

Chapter 4 California Environmental Quality Act (CEQA) Evaluation

4.1 Determining Significance under CEQA

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

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement (EIS), or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify (1) each "significant effect on the environment" resulting from the project, and (2) ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report (EIR) must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance, which also require the preparation of an EIR. There are no

types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

4.2 Effects of the Proposed Project

The significance of the potential impacts of the Proposed Project under CEQA was assessed based on the CEQA Environmental Checklist provided in Appendix A, and the analyses of project impacts discussed in detail in Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures. For discussion of the impacts of the No Build Alternative, refer to Chapter 3. The impacts of the Build Alternative are summarized in the following sections, including the identification of the level of significance of the potential adverse effects under CEQA. Because the significance discussion is categorized by level of impact, starting with No Impact and concluding with Significant Effects, and because the CEQA Environmental Checklist asks a variety of questions for each environmental topic, certain environmental topics may be discussed in more than one level of significance discussion. The environmental topic headings provide clarification on the particular environmental subset being addressed where it appears in more than one level of significance discussion. To better help the reader, the specific CEQA Environmental Checklist questions that are addressed in the discussion are referenced below each heading for each environmental topic.

The evaluation of the potential impacts of the Build Alternatives under CEQA provided in this chapter was conducted by comparing the Build Alternatives to the baseline conditions, which in most cases, are the existing conditions in the Study Area. For some environmental parameters, this is a different baseline than what was used for other environmental parameters. Existing conditions are the appropriate baseline per the State CEQA Guidelines Section 15125(a), which states “An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. The environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.” Collection of data for the technical studies, field surveys, and preparation of the technical studies were initiated in 2013. As a result, for most of the technical evaluations, the baseline conditions for comparative purposes under CEQA were the existing conditions in 2013, when the information was collected.

However, for the topics of transportation/traffic, air quality, noise, and energy, the evaluation compared the Build Alternative to the future No Build conditions (2017 Opening Year and/or 2040 Build Out) rather than to existing conditions in 2013. For supplemental environmental documents, the Lead Agency may establish a different baseline to allow for accurate and meaningful comparisons,¹ and as such, is not governed by the general rule that the baseline year is established at the time of the release of the NOP. The impact evaluations of these environmental topics all utilize the traffic modeling conducted for the Proposed Project, which established the No Build 2017 scenario as the environmental baseline for CEQA purposes. The considerations involved in determining the appropriateness of the No Build 2017 condition as the environmental baseline are described below.

The effects on traffic operations were assessed by comparing the No Build and the Build scenarios for 2017 and 2040. The possibility of comparing the 2017 Build scenario against existing conditions (2013), instead of the No Build 2017 conditions, was considered. An assessment of the traffic data was conducted to assess whether that comparison was logical.

Two different sets of traffic data were assessed to determine how traffic volumes will change between existing conditions and opening year conditions. Peak-period volumes were studied to evaluate the period with the highest volumes and congestion, and daily volumes were studied to evaluate the overall traffic demand throughout the day.

- For peak-period traffic, Table 1.1 included a summary of the total demand entering the Study Area network during the AM and PM peak periods. That table illustrated that the change in traffic volume between Existing Conditions (2013) and the 2017 No Build scenario is projected to be 22 to 27 percent.
- For daily traffic, Table 3.12.4 included data for SR-91 (303,200 vehicles per day) and SR-241 (52,200 vehicles per day) for the 2017 No Build scenario. The Caltrans Performance Measurement System (PeMS) data (available at <http://pems.dot.ca.gov>) for those two freeways indicate that the 2013 traffic volumes are 278,300 vehicles per day on SR-91 and 43,900 vehicles per day on SR-241. These data suggest changes in daily traffic volume of 9 to 19 percent.

The percentages are different, yet the patterns are the same. There are two reasons for the relatively large projected increases in traffic between 2013 Existing conditions

¹ *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439.

and 2017 No Build conditions. Most importantly, the initial phase of the SR-91 CIP would be completed by 2017. The initial phase of the Proposed Project would extend the existing express lanes in Orange County to the east from the Orange/Riverside County line to I-15 in the City of Corona. This project will attract traffic to the corridor, particularly during the peak periods, and specifically to the *91 Express Lanes*. Secondly, there will be some natural background growth. However, the SR-91 CIP will have a much bigger influence on the transportation system, and the use of 2017 as the baseline year for analysis of impacts has been determined to be the most appropriate.

Given the substantial change in traffic volumes due to the SR-91 CIP, and to a lesser extent background growth, a comparison between the 2017 Build and the 2013 Existing conditions would not be logical. The traffic volume change due to the SR-91 CIP has a major effect on operations, with or without the Proposed Project. An analysis comparing the Proposed Project on 2013 traffic conditions (without the SR-91 CIP) would also be illogical, as it would not be reasonable to build the Express Lane Connector without building the SR-91 CIP (there would be no connection for eastbound *91 Express Lane* drivers). Therefore, the comparison between the 2017 Build and No Build conditions was used as the basis for evaluating impacts related to traffic/transportation, air quality, noise, and energy.

The discussion on greenhouse gas (GHG) emissions and global climate change is discussed in detail later in Section 4.3, Climate Change.

This chapter only discusses the significance of the Proposed Project's impacts under CEQA. The significance determinations of impacts for the approved Eastern Transportation Corridor (ETC) project under CEQA have not changed.

4.2.1 No Effects

4.2.1.1 Aesthetics

Checklist Questions: I(a) Scenic Vistas

I(a) Would the project have a substantial adverse effect on a scenic vista?

As discussed in the *Visual Impact Assessment* (June 2015), there are no designated scenic vistas located within the viewshed of the project corridor (View Corridor). Therefore, the Build Alternative would not impact a scenic vista, and no mitigation is required.

4.2.1.2 Agriculture and Forest Resources

Checklist Questions: II(a), (b), (c), (d), and (e) Farmlands, Forest Lanes, and Timberlands

II(a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

The Project Area is not used for agricultural production and is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. Land in the Project Area is either classified as “Other Land” or “Urban and Built Up.”¹ In addition, according to the City of Anaheim Zoning Map (2014), the Project Area is not zoned for agricultural uses. The Proposed Project would not convert any type of farmland to a nonagricultural use or contribute to environmental changes that could result in conversion of farmland to nonagricultural use. Therefore, the Proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and no mitigation is required.

II(b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

As discussed above, this is not used for agricultural production and is not zoned for agricultural use. In addition, the Project Area is not protected by, or eligible for, a Williamson Act contract.² Therefore, the Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and no mitigation is required.

¹ California Resources Agency. Website: <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/ora12.pdf> (accessed April 8, 2015).

² California Department of Conservation. Website: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Orange_WA_03_04.pdf (accessed August 22, 2015).

II(c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

The Project Area is not used for agricultural or timberland production, not zoned as forest land or timberland, and does not contain forest land or timberland. Therefore, the Proposed Project would not conflict with existing zoning of forest land, timberland, or timberland zoned Timberland Production, and no mitigation is required.

II(d) Would the project result in the loss of forest land or conversion of forest land to nonforest use?

The Project Area is not zoned as forest land and does not contain forest land. Therefore, the Proposed Project would not result in the loss of forest land or conversion of forestland to nonforest use, and no mitigation is required.

II(e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

The Project Area is not used for agricultural or timberland production, not zoned as forest land or timberland, and does not contain forest land or timberland. Therefore, the Proposed Project would not involve changes in the existing environment, which could result in conversion of Farmland to non-agricultural use, or conversion of forest land to non-forest use, and no mitigation is required.

4.2.1.3 Air Quality

Checklist Questions: III(a) Air Quality Plan Consistency

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

As discussed in Sections 3.1, Land Use, and 3.13, Air Quality, the Proposed Project is included in the Southern California Association of Governments (SCAG) 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and is programmed in SCAG's 2015 Federal Transportation Improvement Program (FTIP)

and Orange County Transportation Authority's (OCTA's) 2014 Long Range Transportation Plan (LRTP). The Build Alternative is consistent with the scope of the design concept of the FTIP. Therefore, the Proposed Project is in conformance with the State Implementation Plan (SIP) for attaining the national ambient air quality standards (NAAQS). The Build Alternative would not conflict with or obstruct implementation of an applicable air quality plan. No mitigation is required.

4.2.1.4 Biological Resources

Checklist Question: IV(e) Tree Ordinances

IV(e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The majority of project improvements would occur within Caltrans right-of-way. Senate Concurrent Resolution No. 17 (filed with the Secretary of State on September 1, 1989) requests all State agencies to preserve and protect native oak woodlands to the maximum extent feasible or to provide for replacement plantings. Impacts to any oak trees with trunk sizes greater than 8 inches diameter at breast height (DBH), but less than 36 inches DBH, would be replaced at a minimum mitigation-to-impact ratio of 1:1. Heritage oaks (oaks greater than 36 inches DBH) would be replaced at a minimum mitigation-to-impact ratio of 3:1.

The slope south of State Route 91 (SR-91), approximately 3,600 feet (ft) west of Coal Canyon Undercrossing, that would be graded is located on County land. There are no County policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. In addition, this parcel would be acquired and incorporated into Caltrans right-of-way, where local regulations are not applicable. Therefore, the Proposed Project would not conflict with any local policies or ordinances protecting biological resources. No mitigation is required.

4.2.1.5 Cultural Resources

Checklist Question: V(a) Historic Resources

V(a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

As discussed in Section 3.7, Cultural Resources, one historic archaeological resource, 33-10819/CA-RIV-6532H (the Green River Camp/Alta Vista site) extends into the project APE. The site has been determined not eligible for listing in the National Register and the State Historic Preservation Officer concurred with this finding in a

letter dated March 8, 2001. The portion of the site recorded within the APE has been completely destroyed by construction of SR-91. This part of the APE consists of an Advance Signage Area and there will be no ground disturbance in this area. Caltrans has determined that a finding of No Impact is appropriate pursuant to CEQA Guidelines Section 15064.5(b)(3) because there are no Historical Resources within the Project Area. Therefore, the Build Alternative would not cause a substantial adverse change in the significance of a historical resource, and no mitigation is required.

4.2.1.6 Geology and Soils

Checklist Question: VI(a)(i) and (e) Fault Rupture and Septic Tanks

VI(a)(i) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

As discussed in Section 3.9, Geology and Soils, the Project Area is not located within an Earthquake Fault Zone according to the Alquist-Priolo Earthquake Fault Zoning Act of 1972. Although a number of inactive faults are within the Project Area, no active faults transverse the Project Area. Therefore, the Project Area would not be subject to impacts related to rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, and no mitigation is required.

VI(e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The Build Alternative does not include construction of septic tanks or alternative wastewater disposal systems. Therefore, it would not result in impacts related to capability of the soil to adequately support the use of septic tanks or alternative wastewater disposal systems, and no mitigation is required.

4.2.1.7 Hazards and Hazardous Materials

Checklist Questions: VIII(c), (d), (e), and (f) Schools, Hazardous Materials Sites, and Airports

VIII(c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no existing or proposed schools located within 0.25 mile (mi) of the Project Area. The closest school, Running Springs Elementary School, located to the west of SR-241 in The Summit of Anaheim Hills community, is located approximately 0.42 mi west of SR-241. The Build Alternative is a median-to-median connector that would not generate hazardous emissions or handle hazardous materials beyond those used for routine maintenance. Therefore, the Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mi of an existing or proposed school. No, impacts are anticipated, and no mitigation is required.

VIII(d) Would the project 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?

Available public records were searched on September 27, 2013, by Environmental Data Resources, Inc. (EDR) for hazardous waste sites within an approximate 1 mi radius Project Area. The records search did not find any sites included within the Project Area that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and as a result, the Build Alternative would not create a significant hazard to the public or the environment. Therefore, no impacts are anticipated, and no mitigation is required.

VIII(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

The Project Area is not within an airport land use plan or within 2 mi of a public airport. The closest airport is Corona Municipal Airport, located approximately 2.5 mi from the Project Area. Therefore, the Build Alternative would not result in impacts related to safety hazards related to airports, and no mitigation is required.

VIII(f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

There are no private airstrips within 2 mi of the Project Area; therefore, the Proposed Project is not within the vicinity of a private airstrip. As such, the Build Alternative would not result in impacts related to safety hazards related to airports, and no mitigation is required.

4.2.1.8 Hydrology and Water Quality

Checklist Questions: IX(g) and (h) 100-Year Flood Hazard Areas

IX(g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The Build Alternative includes improvements to an existing transportation facility and does not involve any housing development. Therefore, the Build Alternative would not place housing within a 100-year flood hazard area, and no impacts would occur. No mitigation is required.

IX(h) Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

The Proposed Project is adjacent to the Santa Ana River, which runs parallel to the north of SR-91. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06059C0180J (December 3, 2009), the Santa Ana River is located in a 100-year Flood Zone AE, which is a special flood hazard area for which Base Flood Elevations have been provided. However, no project improvements would occur within the 100-year flood hazard area. Therefore, the Build Alternative would not place structures that would impede or redirect flood flows, and no mitigation is required.

4.2.1.9 Land Use and Planning

Checklist Question: X(a) and (b) Division of an Established Community and Conflict with Land Use Plans

X(a) Would the project physically divide an established community?

The Build Alternative would not physically divide an established community because it involves improvements to the existing freeway network, primarily within existing

right-of-way and would not acquire right-of-way from any established communities. No impacts would occur, and no mitigation is required.

X(b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The Proposed Project is consistent with the SCAG's 2012–2035 RTP/SCS, SCAG's 2015 FTIP, the County of Orange Master Plan of Arterial Highways (MPAH), OCTA's LRTP and the goals, policies, and plans of the counties of Orange and Riverside and the cities of Anaheim, Yorba Linda, Orange, and Corona. Therefore, no impacts related to land use plans, policies, or regulations of agencies with jurisdiction over the Proposed Project would occur, and no mitigation is required.

4.2.1.10 Noise

Checklist Question: XII(e) and (f) Airports

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

The Project Area is not within an airport land use plan or within 2 mi of a public airport. The closest airport is Corona Municipal Airport, located approximately 2.5 mi from the Project Area. Because the Build Alternative is not located in the vicinity of an airport, the Proposed Project would not expose people residing or working in the Project Area to excessive noise levels related to airports. No mitigation is required.

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

There are no private airstrips within 2 mi of the Project Area; therefore, the Proposed Project is not within the vicinity of a private airstrip. Because the Build Alternative is not located in the vicinity of a private airstrip, the Proposed Project would not expose people residing or working in the Project Area to excessive noise levels related to airports. No mitigation is required.

4.2.1.11 Population and Housing

Checklist Question: XIII(a), (b) and (c) Population Growth and Displacement of Housing and People

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

As discussed in detail in Section 3.2, Growth, the Build Alternative includes improvements to an existing transportation facility and is expected to accommodate existing, approved, and planned growth in the area. However, the Build Alternative is not expected to influence the amount, timing, or location of growth in the area. Therefore, the Build Alternative would not induce substantial population growth in an area, either directly or indirectly, and no mitigation is required.

XIII(b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

The Build Alternative would not require the acquisition of any residential properties for construction of the project improvements. Therefore, the Build Alternative would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. No mitigation is required.

XIII(c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The Build Alternative would not require the acquisition of any residential properties for construction of the project improvements. Therefore, the Build Alternative would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. No mitigation is required.

4.2.1.12 Public Services

Checklist Question: XIV(a) Schools and Other Public Facilities

XIV(a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Schools?

Other Public Facilities?

(Note that impacts related to fire protection, police protection, and parks, as they relate to this threshold, are discussed later in Section 4.2.2, Less than Significant Effects of the Proposed Project.)

As discussed in detail in Section 3.2, Growth, the Build Alternative includes improvements to an existing transportation facility and is expected to accommodate existing, approved, and planned growth in the area. However, the Build Alternative is not expected to influence the amount, timing, or location of growth in the area. Therefore, the Build Alternative would not induce population growth. In addition, the Build Alternative does not include the construction of residential or nonresidential uses that would increase the number of households in the surrounding cities. Therefore, the Build Alternative would not increase the population or the number of people in the surrounding cities that rely on the services provided by schools or other public facilities (e.g., libraries). As such, the Build Alternative would not generate an increased demand for school facilities or other public facilities or require the construction of school facilities or other public facilities. Therefore, the Build Alternative would not result in substantial adverse physical impacts associated with the provision of new or physically altered school or other public facilities, and no mitigation is required.

4.2.1.13 Recreation

Checklist Questions: XV(a) and (b) Parks and Recreational Facilities

XV(a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

As discussed in detail in Section 3.2, Growth, the Build Alternative includes improvements to an existing transportation facility and is expected to accommodate existing, approved, and planned growth in the area. However, the Build Alternative is not expected to influence the amount, timing, or location of growth in the area. In addition, the Build Alternative does not include the construction of residential or nonresidential uses that would increase the number of households in the surrounding cities. As such, the Build Alternative would not generate an increased demand for parks or other recreational facilities such that physical deterioration would occur or be accelerated. Therefore, it is not anticipated that recreation facilities would be affected by project implementation, and no mitigation is required.

XV(b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The Build Alternative includes improvements to an existing transportation facility and does not include the construction of recreational facilities. As discussed in detail in Section 3.2, Growth, the Build Alternative is not expected to influence the amount, timing, or location of growth in the area. Therefore, the Build Alternative would not generate an increased demand for recreational facilities or require the construction or expansion of recreational facilities. It is not anticipated that recreation facilities or the availability of recreation resources within the surrounding cities would be affected by project implementation, and no mitigation is required.

4.2.1.14 Transportation/Traffic

Checklist Question: XVI(b), (c), (d), and (f) Congestion Management Programs, Air Traffic Patterns, Design Features, and Alternative Transportation

XVI(b) Would the project 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?

The Build Alternative would not conflict with the Congestion Management Programs for the counties of Orange or Riverside. In addition, the Proposed Project is consistent with the SCAG's 2012-2035 RTP/SCS, SCAG's 2015 FTIP, the County of Orange MPAH, and OCTA's LRTP. The Build Alternative would improve traffic throughput and travel times, reduce delays for travelers on SR-241 and SR-91 in the Project Area

and, improve the efficiency of the overall regional express lane system. Therefore, the Proposed Project would not conflict with an applicable congestion management program, and no mitigation is required.

XVI(c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The Project Area is not within 2 mi of a public or private airport. The closest airport is Corona Municipal Airport, located approximately 2.5 mi from the Project Area. Therefore, the Build Alternative would not include any structures that could interfere with designated air space or affect air traffic patterns over the SR-241/SR-91 interchange and surrounding areas. The Build Alternative would not result in any changes in demand for air travel or any changes that would result in substantial safety risks associated with air travel, and no mitigation is required.

XVI(d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Build Alternative would not increase hazards due to a design feature or incompatible uses because the Proposed Project would be designed and constructed in compliance with the Caltrans Design Standards and Standard Construction Specifications. The proposed improvements do not include any hazardous design features or incompatible uses. No impacts would occur, and no mitigation is required.

XVI(f) Would the project conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, pedestrians and bicyclists are not allowed to travel on the SR-241 or SR-91 mainline. The temporary detours and weekend or nighttime closures at the SR-91/Gypsum Canyon Road interchange on- and off-ramps and the northbound SR-241 to eastbound SR-91 connector would not affect the existing fire trails or the Santa Ana River Trail/Bike Lane and would, therefore, not impact pedestrians and bicyclists or pedestrian and bicycle facilities.

As discussed in Chapter 1, Proposed Project, express bus service operating on SR-91 provides connections from the County of Riverside to employment centers in the cities of Anaheim, Costa Mesa, Fullerton, and Irvine in the County of Orange. Four additional express bus routes are planned for implementation in 2016. The Build Alternative would increase vehicle throughput on SR-91 within the Project Area, which would improve bus service. Therefore, the Proposed Project does not conflict with adopted plans, policies, or programs supporting alternative transportation, and no mitigation is required.

4.2.1.15 Utilities and Service Systems

Checklist Question: XVII(a), (e), and (g) Wastewater Treatment and Capacity and Solid Waste

XVII(a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The Build Alternative would not generate wastewater that would be disposed of in the municipal sewer system. As a result, the Build Alternative would not result in impacts related to exceedances of the ability of local wastewater treatment providers to treat wastewater generated in their service areas. No mitigation is required.

XVII(e) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

As discussed in XVII(a) above, the Build Alternative would not generate wastewater that would be disposed of in the municipal sewer system. Therefore, the Build Alternative would not result in impacts related to the capacity of local wastewater treatment providers to treat wastewater generated in their service areas. No mitigation is required.

XVII(g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

The Build Alternative would comply with federal, State, and local statutes and regulations related to solid waste, and construction waste would be recycled to the extent feasible consistent with Caltrans standards. Therefore, no impacts related to solid waste regulatory compliance would occur.

4.2.2 Less Than Significant Effects of the Proposed Project

4.2.2.1 Aesthetics

Checklist Questions: I(b), (c), and (d) Scenic Resources, Visual Character and Quality, Light, and Glare

I(b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway

According to the Caltrans Scenic Highway Program, SR-91 is officially designated as a Scenic Highway west of SR-55. SR-91 from west of SR-241 to east of I-15 is an eligible State Scenic Highway. South Weir Canyon Road, approximately 0.58 mi west of the project View Corridor, is designated as a Scenic Expressway in the City of Anaheim General Plan (2004). However, the Project Area is not visible from that Scenic Expressway due to intervening topography.

As discussed in the *Visual Impact Assessment (VIA)*, views to State scenic route SR-91 (west of the project corridor), and eligible State scenic route SR-91 (through the Project Area and eastward) would be affected by the Build Alternative. However, the bridge connectors and associated piers/supports would be constructed to a similar massing and profile as the existing connectors in the area, and would not substantially obstruct any scenic views along SR-91, compared to the existing condition. Thus, the features of the Build Alternative would not substantially degrade scenic resources along a State-designated scenic highway. Although the visual sensitivity is moderate-high, the overall change is moderate-low due to minimal view blockage to surrounding visual resources from SR-91. Therefore, impacts to scenic resources within a State scenic highway would be less than significant, and no mitigation is required.

I(c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

As discussed in Section 3.6, Visual/Aesthetics, short-term visual impacts would occur during construction of the Build Alternative. Construction of the Build Alternative would expose sensitive viewers including motorists and residents to views of cleared vegetation, graded slopes, construction vehicles, equipment and other materials. Construction activities would be temporary, and the visual impacts related to views of the construction activities would cease after completion of construction.

As also discussed in Section 3.6, the features of the Build Alternative would result in similar encroaching features in the View Corridor as the existing freeways and their associated structures. The proposed bridge connector would be constructed of similar mass, profile, paving, and other construction materials to the existing general purpose lane connectors in the Project Area. Further, the proposed wall features would be similar to those currently experienced on-site and in the area. The views of surrounding areas including Cleveland National Forest, Chino Hills State Park, the Santa Ana Mountains, and the Santa Ana River would be similar to existing conditions, and would not be obstructed by the Build Alternative.

Areas of cut and fill would appear similar in color to the existing topography, as specified in Measure V-2 in Section 3.6.4. In summary, the visual character/quality of the views experienced within the View Corridor would not be substantially reduced as a result of the Build Alternative. Landscape and/or architectural treatments would be consistent with the existing infrastructure, as discussed in Measure V-3 in Section 3.6.4. Slopes graded for the Build Alternative would be contoured consistent with the existing topography, and would be seeded with native plant species consistent with existing vegetation (Measure V-4). With implementation of Measures V-2 through V-4, the Proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings, and no mitigation is required.

I(d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

As discussed in Section 3.6, Visual/Aesthetics, nighttime construction would occur periodically during the 18-month construction period. During nighttime construction, safety/security lighting would be used in accordance with California Division of Occupational Safety and Health (Cal/OSHA) standards. As described in Measure V-5 in Section 3.6.4, necessary nighttime lighting for safety, security, and construction purposes will be contained and directed toward the specific area of construction. Low glare construction signs would be used consistent with Caltrans standards.

The Build Alternative would include permanent safety and security lighting fixtures. As specified in Measure V-1 in Section 3.6.1, these fixtures would be hooded where feasible and the lighting would be directed on site to minimize potential intrusion of light and glare onto nearby land uses. The lighting would be designed consistent with the existing lighting along SR-241 and SR-91. With implementation of Measures V-1

and V-4, light and glare impacts would be less than significant, and no mitigation is required.

4.2.2.2 Air Quality

Checklist Questions: III(b), (c), (d), and (e) Air Quality Standards, Cumulative Increase in Criteria Pollutants, Sensitive Receptors, Odors

III(b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

As discussed in Section 3.12, Air Quality, during construction of the Build Alternative, short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other activities related to construction of the Proposed Project. Emissions from construction equipment would include CO, sulfur oxides (SO₂), NO_x, volatile organic compounds (VOCs), directly-emitted particulate matter (particulate matter less than 2.5 microns in size [PM_{2.5}] and particulate matter less than 10 microns in size [PM₁₀]), and toxic air contaminants such as diesel exhaust particulate matter. However, Measures AQ-1 through AQ-5, detailed in Section 3.12.4, include SCAQMD Standard Conditions and Caltrans Standard Construction Specifications to reduce construction-related air quality impacts from fugitive dust and construction equipment emissions to less than significant levels. Therefore, with implementation of Measures AQ-1 through AQ-5, construction impacts related to violation of air quality standards and contribution to an existing or projected air quality violation would be less than significant, and no mitigation is required.

As also discussed in Section 3.12, Air Quality, the Build Alternative would increase traffic volumes on SR-91 by 1 to 2.6 percent (2040 and 2017, respectively) compared to the No Build Alternative. Due to the low traffic volumes on SR-241, the percentage increases in traffic are greater than 5 percent for both 2017 and 2040. However, the Build Alternative would increase the average vehicle speeds in the Project Area by 2–4 miles per hour (mph) and would decrease the average delay per vehicle by up to 20 percent.

As shown in Table 3.12.9, the increase in systemwide project-related motor vehicle Build Alternative emissions in 2040 would be minimal when compared to the No Build Alternative.

Therefore, operational impacts related to violation of air quality standards and contribution to an existing or projected air quality violation would be less than significant, and no mitigation is required.

III(c) Would the project 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)?

The Project Area is within the South Coast Air Quality Basin, which is in nonattainment for the following criteria pollutant: PM_{2.5}, PM₁₀, ozone (O₃), nitrogen dioxide (NO₂), and lead. As discussed above, during operation, the Build Alternative would not worsen air quality. Short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other activities related to construction of the Proposed Project. However, Measures AQ-1 through AQ-5, detailed in Section 3.12.4, include SCAQMD Standard Conditions and Caltrans Standard Construction Specifications to reduce construction-related air quality impacts from fugitive dust and construction equipment emissions to less than significant levels. Therefore, with implementation of Measures AQ-1 through AQ-5, the Proposed Project would not result in a cumulatively considerable net increase in criteria pollutants, and no mitigation is required.

III(d) Would the project expose sensitive receptors to substantial pollutant concentrations?

As discussed in Section 3.12, sensitive receptors located near the Project Area include residential uses, a church, a recreational vehicle (RV) campground, and playground (within Featherly Regional Park). As discussed above, during operation, the Build Alternative would not worsen air quality. However, the Build Alternative may result in temporary, short-term construction-related increases in pollutant concentrations specifically associated with construction equipment emissions and fugitive dust. The implementation of SCAQMD Standard Conditions and Caltrans Standard Construction Specifications, provided in Measures AQ-1 through AQ-5 in Section 3.12.4, would reduce potential short-term air quality impacts to sensitive receptors to less than significant levels. No mitigation is required.

III(e) Would the project create objectionable odors affecting a substantial number of people?

Some phases of construction of the Build Alternative (particularly asphalt paving) could result in short-term odors in the immediate vicinity of the Project Area. Also, diesel exhaust odors would be associated with operation of construction equipment. Such odors would be quickly dispersed below detectable thresholds as distance from the site(s) increases. The Build Alternative involved improvements to an existing transportation facility and would not result in substantial changes to operational vehicle emissions; therefore, the Build Alternative would not result in noticeable change odors from vehicle emissions. Therefore, impacts related to odors would be less than significant, and no mitigation is required.

4.2.2.3 Biological Resources

Checklist Questions: IV (c), IV(d), and (f) Federally Protected Wetlands, Wildlife Movement, and Habitat Conservation Plans

IV(c) Would the project 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?

As discussed in Section 3.16, Wetlands and Other Waters, the Project Area does not contain any federally protected wetlands as defined by Section 404 of the Clean Water Act. However, the Build Alternative would result in less than 0.54 ac of temporary impacts as shown in Table 3.16.4 and 0.47 ac of permanent impacts to USACE potentially jurisdictional non-wetland waters as shown in Table 3.16.6. In addition, the Build Alternative would result in approximately 1.04 ac of temporary impacts as shown in Table 3.16.5 and 0.86 ac of permanent impacts as shown in Table 3.16.7 to CDFW potentially jurisdictional areas. Impacts to RWQCB jurisdictional areas would be the same as the impacts to USACE jurisdictional areas. Impacts to USACE, CDFW, and RWQCB jurisdictional areas would require authorization from these agencies prior to construction as specified in Measures WET-1 through WET-3. Specific requirements and conditions would be determined during the permit process. With compliance with Measures WET-1 through WET-3, which require a nationwide permit from the USACE in accordance with Section 404 of the Clean Water Act, as well as a Streambed Alteration Agreement from CDFW and a Section 401 Water Quality Certification from the RWQCB, impacts to USACE jurisdictional non-wetland waters, CDFW jurisdictional areas, and RWQCB jurisdictional areas would be less than significant.

IV(d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

As discussed in Section 3.15, Natural Communities, the Build Alternative would not result in temporary or permanent impacts to the Gypsum Canyon culvert, Coal Canyon Undercrossing and culvert, or B Canyon culvert because work in these areas would only occur within the SR-91 median or along the paved roadways. However, the Build Alternative would widen the southbound bridge structure at Windy Ridge Wildlife Undercrossing. Construction activities could result in temporary impacts, such as temporary avoidance by wildlife, to this wildlife corridor. However, Measures N-9, NC-11, NC-12, NC-13, and NC-14 would be implemented to limit construction equipment and activities at Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing.

The Build Alternative would decrease the openness ratio of Windy Ridge Wildlife Undercrossing by a small increment; however, the openness of the crossing would not be reduced enough to discourage wildlife use or have a long-term impact on larger wildlife utilization of the crossing. In addition, Measures NC-9 and NC-10 would require restoration of habitat adjacent to the wildlife crossing that is impacted during construction, and any removal of existing wildlife fencing after the installation of the new fencing to prevent wildlife/vehicle collisions. With implementation of Measures NC-10 through NC-14, impacts related to wildlife movement and wildlife corridors would be less than significant, and no mitigation is required.

IV(f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

As discussed in Section 3.15, Natural Communities, a majority of the Project Area is located with the Orange County NCCP/HCP Plan Area. An NCCP/HCP Existing Use Area overlaps the eastbound SR-91 lanes in the easternmost end of the Proposed Project at Coal Canyon Undercrossing. The Project Area is not located within any portion of the NCCP/HCP Reserve. However, SR-241 bisects a part of the Reserve near Windy Ridge Wildlife Undercrossing; this wildlife crossing is designed to functionally link the NCCP/HCP Reserve with the Coal Canyon Reserve, Lomas de Santiago, and the Cleveland National Forest.

A portion of the Project Area in Riverside County is located within the WR-MSHCP Conservation Area including designated Criteria Cells/Criteria Area and survey areas that overlap the Project Area. However, this segment of SR-91 is planned for advance signage and is not located within any portion of the MSHCP Conservation Area that is vegetated, as it consists only of the paved roadway and shoulder.

The Build Alternative would not result in the use of any land designated in the NCCP/HCP Reserve. In addition, the Proposed Project is a covered project under the NCCP/HCP, and “take” of both plant and wildlife species is authorized in the NCCP/HCP Plan Area. Measures NC-1 through NC-6, listed in Section 3.15, Natural Communities, are required NCCP/HCP Construction-Related Measures and will be incorporated into the Proposed Project to minimize impacts to coastal sage scrub habitat within the NCCP/HCP Plan Area. As discussed in Section 3.15, compensatory mitigation for project impacts within the NCCP/HCP Plan Area has already been completed pursuant to the NCCP Implementation Agreement; however, USFWS verification and acceptance of the mitigation components for impacts to CSS would occur during Section 7 Consultation.

The SR-91 Advance Signage Area in the context of the WR-MSHCP is a Covered Activity under Section 7.3.4, Existing Roads Within the Criteria Area – Covered Road Maintenance Activities Within the Criteria Area: Publicly Maintained Roads. As required by Measure NC-15, the objectives, policies, procedures, and guidelines from Section 7.5.3: Construction Guidelines as well as best management practices (BMPs) outlined in Appendix C (WR-MSHCP Volume 1) will be implemented to minimize and avoid impacts to sensitive species and habitats occurring adjacent to the existing roadway in the Riverside County portion of the Project Area.

For the reasons stated above, with implementation of Measures NC-1 through NC-6, and NC-15, the Proposed Project would be consistent with the NCCP/HCP and WR-MSHCP. Therefore, impacts related to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan would be less than significant, and no mitigation is required.

4.2.2.4 Cultural Resources

Checklist Questions: V(b) and (d) Archaeological Resources and Human Remains

V(b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

As discussed in Section 3.7, Cultural Resources, two cultural resources were previously identified within the APE. The records search showed that one archaeological site (CA-ORA-303/30-000303) was located in the APE.. However, the archaeological field survey completed in 2008 for the *91 Express Lanes Extension and State Route 241 Connector Feasibility Study* revealed that this site had been completely destroyed by the construction of SR-241. In addition, this portion of the APE consists of an Advance Signage Area where signage would be installed within existing paved or graded areas within right-of-way. There are no properties requiring evaluation present within the Proposed Project APE. Therefore, construction of the Build Alternative would not result in impacts to known archeological resources.

As discussed in Section 3.7, although considered unlikely, there is the potential to encounter unknown buried cultural materials within the APE during construction of the Build Alternative. As specified in Section 3.7.4, Standard Minimization Measure CR-1 requires that earth-moving activities cease if unknown cultural materials are encountered until a qualified archaeologist can assess the nature and significance of the find and that the Caltrans District 12 Environmental Branch Chief will be contacted to ensure that Section 106 compliance is maintained. With adherence to State regulations, as specified in Standard Minimization Measure CR-1, potential impacts to previously unknown cultural resources would be less than significant, and no mitigation is required.

V(d) Disturb any human remains, including those interred outside of formal cemeteries?

As discussed in Section 3.7, Cultural Resources, although considered unlikely, there is the potential to encounter unknown buried human remains within the APE during construction of the Build Alternative. As specified in Section 3.7.4, Standard Minimization Measure CR-2 requires that if human remains are discovered during construction, further disturbances and activities would cease and the County Coroner contacted. Pursuant to California Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner would notify the Native

American Heritage Commission (NAHC), which would then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains would contact the Caltrans District 12 Environmental Branch Chief so that they may work with the MLD on the respectful treatment and disposition of the remains. No further action would be necessary to address discovery of previously unknown cultural resources or human remains during construction. With adherence to State regulations specified in Standard Minimization Measure CR-2, potential impacts to previously unknown human remains would be less than significant, and no mitigation is required.

4.2.2.5 Geology and Soils

Checklist Questions: VI(a)(ii)-(iv), (b), (c), and (d) Seismic Ground Shaking and Failure, Landslides, Erosion, and Soil Instability

VI(a)(ii) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

As discussed in Section 3.9, Geology and Soils, an earthquake along the Whittier-Elsinore Fault Zone and other regionally active faults could result in ground shaking within the Project Area. Moderate to severe seismic shaking may occur during construction of the Build Alternative and is likely to occur in the Project Area during the life of the improvements. However, this does not represent a substantially greater hazard than any other area because Southern California is a seismically active region, and the Proposed Project is not located within an active fault zone. In general, the project improvements would be designed to accommodate the expected ground accelerations through compliance with applicable building and seismic codes. As a result, the potential for structural damage from seismic ground shaking would be less than significant with seismic engineering design, and no mitigation is required.

VI(a)(iii) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Soil liquefaction occurs when saturated, loose soils lose their strength due to excess pore water pressure caused by earthquake ground shaking. As discussed in Section 3.9, Geology and Soils, areas in the vicinity of the SR-241/SR-91 interchange and Santa Ana Canyon along SR-91 have been mapped as a liquefaction Zone of Required Investigation by the California Division of Mines and Geology. Based on

soils investigations conducted previously for the original construction of SR-241 and SR-91, local, potentially liquefiable layers are present within Santa Ana Canyon. Therefore, the liquefaction potential in the Project Area is considered low to medium.

Seismically induced landslides are rock, earth, or debris flows on slopes that can occur as a result of seismic shaking. As discussed in Section 3.9, Geology and Soils, steep slopes in the vicinity of the Project Area as well as slopes located along the south side of the SR-91 mainline have been mapped as an earthquake-induced landslide Zone of Required Investigation. One cut slope on the south side of SR-91 would be modified by the Build Alternative improvements. The slope appears to be stable and does not exhibit signs of weakness; however, the slope continues to experience considerable erosion. Therefore, there is a low-to medium-potential for landslides along the hillside areas of the alignment.

Seismic settlement is a phenomenon in which loose, unsaturated sands tend to settle or become denser during strong seismic shaking. Sediments that are sufficiently loose can experience seismic settlement, which can cause ground settlement and damage to structures. As discussed in Section 3.9, Geology and Soils, hazards associated with seismically induced settlement in the Project Area are considered low.

Lateral spreading occurs due to pore water pressure or liquefaction in shallow deposits during an earthquake, resulting in lateral displacement of gently sloping ground. As discussed in Section 3.9, Geology and Soils, similar to the potential for liquefaction, within the Project Area, the potential for hazards associated with lateral spreading is considered low to medium.

A Final Geotechnical Report specified in Measure GEO-1 will be prepared during final design that will identify any special soil remediation that needs to be done prior to construction of the Build Alternative. The potential for structural damage associated with geologic hazards can be substantially reduced or avoided through seismic engineering design. Measure GEO-2 requires confirmation that the geotechnical/geologic recommendations from the design-level geotechnical report and standard design and construction practices are fulfilled by the contractor. With implementation of Measures GEO-1 and GEO-2, project impacts related to seismic-related ground failure including liquefaction would be less than significant, and no mitigation is required.

VI(a)(iv) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

As discussed in Section 3.9, Geology and Soils, there are no landslides mapped along or adjacent to the Build Alternative; however, there is a potential for unmapped landslides to occur along or adjacent to the Build Alternative. During construction of the Build Alternative, one cut slope on the south side of SR-91 would be modified. The slope appears to be stable and does not exhibit signs of weakness; however, the slope continues to experience considerable erosion. Therefore, there is a low-to-medium-potential for landslides along the hillside areas of the alignment. Further evaluation would be required during final design to identify potential hillside remediation required to stabilize the slope. A Final Geotechnical/Baseline Report specified in Measure GEO-1 will be prepared during final design that will identify any special hillside remediation that needs to be done prior to construction of the project improvements. Any hillside areas to be modified will be geologically mapped during construction to verify the findings evaluated during the final design and revised remediation will be implemented, if warranted. Measure GEO-2 requires confirmation that the geotechnical/geologic recommendations from the design-level geotechnical report and standard design and construction practices are fulfilled by the contractor. With implementation of Measures GEO-1 and GEO-2, impacts related to landslides would be less than significant, and no mitigation is required.

VI(b) Would the project result in substantial soil erosion or the loss of topsoil?

Erosion occurs when rock and/or soil surfaces are exposed to weathering caused by wind and/or water. The United States Geological Survey has delineated Soil Erodibility Factors (K Factors) that indicate how susceptible surface soils are to erosion. Soils within the Project Area have been mapped with a K Factor ranging from 0.05 to 0.37; therefore, the Project Area is considered to have a moderate erosion potential.

As discussed in Section 3.9 Geology and Soils, and Section 3.8 Water Quality and Stormwater Runoff, during construction of the Build Alternative, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. In addition, during a storm event, soil erosion could occur at an accelerated rate. As specified in Measure WQ-1 in Section 3.8.4, construction activities for the Build Alternative would be required to adhere to the

requirements of the General Construction Permit and implement erosion and sediment control BMPs specifically identified in a project Storm Water Pollution Prevention Plan (SWPPP) to keep sediment from moving off site into receiving waters. Because of the potential for erosion after the completion of construction, sensitive design and grading techniques would be implemented to reduce operational erosion impacts. With implementation of Measure WQ-1 and engineering design, impacts related to erosion would be less than significant, and no mitigation is required.

VI(c) Would the project 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?

As discussed in Section 3.9, Geology and Soils, areas in the vicinity of the SR-241/SR-91 Interchange and Santa Ana Canyon along SR-91 have been mapped as a liquefaction Zone of Required Investigation by the California Division of Mines and Geology. Based on soils investigations conducted previously for the original construction of SR-241 and SR-91, local, potentially liquefiable layers are present within Santa Ana Canyon. Therefore, the liquefaction potential in the Project Area is considered low-to-medium.

VI(d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

As discussed in Section 3.9, Geology and Soils, the soils within the Project Area can be somewhat expansive; however, hazards associated with expansive soils are considered low. Therefore, impacts related to expansive soils would be less than significant, and no mitigation is required.

4.2.2.6 Hazards and Hazardous Materials

Checklist Questions: VIII(a), (b), (g), (h)

VIII(a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

As discussed in Section 3.11, Hazardous Waste and Materials, typical hazardous materials used during construction (e.g., solvents, paints, and fuels) would be handled in accordance with standard procedures. There are standard regulations and Caltrans

policies that must be followed with respect to the use, storage, handling, disposal, and transport of potentially hazardous materials during construction of the Proposed Project to protect human health and the environment.

During construction, there is the potential to encounter the following hazardous materials/wastes that are typical of a transportation facility: aerially deposited lead (ADL) (unpaved areas adjacent to SR-91), asbestos-containing materials (ACM) (Gypsum Canyon bridge structure), chemically treated wood waste (guardrails and landscape timber, etc.), and lead-based paint (LBP) in traffic striping (SR-241 and SR-91). Additionally, the generally unknown location of the on-site petroleum pipeline could lead to a rupture during construction activities. Although this pipeline is reported to be empty, there could be some residual material that would need disposal. Due to historical uses in the area, there is a potential to encounter unrecorded hazardous waste during construction.

Although there is the potential for hazardous materials associated with roadways and structures in the Project Area, these materials are either confined in building materials, were delineated as part of the SR-91 Corridor Improvement Project, or are addressed through compliance with standard regulatory requirements prior to and during construction activities. Measures HAZ-1 through HAZ-6, listed in Section 3.11.4, include further testing and would require proper handling and disposal of hazardous waste and materials in accordance with local, State, and federal regulations including Caltrans Standard Specifications and Special Provisions.

Routine maintenance activities during operation would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. In addition, routine maintenance activities would be similar to those already occurring in the existing condition within Caltrans right-of-way in the Study Area.

With compliance with existing regulations and Caltrans safety practices, and Measures HAZ-1 through HAZ-4, impacts related to routine transport, use, or disposal of hazardous materials would be less than significant, and no mitigation is required.

VIII(b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

During construction of the Build Alternative, hazardous materials would be used, handled, stored, disposed of, and transported in accordance with applicable local, State, and federal regulations. As an improvement to a transportation facility, operation of the Build Alternative would not generate hazardous materials. Routine maintenance activities during operation would be similar to those already occurring in the existing condition within Caltrans right-of-way in the Project Area. In addition, the maintenance activities would be conducted in compliance with applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. Compliance with existing regulations and Caltrans safety practices would reduce impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials to less than significant levels, and no mitigation is required.

VIII(g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, traffic delays are expected during construction of the Build Alternative. Temporary detours and weekend or night time closures would be required at the Gypsum Canyon Road on- and off-ramps and at the northbound SR-241 to the eastbound SR-91 connector. These detours and closures are expected to result in some delay to the traveling public. In addition, as discussed in Section 3.5, Utilities/Emergency Services, some impairment to emergency response times may occur during construction. However, as specified in Measure TR-1 in Section 3.5.4, a Transportation Management Plan (TMP) with traffic control plans and related specifications during project construction would be implemented to minimize circulation and delay impacts. In addition, as specified in Measure UES-2 in Section 3.4.4, temporary ramp and lane closures and detour plans will be coordinated with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times. With implementation of Measures TR-1 and UES-2, construction of the Proposed Project would not significantly impair implementation of or physically interfere with an adopted

emergency response plan or emergency evacuation plan, and no mitigation is required.

As an improvement to a transportation facility, the Build Alternative would improve operations and travel times in the Project Area; therefore, the Proposed Project would not interfere with the implementation of emergency response or evacuation plans.

VIII(h) Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

According to the Safety Elements of the General Plans for the cities of Anaheim, Yorba Linda, and Corona and the County of Orange, the majority of the Project Area is located within areas with a high risk of wildfires. There is a potential for construction vehicles and equipment to ignite wildfires in areas with dry vegetation. However, Measure AQ-1 in Section 3.12 requires frequent watering (e.g., minimum twice per day) of construction areas for dust control. Measure NC-6 requires spraying coastal sage scrub within the likely dust drift radius of the construction area with water to reduce accumulated dust on the leaves. With implementation of Measures AQ-1 and NC-6, impacts related to wildfires during construction would be less than significant, and no mitigation is required.

The Build Alternative would not elevate the risk associated with wildland fires because freeways generally provide a fuel break for containment of wildland fires. Although, on occasion, fires can proceed across freeways when humidity and wind conditions allow for it, the Build Alternative is primarily within the median of existing facilities, except for a small portion along the SR-91, which would widen the fuel break. Therefore, during operation, the Proposed Project would have a beneficial effect related to wildland fire hazards.

4.2.2.7 Hydrology and Water Quality

Checklist Questions: IX(a), (b), (c), (d), (e), (f), (i), and (j) Water Quality, Groundwater Supplies, Drainage, Stormwater Drainage System Capacity, Dam Failure, Seiche, Tsunami, and Mudflow

IX(a) Would the project violate any water quality standards or waste discharge requirements?

As discussed in Section 3.8, Water Quality and Storm Water Runoff, during construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. Construction of the Build Alternative would disturb a total of approximately 43.9 acres (ac) of soil. In addition, chemicals, liquid products, and petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction and have the potential to be transported via storm runoff into receiving waters. As detailed in Measure WQ-1 in Section 3.8.4, construction activities would comply with the requirements of the Construction General Permit. The Construction General Permit requires preparation of a SWPPP and implementation of Construction BMPs to reduce pollutants of concern in storm water runoff by minimizing erosion and preventing spills, leaks, and discharges into receiving waters.

Groundwater dewatering may be necessary during construction of the footings for the proposed bridge at the junction of SR-241 and SR-91. Discharge of groundwater to surface waters during dewatering has the potential to introduce pollutants, such as organic and inorganic pollutants, to surface waters. If groundwater dewatering becomes necessary during construction, Measure WQ-5 in Section 3.8.4 requires compliance with the provisions of the General Groundwater Permit. The General Groundwater Permit would require groundwater dewatering activities to comply with discharge specifications, receiving water limitations, and monitoring and reporting requirements detailed in the permit.

The Build Alternative would increase impervious area by approximately 20.5 ac. An increase in impervious surface area would increase the volume of runoff and pollutants transported to receiving waters during a storm. Operation of the Build Alternative would be in compliance with the Caltrans NPDES Permit (Measure WQ-2 in Section 3.8.4). In addition, as required by Measures WQ-3 and WQ-4, Caltrans-approved Design Pollution Prevention and Treatment BMPs would be implemented to reduce the discharge of pollutants of concern to the maximum extent practicable (MEP). Design Pollution Prevention BMPs would include slope/surface

protection systems, concentrate flow conveyance systems, and vegetation preservation techniques. Treatment BMPs would include biofiltration swales and strips and media filters to target and process pollutants of concern from the operation of transportation facilities, including nutrients, sediments, oil and grease, and trash and debris. The proposed BMPs would treat approximately 135 percent of the net new impervious surface area. With the implementation of Measures WQ-1 through WQ-5, impacts related to violation of water quality standards or waste discharge requirements would be less than significant, and no mitigation is required.

IX(b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

As discussed in Section 3.8, Water Quality and Storm Water Runoff, groundwater dewatering may be necessary during construction of the footings for the proposed bridge at the SR-241/SR-91 interchange. However, groundwater dewatering would be temporary and the volume of groundwater removed would not be substantial. During operation, the Build Alternative would result in a net increase in impervious surface area of approximately 20.5 ac. An increase in impervious surface area decreases infiltration, which decreases the amount of water that is able to recharge the aquifer/groundwater. However, as discussed in detail in the *Water Quality Assessment Report* (August 2015), the majority of soils within the Project Area are classified as having very-low-to-low infiltration rates. Because the soils in the Project Area have very-low-to-low infiltration rates, an increase in impervious surface area would not substantially reduce infiltration compared to existing conditions. Therefore, impacts to groundwater recharge would be less than significant, and no mitigation is required.

IX(c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

During construction, excavation and grading activities would alter the existing drainage pattern and increase the potential for erosion and sedimentation. As discussed in Section 3.8, Water Quality and Storm Water Runoff, construction

activities would comply with the requirements of the Construction General Permit, as specified in Measure WQ-1 in Section 3.8.4. The Construction General Permit requires preparation of a SWPPP and implementation of Construction BMPs, including Erosion and Sediment Control BMPs to minimize erosion and siltation and retain sediment on site.

As discussed in detail in the *Water Quality Assessment Report* (August 2015), the Build Alternative would preserve the existing drainage system as much as possible. In addition, the Build Alternative includes the implementation of Caltrans-approved Treatment BMPs that include biofiltration swales and strips and media filters (Measures WQ-2 through WQ-4). The proposed biofiltration swales and strips and media filters would provide flow duration, volume, and rate control functions and promote infiltration to offset the increased flows associated with the increase in impervious surface. By preserving existing drainage patterns to the extent practicable and adding biofiltration swales and strips and media filters to the existing drainage system, storm water flow concentrations associated with the Project Area would be similar to pre-Project conditions, which would minimize impacts related to erosion and siltation. Therefore, with implementation of Measures WQ-1 through WQ-5, the proposed drainage improvements, and BMPs, impacts related to erosion and siltation from alterations of the existing drainage pattern would be less than significant, and no mitigation is required.

IX(d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

As discussed in Section 3.8, Water Quality and Stormwater Runoff, the Build Alternative would increase impervious area by approximately 20.5 ac, which would increase the rate and amount of runoff from the Project Area during a storm. As discussed in IX(c), above, the Build Alternative would preserve the existing drainage system as much as possible. In addition, the Build Alternative includes modifications to existing storm water drainage facilities as well as new storm water drainage systems to accommodate storm water flows. In addition, the Build Alternative includes the implementation of Caltrans-approved Treatment BMPs that include biofiltration swales and strips and media filters that would be linked to the existing drainage system (Measures WQ-2 through WQ-4). The proposed biofiltration swales and strips and media filters would provide flow duration, volume, and rate control

functions and promote infiltration to offset the increased flows associated with the increase in impervious surface from the Project Area. Therefore, the Build Alternative would result in only a negligible increase in flow velocities and volumes of runoff during a storm. Therefore, with implementation of Measures WQ-2 through WQ-4, the proposed drainage improvements, and BMPs, impacts related to erosion and siltation from alterations of the existing drainage pattern would be less than significant, and no mitigation is required.

IX(e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As discussed in Section 3.8, Water Quality and Stormwater Runoff, the Build Alternative would increase impervious area by approximately 20.5 ac, which would increase the volume of runoff and pollutants transported to receiving waters during a storm. However, the Build Alternative includes modifications to existing storm water drainage facilities as well as new storm water drainage systems to accommodate storm water flows. In addition, the Build Alternative includes the implementation of Caltrans-approved Treatment BMPs that include biofiltration swales and strips and media filters that would be linked to the existing drainage system. The proposed biofiltration swales and strips and media filters would provide flow duration, volume, and rate control functions and promote infiltration to offset the increased flows associated with the increase in impervious surface from the Project Area. Therefore, the Build Alternative would result in only a negligible increase in flow velocities and volumes to downstream stormwater drainage systems. As discussed above in IX(a), BMPs would be implemented during construction and operation of the Build Alternative to target pollutants of concern in runoff (Measures WQ-1 through WQ-5) so that substantial additional sources of polluted runoff would not be discharged to the stormwater drainage system. Therefore, with implementation of Measures WQ-1 through WQ-5 and construction of the storm drain improvements and BMPs, impacts related to storm drain facilities would be less than significant, and no mitigation is required.

IX(f) Would the project otherwise substantially degrade water quality?

As mentioned above in Responses IX(a), IX(c), and IX(d), construction-related pollutants of concern released from the Project site include sediment, chemicals, liquid products, and petroleum products (e.g., paints, solvents, and fuels), and

concrete-related waste. These pollutants of concern are addressed through compliance with the requirements of the Construction General Permit and preparation of an SWPPP. During operation of a transportation facility, pollutants of concern released from the Project site include nutrients, sediments, oil and grease, and trash and debris. These pollutants of concern are addressed through implementation of Treatment BMPs, which include biofiltration swales and strips and media filters. Because the Proposed Project would improve an existing transportation facility, new sources of pollutants would not be created and the increase in storm water runoff would be controlled through implementation of BMPs, as mentioned above. Therefore, the Proposed Project would not otherwise substantially degrade water quality and impacts related to water quality would be less than significant.

IX(i) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

As stated in Section 3.9, Geology and Soils, the portion of SR-91 within the Project Area is in a potential dam inundation area for Prado Dam. According to the USACE Dam Safety Program, Prado Dam received a Dam Safety Action Class III (DSAC III) rating in December 2009. A DSAC III rating is given when a dam is significantly inadequate, or the combination of threat to life, economy, or environment with probability of failure is moderate to high.¹

Although portions of SR-91 within the Project Area would be subject to inundation in the event that Prado Dam failed, the potential for inundation to occur and the risk to people and the freeway structures is the same for the Build Alternative compared to existing conditions. The Build Alternative would not substantially increase the number of people using SR-241 or SR-91 within the Study Area. In addition, construction of the Build Alternative would not increase the risk of failure of Prado Dam. Therefore, impacts related to exposure of additional people or structures to risk of loss, injury, or death involving flooding as a result of failure of a levee or dam would be less than significant, and no mitigation is required.

¹ United States Army Corps of Engineers. 2015. Website: <http://www.spl.usace.army.mil/Media/FactSheets/tabid/1321/Article/477349/dam-safety-program.aspx> (accessed August 29, 2015).

IX(j) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result inundation by seiche, tsunami, or mudflow?

Seiching is a phenomenon that occurs when seismic groundshaking induces standing waves (seiches) inside large bodies of water, such as reservoirs. Such waves can cause retention structures to fail and flood downstream properties. There are no reservoirs in proximity to the Study Area. Irvine Lake is approximately 3 mi south of the southern end of the Project Area along SR-241. In addition, Walnut Canyon Reservoir is located approximately 1.75 mi to the west of SR-241. However, these reservoirs are far enough away that if a seiche was to occur, the Project Area would not be inundated. However, as stated in Section 3.9, Geology and Soils, surface water could overtop Prado Dam as result of strong seismic shaking, presenting a seiche hazard. Although portions of SR-91 within the Project Area could be subject to seiche, the potential for a seiche to occur and the risk to people and the freeway structures is the same for the Build Alternative compared to existing conditions. Therefore, impacts related to exposure of additional people or structures to risk of loss, injury, or death involving flooding from seiche would be less than significant, and no mitigation is required.

Tsunamis are generated wave trains generally caused by tectonic displacement of the seafloor associated with shallow earthquakes, seafloor landslides, rockfalls, or volcanic eruptions. The Study Area is more than 20 mi from the ocean shoreline and is not within a tsunami inundation area.

Mudslides and slumps are described as a shallower type of slope failure, usually affecting the upper soil mantle or weathered bedrock underlying natural slopes and triggered by surface or shallow subsurface saturation. As discussed in Section 3.9, Geology and Soils, there are no landslides mapped along or adjacent to the Build Alternative; however, there is a potential for unmapped landslides to occur along or adjacent to the Build Alternative. During construction of the Build Alternative, one cut slope on the south side of SR-91 would be modified. The slope appears to be stable and does not exhibit signs of weakness; however, the slope continues to experience considerable erosion. Therefore, there is a potential for mudflows along the hillside areas of the alignment during a heavy rain event. Further evaluation would be required during final design to identify potential hillside remediation required to stabilize the slope. A Final Geotechnical/Baseline Report specified in Measure GEO-1 will be prepared during final design that will identify any special

hillside remediation that needs to be done prior to construction of the project improvements. Any hillside areas to be modified will be geologically mapped during construction to verify the findings evaluated during the final design and revised remediation will be implemented, if warranted. Measure GEO-2 requires confirmation that the geotechnical/geologic recommendations from the design-level geotechnical report and standard design and construction practices are fulfilled by the contractor. With implementation of Measures GEO-1 and GEO-2, impacts related to mudflow would be less than significant, and no mitigation is required. With implementation of Measures GEO-1 and GEO-2, the risk associated with seiche, tsunamis, and mudflow would be less than significant, and no mitigation is required.

4.2.2.8 Land Use and Planning

Checklist Questions: X(c) Habitat Conservation Plans and Natural Community Conservation Plans

X(c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

As discussed in Section 3.1, Land Use, the Build Alternative would not result in the use of any land designated in or adjacent to any lands designated in the Orange County NCCP/HCP Reserve. The Proposed Project is a covered project under the NCCP/HCP and “take” of both plant and wildlife species is authorized in the NCCP/HCP Plan Area. Therefore, the Build Alternative is consistent with, and would not conflict with, the NCCP/HCP.

The Riverside County portion of the Project Area is located within the WR-MSHCP. Conservation Area; however, this portion of SR-91 is planned for advance signage only and consists only of the paved roadway and shoulder. The SR-91 advance signage area in the context of the WR-MSHCP is a Covered Activity under Section 7.3.4, Existing Roads Within the Criteria Area – Covered Road Maintenance Activities Within the Criteria Area: Publicly Maintained Roads. F/ETCA and Caltrans will follow the procedures and guidelines from Section 7.5.3: Construction Guidelines, as well as BMPs outlined in Appendix C (WR-MSHCP Volume 1). Therefore, the Build Alternative is consistent with the WR-MSHCP.

Because the Proposed Project is consistent with the NCCP/HCP and the WR-MSHCP, impacts related to conflict with an applicable habitat conservation plan or natural community conservation plan would be less than significant, and no mitigation is required.

4.2.2.9 Mineral Resources

Checklist Questions: XI(a) and (b) Known Mineral Resource and Locally-Important Mineral Resource

XI(a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

In 1975, the California Legislature enacted the Surface Mining and Reclamation Act (SMARA) which, among other things, provided guidelines for the classification and designation of mineral lands. Areas are classified on the basis of geologic factors without regard to existing land use and land ownership. The areas are categorized into four Mineral Resource Zones (MRZs):

- **MRZ-1:** An area where adequate information indicates no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence
- **MRZ-2:** An area where adequate information indicates significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence
- **MRZ-3:** An area containing mineral deposits, the significance of which cannot be evaluated
- **MRZ-4:** An area where available information is inadequate for assignment to any other MRZ zone

Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicate significant measured or indicated resources are present. MRZ-2 areas are designated by the Mining and Geology Board as being “regionally significant.” Such designations require that a lead agency’s land use decisions involving designated areas be made in accordance with its mineral resource management policies and that it consider the importance of the mineral resource to the region or the State as a whole, not just to the lead agency’s jurisdiction.

According to the Santa Ana River and Lower Santiago Creek Resource Areas map (Division of Mines and Geology, 1983) a majority of the Project Area along SR-91 is designated MRZ-2. In addition, according to the City of Anaheim General Plan, the Project Area south of SR-91, where road widening would occur, is designated MRZ-2. The Project Area along SR-241 is not designated as an MRZ. According to the

California Department of Conservation District 1 W1-4 Wildcat Map, no productive oil or gas wells are in the Project Area.

Although road widening would occur within an area designated as regionally significant for mineral resources, no active mines would be directly or indirectly impacted by Build Alternative. In addition, the areas where mineral resources occur within the Project Area are currently not available for resource extraction due to their proximity to SR-91. In addition, the improvements for the Build Alternative at the location where significant mineral deposits are potentially present would be at or just below the ground surface and would not affect the availability of a known mineral resource. For these reasons, the Build Alternative would not substantially impact extraction potential or current mining operations of mineral resources. Therefore, impacts related to the loss of availability of known mineral resources that would be of value to the residents of the State would be less than significant, and no mitigation is required.

XI(b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

As stated above, although part of the Project Area is located within an area where significant mineral deposits are present, no active mines would be directly or indirectly impacted by Build Alternative. In addition, the areas where mineral resources occur within the Project Area are currently not available for resource extraction due to their proximity to SR-91. In addition, the improvements for the Build Alternative at the location where significant mineral deposits are potentially present would be at or just below the ground surface and would not affect the availability of a known mineral resource. For these reasons, the Build Alternative would not substantially impact extraction potential or current mining operations of mineral resources. Therefore, impacts related to the loss of availability of a locally important mineral resources recovery site would be less than significant, and no mitigation is required.

4.2.2.10 Noise

Checklist Question: XII(a), (b), (c), and (d) Noise Levels and Vibration

XII(a) Would the project result in 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?

Sensitive receptors at single-family residences, multifamily residences, and recreational uses in the noise Study Area would be exposed to construction noise during construction of the Build Alternative. As discussed in Section 3.13, Noise, during construction of the Build Alternative, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction equipment is expected to generate noise levels ranging from 70 to 90 decibels (dB) at a distance of 50 ft from the piece of equipment, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance from the piece of equipment. However, construction noise levels are expected to be minimized through compliance with Caltrans Standard Specifications for construction, which is stipulated in Measure N-1 in Section 3.13.4. Finally, construction noise would be short-term, intermittent, and overshadowed by local traffic noise. Therefore, with implementation of Measure N-1, construction impacts related to exposure of people to noise levels in excess of local standards would be less than significant, and no mitigation is required.

As discussed in Section 3.13, Noise, potential long-term noise impacts of the Build Alternative would be associated with vehicular traffic. As shown on Figure 3.13.1 in Section 3.13, land uses in the Study Area were grouped into a series of Common Noise Environments (CNE 1-3, CNE 2-3, and CNE 3-3), which were representative of land uses and noise sources in the Study Area.

As shown in Tables 3.13.7 through 3.13.9 in Section 3.13, Noise, the noise levels for the Build Alternative at sensitive receptors in the Study Area would be a maximum of 3 dBA higher at CNE 1-3 and a maximum of 1 dBA higher at CNE 2-3 and 3-3 compared to the No Build Alternative (2017). A 3 dBA difference is generally the point at which the human ear will perceive a difference in noise level. Therefore, the maximum noise increase that would result during operation of the Build Alternative would be barely perceptible to the human ear. Therefore, operational impacts related to exposure of people to noise levels in excess of local standards would be less than significant, and no mitigation is required.

XII(b) Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

During construction, groundborne vibration and groundborne noise could be generated in conjunction with pile driving. If pile driving takes place, potential groundborne noise and vibration impacts would be minimized through compliance with Caltrans Standard Specifications for construction, which is stipulated in Measure N-1 in Section 3.13.4. Therefore, with implementation of Measure N-1, impacts related to groundborne noise and vibration would be less than significant, and no mitigation is required.

XII(c) Would the project result in substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed above in XII(a), potential long-term noise impacts of the Build Alternative would be associated with vehicular traffic. The noise levels for the Build Alternative at sensitive receptors in the Study Area would be a maximum of 3 dBA higher at CNE 1-3 and a maximum of 1 dBA higher at CNE 2-3 and 3-3 compared to the No Build (2017) condition. The maximum noise increase that would result during operation of the Build Alternative would be barely perceptible to the human ear. Therefore, impacts related to a permanent increase in noise levels would be less than significant, and no mitigation is required.

XII(d) Would the project result in substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed in Section 3.13, Noise, during construction of the Build Alternative, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 ft from the piece of equipment, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance from the piece of equipment. However, construction noise levels are expected to be minimized through compliance with Caltrans Standard Specifications for construction, which is stipulated in Measure N-1 in Section 3.13.4. Finally, construction noise would be short-term, intermittent, and overshadowed by local traffic noise. Therefore, with implementation of Measure

N-1, impacts related to temporary or periodic increase in ambient noise levels would be less than significant, and no mitigation is required.

4.2.2.11 Public Services

Checklist Question: XIV(a) Fire Protection, Police Protection, and Parks

XIV(a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire Protection?

Police Protection?

Parks?

(Note that impacts related to schools and other public facilities, are discussed previously in Section 4.2.1, No Effects.)

Fire and Police Protection. As discussed in Section 3.5, Traffic and Transportation/ Pedestrian and Bicycle Facilities, traffic delays are expected during construction of the Build Alternative. Temporary detours and weekend or nighttime closures would be required at the Gypsum Canyon Road on- and off-ramps and at the northbound SR-241 to the eastbound SR-91 connector. These detours and closures may impair the ability of law enforcement, fire, and other emergency service providers to meet response time goals. However, as specified in Measure TR-1 in Section 3.5.4, a TMP with traffic control plans and related specifications during project construction would be implemented to minimize circulation and delay impacts. In addition, as specified in Measure UES-2 in Section 3.4.4, temporary ramp and lane closures and detour plans will be coordinated with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times. With implementation of Measures TR-1 and UES-2, temporary impacts related to service ratios, response times, or other public services performance objectives with respect to fire protection and police protection would be less than significant, and no mitigation is required.

The Build Alternative does not include the construction of housing or other uses that would necessitate the construction of additional fire or police stations. In addition, as discussed in detail in Section 3.2, Growth, the Build Alternative would not induce

population growth. Therefore, implementation of the Build Alternative would not increase the demand for emergency services and would not require the construction of any new police or fire stations. As discussed in Section 3.5, Utilities/Emergency Services, the Build Alternative would improve traffic throughput and travel times, and reduce delays for travelers on SR-241 and SR-91 in the Project Area. These improvements would have beneficial effects for law enforcement, fire protection, and emergency service providers because the Build Alternative may improve response times for emergency services using SR-241 and SR-91. In addition, emergency service providers would be able to use the express lanes when the other travel lanes are experiencing heavy traffic volumes and slow travel speeds, and would also be provided with direct connection between SR-241 and SR-91. Therefore, during operation, the Build Alternative would not result in adverse impacts related to service ratios, response times, or other public services performance objectives with respect to fire protection and police protection, and no mitigation is required.

Parks. The Build Alternative does not include the construction of housing or other uses that would necessitate the construction of additional public facilities such as parks. In addition, as discussed in detail in Section 3.2, Growth, the Build Alternative would not induce population growth. Therefore, implementation of the Build Alternative would not increase the demand for parks and would not require the construction of any new parks.

The Build Alternative would require the permanent acquisition of approximately 5 ac of land on the slope approximately 3,600 ft west of Coal Canyon Undercrossing. This parcel is part of the Irvine Ranch National Natural Landmark (NNL)/Gypsum Canyon Nature Preserve, owned by the County of Orange with a Conservation Easement held by the Nature Conservancy. Although the slope would be revegetated after construction is complete, a maintenance access road and drainage structures would need to be constructed on the slope, which would require the conversion of approximately 5 ac of land from parkland/reserve to transportation use. However, the removal of approximately 5 ac within the 40,000 ac Irvine NNL adjacent to existing Caltrans right-of-way is not considered a substantial impact to this property. The Irvine Ranch NNL/Gypsum Canyon Preserve is not currently in use as a public park, recreation area, wildlife refuge, or waterfowl refuge. However, it may be converted to a public park or recreation area in the future. If at the time of acquisition, the Irvine Ranch NNL/Gypsum Canyon Reserve is in use as a public park or recreation area, then it would be subject to the requirements of the Park Preservation Act and the F/ETC would be required to provide compensation to the County of Orange

consistent with the Park Preservation Act. Therefore, impacts related to parks or the availability of parks would be less than significant, and no mitigation is required.

4.2.2.12 Transportation/Traffic

Checklist Questions: XVI(a) and (e) Circulation System Performance and Emergency Access

XVI(a) Would the project 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?

As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, traffic delays are expected during construction of the Build Alternative. Temporary detours and weekend or night time closures would be required at the Gypsum Canyon Road on- and off-ramps and at the northbound SR-241 to the eastbound SR-91 connector. These detours and closures are expected to result in some delay to the traveling public. However, as specified in Measure TR-1 in Section 3.5.4, a TMP with traffic control plans and related specifications during project construction would be implemented to minimize circulation and delay impacts. With implementation of Measure TR-1, construction activities would not conflict with applicable transportation plans, and no mitigation is required.

As also discussed in detail in Section 3.5, the Build Alternative would achieve the following:

- Vehicle throughput in the SR-91 corridor would improve, vehicles miles traveled would increase, and travel time would decrease. More vehicles would use the *91 Express Lanes* (i.e., the Proposed Project brings more cars into the *91 Express Lanes* and, therefore, the combined general purpose lane and the *91 Express Lanes* throughput increases).
- Traffic would shift from other regional routes (SR-91, SR-55, and surface streets) to SR-241 as a result of the additional capacity of the new connector.
- The length of the northbound SR-241 to the eastbound SR-91 queue on the general purpose ramp would shorten in the PM peak period.

- The length of the queues would shorten at the SR-91 westbound mainline bottleneck between the Green River Road interchange and the *91 Express Lanes* ingress in the AM peak period.
- There would be a reduction in friction due to fewer vehicles weaving from the northbound SR-241 to eastbound SR-91 general purpose ramp to the Riverside County Transportation Commission (RCTC) Express lanes (i.e., most of these vehicles will now use the SR-241/SR-91 Express Lanes Connector) with the Proposed Project.

Overall, there would be a net zero impact on the eastbound SR-91 general purpose lanes in the PM period. Therefore, as an improvement to a transportation facility, the Build Alternative would improve operations, increase throughput, and improve travel times in the Study Area; therefore, the Proposed Project would not conflict with applicable transportation plans, and no mitigation is required.

XVI(e) Would the project result in inadequate emergency access?

As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, traffic delays are expected during construction of the Build Alternative. Temporary detours and weekend or night time closures would be required at the Gypsum Canyon Road on- and off-ramps and at the northbound SR-241 to the eastbound SR-91 connector. These detours and closures are expected to result in some delay to the traveling public. In addition, as discussed in Section 3.5, Utilities/Emergency Services, some impairment to emergency response times may occur during construction. However, as specified in Measure TR-1 in Section 3.5.4, a TMP with traffic control plans and related specifications during project construction would be implemented to minimize circulation and delay impacts. In addition, as specified in Measure UES-2 in Section 3.4.4, temporary ramp and lane closures and detour plans will be coordinated with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times. With implementation of Measures TR-1 and UES-2, construction impacts related to emergency access would be less than significant, and no mitigation is required.

As an improvement to a transportation facility, the Build Alternative would improve operations and travel times in the Study Area; therefore, the Proposed Project would not result in inadequate emergency access, and no mitigation is required.

4.2.2.13 Utilities and Service Systems

Checklist Question: XVII(b), (c), (d), and (f) Wastewater and Water Treatment, Storm Water Drainage, Water Supply, and Landfills

XVII(b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The Build Alternative would not result in substantial demand for water supplies. Some water may be needed during project construction and as landscaping is planted to allow the landscaping to become established. During construction of the Build Alternative, water would need to be provided for potable use and for dust control. However, the demand for water during construction of the Build Alternative would represent only a very small percentage of total demand for water in the area. Water use for landscaping during operation of the Build Alternative would be similar to existing conditions. The demand for water during construction and operation of the Build Alternative would be intermittent, would represent only a very small percentage of total demand for water in the area, and would not exceed existing entitlements. Construction and operation of the Build Alternative would not generate wastewater that would be disposed of in the municipal sewer system. Therefore, impacts related to the need for additional water or wastewater treatment capacity and/or facilities would be less than significant, and no mitigation is required.

XVII(c) Would the project 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?

The Build Alternative includes modifications to existing storm water drainage facilities as well as new storm water drainage systems to accommodate storm water flows from the Build Alternative that will modify existing concrete and earthen drainages. Those facilities would not result in the need for expanded or new storm water facilities beyond those that are proposed as part of the Build Alternative. As discussed in Section 4.2.2.3, IV(c), permits will be obtained for these modifications that will have specific conditions. Therefore, impacts related to storm drain facilities would be less than significant, and no mitigation is required.

XVII(d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

As discussed in XVII(b), above, the demand for water during construction and operation of the Build Alternative would represent only a very small percentage of total demand for water in the area and would not exceed existing entitlements. Therefore, impacts related to water supply would be less than significant, and no mitigation is required.

XVII(f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Waste materials generated during construction of the Build Alternative would include materials from demolished structures such as rebar, wood, concrete, and other similar materials, as well as vegetation removed from construction areas. Because the project is limited in scope, a substantial amount of waste would not be generated during the construction phase. All waste materials would be properly disposed of by the Construction Contractor during construction, including diversion from area landfills for reduction, recycling, reuse, and composting (greenwaste), consistent with Caltrans standards.

Waste generated during operation of the Build Alternative would be limited to trash picked up along the transportation facilities and vegetation from landscaping maintenance, consistent with existing waste removal activities along SR-241 and SR-91.

The closest permitted landfill to the Project Area is Olinda Alpha Sanitary Landfill located in City of Brea. This landfill will stop accepting waste when it reaches its full capacity, which is anticipated to occur by 2030.¹ The amount of waste materials generated during construction and operation of the Build Alternative that would be disposed of in landfills would represent only a very small percentage of the total amount of waste generated in the region and disposed of at the landfills. Therefore, impacts related to landfill capacity would be less than significant, and no mitigation is required.

¹ OC Waste & Recycling. Website: <http://oclandfills.com> (accessed November 3, 2015).

4.2.2.14 Mandatory Findings of Significance

Checklist Questions: XVIII(c) Effects on Human Beings

XVIII(c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

The Build Alternative would improve traffic throughput and travel times, reduce delays for travelers on SR-241 and SR-91 in the Project Area and, improve the efficiency of the overall regional express lane system, thereby improving the human environment. Typically for any roadway project, construction impacts would occur related to aesthetics, noise, detours, and dust; however, these impacts would be temporary and would be minimized through adherence to control measures. For these reasons, impacts to human beings are considered less than significant, and no mitigation is required.

4.2.3 Significant Effects of the Proposed Project

4.2.3.1 Biological Resources

Checklist Questions: IV(a) and (b) Special Status Species and Natural Communities

IV(a) Would the project 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?

California Black Walnut. As discussed in Section 3.17, Plant Species, the Build Alternative would result in temporary indirect impacts and direct permanent impacts to Southern California black walnut. Although this species is not federally and/or State-listed, and has no official status, this species merits consideration under CEQA because of its relatively limited distribution. Temporary indirect impacts to Southern California black walnut would occur during construction of the Build Alternative due to potential fuel spills from construction equipment and activities of equipment or personnel outside designated construction areas. Measure PS-1, presented in Section 3.17.4, requires barriers to be installed around the protected zone of Southern California black walnut during construction.

The Build Alternative may result in permanent direct impacts to three California black walnut saplings. These three saplings would be protected in place or relocated, as required by Measures PS-1 and PS-2 in Section 3.17.4. While these three saplings

may be permanently impacted by the Build Alternative, the complete removal of these three saplings is not expected to substantially affect the long-term viability of this species because it is a California Native Plant Society (CNPS) California Rare Plant Ranks (CRPR) 4 species. They are young trees, and they occur outside a native woodland habitat. Therefore, with implementation of Measures PS-1 and PS-2, impacts to Southern California black walnut would be less than significant, and no mitigation is required.

Coulter's Matilija Poppy. As discussed in Section 3.17, Plant Species, the Build Alternative would result in temporary indirect impacts and direct permanent impacts to Coulter's matilija poppy. Although this species is not federally and/or State-listed, and has no official status, this species merits consideration under CEQA because of its relatively limited distribution. Temporary indirect impacts to Coulter's matilija poppy would occur during construction of the Build Alternative due to potential fuel spills from construction equipment and activities of equipment or personnel outside designated construction areas. Measure PS-3, presented in Section 3.17.4, requires barriers to be installed around the protected zone of Coulter's Matilija poppies.

The Coulter's Matilija poppies within the slope area south of SR-91 would be removed to accommodate drainage improvements and an access road. While some or all of these individuals may not be permanently impacted by the Build Alternative, even the complete removal of these populations is not expected to substantially affect the long-term viability of this species as it is a CNPS CRPR 4 species that is growing in marginal quality habitat adjacent to SR-91. However, Measure PS-3, which requires barriers to be installed around the protected zone of Coulter's Matilija poppies, would minimize permanent impacts to Coulter's Matilija poppy. With implementation of Measure PS-3, impacts Coulter's Matilija poppy would be less than significant and no mitigation is required.

Golden and Bald Eagles. As discussed in Section 3.18, Animal Species, and Section 3.19, Threatened and Endangered Species, no golden or bald eagles were observed in the Project Area, and there is no suitable nesting habitat and limited foraging opportunities in the Project Area. Therefore, it is unlikely that golden or bald eagles are currently foraging in the BSA or would be during construction. However, construction of the Build Alternative may temporarily redirect foraging golden or bald eagles away from the borders of the Project Area during construction. The Build Alternative is not expected to permanently impact any golden or bald eagles due to the low probability of occurrence and the lack of suitable nesting habitat in the BSA.

Therefore, temporary and permanent impacts to golden and bald eagles would be less than significant, and no mitigation is required.

Special-Status Coastal Sage Scrub and Chaparral Animal Species. As discussed in Section 3.18, the Build Alternative would result in 32.84 ac of temporary and 14.55 ac of permanent impacts to coastal sage scrub and chaparral habitat. Measures NC-1 through NC-6 in Section 3.15.4 and Measures TE-3 and TE-4 in Section 3.19 list requirements and limitations for work adjacent to coastal sage scrub habitat. Implementation of Measures NC-1 through NC-6 and TE-3 and TE-4 would reduce temporary impacts to special-status animal species that occupy coastal sage scrub habitat. As discussed in Section 3.15, Natural Communities, mitigation for the loss of coastal sage scrub and chaparral species habitat for the part of the Build Alternative in the NCCP/HCP Plan Area has already been conducted as part of the NCCP Implementation Agreement, and no further mitigation for impacts to coastal sage scrub or chaparral species is required.

Bridge, Crevice, and Cavity-Dwelling Animal Species. Temporary impacts to special-status bat species and bridge-nesting birds could include temporary disturbance during construction (such as noise, dust, night lighting, and human encroachment). In addition, construction could temporarily impede access to roost sites (existing and future) in the crevices of bridges and overhead structures. Measures AS-1 and AS-2 through AS-5, provided in Section 3.18.4, require construction activity restrictions with regards to nesting birds, preconstruction and construction bat surveys, and limit construction work in the vicinity of bridges and overhead structures.

The Build Alternative is not expected to permanently impact any special-status bat species or bridge-nesting birds because the bridge structures and roosting areas would not be directly impacted (e.g., no roosting sites would be removed). However, there is potential for the Build Alternative to result in indirect permanent impacts to bats through habitat loss from modifications to structures that may permanently exclude the future use of those structures by bridge and crevice-dwelling species. Measure AS-6 in Section 3.18.4 requires existing unfilled expansion joints to remain unfilled and newly created expansion joints to not be rubberized if possible in order to be available to bats for day roosting. With the implementation of Measures AS-2 through AS-6, impacts to special-status bat species would be less than significant, and no mitigation is required.

Special-Status Grassland and Open Habitat Animal Species. Because no special-status grassland and open habitat animal species were observed during the field surveys, the Build Alternative is not anticipated to result in temporary or permanent direct impacts to special-status grassland and open habitat animal species. However, the Build Alternative would result in indirect impacts to these species through the temporary loss of approximately 14.1 ac and the permanent loss of approximately 5.2 ac of potential habitat (grasslands and open space). Measure AS-1 requires vegetation removal or tree-trimming activities to occur outside of the nesting season and preconstruction surveys for nesting birds if vegetation removal or tree-trimming activities were to occur during the nesting season. With implementation of Measure AS-1, impacts to special-status grassland and open habitat animal species would be less than significant, and no mitigation is required.

Burrowing Owl. As discussed in Section 3.18, Animal Species, limited suitable wintering habitat for burrowing owl is present along the roadsides, but suitably sized breeding habitat is lacking in the Project Area. Burrowing owls were not observed during field surveys; however, the burrowing owl is a mobile species and may colonize potentially suitable habitat in the BSA prior to the start of construction. As specified in Measure AS-7, preconstruction surveys would be required to ensure that burrowing owls are not occupying potentially suitable habitat within the project disturbance limits. With implementation of Measure AS-7, potential impacts to burrowing owls would be less than significant, and no mitigation is required.

Migratory Birds. As discussed in Section 3.18, Animal Species, vegetation clearing, grading, and tree removal associated with the Build Alternative also has the potential to directly and indirectly impact nesting birds by disturbing habitat occupied by nesting birds protected under the Migratory Bird Treaty Act and the California Fish and Game Code. The Build Alternative may result in permanent indirect impacts to nesting birds through the loss of foraging and nesting habitat due to permanent loss of vegetation or changes in habitat types. However, permanent loss of habitat resulting from the Build Alternative would be minimal. In addition, migratory birds are mobile and are anticipated to find nearby habitat for foraging and nesting. It is not anticipated that the Build Alternative would result in permanent direct impacts to migratory birds through loss of individual birds. Measure AS-1 requires vegetation removal or tree-trimming activities to occur outside of the nesting season as well as preconstruction surveys for nesting birds if vegetation removal or tree-trimming activities were to occur during the nesting season. Furthermore, Measure NC-1 applies year-round to areas of coastal sage scrub habitat that are to be avoided and identified with

temporary exclusionary fencing, and surveys for California gnatcatcher and cactus wren shall be conducted within 100 ft of soil disturbances and identified on the grading plans. With the implementation of Measures AS-1 and NC-1, potential temporary impacts to migratory birds would be less than significant, and no mitigation is required.

Braunton's Milk-Vetch. The disturbance limits of the Build Alternative are adjacent to Braunton's milk-vetch-designated critical habitat. The Build Alternative would not result in temporary or permanent direct impacts to Braunton's milk-vetch-designated critical habitat. However, the Build Alternative may result in temporary indirect impacts during construction through the accumulation of dust on the leaves of any Braunton's milk-vetch plants in the critical habitat. With the implementation of Measure TE-1 in Section 3.19.4, which would limit construction activities in proximity to the critical habitat, impacts to Braunton's milk-vetch would be less than significant, and no mitigation is required. As discussed in Section 3.19, Threatened and Endangered Species, this is a determination of "No effect" on Braunton's milk-vetch, but a determination of "May affect, not likely to adversely affect" on its designated critical habitat.

Thread-leaved Brodiaea. Despite direct temporary and permanent impacts to approximately 53 ac of chaparral openings, CSS, and grassland vegetation in the Project Area, any potentially suitable habitat impacts may be minimal for this species. Because this species is considered absent or unlikely within the BSA, the Proposed Project is not expected to substantially impact this species. With implementation of avoidance and minimization procedures specified in Measure TE-2, no significant temporary impacts to thread-leaved brodiaea would occur. Any permanent impacts to potentially suitable habitat is expected to be minimal for this species, and no mitigation is required. As discussed in Section 3.19, Threatened and Endangered Species, this is a determination of "May affect, not likely to adversely affect."

Santa Ana Sucker. There is some potential for the aquatic Santa Ana sucker to be indirectly impacted as a result of runoff from the Proposed Project. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. Furthermore, chemicals, liquid products, and petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction and thereby have the potential to be transported via storm runoff into the Santa Ana River. During operation, the Proposed Project would result in an increase in impervious surface area

and potentially an increase in total stormwater runoff to the Santa Ana River. This is a determination of “May affect, not likely to adversely affect” on the Santa Ana sucker and its designated critical habitat.

Coastal California Gnatcatcher and Coastal California Gnatcatcher Designated Critical Habitat. Coastal California gnatcatcher is likely to occur within or near the disturbance limits at the time of construction and would experience indirect temporary impacts due to construction activities, including increased exposure to noise, vibration, dust, nighttime lighting, and human presence. Temporary indirect impacts to coastal California gnatcatcher during construction would be less than significant with implementation of Measures NC-1 through NC-6 in Section 3.15.4, which require preconstruction and construction surveys for California gnatcatcher and construction activities in and adjacent to coastal sage scrub, in combination with implementation of Measures TE-3 through TE-6 in Section 3.19.4, which would further limit construction activities in areas of coastal sage scrub or coastal California gnatcatcher-designated critical habitat.

Indirect permanent impacts to coastal California gnatcatcher and critical habitat could occur as a result of increased exposure to noise, vibration, and dust during operation of the Build Alternative. With implementation of Measures WQ-2, WQ-3, and WQ-4 in Section 3.8 and IS-1 in Section 3.20, which would require compliance with the Caltrans Water Quality Permit, implementation of Design Pollution Prevention and Treatment BMPs, and implementation of a Weed Abatement Program/Non-Standard Special Provisions, indirect permanent impacts to coastal California gnatcatcher habitat would be less than significant.

Direct temporary and permanent impacts to California gnatcatcher occupied habitat and designated critical habitat would occur within and outside the NCCP/HCP Plan Area. Take of coastal California gnatcatcher in the NCCP/HCP Plan Area is expected to occur through the temporary loss of 11.85 ac (11.47 ac of coastal sage scrub and 0.38 ac of nonnative grassland) and the permanent loss of 2.98 ac (2.61 ac of coastal sage scrub and 0.37 ac of nonnative grassland) of occupied habitat in the median of the existing SR-241/SR-91 interchange. In addition, the Build Alternative would result in 12.80 ac of temporary impacts and 19.72 ac of permanent impacts to designated critical habitat in the NCCP/HCP Plan Area, as well as 7.96 ac of temporary impacts and 1.18 ac of permanent impacts outside the NCCP/HCP Plan Area.

As discussed in detail in Section 3.15, Natural Communities, mitigation for the segment of the Build Alternative in the NCCP/HCP Plan Area was conducted as part of the NCCP Implementation Agreement. Therefore, no further mitigation would be required for the impacts to critical designated habitat within the NCCP/HCP Plan Area. Although most of the Project Area may have prior take authorization through the Biological Opinion issued in 1994 for the ETC, and parts of the Build Alternative are considered a development activity addressed by the NCCP/HCP, formal Section 7 consultation with the United States Fish and Wildlife Service (USFWS) is required to ensure the project improvements covered by these documents is consistent with the Biological Opinion and the NCCP/HCP, and that take authorization for project impacts are covered. The requirements for Section 7 consultation with the USFWS is specified in Mitigation Measure TE-7 in Section 3.19.4.

Impacts to non-NCCP/HCP areas within Caltrans right-of-way will be covered through mitigation measures in the new Biological Opinion for the Proposed Project because the coastal California gnatcatcher critical habitat was not yet designated and was, therefore, not part of the original Biological Opinion. For coastal sage scrub impacts to coastal California gnatcatcher occupied habitat or designated critical habitat discussed in Section 3.19, Threatened and Endangered Species, and shown in Table 3.19.1 and Table 3.19.2, the proposed minimum mitigation ratio is 1:1 for temporary impacts and 2:1 for permanent impacts as described in Mitigation Measure TE-7. With implementation of Mitigation Measure TE-7, impacts to coastal California gnatcatcher would be reduced to a less than significant level. As discussed in Section 3.19, Threatened and Endangered Species, this is a determination of “May affect, likely to adversely affect” for the California gnatcatcher and “May affect, not likely to adversely affect” for designated critical habitat for California gnatcatcher.

Least Bell’s Vireo and Southwestern Willow Flycatcher. Least Bell’s vireo and Southwestern willow flycatcher were not observed in the Project Area during the various field surveys in 2011, 2013, or 2014, and there is a limited amount of suitable foraging habitat present for these species in the Project Area. No suitable nesting habitat is located in the Project Area, but suitable habitat is present in the Santa Ana River to the north and the Prado Basin to the northeast.

The Build Alternative may temporarily redirect foraging least Bell’s vireo and southwestern willow flycatcher away from the Project Area during construction. With implementation of avoidance and minimization procedures specified in Measure TE-8, no significant temporary impacts to special-status riparian birds would occur. The

Build Alternative would result in the loss of a small amount (approximately 1 ac of chaparral) of potential foraging habitat for special-status riparian birds, and no mitigation is required. As discussed in Section 3.19, Threatened and Endangered Species, this is a determination of “May affect, not likely to adversely affect” for both Least Bell’s vireo and southwestern willow flycatcher.

IV(b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

As discussed in Section 3.15, two primary plant communities considered important by State and/or local agencies were identified in the BSA: oak woodland/tree species and coastal sage scrub. The Build Alternative would temporarily impact 8 coast live oak and 15 sycamore trees and permanently impact 6 coast live oak trees.

Implementation of Measure NC-7, provided in Section 3.15.4, would require the installation of visible barriers around the protected zones of oak trees and/or habitat. Measure AS-1, provided in Section 3.18.4, would prohibit trimming of oak trees during the nesting bird season. Measure NC-8, provided in Section 3.15.4, requires implementation of a revegetation program including replacement of permanently impacted trees at approved ratios. With implementation of Measures NC-7, NC-8, and AS-1, temporary and permanent impacts of the Build Alternative to oak trees and oak woodland habitat would be less than significant, and no mitigation is required.

The Build Alternative would result in approximately 29.70 ac of temporary impacts and 10.41 ac of permanent impacts to coastal sage scrub. Measures NC-1 through NC-6, detailed in Section 3.14.4, would be implemented to address construction activities in and adjacent to coastal sage scrub. Compensatory mitigation for project impacts in the NCCP/HCP Plan Area has already been completed pursuant to the NCCP Implementation Agreement, and no further mitigation for impacts to coastal sage scrub is required.

Impacts to non-NCCP/HCP areas within Caltrans right-of-way will be covered through mitigation measures in the new Biological Opinion for the Proposed Project because the coastal California gnatcatcher critical habitat was not yet designated and was, therefore, not part of the original Biological Opinion. For coastal sage scrub impacts to coastal California gnatcatcher occupied habitat or designated critical habitat, the proposed minimum mitigation ratio is 1:1 for temporary impacts and 2:1

for permanent impacts as described in Mitigation Measure TE-7. With implementation of Mitigation Measure TE-7, impacts to coastal California gnatcatcher critical habitat would be reduced to a less than significant level.

4.2.3.2 Cultural Resources

Checklist Question: V(c) Paleontological Resources

V(c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As discussed in Section 3.10, Paleontology, the Build Alternative is anticipated to disturb sediments in the APD, which have a high potential to contain significant, nonrenewable paleontological resources. As specified in Mitigation Measure PAL-1, because of the areas of high paleontological sensitivity of formation in the APD, preparation of a Caltrans Paleontological Mitigation Plan (PMP) would be required prior to completion of final design. Mitigation Measure PAL-1, provided in Section 3.10 and summarized below in Section 4.4, requires preparation and implementation of a PMP, which would provide the specific procedures to mitigate impacts to paleontological resources during construction of the Proposed Project. Therefore, potential impacts to paleontological resources, including any to resources that may be encountered within the NNL, would be reduced to a less than significant level with implementation of Mitigation Measure PAL-1.

4.2.3.3 Mandatory Findings of Significance

Checklist Questions: XVIII(a) and (b) Degradation of Environmental Quality and Cumulative Impacts

XVIII(a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

As discussed above under Biological Resources (Sections 4.2.1.4, 4.2.2.3, and 4.2.3.1) and Cultural Resources (Sections 4.2.1.5, 4.2.2.4, and 4.2.3.2), the project-related adverse impacts to cultural, paleontological, and biological resources can be reduced and/or mitigated to below a level of significance based on implementation of the measures identified for the Proposed Project. Therefore, with implementation of

avoidance, minimization, and/or mitigation measures, the Build Alternative does not have the potential to directly or indirectly impact cultural or biological resources in a way that would eliminate examples of California history or prehistory, or jeopardize the health of wildlife populations.

XVIII(b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

The Build Alternative does not have impacts that are individually limited but cumulatively considerable because the only project impacts that require mitigation are related to biological and paleontological resources. These impacts are minor and can be reduced to a less than significant level through compliance with regulatory requirements and project-specific mitigation measures coordinated with Caltrans and the applicable natural resource permitting agencies. Therefore, cumulative impacts would be less than significant. Refer to Section 3.23 for a detailed discussion.

4.2.4 Unavoidable Significant Environmental Effects of the Proposed Project

The Build Alternative would not result in any unavoidable significant adverse impacts under CEQA that would require overriding considerations.

4.2.5 Significant Irreversible Environmental Changes

Sections 3.21, Relationship between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity, and 3.22, Irreversible and Irretrievable Commitments of Resources That Would Be Involved in the Proposed Project, describe the potential long-term commitments of resources if a Build Alternative is implemented. The construction of the Build Alternative would result in long-term and permanent commitments of natural, physical, human, and fiscal resources to the Proposed Project. Land used in the construction of the Build Alternative would be considered to result in an irreversible commitment of the land used for the highway facilities. In addition, the Build Alternative would result in an irreversible commitment of biological resource habitat areas to transportation uses. Fossil fuels, labor, public capital, and construction materials would be expended for construction of the Build Alternative, and these resources would not be retrievable. Additionally, large amounts of labor and natural

resources would be used in the production of construction materials, which are generally non-retrievable as well. Construction and maintenance of the Build Alternative would also require substantial expenditures of anticipated funds from local, State, and federal sources.

The commitment of these resources to the Build Alternative is based on the concept that residents, workers, travelers, and others in the immediate area and region, would benefit from the improved quality of the regional transportation system that connects the counties of Orange, Riverside, and San Bernardino. These benefits would consist of improved accessibility, travel time, and safety, and a potentially reduced demand for fossil fuels to operate vehicles on the corridor between SR-241 and SR-91. These benefits of the Build Alternative are expected to offset the commitment of these resources to this Proposed Project.

4.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles make up the largest source of GHG-emitting sources. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: “Greenhouse Gas Mitigation” and “Adaptation.” “Greenhouse Gas Mitigation” is a term for reducing GHG emissions to reduce or “mitigate” the impacts of climate

change. “Adaptation” refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).¹

There are four primary strategies for reducing GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower GHG-emitting fuels, and (4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.²

4.3.1 Regulatory Setting

This section outlines state and federal efforts to comprehensibly reduce GHG emissions from transportation sources.

4.3.1.1 State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and pro-active approach to dealing with GHG emissions and climate.

Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order (EO) S-3-05 (June 1, 2005): The goal of this EO is to reduce California’s GHG emissions to 1) year 2000 levels by 2010, 2) year 1990 levels by the 2020, and 3) 80 percent below the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.”

¹ American Association of State Highway and Transportation Officials. Website: http://climatechange.transportation.org/ghg_mitigation/.

² Federal Highway Administration. Website: http://www.fhwa.dot.gov/environment/climate_change/mitigation/.

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least ten percent by 2020.

Senate Bill 97 (SB 97), Chapter 185, 2007, Greenhouse Gas Emissions: required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board (CARB) to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under AB 32.

4.3.1.2 Federal

Although climate change and GHG reduction are a concern at the federal level; currently no regulations or legislation have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level GHG analysis.¹ FHWA supports the approach that climate change considerations should be integrated throughout the transportation decision-making process, from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the

¹ To date, no national standards have been established regarding mobile source GHGs, nor has the U.S. EPA established any ambient standards, criteria or thresholds for GHGs resulting from mobile sources.

analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies outlined by FHWA to lessen climate change impacts correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the “National Clean Car Program” and EO 13514 - Federal Leadership in Environmental, Energy and Economic Performance.

Executive Order 13514 (October 5, 2009): This order is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

U.S. EPA’s authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court’s ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court’s interpretation of the existing Act and EPA’s assessment of the scientific evidence that form the basis for EPA’s regulatory actions. U.S. EPA in conjunction with NHTSA issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010.¹

The U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road

¹ Center for Climate and Energy Solutions. Website: <http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq>.

vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations.

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016).

On August 28, 2012, U.S. EPA and NHTSA issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017–2025 standards this program is projected to save approximately four billion barrels of oil and two billion metric tons of GHG emissions.

The complementary U.S. EPA and NHTSA standards that make up the Heavy-Duty National Program apply to combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce CO₂ emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

4.3.2 Project Analysis

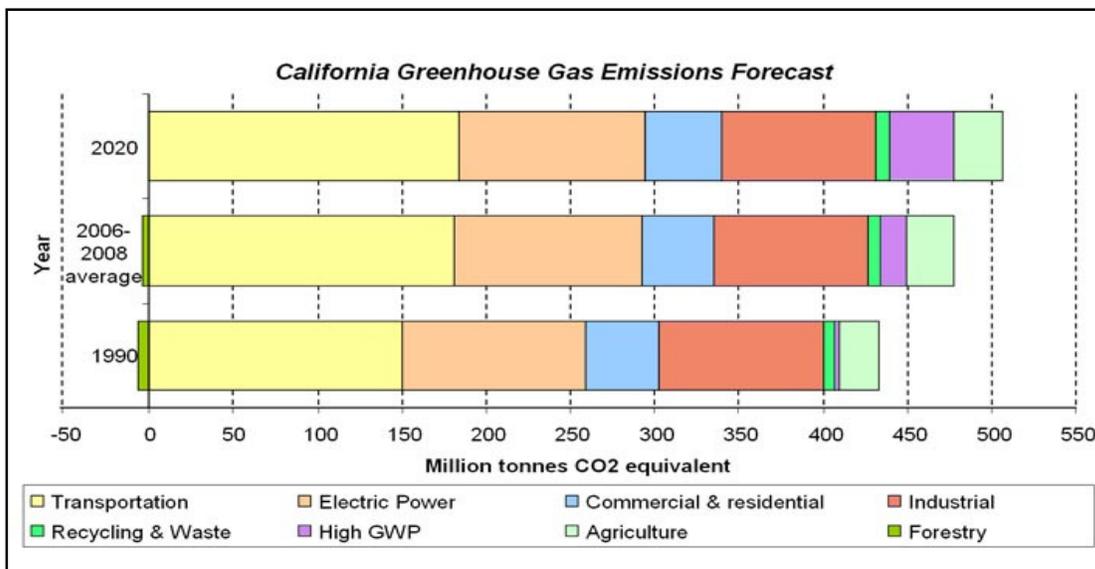
An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined with the contributions of all other sources of GHG.¹ In assessing cumulative impacts, it must be determined if a

¹ This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter

project’s incremental effect is “cumulatively considerable” (CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the Proposed Project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 includes the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, the ARB released the GHG inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the Scoping Plan were implemented (see Figure 4.1 below). The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

Figure 4.1 California Greenhouse Gas Forecast



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

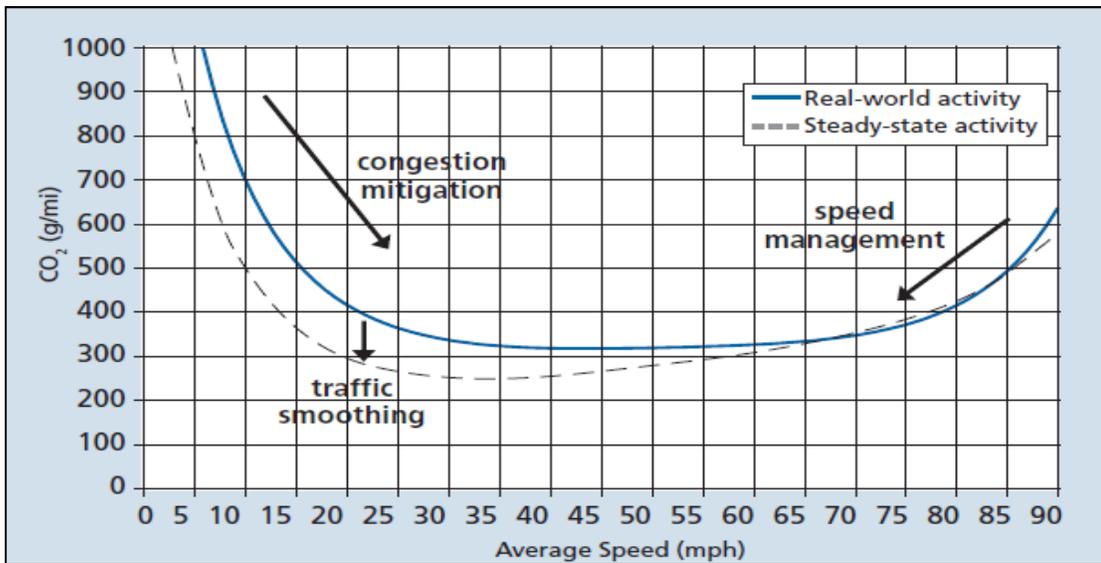
The Department and its parent agency, the Transportation Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California’s GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the

6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

Department has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.¹

One of the main strategies in the Department’s Climate Action Program to reduce GHG emissions is to make California’s transportation system more efficient. The highest levels of carbon dioxide (CO₂) from mobile sources, such as automobiles, occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure 4.2 below).

Figure 4.2 Possible Effect of Traffic Operation Strategies in Reducing On-Road CO₂ Emission²



To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors, GHG emissions, particularly CO₂, may be reduced.

The purpose of this Proposed Project is to implement the build out of the ETC, attain compatibility with the SR-91 mainline and SR-91 Express Lanes configuration, improve operations and traffic flow between the SR-91 Express Lanes and the SR-241 general purpose connectors, help achieve the Regional Mobility Plan goals of reducing emissions from transportation sources, and enhance the efficiency of the

¹ Caltrans Climate Action Program. Website: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf.

² Traffic Congestion and Greenhouse Gases: Matthew Barth and Kanok Boriboonsomsin (TR News 268 May-June 2010). Website: <http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf>.

4.3.2.1 Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. Idling times would be restricted to 10 minutes in each direction for passenger cars during lane closures and 5 minutes for construction vehicles. Restricting idling times reduces harmful emissions from passenger cars and diesel-powered construction vehicles.

4.3.2.2 CEQA Conclusion

As discussed above, the Build Alternative would not substantially alter the long-term GHG emissions. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the Proposed Project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the Proposed Project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the Proposed Project. These measures are outlined in the section below.

4.3.2.3 Greenhouse Gas Reduction Strategies

The Department continues to be involved on the Governor's Climate Action Team as the ARB works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies the Department is using to help meet the targets in AB 32 come from Former Governor Arnold Schwarzenegger's Strategic Growth Plan for California. The Strategic Growth Plan targeted a significant decrease in traffic congestion below 2008 levels and a corresponding reduction in GHG emissions, while accommodating growth in population and the economy. The Strategic Growth Plan relies on a complete systems approach to attain CO₂ reduction

goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 4.3: The Mobility Pyramid.

Figure 4.3 Mobility Pyramid



The Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. The Department works closely with local jurisdictions on planning activities, but does not have local land use planning authority. The Department also assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; the Department is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by participating on the Climate Action Team. It is important to note, however, that control of fuel economy standards is held by the U.S. EPA and ARB.

The Department is also working towards enhancing the State's transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under Senate Bill (SB) 375 (Steinberg 2008), SB 391(Liu 2009) requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill (AB) 32.

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas (GHG) emissions. The CTP defines performance-based goals, policies, and strategies to achieve our collective vision for California's future, statewide, integrated, multimodal transportation system.

The purpose of the CTP is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the CTP 2040 will identify the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the State's transportation needs.

Table 4.2 summarizes the Department and statewide efforts that it is implementing to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012): is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities.

Caltrans Activities to Address Climate Change (April 2013)¹ provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

The following measures will also be included in the Proposed Project to reduce the GHG emissions and potential climate change impacts from the Proposed Project:

1. Landscaping reduces surface warming, and through photosynthesis, decreases CO₂. Landscaping would be provided where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the Proposed Project. The landscape planting would help offset any potential CO₂ emissions increase.

¹ California Department of Transportation. Website: http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml.

Table 4.2 Climate Change/CO₂ Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO ₂ Savings Million Metric Tons (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, ARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, ARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

2. The Proposed Project would recommend the use of energy-efficient lighting, such as light-emitting diode (LED) traffic signals. LED bulbs—or balls, in the stoplight vernacular—cost \$60 to \$70 apiece but last 5 to 6 years, compared to the average 1-year lifespan of the incandescent bulbs previously used. The LED bulbs themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the Proposed Project’s CO₂ emissions.
3. According to Caltrans Standard Specification Provisions, idling time for lane closure during construction is restricted to 10 minutes in each direction. In addition, the contractor must comply with Title 13, California Code of Regulations (CCR) Section 2449(d)(3) that was adopted by the ARB on June 15, 2008. This regulation restricts idling of construction vehicles to no longer than 5 consecutive minutes. Compliance with this regulation reduces harmful emissions from diesel-powered construction vehicles.

4.3.2.4 Adaptation Strategies

“Adaptation strategies” refer to how the Department and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011,¹ outlining the federal government’s progress in expanding and strengthening the Nation’s capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical

¹ The White House. Website: <http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation>.

natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks.

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

On November 14, 2008, then-Governor Arnold Schwarzenegger signed EO S-13-08, which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise.

In addition to addressing projected sea level rise, the California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop. The California Climate Adaptation Strategy (Dec 2009),¹ which summarizes the best-known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to EO S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

¹ California Energy Commission. Website: <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>.

The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report¹ to recommend how California should plan for future sea level rise. The report was released in June 2012 and included:

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

In 2010, interim guidance was released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise. Subsequently, CO-CAT updated the Sea Level Rise guidance to include information presented in the National Academies Study.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

All projects that have filed an NOP as of the date of the EO S-13-08, and/or are programmed for construction funding through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. An NOP was filed for the Proposed Project prior on March 13, 2015. However, the Proposed Project is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea

¹ *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012). National Academics Press: Website: is available at: http://www.nap.edu/catalog.php?record_id=13389.

level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans will be able review its current design standards to determine what changes, if any, may be needed to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted in response to EO S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise.

4.4 Mitigation Measures for Significant Impacts Under CEQA

Table 4.3 lists the mitigation measures included regarding the Build Alternative to address the significant impacts on the resources as described earlier in this section. The complete text of each measure is provided in the appropriate sections of Chapter 3.0, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures, and in Appendix D, Avoidance, Minimization, and/or Mitigation Summary.

Table 4.3 Mitigation Measures for Significant Impacts

Mitigation Measure No.	Measure Description
Paleontological Resources	
PAL-1	Preparation of a PMP, implementation of PMP, and preparation of a PMR.
Biological Resources	
TE-7	Section 7 Consultation, including mitigation ratios for impacted California gnatcatcher occupied and/or critical habitat outside the NCCP/HCP Plan Area.

NCCP/HCP = Natural Communities Conservation Plan/Habitat Conservation Plan
PMP = Paleontological Mitigation Plan
PMR = Paleontological Mitigation Report