demand for growth at the Ports nor would growth of port cargo handling capacity at the Ports substantially increase travel demand on I-710. This is because an analysis of the port cargo growth and container movements by truck scenarios showed that the low-growth scenario results in only 11 percent fewer daily port truck trips as compared to the high-growth scenarios, even though the low-growth scenario has 33 percent less containerized cargo throughput compared to the high-growth scenarios.



A worker at the Port of Long Beach

S.5.3 - Community Impacts

S.5.3.1 - Community Character and Cohesion

Build Alternatives: While temporary disruption of community character and cohesion would occur as a result of construction of either build alternative, the mobility improvements provided by the I-710 Corridor Project would also benefit most of the affected communities by providing an improved connection to other parts of the Study Area (for example, improved bicycle and pedestrian connections across I-710 and the Los Angeles River) and the Gateway Cities Subregion as a whole. However, community cohesion impacts do occur at a localized level within the Cities of Long Beach, Bell, and Commerce due to relocations of existing cohesive communities or vital community facilities under Alternative 7. Mitigation for relocations within these communities is provided through

implementation of Mitigation Measure C-1 described in Section 3.3.2.4. However, as a result of the relocations of the residents in the City of Commerce (specifically located in the Ayers and Sydney Neighborhoods at Washington Blvd. and I-710), businesses, and/or vital community facilities under Alternative 7, localized areas within the Cities of Long Beach, Bell, and Commerce would experience adverse impacts to community character and cohesion as a result of these relocations.

Community services within the Study Area, such as fire, police protection, and other emergency responders, would be more readily available under the build alternatives as mobility within the Study Area would improve over existing conditions. Therefore, with the exception of the Cities of Long Beach, Bell, and Commerce, the build alternatives would not result in adverse impacts to community character and cohesion.

The build alternatives have been developed through an extensive community outreach process that involves input from multiple public agencies and stakeholders in order to avoid impacts to human-made and natural environments, including existing and future communities. Community concerns and comments have been expressed throughout the design process and the build alternatives have been refined as much as possible to address the communities' concerns and maintain community character and cohesion. Therefore, with the exceptions noted above under Alternative 7, the character and cohesion of most communities would remain intact with implementation of the build alternatives.

S.5.3.2 - Relocations and Real Property Acquisition

Build Alternatives: The build alternatives would result in the relocation of residential and nonresidential properties. The build alternatives will not result in any relocations in the cities/communities of Boyle Heights, Cudahy, Downey, Lakewood, Maywood, Paramount, Signal Hill, Huntington Park, Wilmington, or San Pedro. According to the Relocation Impact Report (2017), within the I-710 Corridor Project Study Area, Alternative 5C would result in a total of 158 nonresidential relocations and 109 residential relocations. Based on an average of four persons per residential unit, Alternatives 5C (not including design options), 5C (Option 1A), and 5C (Option 2A) would each result in the relocation of approximately 436 residents. Alternative 5C, Option 1A, would result in a total of 157 nonresidential relocations and 109 residential relocations. Alternative 5C, Option 2A, would result in 161 nonresidential relocations and 109 residential relocations, and Alternative 5C, Option 3A, would result in 165 nonresidential relocations and 128 residential relocations, resulting in the relocation of approximately 512 residents. Overall, Alternative 5C, Option 3A, impacts a greater number of both residential and nonresidential parcels.

Alternative 7 (not including design options) would result in a total of 206 nonresidential relocations and 121 residential relocations, resulting in the relocation of approximately 484 residents. Alternative 7, Option 1B, would result in a total of 206 nonresidential relocations and 136 residential relocations, resulting in the relocation of approximately 544 residents. Alternative 7, Option 3B, would result in a total of 213 nonresidential relocations and 140 residential relocations, resulting in the relocation of approximately 560 residents.

For the majority of the Study Area, residential displacements, given the present market conditions, do not indicate a need for the construction of replacement housing. However, Housing of Last Resort may have to be considered for relocating the affected residential properties such as mobile homes. For example, five mobile homes at the El Rancho Mobile Home Park in the City of Compton would be proposed to be relocated under both build alternatives. However, adequate relocation resources for mobile homes do not currently exist within the Study Area. This would represent an adverse impact to those displaced residents in the City of Compton, (assuming they preferred to remain in a mobile home). For the majority of the residential property impacts, adequate resources appear to exist at the present time to relocate existing residential occupants to comparable replacement housing, with the exceptions noted in the previous sentence.



Fire Station No. 4 in the city of Vernon would require relocation under both I-710 build alternatives.

As a result of property acquisitions and relocations, the build alternatives could also result in a loss of sales tax and property tax revenue to the affected cities within the Study Area and also to Metro and the State. It is Caltrans' and Metro's goal that all relocations would occur within the affected communities, which would help retain potentially lost tax revenues within those communities. Table S-3 summarizes the residential and nonresidential relocations by the build alternatives on the following page.

Table S-3: Relocations by Build Alternative

Relocations by Build Alternative				
	Residential	Non Residential	Total Relocations	Total Residents Relocated
Alternative 5C	109	158	267	436
Design Option 1A	109	157	266	436
Design Option 2A	109	161	270	436
Design Option 3A	128	165	293	512
Alternative 7	121	206	327	484
Design Option 1B	136	206	342	544
Design Option 3B	140	213	353	560

Source: Epic Land Solutions, Inc. Relocation Impact Report March (2017)

S.5.3.3 - Environmental Justice

Build Alternatives: Overall, the I-710 Corridor Project would have many beneficial effects on the surrounding communities and I-710 corridor users when compared with current conditions, including reductions in emissions levels and associated health risk; abatement of freeway noise in most locations; and improved level of service and safety at local interchanges. In addition, programmatic elements of the project, such as the Community Health Benefit Program, would be of particular benefit to environmental justice communities although the effects cannot be quantified at this time due to the nature of the program (to provide funding for future improvements and/or health-related projects on a case-by-case basis). However, even with the application of these benefits, the environmental justice analysis for the I-710 Corridor Project has identified potential disproportionately high and adverse impacts on minority and low-income populations in the Study Area, after consideration of mitigation. These disproportionately high and adverse impacts have been identified for air quality (construction and operation), noise, traffic, community cohesion related to relocations, visual resources, and land use.

Due to the potential for disproportionately high and adverse impacts, further mitigation is proposed to help alleviate project-related impacts to environmental justice communities. This mitigation would fund projects that would improve air quality, public health, aesthetics, and other issues faced by environmental justice populations within the corridor.

S.5.4 - Utilities and Emergency Services

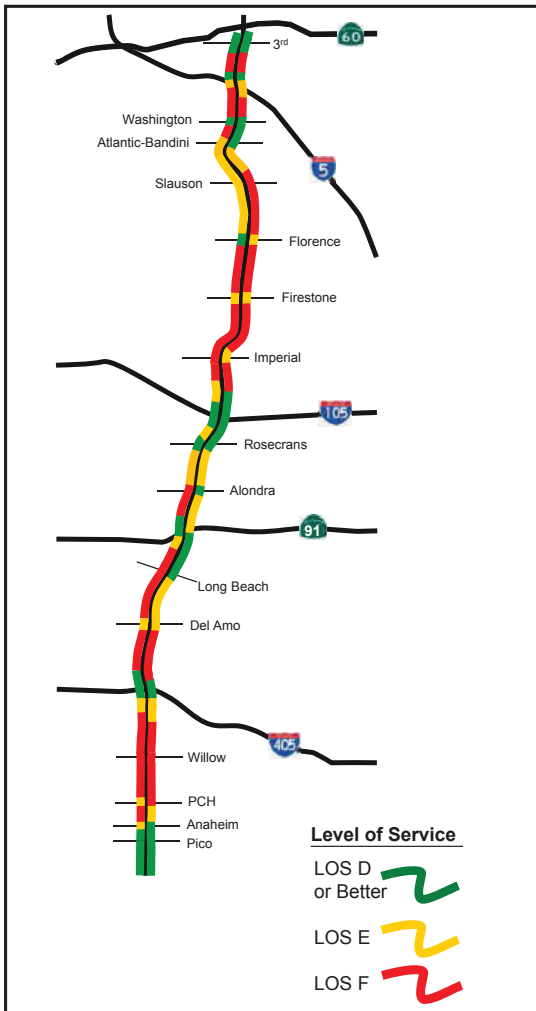
S.5.4.1 - Build Alternatives

The build alternatives would not result in increased population or demand for public services in the Study Area because they would not construct new housing or businesses. The build alternatives would have both beneficial and adverse effects on fire protection and law enforcement protection service providers within the Study Area. The build alternatives would result in the relocation of City of Vernon Fire Station No. 4. Beneficial effects include improved emergency response times, as the ability to move fire protection, law enforcement, and emergency service resources from one area to another would be enhanced by the improved transportation network.

Alternatives 5C and 7 would impact cable television, gas, oil, power, sewer, telephone, and water utility lines. These include both distribution and transmission lines that would require either relocation or protection in place. In addition, Alternatives 5C and 7 would result in the relocation of electric and gas transmission facilities owned and operated by Southern California Edison (SCE), the Southern California Gas Company (SCGC), the Los Angeles Department of Water and Power (DWP), and others. Several relocation strategies including undergrounding in areas and protection in place are being considered for utilities impacted as a result of the build alternatives. To address the utility relocations, Metro has conducted detailed relocation studies to help shorten the lead time necessary to implement these relocations.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect utilities, please see Section 3.4 of the RDEIR/SDEIS.

S.5.5 - Traffic Circulation, Pedestrians, and Bicyclists



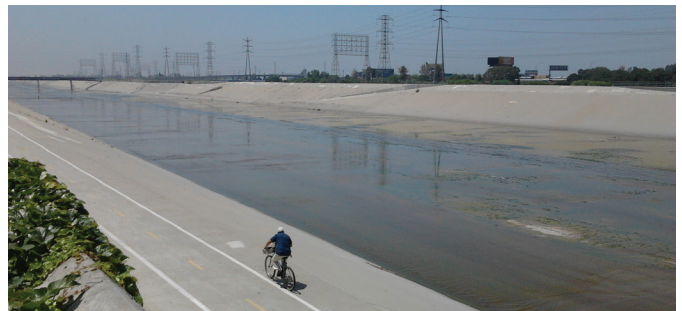
2035 No Build Level of Service - Morning Peak Hour

S.5.5.1 - Build Alternatives

On the I-710 mainline, the traffic LOS is generally maintained or improved in the morning, midday, and evening peak periods in both directions of I-710 when comparing the 2035 build alternative conditions (Alternatives 5C and 7, all design options) to the 2035 No Build Alternative (Alternative

1) conditions. Although LOS improves under the build alternatives compared to the No Build Alternative, many segments of the I-710 mainline would experience poor LOS in 2035 under Alternative 1 in the morning, midday, and evening peak periods in both the northbound and southbound directions due to increased traffic volumes caused by regional growth in traffic.

There would be degradation in LOS with the project build alternatives at some locations. Several intersections that are projected to experience poor LOS and heavy intersection delay under Alternative 1 conditions are not identified as adversely impacted intersections because they do not have an increase in delay in the build alternative and, therefore, are not impacted by the I-710 Corridor Project. However, implementation of the I-710 Corridor Project is projected to result in adverse impacts to 32 intersections under Alternative 5C and to 30 intersections under Alternative 7, before mitigation. Mitigation in the form of traffic signal upgrades and intersection improvements are proposed for all but two of the impacted intersections under Alternative 5C and all but four of the impacted intersections under Alternative 7. Mitigation is not proposed at these locations due to right-of-way constraints.



The I-710 Corridor Project includes changes to arterial interchanges that may affect sidewalks and bicycle lanes. The I-710 Corridor Project will provide facilities for bicycles and pedestrians in locations where local streets are affected by the construction of the build alternatives. Because bicycle and pedestrian facilities will be maintained or improved, the impacts of the I-710 Corridor Project on pedestrian travel or cycling would not substantially change as a result of the implementation of the build alternatives.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect traffic circulation, please see Section 3.5 of the RDEIR/SDEIS.

S.5.6 - Visual/Aesthetics

S.5.6.1 - Build Alternatives

There would be long-term adverse impacts with the construction of all build alternatives. The freight corridor component of Alternative 7 would generally result in more visual impacts than those that would occur under Alternative 5C. Some moderately high impacts would require mitigation measures that would need more than five years to take effect, while other areas exhibit lesser levels of negative impacts ranging from moderate to neutral/low or experience a positive visual effect. Aesthetic enhancement of the I-710 Corridor is desired by the affected communities; this would be achieved through implementation of I-710 Corridor Aesthetic Master Plan (2015) that would define aesthetic and landscaping treatment measures that would be incorporated into the final design of the I-710 Corridor Project. The Corridor Master Plan has been developed in a context-sensitive design process in consultation with the affected local agencies and includes involvement of local community members as determined by the local agencies. Texture treatments (for structures, and median barriers, etc.), planting, irrigation, and opportunities for community identification will be incorporated into the project design to mitigate the visual and community impacts of the increased scale of the project improvements.



Soundwalls help reduce freeway noise, but they can create visual impacts when they obstruct views or become a target for graffiti. To mitigate these impacts, a master landscape plan will be prepared to provide for aesthetically pleasing landscape and hardscape treatments.

In addition to the structural or physical changes that the I-710 Corridor Project will create, viewers within the Study Area would experience increased night lighting from the addition of traffic lighting on the elevated freight corridor (under Alternative 7). Glare from all lanes is expected to be minimized by the construction of screen walls and soundwalls and by the distance of the viewer from traffic lighting and vehicular lights.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect the visual environment, please see Section 3.6 of the RDEIR/SDEIS.

S.5.7 - Cultural Resources

S.5.7.1 - Build Alternatives

The build alternatives would impact four historic resources; two UP Railroad segments, Dale's Donuts, the Boulder Dam-Los Angeles 287.5-kilovolt (kV) Transmission Line. The UP Railroad segments have already been altered and, therefore, do not contribute to the significance of the UP Railroad. The build alternatives would impact a small section of the parking area and sidewalk at Dale's Donuts. The impact to the Boulder Dam-Los Angeles 287.5 kV Transmission Line would not lessen the integrity of the line to render it ineligible for the National Register of Historic Places (National Register). Therefore, based on the above discussion, the build alternatives are expected to result in a finding of No Adverse Effect per 36 Code of Federal Regulations (CFR) 800.5 for these cultural resources. In addition to the evaluation of historic properties, an Archaeological Sensitivity Study was conducted to assess the potential for encountering buried archaeological resources during project construction. Refer to Section 3.24.4.7 for measures to reduce impacts to cultural resources and address human remains discovered during project construction.



A comprehensive survey of the Study Area was conducted to identify historic properties in the I-710 Corridor.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect cultural resources, please see Section 3.7 of the RDEIR/SDEIS.

S.5.8 - Hydrology and Floodplains

S.5.8.1 - Build Alternatives

All build alternatives would result in transverse (i.e., perpendicular to the direction of flow) encroachments at 24 Los Angeles River locations, eight Compton Creek locations, and one Rio Hondo Channel location under Alternative 5C, and would result in encroachments at 34 Los Angeles River locations, four Compton Creek locations, and one Rio Hondo Channel location under Alternative 7. The build alternatives would not change the capacity of the Los Angeles River, Compton Creek, and/or Rio Hondo Channel to carry water and would not result in a measurable impact to the 100-year floodplain elevation. The proposed encroachments would not result in any adverse impacts on the natural and beneficial floodplain values, would not result in a substantial change in flood risk or damage, and do not have substantial potential to cause interruption or termination of emergency services or emergency routes. Therefore, the build alternatives do not constitute a significant floodplain encroachment as defined in 23 CFR 650.105(q).



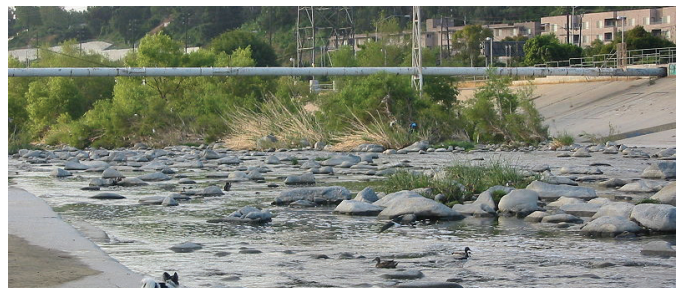
All build alternatives include improvements to the freeway drainage system.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect the hydrology and floodplains of the area, please see Section 3.8 of the RDEIR/SDEIS.

S.5.9 - Water Quality and Stormwater Runoff

S.5.9.1 - Build Alternatives

Alternatives 5C and 7 would increase impervious surface areas, which would increase runoff volume and pollutant loads. Alternatives 5C and 7 would require replacement or extension of the existing drainage systems such as drainage inlets along the median and shoulders to accommodate the increased project flows. Impacts to water quality of receiving waters may be expected from the loading of various constituents typically associated with highway runoff. These potential operational impacts would be addressed through the incorporation of design development pollution prevention best management practices (BMPs), treatment BMPs, and adherence to the necessary operational maintenance protocols identified in the Caltrans SWMP. Potential BMPs include biofiltration swales, biofiltration strips, infiltration basins, media filters, detention basins, gross solids removal devices, and wet basins. Proposed operational maintenance BMPs include storm drain cleaning and normal roadway and bridge maintenance, in addition to maintaining all vegetated slopes. The BMPs would treat 74 percent (under Alternative 5C) and 78.3 percent (under Alternative 7) of on-site runoff from the total impervious surface areas within the project area, which would be an improvement over the existing condition. Therefore, permanent impacts to the water quality of groundwater in the vicinity of the I-710 Corridor Project would be minimal following the completion of construction because there would not be any increase in the transport of pollutants into the groundwater through infiltration during the operational life of the new structures.



Although all build alternatives will result in increased surface water runoff due to the increase in paved surface area, the project design includes features to capture and treat runoff before it enters the Los Angeles River.

S.5.10 - Geology, Soils, Seismic, and Topography

S.5.10.1 - Build Alternatives

The roadway, structures, and other features of the both build alternatives could be impacted by ground motion and liquefaction and possible ground rupture (deformation), to some degree. Design and construction of the I-710 Corridor Project to current highway and structure design standards, including applicable seismic standards, would minimize the potential impacts on the build alternatives.



A bioswale storm water runoff treatment feature.

S.5.11 - Paleontology

S.5.11.1 - Build Alternatives

Permanent impacts from the build alternatives on paleontological resources (fossils) would include destruction of paleontological resources, damage to paleontological resources during grading, destruction of rock units that may contain paleontological resources, loss of contextual data associated with paleontological resources, and loss of associations between paleontological resources. However, impacts to paleontological resources can be mitigated through monitoring and fossil recovery during construction.



Certain areas of the I-710 Corridor have a high sensitivity for the presence of fossils. During grading in these areas, monitoring will be conducted to collect any fossils unearthed during construction.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect the water quality, geology and paleontological resources of the area, please see Sections 3.9-11 of the RDEIR/SDEIS.

S.5.12 - Hazardous Waste/Materials

S.5.12.1 - Build Alternatives

Hazardous waste risks associated with the build alternatives are related to property acquisitions, project construction, and project operation. There is potential for hazardous materials,

including petroleum products, to exist within the Study Area and be disturbed by full or partial acquisitions or temporary construction easements under the build alternatives. Any contamination encountered during construction and excavation activities for the build alternatives would be properly handled, removed, remediated, and/or disposed of according to all applicable regulations. If one of the build alternatives is selected for implementation, each property of environmental concern to be acquired would require testing in order to characterize specific soil and/or groundwater contaminants on the property, and a site-specific hazardous waste remediation plan would be developed for the appropriate removal and disposal of materials. In addition, a remediation plan and site closure plan, if required, would be implemented to clean up the site and provide for any subsequent monitoring to ensure the contamination has been remediated below regulatory thresholds. Operation and maintenance of the facilities proposed as part of the build alternatives would not introduce new sources of hazardous materials/waste. Routine maintenance activities would be required to follow applicable regulations with respect to handling and disposal of potentially hazardous materials. Vehicles traveling on the I-710 mainline would continue to transport hazardous substances that could spill and impact the roadway, adjacent properties, or resources. However, the purpose of the I-710 Corridor Project is to improve traffic safety, which could reduce traffic accidents that could result in hazardous waste spills. Implementation of the build alternatives would not result in a substantial permanent adverse impact related to hazardous waste and materials.



The Study Area includes many properties such as oil fields, industrial areas, and gas stations where there is a potential to encounter hazardous waste. To mitigate this impact, any soil and groundwater contamination would be cleaned up prior to the start of construction in these areas.

If you are interested in reading more about hazardous waste/materials concerns in the area, please see Section 3.12 of the RDEIR/SDEIS.

S.5.13 - Air Quality

S.5.13.1 - Build Alternatives

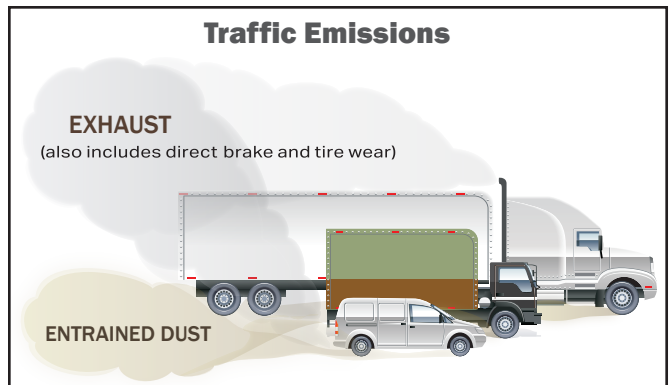
Table S-4 provides a listing of the air pollutants, their sources, and their adverse effects, which are evaluated in the I-710 air quality analysis.

Table S-4: Summary of Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O3)	<ul style="list-style-type: none"> Atmospheric reaction of organic gases with nitrogen oxides in the presence of sunlight. 	<ul style="list-style-type: none"> Aggravation of respiratory and cardiovascular diseases. Irritation of eyes. Impairment of cardiopulmonary function. Plant leaf injury.
Nitrogen Dioxide (NO2)	<ul style="list-style-type: none"> Motor vehicle exhaust. High temperature stationary combustion. Atmospheric reactions. 	<ul style="list-style-type: none"> Aggravation of respiratory illness. Reduced visibility. Reduced plant growth. Formation of acid rain.
Carbon Monoxide (CO)	<ul style="list-style-type: none"> By-products from incomplete combustion of fuels and other carbon containing substances, such as motor exhaust. Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> Reduced tolerance for exercise. Impairment of mental function. Impairment of fetal development. Death at high levels of exposure. Aggravation of some heart diseases (angina).
Suspended Particulate Matter (PM2.5 and PM10)	<ul style="list-style-type: none"> Stationary combustion of solid fuels. Construction activities. Industrial processes. Atmospheric chemical reactions. 	<ul style="list-style-type: none"> Reduced lung function. Aggravation of the effects of gaseous pollutants. Aggravation of respiratory and cardiorespiratory diseases. Increased cough and chest discomfort. Soiling. Reduced visibility.
Ultrafine Particulates	<ul style="list-style-type: none"> Both manufactured and naturally occurring. Vehicle exhaust. Combustion reactions. Smoke. 	<ul style="list-style-type: none"> Ultrafine particles are deposited in the lungs where they have the ability to penetrate tissue, or to be absorbed directly into the bloodstream. Exposure to ultrafine particulates can induce lung disease and other systemic effects.
Sulfur Dioxide (SO2)	<ul style="list-style-type: none"> Combustion of sulfur-containing fossil fuels. Smelting of sulfur-bearing metal ores. Industrial processes. 	<ul style="list-style-type: none"> Aggravation of respiratory diseases (asthma, emphysema). Reduced lung function. Irritation of eyes. Reduced visibility. Plant injury. Deterioration of metals, textiles, leather, finishes, coatings, etc.
Mobile Source Air Toxics (MSAT)	<ul style="list-style-type: none"> Vehicle exhaust. Includes acetaldehyde, acrolein, benzene, 1,3-butadiene, diesel particulate matter (DPM), and formaldehyde 	<ul style="list-style-type: none"> Increased risk of cancer, neurological and reproductive disorders, blood disease, birth defects, developmental damage, kidney and liver damage, and respiratory disease.
Greenhouse Gases (GHG)	<ul style="list-style-type: none"> Fuel combustion. Includes carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). 	<ul style="list-style-type: none"> Global climate change (GCC). Alterations in weather features that occur across the Earth as a whole, including temperature, wind patterns, precipitation, and storms.

S.5.13.2 - Project Study Area

Given the size of the I-710 Corridor Project and its impact on the region, incremental mobile source (traffic-generated) emission impacts were assessed for the Basin, an Area of Interest (AOI) or sub-region of the Basin that includes cities and communities along the I-710 freeway and the I-710 freeway itself (see Figure S-1). For the Air Quality/Health Risk Assessment (AQ/HRA) dispersion modeling analyses, the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) dispersion model and a coarse receptor grid were used to determine a zone of impact of the emissions from the I-710 freeway itself. This modeling zone of impact was generally the size of the I-710 Study Area and smaller than the AOI.



A comprehensive Air Quality/Greenhouse Gas/Health Risk Assessment (AQ/GHG/HRA) was conducted to study the effects of the build alternatives.

Figure S-1: I-710 Air Quality Study Areas



S.5.13.3 - Air Quality/Health Risk Assessment Alternatives Comparison Summary

Multiple metrics were used to assess the air quality impacts and health risks of the project alternatives. A single metric cannot, and should not, be used to evaluate the full impacts of any build alternative. The results of the different analyses should be considered together to give a fuller and more comprehensive understanding of project alternative air quality and health risk impacts. It should be noted that the specific benefits of the I-710 Corridor Project build alternatives would not occur under Alternative 1, but that the other projects assumed in the no build condition would provide some mobility and air quality benefits. Incremental emissions of criteria pollutants were calculated for each of the criteria pollutants and for the three project study areas (the Basin, the I-710 Study AOI, and I-710, which includes the freight corridor under Alternative 7) and compared to 2012 existing conditions and Alternative 1 (2035 No Build). In summary, the analyses show that:

- **Regional Traffic Emission Impacts:** Except for PM10 criteria, air toxic exhaust emissions are generally lower (sometimes as much as 90 percent lower) in the 2035 alternatives compared to 2012 Baseline emissions. The greatest reductions are in the Basin and I-710 Study AOI. The smallest reductions are along the I-710 freeway.
 - Air toxics are dramatically lower (95 percent or more) for all 2035 build alternatives compared to 2012. Although much of the reduction is from the turnover to diesel trucks that meet the latest EPA standards, ZE/NZE trucks further reduce cancer risk for the build alternatives.
 - Each of the 2035 alternatives would result in lower nitrogen oxides (NOX), carbon monoxide (CO), PM2.5 and volatile organic compound (VOC) emissions for all study areas when compared to 2012 Baseline emissions; only PM10 and sulfur dioxide (under Alternative 7 only) increase for the 2035 build alternatives.
 - Each of the 2035 build alternatives would result in lower NOx emissions, compared to the 2035 No Build Alternative, for all study areas. PM10, PM2.5, CO, and SO2 would increase, with the greatest increases occurring under Alternative 7. All increases are less than 190 lbs per day for the entirety of the 19-mile long project under Alternative 5C, or less than 640 lbs per day under Alternative 7.
- **PM10 and PM2.5 Emissions:** Overall the decrease in exhaust PM2.5 emissions for all 2035 alternatives as compared to 2012 Baseline is greater than the sum of the increases in tire wear, brake wear, and entrained road dust emissions. As a result total PM2.5 emissions show decreases for the 2035 alternatives when compared to the 2012 Baseline for all I-710 Corridor Project study areas. In the case of PM10 emissions, the increases in entrained road dust, tire wear and brake wear (which are a direct function of vehicle miles traveled) far outweigh the decrease in exhaust PM10. Therefore, there are increases in total PM10 emissions for all the 2035 alternatives when compared to 2012 Baseline.
- **I-710 Freeway Near-Roadway Impacts:** The 2035 build alternatives show increases in near-roadway 24-hour PM10 impacts for several receptors located along the I-710 freeway as compared to 2035 No Build. The number of impacted receptors is larger in Alternative 7 as compared to Alternative 5C due to increased traffic along the corridor. The 2035 build alternatives show no change to a slight decrease in near roadway short-term PM2.5 impacts when compared to 2035 No Build at all modeled receptors for 2035 Alternative 5C and most modeled receptors for 2035 Alternative 7.
- **Greenhouse Gas (GHG) Reductions:** All of the alternatives, when compared to the 2012 Baseline, including the No Build Alternative, would decrease the regional traffic GHG emissions by approximately 13,000,000 metric tons of CO₂e per year (25 percent from 2012 levels). When compared to the No Build conditions, the regional GHG emissions would remain essentially the same for Alternatives 5C and 7.
 - When compared to the 2035 No Build Alternative, Alternative 5C would increase the regional GHG emissions by approximately 10,000 metric tons of CO₂e per year and Alternative 7 would increase the regional GHG emissions by 20,000 metric tons of CO₂e per year. This is less than a 0.1 percent increase compared to the No Build Alternative. The 7ZE Option would reduce regional GHG emissions by 3 percent compared to the No Build Alternative. For the 2012 Baseline, the 2035 No Build, the 2035 Alternative 5C, the 2035 Alternative 7 and 2035 Alternative 7ZE only, GHG emissions are 52.61, 39.68, 39.69, 39.70 and 38.38 million metric tons of CO₂e per year, respectively.
- **PM2.5 Mortality/Morbidity and Ultrafine Particulates:**
 - Special I-710 Corridor Project qualitative analyses were conducted for PM2.5 mortality/morbidity and UFPs, using total PM2.5 and exhaust PM2.5 impacts, respectively, as surrogates.
 - The exposure of people along I-710 to particulate matter (PM)-related morbidity and mortality health risks should decrease relative to the 2012 Baseline in all parts of the I-710 Study AOI with the exception of some locations near the roadways (particularly for Alternative 7), as shown in the Air Quality/Health Risk Assessment Maps (Figures 4-6 and 19-24 in Appendix Q), of the RDEIR/SDEIS.
 - The public's exposure to UFPs should decrease for all 2035 build alternatives relative to the 2012 Baseline and 2035 No Build Alternative, even near the I-710 freeway and freight corridor.

- **Regional and Project-Level Conformity with the Federal Clean Air Act:**

- The full scope of the I-710 Corridor Project is not currently in the 2016 RTP/SCS and the 2017 FTIP, both of which have been determined to be a plan and program, respectively, which conform with the Federal Clean Air Act, as amended. Both the RTP and FTIP will be amended to be consistent with the preferred alternative prior to the approval of the Final EIR/EIS. Project-level conformity with the Federal Clean Air Act will ultimately be determined through a quantitative PM analysis that will be conducted once a preferred alternative has been identified following the public review of this RDEIR/SDEIS.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect air quality, please see Section 3.13 of the RDEIR/SDEIS.

S.5.14 - Noise

S.5.14.1 - Build Alternatives

Traffic noise modeling results for the build alternatives compared predicted design-year traffic noise levels with the project to existing conditions and to design-year no build conditions. The comparison to existing conditions was included in the analysis to identify traffic noise impacts under 23 CFR 772. The comparison to the future no build condition indicates the traffic noise increase resulting from the project. Traffic noise impacts are predicted to occur throughout the I-710 Corridor, in addition to areas that already exceed Federal noise abatement criteria. Under Alternative 5C, 121 Category B sensitive land use receptors are subject to A/E (Approaches/Exceeds) and/or SNI (Substantial Noise Increase) impacts. Under Alternative 7, 139 Category B receptors are subject to A/E and/or SNI impacts. Soundwalls are proposed throughout the length of the project for all sensitive land use categories including residential areas, schools, and parks.

Ground-borne noise and vibration are mostly associated with passenger vehicles and trucks traveling on roads with poor conditions such as potholes, bumps, expansion joints, or other discontinuities in the road surface. Because the build alternatives would provide new asphalt pavement, there would be no discontinuities in the road surface that would generate ground-borne vibration or direct or indirect noise impacts from vehicular traffic on I-710.



Proposed soundwall locations along I-710

If you are interested in reading more about how the I-710 Corridor Project alternatives affect noise in the Study Area, please see Section 3.14 of the RDEIR/SDEIS.

S.5.15 - Energy

S.5.15.1 - Build Alternatives

Compared to 2012 existing conditions:

- 2035 No Build (Alternative 1) operational energy consumption decreases by 29 percent
- 2035 Alternative 5C operational energy consumption decreases by 35 percent
- 2035 Alternative 7 operational energy consumption decreases by 41 percent

Compared to 2035 no build conditions (Alternative 1):

- 2035 Alternative 5C operational energy consumption decreases by 8 percent
- 2035 Alternative 7 operational energy consumption decreases by 17 percent



Alternative 5C and 7 improvements would increase average travel speeds during peak hours, remove bottlenecks, and reduce delays. However, vehicle miles traveled (VMT) in the I-710 Corridor Project Study Area would also increase when comparing any of the build alternatives with the 2035 No Build condition (Alternative 1). Alternative 7 includes a Clean-Emission Freight Corridor that would only be utilized by zero emission/near-zero emission (ZE/NZE) heavy-duty trucks.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect energy use in the region, please see Section 3.15 of the RDEIR/SDEIS.

S.5.16 - Natural Communities

S.5.16.1 - Build Alternatives

Permanent direct and indirect impacts to natural communities would be greater under Alternative 7 than under Alternative 5C. A total of 11.23 acres of permanent direct impacts to estuarine habitat and riparian/riverine habitats would occur under Alternative 7, whereas Alternative 5C would permanently and directly impact 2.13 acres of these habitats. Additionally, Alternative 7 would permanently and indirectly impact 42.36 acres of estuarine habitat and riparian/riverine habitats, whereas Alternative 5C would permanently and indirectly impact 36.67 acres of these habitats. Potential hydraulic effects are associated with bridge modifications. However, as analyzed in Section 3.8 of this RDEIR/SDEIS, the proposed modifications would mimic the existing pier configurations upstream and downstream, and there would not be substantial effects to the water surface elevation, the velocity of flood flows, sedimentation, or scour in the vicinity of the new piers. Because there are no substantial effects at the location of the modifications, there are no substantial effects to downstream locations, including the estuarine habitat.



The I-710 Corridor Project will be designed to be compatible with the Los Angeles River Master Plan.

Because the I-710 Corridor has restricted wildlife movement and resulted in habitat fragmentation for many years, none of the build alternatives are expected to have an adverse effect on wildlife movement. Nonetheless, Alternative 7 would have a greater impact on wildlife corridors/habitat fragmentation than Alternative 5C, due to the larger footprint of the freight corridor associated with Alternative 7.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect natural communities, water, plant species, and animal species, please see Sections 3.16-19 of the RDEIR/SDEIS.

S.5.17 - Wetlands and other Waters of the U.S.

S.5.17.1 - Build Alternatives

In general, Alternative 7 would result in greater impacts to jurisdictional waters than Alternative 5C. Based on the information currently available, the worst-case impact scenario associated with Alternative 5C is expected to potentially result in direct permanent impacts to approximately 1.74 acres and, indirect permanent impacts to approximately 26.13 acres of United States Army Corps of Engineers (USACE) jurisdictional areas. In addition, Alternative 5C is expected to potentially result in direct permanent impacts to approximately 2.13 acres and indirect permanent impacts to approximately 36.51 acres of California Department of Fish and Wildlife (CDFW) jurisdictional areas. Furthermore, Alternative 5C is expected to potentially result in direct permanent impacts to approximately 1.74 acres and indirect permanent impacts to approximately 26.29 acres of Regional Water Quality Control Board (RWQCB) jurisdictional areas.

The worst-case impact scenario associated with Alternative 7 is expected to potentially result in direct permanent impacts to approximately 1.54 acres and indirect permanent impacts to approximately 28.56 acres of USACE jurisdictional areas. In addition, Alternative 7 is expected to potentially result in direct permanent impacts to approximately 1.96 acres and indirect permanent impacts to approximately 42.20 acres of CDFW jurisdiction. Furthermore, Alternative 7 is expected to potentially result in direct permanent impacts to approximately 10.80 acres and indirect permanent impacts to approximately 28.72 acres of RWQCB jurisdictional areas.

S.5.18 - Plant Species

S.5.18.1 - Build Alternatives

One of the sensitive plant species (southern tarplant) was identified in the Study Area. Alternative 5C would result in direct permanent impacts to two populations of southern tarplant, while Alternative 7 would result in direct permanent impacts to all three populations of southern tarplant, including the largest population near Rosecrans Ave. Also, both Alternatives 5C and 7 would result in indirect impacts to southern tarplant from shading.



Southern tarplant is one of the sensitive plant species within the Study Area.

S.5.19 - Animal Species

S.5.19.1 - Build Alternatives

Permanent impacts would be the same for all build alternatives at the location where burrowing owls were observed on two separate occasions in October and December 2009. An individual burrowing owl was also observed at this location on December 7, 2015. No other burrowing owls were found during the 2009 or 2015 surveys. Following refinement of the project alternatives since 2009, the location where burrowing owl individuals were observed is now outside the BSA; therefore, no direct impacts will occur in the area where burrowing owl presence was confirmed.

Permanent impacts would be similar for all build alternatives, since the majority of structures housing or potentially housing bats, including the multiple bridge and culvert structures where roosting bats (including special-status bat species) and/or sign of roosting bats were observed during the focused surveys performed in 2009 and 2015, will be subject to impacts in all alternatives. However, there are a few notable differences between the alternatives. Although the project footprint for Alternative 7 is larger than that of Alternative 5C, Alternative 5C will result in impacts to several structures potentially used by bats for roosting that are not part of the Alternative 7 project footprint, including SR-91 over Compton Creek, Artesia Blvd. over Compton Creek, Compton Channel culvert beneath Artesia Blvd., SR-91 Santa Fe Ave. Undercrossing, SR-91 Alameda St. Undercrossing, Slauson Ave. Bridge over the Los Angeles River, I-710 3rd St. Overcrossing, and structures associated with the SR-60/I-710 interchange. Alternative 7 will result in impacts to one structure that is not part of the Alternative 5C project footprint. This structure, a railroad bridge over the West Basin of the Dominguez Gap Wetlands, has a moderate to high probability of being used by bats for roosting.

The build alternatives are not expected to directly affect any of the other special-status animal species as a result of the avoidance and minimization measures described in Section 3.19.4; however, the project is expected to have permanent indirect and temporary impacts to these species through the loss of potential habitat. There is no critical habitat for any special-status species within the BSA; therefore, no critical habitat will be impacted by the proposed project. All of these species have a low to moderate regular occurrence probability, are widespread in distribution, and are not State or Federally listed as threatened or endangered. New bridge structures or significant changes to existing bridge structures could result in occasional bird strikes. The potential for bird-vehicle collisions cannot be quantified but is recognized as a potentially adverse effect. The avoidance and minimization measure described in Section 3.19.4 is expected to address this issue. Permanent impacts to other

nonlisted special-status species could occur in the form of direct mortality, habitat loss, and habitat fragmentation.

The build alternatives would include driving pilings in tidal waters across the Los Angeles River at the 7th St., Anaheim St., Pacific Coast Hwy, and Hill St. crossings. The percussive forces generated during pile-driving activities may result in hydroacoustic impacts to animal species in the vicinity, as discussed in Section 3.24.3.19.

S.5.20 - Threatened and Endangered Species

S.5.20.1 - Build Alternatives

Although no green sea turtles were observed in the BSA, any green sea turtles that might visit the area around the mouth of the Los Angeles River could be affected indirectly by changes in water quality originating upstream. However, by implementing the avoidance and minimization measures outlined in Section 3.16, Natural Communities, no noticeable changes in water conditions would occur. A “may affect but not likely to adversely affect” determination is anticipated regarding the green sea turtle. Concurrence with the USFWS will be requested after a preferred alternative is identified prior to completion of the Final EIR/EIS.

Similarly, the California least tern could be affected indirectly by project-generated changes in water quality. Additionally, new bridge designs could result in occasional bird strikes. However, by following the avoidance and minimization measures outlined in Sections 3.16, Natural Communities and 3.19, Animal Species, no noticeable changes in water conditions or bird strike frequency would occur. A “may affect but not likely to adversely affect” determination is anticipated regarding the California least tern. Concurrence with the USFWS will be requested after a preferred alternative is identified prior to completion of the Final EIR/EIS.

The coastal population of the western snowy plover could be affected indirectly by project-generated changes in water quality. Such changes could involve increased pollution levels, increased turbidity, or impacts on the invertebrates on which they feed. New bridge designs could result in occasional bird strikes. However, by following the avoidance and minimization measures outlined in Sections 3.16, Natural Communities, and 3.19, Animal Species, no noticeable changes in water conditions or bird strike frequency would occur. A “may affect but not likely to adversely affect” determination is anticipated regarding the coastal population of the western snowy plover. Concurrence with the USFWS will be requested after a preferred alternative is identified prior to completion of the Final EIR/EIS.

All build alternatives would include the driving of piers/support structures on four bridges within the lower Los Angeles River that could affect California sea lions. Percussive forces generated during any pile-driving activities may result in

injury to California sea lions within and adjacent to the BSA, where estuarine habitat exists. Once the pile driving and bridge construction are completed, bridges associated with the project would not impede the movement of California sea lions through the channel. Construction and expansion of the four bridges in the lower Los Angeles River would not alter movement of California sea lions through the channel.

The build alternatives include driving pilings in tidal waters across the Los Angeles River at the 7th St., Anaheim St., Pacific Coast Hwy., and Hill St. crossings. As discussed in Section 3.24.3.19, the percussive forces generated during pile-driving activities may result in injury and/or death to fish, sea turtles, or marine mammals (including species protected under the Federal Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, and the Marine Mammal Protection Act) within the impact area. However, through the use of proper equipment, potential adjustment of strikes per day, and attenuation methods (if needed), pile driving for the bridges can be completed within the acoustic limits established in the Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish (Caltrans 2015).

S.5.21 - Invasive Species

S.5.21.1 - Build Alternatives

Construction of the I-710 Corridor Project has the potential to spread invasive species by the entering and exiting of construction equipment contaminated by invasives, the inclusion of invasive species in seed mixtures and mulch, and the improper removal and disposal of invasive species so that its seed is spread along the highway. The potential spread of *Caulerpa taxifolia* (a nonnative seaweed) during construction and/or operation of the facilities is not expected because the invasive species was not observed in the BSA during the Estuarine Resources Environmental Assessment surveys. Nevertheless, preventative measures will be taken to prevent the spread of this species in accordance with the National Marine Fisheries Service Control Protocol. Impacts associated with Alternative 7 would be greater than impacts associated with Alternative 5C, given the larger area of disturbance associated with the freight corridor.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect threatened, endangered and invasive species, please see Sections 3.20 and 3.21 of the RDEIR/SDEIS.

S.5.22 - Cumulative Impacts

Cumulative impacts (both direct and indirect) were identified by considering the impacts of the I-710 Corridor Project and other current, or proposed actions in the area to establish whether, in the aggregate, they could result in cumulative environmental impacts. The analysis included review of adopted plans and related projects that may, in concert with the I-710 Corridor Project, have a cumulative adverse effect on sensitive resources in the Study Area and Los Angeles County. The reasonably foreseeable actions used in the cumulative impacts analysis were based on information provided by the Cities of Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Lakewood, Long Beach, Los Angeles, Lynwood, Maywood, Paramount, Signal Hill, South Gate, and Vernon, which identified and approved pending developments proposed in the proximity of the Study Area. The individual Resource Study Areas (RSA) defined for each environmental topic were used to determine which proposed developments are considered close enough in proximity to the I-710 Corridor Project to be listed in Section 3.25, Cumulative Analysis.



The cumulative impact analysis evaluates the effects of the I-710 build alternatives in combination with other major projects in the Study Area, such as expansion of port terminals.

These files were cross-checked against files maintained by the State of California, Office of Planning and Research. Information on future transportation projects was provided by Caltrans, SCAG, Metro, and Gateway Cities COG. In addition, both POLA and POLB identified port improvement projects that should be considered in the cumulative impacts analysis.

The build alternatives, when combined with other cumulative projects, would contribute to cumulative land use, community character and cohesion, traffic (four intersections would remain impacted), visual, air quality (near corridor incremental concentration impacts only), noise, estuarine and riparian/riverine habitats and species associated with this habitat, southern tarplant populations, green turtle and the California least tern (minor incremental), and relocation impacts. The build alternatives would not contribute to cumulative adverse impacts related to agricultural resources, growth, geology and soils, hazards and hazardous waste, hydrology and water quality, mineral resources, cultural resources, paleontological resources, energy, natural communities, wetlands, invasive species, population and housing, public services, recreation, or utilities and service systems.

If you are interested in reading more about the cumulative impacts of the I-710 Corridor Project, please see Section 3.25 of the RDEIR/SDEIS.

S.5.23 - Section 4(F) Properties

Potential impacts of the build alternatives to public parks and recreation facilities that qualify for protection under Section 4(f) of the 1966 U.S. Department of Transportation Act include:

- Parque Dos Rios
- Cesar E. Chavez Park and Drake/Chavez Greenbelt
- Bandini Park/Batres Community Center Los Angeles River and Rio Hondo Trails
- Dominguez Gap and DeForest Treatment Wetlands

At Cesar E. Chavez Park and Drake/Chavez Greenbelt, permanent use of land under both Alternatives would occur; however, consolidation and shift of the Shoreline Dr. corridor would result in a larger, more functional park at Cesar E. Chavez Park. Additionally, temporary closures to public access for portions of the Cesar E. Chavez Park would occur under both Alternatives. At Bandini Park, Alternative 5C and Alternative 7 would include an elevated structure that would pass over the northwestern corner of Bandini Park and an aerial easement would be required. Both

build alternatives would require temporary construction easements (TCEs) and result in temporary closures of Bandini Park during construction. Both Alternatives 5C and 7 would result in short-term, temporary closures of the Los Angeles River and Rio Hondo Trails during construction. Finally at the Dominguez Gap and De Forest Treatment Wetlands, Alternatives 5C and 7 would result in an expanded aerial easement. Alternative 7 would also require the permanent incorporation of some acreage of the West Basin of the DeForest Treatment Wetlands. Both build alternatives would require TCEs, and Alternative 7 would require the temporary removal of portions of the West Basin of the Dominguez Gap and DeForest Treatment Wetlands during construction.



Parks are provided special protection under Section 4(f) of the 1966 U.S. Department of Transportation Act.

For Parque Dos Rios, permanent use of land under Alternatives 5C and 7 as well as TCEs for both alternatives would be required. Alternative 5C would result in the permanent incorporation of 1.68 acres of land from Parque Dos Rios into the transportation facility. Alternative 7 would result in the permanent incorporation of 3.21 acres of land from Parque Dos Rios into the transportation facility. However, the remnant parcel outside the alternative footprint would have limited functionality/accessibility. Therefore, Alternative 7 would result in the permanent use of the entire

8.6-acre park, and Alternative 7 would adversely affect the activities, features, and attributes of the 4(f) resource.

The build alternatives would result in a de minimis use of four parks/recreational areas, Cesar E. Chavez Park and Drake/Chavez Greenbelt, Bandini Park/Batres Community Center, the Los Angeles River and Rio Hondo Trails, and the Dominguez Gap and DeForest Treatment Wetlands; and three historic sites, the Union Pacific Railroad Rail Lines, Boulder Dam-Los Angeles Transmission Lines, and Dale's Donuts.

If you are interested in reading more about how the I-710 Corridor Project alternatives affect Section 4(f) properties in the Study Area, please see Appendix B of the RDEIR/SDEIS.

S.5.24 - Construction Impacts

Key findings related to construction impacts of the build alternatives are as follows:

Land Use: Construction of the I-710 build alternatives would temporarily affect nearby land uses and would include disruption of local traffic patterns and access to residences and businesses; increased traffic congestion; and increased noise, vibration, and dust. In addition, construction of the build alternatives would result in temporary impacts to pedestrian and bicyclist access points to regional and local trails and bikeways (including the Los Angeles River Trail), and short-term closures of segments of bikeways in the vicinity of new and/or modified interchanges.



Construction of any of the build alternatives will be a major undertaking. This photo shows a similar freeway widening project on I-5 in Orange County.

Parks and Recreation: Alternative 5C would require 0.26 acre on the west side of Parque Dos Rios for a TCE during project construction; however no TCEs would be required under Alternative 7 to Parque Dos Rios. During construction of Alternative 5C and Alternative 7, approximately 21.9 acres of Cesar E. Chavez Park would be required for a TCE. The TCE area includes a detour road of 0.41 acre, which would be graded and paved to allow temporary access during construction of realigned Broadway. Portions of Cesar E. Chavez Park may be temporarily closed to public access to protect the safety of park users and project construction workers. During construction of Alternatives 5C and 7, approximately 0.11 acre of land along the western perimeter of Bandini Park/Batres Community Center would be required for a TCE, and temporary closures of portions of the park would occur during construction to protect the safety of park visitors and project construction workers. Alternative 5C and Alternative 7 would require short-term, temporary closures of segments of the Los Angeles River and the Rio Hondo Trails, and some temporary trail crossings at I-710 and local streets during construction would occur.

Community Character and Cohesion: Construction of the improvements for the build alternatives is anticipated to result in short-term access disruptions related to construction and, therefore, result in a short-term impact to community character and cohesion. A Transportation Management Plan (TMP) would be implemented during construction of the I-710 Corridor Project in a cost-efficient and timely manner with minimal interference to the traveling public. In addition, construction jobs would be created by the construction of the build alternatives.

Environmental Justice: Construction activities would temporarily affect environmental justice populations. However, construction activities would provide jobs, which would benefit local economies that include minority and low-income populations.

Utilities and Emergency Services: Construction activities that require closures of travel lanes and ramps could result in traffic delays that could affect the ability of fire, law enforcement, and emergency service providers to meet response time goals within the Study Area. Under all build alternatives, utility relocations would occur prior to project construction. For utilities that will be protected in place, standard construction measures, such as contacting Underground Service Alert, will be used to avoid impacting utilities and to avoid utility service disruptions.

Traffic Circulation, Pedestrians, and Bicyclists: During construction, the I-710 Corridor Project would result in temporary impacts to traffic circulation due to traffic diversions resulting from temporary closures to local roadways, sidewalks and bikeways, and freeway lanes and ramps. A TMP will be implemented to address changes in traffic flows and pedestrian and bicycle circulation and provide measures to minimize the adverse effects of construction activities on traffic flows and pedestrian and bicycle travel within the Study Area. In addition, construction of the build alternatives would result in temporary impacts to pedestrian and bicyclist access points to regional and local trails and bikeways (including the Los Angeles River and Rio Hondo Trails), and short-term closures of segments of bikeways in the vicinity of new and/or modified interchanges.

Visual/Aesthetics: Short-term visual impacts under the build alternatives would occur to sensitive viewers during the construction period and include views of demolition of existing structures, clearing of existing vegetation, grading of cut-and-fill slopes, construction of the I-710 widening and structures, construction vehicles, and construction staging areas. Construction activities are temporary, and the adverse visual impacts related to construction activity would cease after completion of construction. The effects of vegetation clearing would gradually improve over time as landscaping for the I-710 Corridor Project matures.



The build alternatives will result in many construction and construction related jobs.



Construction activity results in a variety of short-term impacts, especially air quality, noise, and visual. An extensive program of construction mitigation measures would be implemented for any of the build alternatives.

Cultural Resources: There is the potential for direct impacts to buried cultural resources to occur during construction. However, all impacts to buried cultural resources are considered to be permanent impacts. Therefore, temporary impacts are not applicable to cultural resources.

Hydrology/Floodplains: Construction equipment would be operated within the Los Angeles River and Compton Creek 100-year floodplains during construction of the bridge and levee improvements discussed above under Permanent Impacts. Following the completion of construction activities within the 100-year floodplain, the disturbed area would be returned to the existing condition.

Water Quality: Events such as the accidental discharge of waste products produced during construction are of primary concern. Other concerns, such as disturbed soil and erosion of channel banks; runoff from the construction site; disturbance of existing channel-bottom sediments due to construction over and adjacent to local water bodies; resuspension of fine-grained bottom sediments; and removal and disposal of groundwater are potential issues during construction of the build alternatives. However, standard construction measures require the capture and treatment of all runoff from the construction area. The potential for temporary water quality impacts would be greater under Alternative 7 because more improvements are proposed under these alternatives and there would be more disturbed soil area and more work within and adjacent to the water bodies within the project area.

Geology, Soils, Seismic, and Topography: Construction activities related to the build alternatives may temporarily disturb soil outside the facility footprint, yet within the project right-of-way, primarily in the trample zone around work areas, heavy equipment traffic areas, and material laydown areas. Temporary impacts would include soil compaction and increased possibility of soil erosion.

Paleontology: There is the potential for direct impacts to paleontological resources to occur during construction. However, all impacts to paleontological resources are considered to be permanent impacts. Therefore, temporary impacts are not applicable to paleontological resources.

Hazardous Waste: Alternative 7 would have a greater potential temporary hazardous waste impact prior to and during construction than Alternative 5C due to the larger footprint of the freight corridor associated with Alternative 7. Based on the findings of the records search and the site surveys, elevated concentrations of aerially deposited lead (ADL); asbestos-containing materials (ACMs), polychlorinated biphenyls (PCBs), and/or lead-based paint (LBP); and elevated concentrations of metals such as lead may be encountered during excavation and construction activities for all build alternatives. Contamination may be encountered during

construction and excavation activities at those properties that require additional remediation; residual contamination may be encountered during construction and excavation activities at those properties that have received regulatory agency closure; and waste materials may be encountered during construction and excavation activities at those properties that operated as waste disposal sites. Additionally, contaminated groundwater may be encountered during construction.



Construction activities can create hazardous waste which will be disposed of at an appropriate disposal facility.

Air Quality/Greenhouse Gases: During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment are also anticipated and would include CO, NOX, VOCs, SOX, PM10, PM2.5, toxic air contaminants such as DPM, and GHGs. Thirty-year amortized annual average construction GHGs are calculated to be approximately 4,700 or 7,500 metric tons per year of CO₂e for Alternatives 5C and 7, respectively. Although Caltrans has not adopted the SCAQMD significance criteria, when the worst-case construction scenario is assumed (i.e., simultaneous construction across all freeway sections), peak daily criteria air pollutant emission estimates for Alternatives 5C and 7 exceed the SCAQMD thresholds for all pollutants except for oxides of sulfur (SOX). For a single freeway section, peak daily criteria air pollutant emission estimates for Alternatives 5C and 7 are below SCAQMD thresholds for all pollutants except PM10 and NOX. An analysis of Best Available Control Technology (BACT) construction equipment shows that NO_x and VOC emissions can be appreciably reduced, although these emissions may still exceed SCAQMD significance criteria.

Noise: During construction of the project, noise from construction activities may occasionally dominate the noise environment in the immediate project area. Construction noise is regulated by Caltrans Standard Specifications, Section 14-8.02, "Noise Control." These requirements state that noise levels generated during construction would be controlled and monitored and not to exceed 86 dBA Lmax at 50 feet from the job site between the hours of 9:00 p.m. to 6:00 a.m.

Energy: Construction equipment and construction worker vehicles operating during construction of the I-710 Corridor Project would use fossil fuels. This increased fuel consumption would be temporary, would cease at the end of construction activities, and would not have a residual requirement for additional energy input. The marginal increases in fossil fuel use resulting from project construction are not expected to have appreciable impacts on energy resources.

Natural Communities: Temporary impacts to natural communities may occur during construction of all build alternatives where habitats are temporarily disturbed during grading or other activities. In general, Alternative 7 would result in greater temporary impacts than Alternative 5C due to the increased number of structural bridge columns/piers associated with Alternative 7.



Controlling stormwater runoff during construction is critical to maintaining water quality in the Study Area.

Wetlands/Other Waters: Temporary impacts to jurisdictional areas may occur during construction where wetlands or waters are temporarily disturbed during pile-driving activities, construction of abutments, grading, or other activities. Alternative 7 would result in greater temporary impacts than Alternative 5C due to the increased number of piles within jurisdictional areas associated with Alternative 7.

Plant Species: Temporary impacts to populations of southern tarplant could result from implementation of any of the build alternatives. In general, Alternative 7 would result in greater temporary impacts to the populations of southern tarplant than Alternative 5C.

Animal Species: Both build alternatives could result in temporary impacts to burrows that could be used by the burrowing owls and to roosting bats of various species. Construction and expansion of the four bridges in the lower Los Angeles River would not alter long-term movement of California sea lions or fish protected under the Magnuson-Stevens Fishery Conservation and Management Act through the channel. No permanent effects would occur to essential fish habitat (EFH) except for a minimal permanent loss of channel bottom where the piles would be placed.

Threatened & Endangered Species: Temporary impacts to California least tern, Western Snowy Plover (coastal population), and green turtle could occur during construction from temporary indirect disturbance (noise, vibration, dust, night lighting, and human encroachment). Construction could temporarily impede movement along the Los Angeles River. California least terns could be affected indirectly by project-generated changes in water quality. Any green turtles that might visit the area around the mouth of the Los Angeles River could be temporarily affected indirectly by project-related changes in water quality originating upstream.

Invasive Species: Construction of the I-710 Corridor Project has the potential to spread invasive species through the entering and exiting of construction equipment contaminated by invasives, the inclusion of invasive species in seed mixtures and mulch, and the improper removal and disposal of invasive species so that its seed is spread along the highway.

Cumulative Impacts: Temporary cumulative impacts as a result of the proposed project, in combination with other past, present and future projects, are not considered to be adverse. All temporary impacts described in the above sections, as well as impacts for other projects in the Study Area, would each be minimized or mitigated and would, therefore, not have a cumulative impact to humans or the physical environment. Temporary cumulative impacts to traffic and circulation can also result from the construction of more than one project in a general area. In this case, TMPs for each project would be prepared in the future and would be coordinated to ensure adequate circulation in the area, including always maintaining the existing number of mainline freeway lanes.

If you are interested in reading more about how construction of the I-710 Corridor Project would affect the Study Area, please see Section 3.24 of the RDEIR/SDEIS.

S.5.25 - Public Health Considerations

Key findings related to the effects of the build alternatives on public health are as follows:

Parks and Recreation: The build alternatives would not result in an adverse impact in access to parks as a result of barriers to walking or biking, changes in pedestrian or bike safety near parks, or in a reduction in park acreage and, therefore, would not have adverse effects on public health related to park access. The expansion and reconfiguration of Cesar E. Chavez Park would have beneficial effects by increasing opportunities for public use of the park following the completion of construction.



Because improving air quality and reducing public health risk are key goals of the project, public health was considered in all aspects of the project environmental studies.

Community Character and Cohesion: Based on the nature of the changes in access in the Study Area, the proximity of these changes to residential and nonresidential properties, and the relocation availability and the Relocation Assistance Program (RAP) provided by Caltrans for the affected properties and considerations toward Last Resort Housing, the build alternatives would not result in isolation and/or segregation of residents without resources to relocate within their existing communities and, therefore, would not result in adverse effects to public health related to community character and cohesion.

While the build alternatives would result in some changes in access, these changes would not result in adverse impacts in access to schools within the Study Area. Once in operation, the build alternatives would not result in adverse impacts to modes of travel for students and would enhance access to schools by reducing traffic congestion. Therefore, the build

alternatives would not result in adverse effects to public health related to access to schools.

Environmental Justice: The findings described above for Community Character and Cohesion would also apply to minority and low-income (environmental justice) populations within the I-710 Corridor.

Utilities and Emergency Services: Recognizing both public concern and scientific uncertainty over possible health effects from electromagnetic field (EMF) exposure, the California Public Utilities Commission (CPUC) adopted a precautionary approach to reduce EMF exposures in 1993 (updated in 2006). While keeping electrical safety and good engineering practice as first priority, investor-owned electric utilities in California utilize design to reduce magnetic fields created by new and rebuilt electric facilities. As the relocation of electrical transmission and distribution lines for the I-710 Corridor Project will utilize designs to reduce EMFs consistent with the CPUC guidance described above, public health considerations regarding EMFs are not considered a concern.

Regarding emergency response time, other than the above-described effects, (adverse effects during construction and beneficial effects once the project is operational), public health was considered not to be a topic of concern for emergency services.

Traffic Circulation, Pedestrians, and Bicyclists: The project would improve pedestrian facilities (sidewalks) by replacing the old ones that will be removed as part of the project. Bike travel would also be improved by providing new pavement on the arterial bridges that will be replaced over I-710 and the Los Angeles River, as well as new bicycle/pedestrian crossings. In many cases, existing interchanges will be replaced with diverging diamond interchange configuration interchanges. Bicyclists and pedestrians are a consideration in the design of these types of interchanges and appropriate treatments are applied to balance vehicle, bicycle, and pedestrian use. Caltrans' Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians (Caltrans 2010) will be used during the design process. Because sidewalks will be improved, bikeways and trails will be maintained, and bicycle and pedestrian connectivity will be enhanced, the I-710 Corridor Project would improve conditions for pedestrian and bicycle travel, thereby resulting in a beneficial effect to public health considerations related to congestion and mobility.

Modernizing the design of I-710 is expected to reduce the number of total and fatal accidents, resulting in accident rates on I-710 that are more reflective of the statewide average for a similar facility. This expected reduction in accidents would reduce public health risks related to traffic safety.



Bicycle trails and bikeways will be maintained during and after construction.

Water Quality: Water quality BMPs would be implemented to treat stormwater runoff during construction and operation of the build alternatives. As a result, the build alternatives are not anticipated to degrade the water quality of the receiving waters. Treatment BMPs would be designed to drain and eliminate standing water; therefore, vectors (such as mosquitoes) would not be of concern. Therefore, the build alternatives would not pose risks to public health related to hydrology and water quality.

Geology, Soils, Seismic, and Topography: The primary public health consideration related to geology is seismic safety. All new and modified bridge structures included in the build alternatives would be designed and constructed in accordance with Caltrans' latest seismic design criteria, thus minimizing public health risk concerns associated with structure collapses during an earthquake.



Technicians testing for hazardous materials.

Hazardous Waste: The modern design of the I-710 Corridor Project under any of the build alternatives will result in reduced risk of traffic accidents, including those that could result in hazardous waste spills. Alternative 7 further reduces the public health risk of hazardous waste spills by separating truck traffic from automobile traffic as a result of the freight corridor component of the alternatives. For these reasons, implementation of the build alternatives would not increase public health risks related to hazardous waste and materials in the short term and would decrease these risks in the long term as a result of the cleanup and remediation of hazardous waste contamination on properties that would be acquired for the project.

Air Quality: Either project alternative would generally improve air quality and reduce public health risk in the Basin and the I-710 AOI. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few nearby roadway locations where there would be an increase in certain emissions but no increase in cancer risk compared to 2012. There are no feasible mitigation measures to reduce these localized near-roadway impacts; therefore, these would be unavoidable adverse impacts.

Noise: The proposed noise barriers to be constructed under either of the build alternatives would reduce noise levels for people living and working in the I-710 Corridor.

If you are interested in reading more about public health considerations for the I-710 Corridor Project alternatives, please see each topical section in Chapter 3 of the RDEIR/SDEIS.

S.6 - Summary of Significant Impacts under CEQA after Mitigation

As discussed in detail in Chapter 4.0, CEQA Evaluation, the following impacts of the build alternatives were determined to be significant, adverse, and unavoidable after implementation of the identified avoidance, minimization, and mitigation measures, as well as the project design features:

Permanent Air Quality Impacts: Although most areas would experience improved air quality, some near-roadway sensitive receptors would be exposed to substantial pollutant concentrations that cannot be mitigated.

Permanent Land Use and Planning Impacts: Within the Cities of Commerce, Compton, Bell, and Long Beach

Alternative 7 would result in relocations resulting in a significant unavoidable impact to community character and cohesion. Impacts would also occur under Alternative 5C; however, community character and cohesion would remain intact under this alternative.



A neighborhood near I-710.

Permanent Population and Housing Impacts: Alternative 5C and the Design Options would result in between 109 and 128 residential displacements, and Alternative 7 would result in a total of between 121 and 140 residential relocations, depending on design options. Some of these displaced residences are in areas (mainly the Cities of Commerce and Compton) where there is insufficient replacement housing available. Therefore, it will not be possible to relocate all displaced residents within their community or an area within reasonable proximity to their community. For this reason, the construction of replacement housing in these areas may be necessary.

Permanent Traffic and Transportation Impacts: Mitigation measures have not been recommended for four impacted intersections as mitigation would be infeasible due to right-of-way constraints and potentially severe impacts to adjacent properties within the affected cities. These four intersections would be adversely impacted by the build alternatives and would result in increased delay relative to the future No Build Alternative conditions.

Mandatory Findings of Significance: Although the build alternatives provide benefits in terms of addressing the need and purpose of the project, incremental adverse effects of the proposed project are considerable when viewed in connection with the effects of past, current, and probable future projects. Additionally, the project would likely cause substantial adverse effects on human beings, as indicated by discussions of residential displacements associated with the proposed project.

The remaining impacts of the build alternatives were determined to be either not significant or able to be avoided or reduced to below a level of significance based on implementation of the project avoidance, minimization, and mitigation measures and project design features, as described in detail in Chapter 4.0. Table S-5 summarizes the significant impacts identified during the CEQA evaluation and the relevant mitigation measures applicable for each impact.

S.7 - Areas of Controversy and Unresolved Issues

Based on input during the MCS, public scoping, and public outreach efforts, the following areas of public concern have been identified. Some of the issues raised may be considered controversial.

Air Quality/Health Risk: Air quality and health risk continue to be controversial public issues because of the high emissions levels and resulting health risk to populations along the I-710 Corridor due to existing traffic congestion and truck traffic from the Ports.

USEPA Comments: The USEPA has raised concerns regarding the analytical methodologies used to evaluate potential impacts of the I-710 Corridor Project as well as concerns about potential impacts to low income and minority populations. Caltrans is continuing to work with the USEPA to address their concerns.

Noise: All of the build alternatives would result in noise impacts to sensitive receptors along the I-710 Corridor. Noise barriers have been proposed to reduce these impacts.

Utility Relocations: The project design is not advanced enough to determine the specific locations of some utility relocations.

Acquisition of Private Property/Displacements: Although the design of the build alternatives has been refined to minimize the need to acquire private property for the project, acquisition of property and displacement of existing residences and businesses may be controversial with individual property owners.

Caltrans, Metro, and the other I 710 Funding Partners are continuing to work with the community to resolve concerns within the ongoing community participation framework of the I-710 Corridor Project.

Table S-5: CEQA Significance Chart

Resource Area	CEQA Determination	Mitigation Measures	Alternatives
Aesthetics			
Substantially degrade the existing visual character or quality of the site and its surroundings?	Less Than Significant with Mitigation	Measures VIS-1 through VIS-12 provided in Section 3.6.4, Visual/Aesthetics	Alternative 7 would result in greater aesthetic impacts than Alternative 5C.
Air Quality			
Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Significant and Unavoidable Impact	Measure AQ-1 in Section 3.13, Air Quality	Alternatives 5C and 7 would result in the same impacts.
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)?	Significant and Unavoidable Impact	Measure AQ-1 in Section 3.13, Air Quality	Alternative 7 would result in incremental SO ₂ increases, while Alternative 5C would result in incremental SO ₂ decreases.
Expose sensitive receptors to substantial pollutant concentrations?	Significant and Unavoidable Impact	Measures AQ-1 through AQ-3 in Section 3.13, Air Quality	Alternatives 5C and 7 would result in the same impacts.
Biological Resources			
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?	Less Than Significant with Mitigation	Measures NC-1 in Section 3.16, Natural Communities; CON-PS-1 in Section 3.24, Construction Impacts; AS-1 in Section 3.19.4, Animal Species; CON-AS-1 through CON-AS-14 in Section 3.24, Construction Impacts; CON-NC-2 through CON-NC-13 in Section 3.24; CON-INV-3 in Section 3.24; CON-TE-1 through CON-TE-4 in Section 3.24	Impacts vary between Alternatives 5C and 7 with regard to plant species, animal species, and natural communities; however, in general, Alternative 7 may result in greater impacts due to its larger footprint than that of Alternative 5C.
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 Wildlife or US Fish and Wildlife Service?	Less Than Significant with Mitigation	Measure NC-1 in Section 3.16, Natural Communities	Generally, Alternative 7 may result in greater impacts due to its larger footprint than that of Alternative 5C.

Table S-5: CEQA Significance Chart

Resource Area	CEQA Determination	Mitigation Measures	Alternatives
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?	Less Than Significant with Mitigation	Measure NC-1 in Section 3.16, Natural Communities	Generally, Alternative 7 may result in greater impacts due to its larger footprint than that of Alternative 5C.
Cultural and Paleontological Resources			
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Less Than Significant with Mitigation	Measure PAL-1 in Section 3.11, Paleontology	Alternatives 5C and 7 would result in the same impacts.
Geology Soils			
a.iii) Seismic-related ground failure, including liquefaction?	Less Than Significant with Mitigation	Measures GEO-1 in Section 3.10, Geology and Seismology; CON-GEO-1 in Section 3.24, Construction Impacts	Alternatives 5C and 7 would result in the same impacts.
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?	Less Than Significant with Mitigation	Measures GEO-1 in Section 3.10, Geology and Seismology; CON-GEO-1 in Section 3.24, Construction Impacts	Alternatives 5C and 7 would result in the same impacts.
Hazards and Hazardous Materials			
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?	Less Than Significant with Mitigation	Measures HW-1 through HW-11 listed in Section 3.12, Hazardous Materials, and Measures CON-HW-1 through CON-HW-3 listed in Section 3.24, Construction Impacts	Alternatives 5C and 7 would result in the same impacts.
Land Use and Planning			
Physically divide an established community?	Significant and Unavoidable Impact	None Identified	Alternative 5C and Alternative 7 would result in similar impacts to community cohesion; however, additional impacts to the community would result from the implementation of Alternative 7 due to the increased right of way required for the four-lane freight corridor.

Table S-5: CEQA Significance Chart

Resource Area	CEQA Determination	Mitigation Measures	Alternatives
Noise			
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?	Less Than Significant with Mitigation	Measure N-1 in Section 3.14, Noise	Receptors within the I-710 Study Area would experience substantial noise increases over existing noise levels for both alternatives; however, Alternative 7 would result in slightly higher impacts to receptors than Alternative 5C.
Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant with Mitigation	Measure CON-N-1 and CON-N-2 in Section 3.24, Construction Impacts	Alternatives 5C and 7 would result in the same impacts.
A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	Less Than Significant with Mitigation	Measure N-1 in Section 3.14, Noise	Receptors within the I-710 Study Area would experience substantial noise increases over existing noise levels for both alternatives; however, Alternative 7 would result in slightly higher impacts to receptors than Alternative 5C.
Population and Housing			
Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	Significant and Unavoidable Impact	None Identified	Alternative 7 would generally result in greater displacement impacts than those associated with Alternative 5C.
Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	Significant and Unavoidable Impact	None Identified	Alternative 7 would generally result in greater displacement impacts than those associated with Alternative 5C.
Public Services			
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?	Less Than Significant with Mitigation	Measures C-1 through C-4 in Section 3.4, Communities; CON-TR-1 in Section 3.24 Construction Impacts	Both alternatives would result in facility acquisitions; however, Alternative 7 would result in some additional facility acquisitions when compared to Alternative 5C.

Table S-5: CEQA Significance Chart

Resource Area	CEQA Determination	Mitigation Measures	Alternatives
Parks and Recreation			
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?	Less Than Significant with Mitigation	Measures PR-1 through PR-23 in 3.1, Land Use	Alternatives 5C and 7 would result in the same impacts.
Transportation and Traffic			
Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	Significant and Unavoidable Impact	None Identified	Alternatives 5C and 7 would result in the same impacts.
Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	Significant and Unavoidable Impact	None Identified	Alternatives 5C and 7 would result in the same impacts.
Utilities and Service Systems			
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?	Less Than Significant with Mitigation	Measure FP-2 in Section 3.8, Hydrology and Floodplains	Generally, Alternative 5C and Alternative 7 would result in similar impacts; however, the Dominguez Gap Spreading Grounds would be only be impacted by the freight corridor in Alternative 7.

Table S-5: CEQA Significance Chart

Resource Area	CEQA Determination	Mitigation Measures	Alternatives
Mandatory Findings of Significance			
Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	Less Than Significant with Mitigation	Refer to Section 4.4, Mitigation Measures for Significant Impacts under CEQA	Both of the alternatives have the potential to degrade the environment as a result of impacts to the following: natural communities, plant communities, and wetlands and other waters.
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)?	Significant and Unavoidable Impact	None Identified	Both alternatives, when combined with other cumulative projects, would contribute to cumulative impacts related to air quality, land use and planning, noise, population and housing, and lastly, transportation and traffic.
Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Significant and Unavoidable Impact	None Identified	Both alternatives would have direct and indirect adverse impacts on human beings that cannot be mitigated to a level below significance.

S.8 - Coordination with Public and other Agencies

Early and continuing coordination between the general public and public agencies with the I-710 Corridor Funding Partners (Caltrans, Metro, Gateway Cities COG, POLB, POLA, SCAG, and the I-5 JPA) has been and will continue to be an essential part of the environmental process in order to determine the scope of environmental documentation, the level of analysis, any 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 an extensive multi-tiered community participation process with numerous public meetings and interagency coordination meetings. Chapter 5.0 summarizes the results of the efforts by Caltrans, Metro, and the I-710 Corridor Project partner agencies to fully identify, address, and resolve project-related issues through early and continuing coordination.

The continuing coordination efforts have resulted in the identification of Cooperating and Participating Agencies. A Cooperating Agency, as defined in NEPA, is any Federal agency, or State or local agency of similar qualification, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative (40 CFR 1508.5). In addition, a Cooperating Agency may adopt, without recirculation of, the environmental impact statement of a lead agency when, after an independent review of the statement, the Cooperating Agency concludes that its comments and suggestions have been satisfied, pursuant to 40 CFR 1506.3. Participating Agencies are those with an interest in the project; therefore, all Cooperating Agencies are also Participating Agencies. However, while the roles and responsibilities of Cooperating and Participating Agencies are similar, the Cooperating Agencies have a higher degree of authority, responsibility, and involvement in the environmental review process. It is at the lead agency's discretion to consider these

distinctions in deciding whether to invite an agency to serve as a Cooperating or Participating Agency or only as a Participating Agency. Under CEQA, a Responsible Agency is any public agency, other than the lead agency, which has the responsibility for any discretionary approvals (e.g., a permit) necessary to implement the project.

S.9 - Summary Comparison of Alternatives

Table S-6 on the following pages provides a summary comparison of Alternative 1, Alternative 5C, and Alternative 7 for key environmental topics of concern.

Table S-6: Summary Comparison of Alternatives

Alternatives and Environmental Topics	Alternative 1 No Build	Alternative 5C	Alternative 7
Alternative Descriptions	No change to I-710	Widen I-710 in several sections and modernize I-710 geometrics <ul style="list-style-type: none"> Includes a Corridor Aesthetic Master Plan Programmatic elements (ZE/NZE Truck Deployment, Community Health Benefit) 	Modernize geometrics and add a separated freight corridor (two lanes each direction, four lanes total) <ul style="list-style-type: none"> Includes a Corridor Aesthetic Master Plan Programmatic elements (ZE/NZE Truck Deployment, Community Health Benefit)
Air Quality/Health Risk Assessment	The I-710 Corridor Project would not be implemented and the specific benefits of the I-710 Corridor Project build alternatives would not occur under Alternative 1. However, the other projects assumed in the no build condition would provide mobility and air quality benefits.	<ul style="list-style-type: none"> Project area particulate matter emissions increase compared to no project conditions MSAT and criteria pollutant emissions would decrease compared to existing conditions Reduced public health risk at most locations, but at some near-roadway locations emissions would increase 	<ul style="list-style-type: none"> Project area particulate matter emissions increase compared to no project conditions MSAT emissions and criteria pollutant emissions would decrease compared to existing conditions Public health risk would be similar to the health risks associated with Alternative 5C, with slightly higher particulate matter impacts
Community Impacts			
Displacements	No displacements	Between 109 and 128 residential and between 157 and 165 nonresidential displacements (depending on the design option).	Between 121 and 140 residential and between 206 and 213 nonresidential displacements (depending on the design option).
Access	No changes to access	<ul style="list-style-type: none"> Improved pedestrian access Alternative routes maintain existing access Five new bicycle/pedestrian-only bridges 	<ul style="list-style-type: none"> Improved pedestrian access Alternative routes maintain existing access Addition of a new I-710/Slauson Ave. freight corridor partial interchange Three new bicycle/pedestrian-only bridges

Table S-6: Summary Comparison of Alternatives

Alternatives and Environmental Topics	Alternative 1 No Build	Alternative 5C	Alternative 7
Parks & Recreation	No changes to parks and recreation facilities	Impacts to the following facilities: Parque Dos Rios, Compton Hunting and Fishing Club, Maywood River Park (indirect impacts), Coolidge Park (indirect impacts), Bandini Park (permanent aerial easement), Wrigley Greenbelt (temporary construction easement), Los Cerritos Park (temporary construction easement), Cressa Park (temporary construction easement), Cesar E. Chavez Park access/parking benefit, and Los Angeles River Trail and Rio Hondo Trail improved access	Impacts to the following facilities: Parque Dos Rios, Compton Hunting and Fishing Club, Maywood River Park (indirect impacts) Coolidge Park (indirect impacts), Bandini Park (permanent aerial easement), Los Cerritos Park (temporary construction easement), Cressa Park (temporary construction easement), Cesar E. Chavez Park access/parking benefit, and Los Angeles River Trail and Rio Hondo Trail improved access
Noise	The build alternatives would not be implemented and, therefore, there would be no noise impacts.	<ul style="list-style-type: none"> 2.2 miles of proposed new noise barriers and 5.3 miles of noise barriers to replace existing. 	<ul style="list-style-type: none"> 2.7 miles of proposed new noise barriers and 6.8 miles of noise barriers to replace existing.
Visual	The build alternatives would not be implemented. Therefore, there would be no visual impacts from the I-710 Corridor Project.	Alternative 5C would have less visual impact than Alternative 7 because it would not include the elevated freight corridor.	Greater level of visual impact than Alternative 5C because it would include construction of the elevated freight corridor visible from nearby residential areas. The most substantial adverse visual impacts are in the Cities of Long Beach and South Gate, due to close proximity to freeway-to-freeway interchanges, sound barriers, and the elevated freight corridor.

Table S-6: Summary Comparison of Alternatives

Alternatives and Environmental Topics	Alternative 1 No Build	Alternative 5C	Alternative 7
Hazardous Waste	No changes to the existing physical environment and would not result in hazardous waste impacts	There is potential for hazardous materials, including petroleum products, to exist within the Study Area and be disturbed by full or partial acquisitions or temporary construction easements under Alternative 5C. Any contamination encountered during construction and excavation activities for Alternative 5C would be properly handled, removed, remediated, and/or disposed of according to all applicable regulations. If Alternative 5C is selected for implementation, each property of environmental concern to be acquired would require testing in order to characterize specific soil and/or groundwater contaminants on the property, and a site-specific hazardous waste remediation plan would be developed for the appropriate removal and disposal of materials. In addition, a remediation plan and site closure plan, if required, would be implemented to clean up the site and provide for any subsequent monitoring to ensure the contamination has been remediated below regulatory thresholds.	There is potential for hazardous materials, including petroleum products, to exist within the Study Area and be disturbed by full or partial acquisitions or temporary construction easements under Alternative 7. Any contamination encountered during construction and excavation activities for Alternative 7 would be properly handled, removed, remediated, and/or disposed of according to all applicable regulations. If Alternative 7 is selected for implementation, each property of environmental concern to be acquired would require testing in order to characterize specific soil and/or groundwater contaminants on the property, and a site-specific hazardous waste remediation plan would be developed for the appropriate removal and disposal of materials. In addition, a remediation plan and site closure plan, if required, would be implemented to clean up the site and provide for any subsequent monitoring to ensure the contamination has been remediated below regulatory thresholds. An elevated freight corridor would reduce public health risk from hazardous waste spills by separating truck traffic from automobile traffic.
Traffic	No improvements to I-710, other than those currently planned. Traffic conditions would continue to deteriorate over time due to increased traffic volumes caused by regional growth in traffic. Most segments are projected to operate at LOS F in the 2035 AM peak hour.	Alternative 5C has three segments of I-710 that operate at LOS F in the 2035 AM peak hour.	Alternative 7 has eight segments of I-710 that operate at LOS F in the 2035 AM peak hour.

Table S-6: Summary Comparison of Alternatives

Alternatives and Environmental Topics	Alternative 1 No Build	Alternative 5C	Alternative 7
Water Quality	Existing roadway runoff would be treated by the existing BMPs and is undergoing BMP development in accordance with the Stormwater permit. Therefore, the No Build Alternative would result in an improvement to water quality based on these BMPs.	Impervious surface would be increased by 156.4 acres. The BMPs would treat 74 percent of on-site runoff from the total impervious surface areas within the project area, which would be an improvement over the existing condition.	Impervious surface would be increased by 256.9 acres. The BMPs would treat 78.3 percent of on-site runoff from the total impervious surface areas within the project area, which would be an improvement over the existing condition.
Cultural Resources	The build alternatives would not be implemented. Therefore, there would be no impacts to historic resources from the I-710 Corridor Project.	Impacts to four historic resources: two segments of the UP Railroad, Dale’s Donuts, and Boulder Dam-Los Angeles 287.5 kV Transmission Line. It was determined there would be no adverse effects on historic properties.	Impacts to four historic resources: two segments of the UP Railroad, Dale’s Donuts, Boulder Dam-Los Angeles 287.5 kV Transmission Line. It was determined there would be no adverse effects on historic properties.
Biology/Natural Resources	Alternative 1 would not impact estuarine and riparian/riverine habits.	Permanent direct impacts to 2.13 acres of estuarine and riparian/riverine habitats and permanent indirect impacts to 36.67 acres of this habitat.	Permanent direct impacts to 11.23 acres of estuarine and riparian/riverine habitats and permanent indirect impacts to 42.36 acres of this habitat.

I-710 = Interstate 710

kV = kilovolt

LOS = level of service

MSAT = Mobile source air toxics

UP Railroad = Union Pacific Railroad

ZE/NZE = zero emission/near zero emission