Chapter 3 California Environmental Quality Act (CEQA) Evaluation

3.1 DETERMINING SIGNIFICANCE UNDER CEQA

The 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 National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this Project are being, or have been, carried out by Caltrans pursuant to 23 U.S. Code (USC) 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans. Caltrans is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement, or a lower level of documentation, will be required. NEPA requires that an Environmental Impact Statement 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 Environmental Impact Statement, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Each and every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an Environmental Impact Report. See the SER, Volume 1, Chapter 36, "Environmental Impact Reports" for more information. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

In accordance with State CEQA Guidelines Section 15126.6, an environmentally superior alternative must be identified among the alternatives evaluated in this Environmental Impact Report. Based on the comparative analysis of environmental impacts, the No-Build Alternative would result in the fewest environmental impacts overall because it would not involve construction or physical improvements within the Project limits. However, the No-Build Alternative would not meet the Project's purpose and need to improve traffic flow, reduce congestion, and enhance mobility at and through the Interstate (I-) 5/El Toro Road Interchange.

Among the Build Alternatives, Build Alternative 3 would be considered the environmentally superior alternative because it would not involve ground disturbance, construction of new infrastructure, or right of way acquisition, and would therefore avoid many of the environmental impacts associated with Build Alternative 1 and its design variation (Build Alternative 1a). While Build Alternative 3 would provide operational improvements through technology enhancements, its benefits would be more limited compared to Build Alternative 1 and its design variation (Build Alternative 1a).

3.3 CLIMATE CHANGE

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the Earth's climate system. The Intergovernmental Panel on Climate Change, established by the United Nations and World Meteorological Organization in 1988, is devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. Research published by the Intergovernmental Panel on Climate Change and other scientists over recent decades has shown an accelerated rate of climatological changes over the past 150 years, attributed to GHG emissions generated from the production and use of fossil fuels.

The impacts of climate change are already being observed in the form of sea-level rise, drought, extended and severe fire seasons, and historical flooding from changing storm patterns. The most important strategy to address climate change is to reduce GHG emissions. Additional strategies are necessary to mitigate and adapt to these impacts. In the context of climate change, "mitigation" involves actions to reduce GHG emissions to lessen adverse impacts that are likely to occur. "Adaptation" is planning for and responding to impacts to reduce vulnerability to harm, such as by adjusting transportation design standards to withstand more intense storms, heat, and higher sea levels. This analysis will include a discussion of both in the context of this transportation project.

3.3.1 Regulatory Setting

For a full list of laws, regulations, and guidance related to climate change (GHGs and adaptation), please refer to Caltrans' Standard Environmental Reference (SER), Chapter 16, Climate Change.

3.3.1.1 Federal

To date, no nationwide numeric mobile-source GHG reduction targets have been established; however, federal agencies are mandated to consider the effects of climate change in their environmental reviews.

FHWA recognizes the threats that extreme weather, sea level rise, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2022). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Early efforts by the federal government to improve fuel economy and energy efficiency to address climate change and its associated effects include The Energy Policy and Conservation Act of 1975 (42 USC Section 6201); and Corporate Average Fuel Economy (CAFE) Standards. The U.S. Department of Transportation's National Highway Traffic and Safety Administration (NHTSA) sets and enforces CAFE standards for on-road motor vehicles sold in the United States. The Environmental Protection Agency (U.S. EPA) calculates average fuel economy levels for manufacturers, and also sets related GHG emissions standards for vehicles under the Clean Air Act. Raising CAFE standards leads automakers to create a more fuel-efficient fleet, which improves our nation's energy security, saves consumers money at the pump, and reduces GHG emissions (U.S. DOT 2014). These standards are periodically updated and published through the federal rulemaking process.

3.3.1.2 State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly Bills and Executive Orders (EOs).

In 2005, EO S-3-05 initially set a goal to reduce California's GHG emissions to 80 percent below year 1990 levels by 2050, with interim reduction targets. Later EOs and Assembly and Senate bills refined interim targets and codified the emissions reduction goals and strategies. The California Air Resources Board (ARB) was directed to create a climate change scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Ongoing GHG emissions reduction was also mandated in Health and Safety Code Section 38551(b). In 2022, the California Climate Crisis Act was passed, establishing state policy to reduce statewide human-caused GHG emissions by 85 percent below 1990 levels, achieve net zero GHG emissions by 2045, and achieve and maintain negative emissions thereafter.

Beyond GHG reduction, the state maintains a climate adaptation strategy to address the full range of climate change stressors, and passed legislation requiring state agencies to consider protection and management of natural and working lands as an important strategy in meeting the state's GHG reduction goals.

3.3.2 Environmental Setting

The Project site is in the cities of Lake Forest, Laguna Woods, and Laguna Hills in Orange County. The interchange serves as the primary access point to I-5 for adjacent cities and is also one of the main interchanges providing access to the adjacent retirement community of Laguna Woods. Land uses within and adjacent to the Project limits include residential, recreational, commercial, and educational. The Project area is heavily used during peak travel hours. The proposed Project area is in a region with a Mediterranean climate with hot dry summers and mild, wet winters. Vegetation types near the Project area include a moderate urban tree canopy with landscaped medians and park areas, and relatively flat terrain with gentle slopes toward nearby waterways.

Transportation development in the Project area is guided by the Southern California Association of Governments (SCAG) 2024–2050 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), the Orange County Transportation Authority's (OCTA's) Long-Range Transportation Plan, and OCTA's Congestion Management Plan. Orange County has published a draft Climate Action Plan (CAP), but it applies only to unincorporated portions of the county. The Cities of Lake Forest, Laguna Woods, and Laguna Hills have not yet adopted or published a CAP.

3.3.2.1 GHG Inventories

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and ARB does so for the state of California, as required by Health and Safety Code Section 39607.4. Cities and other local jurisdictions may also conduct local GHG inventories to inform their GHG reduction or CAPs.

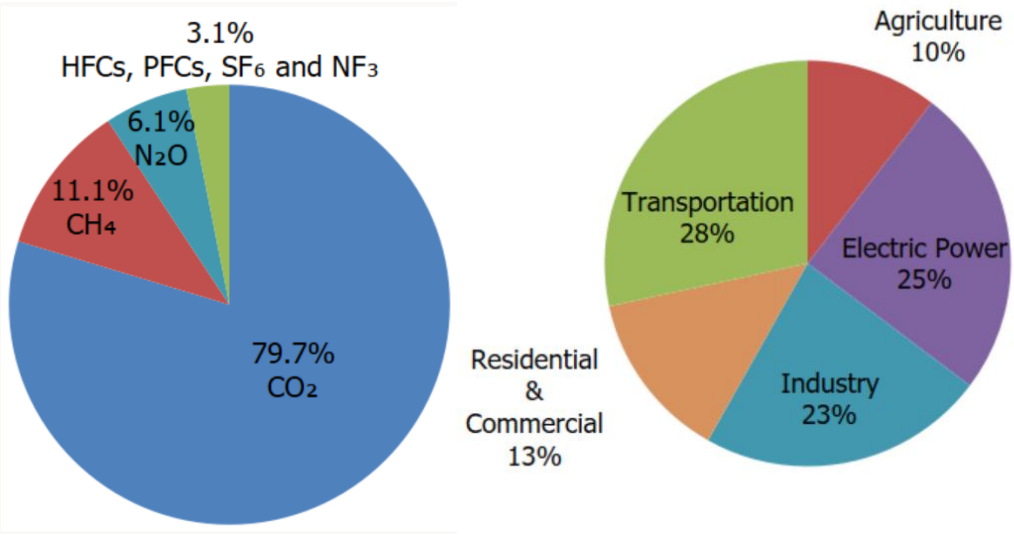
National GHG Inventory

The annual GHG inventory submitted by the U.S. EPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. Total national GHG emissions from all sectors in 2022 amounted to 5,489.0 million metric tons, factoring in deductions for carbon sequestration in the land sector. (Land Use, Land Use Change, and Forestry provided a carbon sink equivalent to 15 percent of total U.S. emissions in 2022 [U.S. EPA 2024a].) While total GHG emissions in 2022 were 17 percent below 2005 levels, they increased by 1 percent compared with 2021 levels. Of these, 80 percent were carbon dioxide (CO_2), 11 percent were methane (CH_4), and 6 percent were nitrous oxide (N_2O); the balance consisted of fluorinated

gases. From 1990 to 2022, CO_2 emissions decreased by only 2 percent (U.S. EPA 2024a).

The transportation sector's share of total GHG emissions remained at 28 percent in 2022 and continues to be the largest contributing sector (Figure 3.3-1). Transportation activities accounted for 37 percent of U.S. CO_2 emissions from fossil fuel combustion in 2022. This represents a decrease of 0.5 percent from 2021 (U.S. EPA 2024a, 2024b).

Figure 3.3-1. U.S. 2022 Greenhouse Gas Emissions

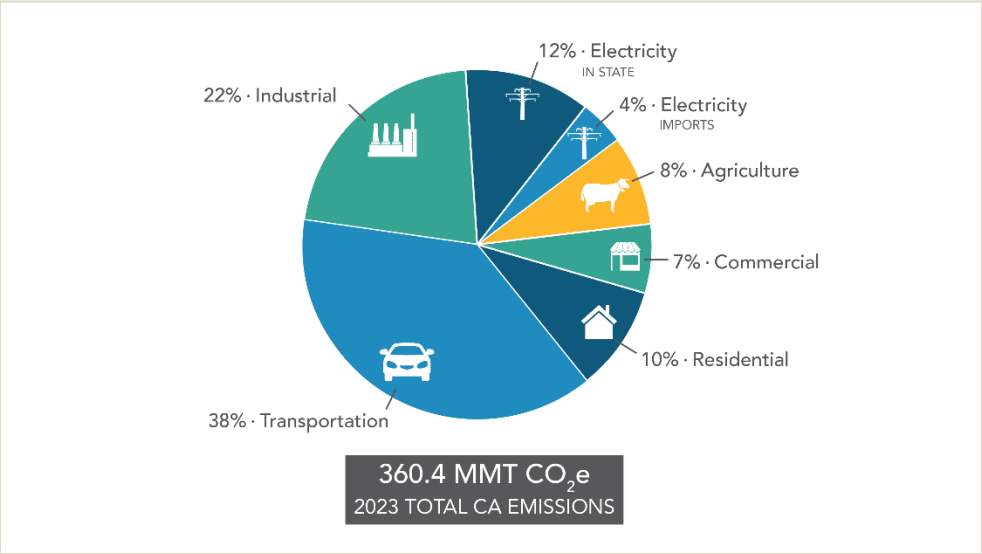


Source: U.S. EPA 2024b

State GHG Inventory

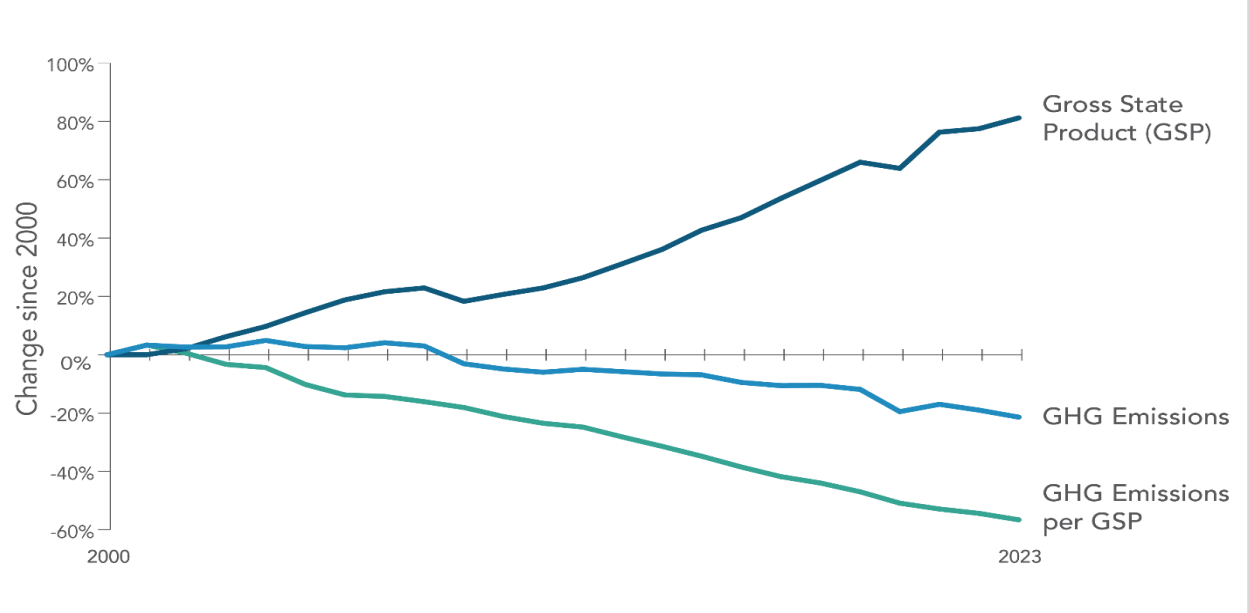
ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. Overall statewide GHG emissions declined from 2000 to 2023 despite growth in population and state economic output (Figure 3.3-2). Transportation emissions remain the largest contributor to GHG emissions in the state (Figure 3.3-3) (ARB 2025).

Figure 3.3-2. California 2023 Greenhouse Gas Emissions by Economic Sector



Source: ARB 2025

Figure 3.3-3. Change in California Gross State Product and GHG Emissions Since 2000



Source: ARB 2025

Assembly Bill (AB) 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions. ARB adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017,

reflects the 2030 target established in EO B-30-15 and Senate Bill (SB) 32. The *2022 Scoping Plan for Achieving Carbon Neutrality,* adopted September 2022, assesses progress toward the statutory 2030 reduction goal and defines a path to reduce human-caused emissions to 85 percent below 1990 levels and achieve carbon neutrality no later than 2045, in accordance with AB 1279 (ARB 2022).

3.3.3 Regional Plans

As required by *The Sustainable Communities and Climate Protection Act of 2008* (SB 375), ARB sets regional GHG reduction targets for California's 18 metropolitan planning organizations to achieve through planning future projects that will cumulatively achieve those goals and reporting how they will be met in the RTP/SCS. Targets are set as a percentage reduction in passenger vehicle GHG emissions per person, based on 2005 levels. The Project is included in the RTP/SCS for SCAG. The regional reduction target for the SCAG region is 8 percent and 19 percent for the years 2020 and 2035, respectively (ARB 2019). SCAG and local goals and policies directed at, or resulting in, the reduction of transportation GHG emissions include those presented in Table 3.3-1, among other measures.

Table 3.3-1. Regional and Local Greenhouse Gas Reduction Goals for Transportation

Title	Transportation GHG Reduction Goals or Policies
Southern California Association of Governments 2024–2050 Regional Transportation Plan/Sustainable Communities Strategy (adopted May 10, 2024)	The SCS prepared as part of Connect SoCal complies with the emission reduction targets established by ARB and meets the requirements of SB 375 by achieving GHG emission reductions at 8% below 2005 per capita emissions levels by 2020 and 19% below 2005 per capita emissions levels by 2035. The RTP/SCS includes the following goals: • Mobility: Build and maintain a robust transportation network. • Communities: Develop, connect and sustain communities that are livable and thriving. • Environment: Create a healthy region for the people of today and tomorrow. • Economy: Support a sustainable, efficient and productive regional economic environment that provides opportunities for all residents.

Title	Transportation GHG Reduction Goals or Policies
Orange County General Plan (last updated May 2025)	**Transportation Element** • Circulation Goal 3: Provide a circulation plan that facilitates the safe, convenient and efficient movement of people and goods throughout unincorporated areas of the County. • Circulation Goal 5: Manage peak hour traffic congestion to achieve an acceptable level of service (LOS) on existing and future circulation plan facilities in the unincorporated areas of the County. • Circulation Goal 6: Implement transportation demand management (TDM) and transportation systems management (TSM) strategies which reduce peak hour vehicle travel demand and minimize single-occupant vehicles and trip length on the unincorporated County roadway system. • Bikeway Goal 1: Develop and implement a bikeway plan that maximizes the opportunities for non-motorized vehicle transportation, and meets the recreation and local transportation needs of the residents of Orange County's unincorporated areas. **Resources Element** • Air Resources Goal 1: Promote optimum sustainable environmental quality standards for air resources. • Energy Resources Goal 2: Maximize the conservation of energy resources in all future land use and transportation planning decisions
Lake Forest 2040 General Plan (June 2020)	**Mobility Element** • Goal M-2: Provide a vehicular transportation system with adequate levels of traffic flow and operations while maximizing efficiency. • Goal M-3: Provide a citywide a transportation network that is safe and accessible for all transportation modes and users. • Goal M-4: Support increased public transportation use in the City. • Goal M-5: Support and promote the use of pedestrian, bicycle, and equestrian facilities. • Goal M-8: Reduce citywide vehicle miles traveled per capita and contribute to regional and statewide greenhouse gas emission targets. **Recreation and Resources Element** • Policy RR-4.2 Land Use Planning: Utilize land-use planning techniques to reduce traffic congestion and promote alternative modes of transportation for the community. • Policy RR-4.4 Active Transportation: Improve active transportation options within the City by connecting local bikeways and trails to City bus stops and public transportation centers. • Policy RR-4.5 Public Transit: Coordinate with the OCTA and actively pursue the improvement and expansion of public transit for Lake Forest residents. • Policy Local Reduction Targets: The City of Lake Forest establishes the following per capita GHG reduction targets, in order to meet the requirements established by the state under AB 32 and SB 32, consistent with the CARB's 2017 Scoping Plan. • Policy RR-4.9 GHG Reduction: Consider and adopt new policies and programs that will help to provide energy efficient alternatives to fossil fuel use and reduce consumption in order to reduce greenhouse gas emissions.

Title	Transportation GHG Reduction Goals or Policies
City of Laguana Woods General Plan (August 2024)	**Mobility Element** • Goal M-3. Support active transportation. • Goal M-4. Provide an active transportation system that integrates with transit services and vehicle circulation. • Goal M-6. Promote a regionally connected transportation system. • Goal M-7. Reduce single-occupant vehicle use and traffic congestion. **Conservation Element** • Goal CO-8. Reduce local greenhouse gas emissions.
City of Laguana Hills General Plan (July 2009)	**Mobility Element** • Goal M-1: Provide a safe and efficient local transportation system consistent with the general County standards and the regional system. • Goal M-3: Create a community where walking and cycling are practical, safe, and fun options for travel. • Goal M-5: Promote a variety of alternative modes of travel and creative solutions to reduce single occupancy vehicle travel. **Conservation and Open Space Element** • Goal COS-3: Make meaningful choices to improve local and regional air quality and address climate change.

3.3.4 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation and use of the State Highway System (operational emissions) and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, and various hydrofluorocarbons. CO_2 emissions are a product of burning gasoline or diesel fuel in internal combustion engines, along with relatively small amounts of CH_4 and N_2O. In addition, the transportation sector emits a minor amount of hydrofluorocarbon emissions, which are related to refrigeration and air conditioning systems used in vehicles.

GHGs vary in their ability to trap heat in the atmosphere, a characteristic known as global warming potential. CO_2 is the most significant GHG due to its abundance and impact, and thus, the amounts of other gases are expressed relative to CO_2 using a metric called “carbon dioxide equivalent” (CO_2e). The global warming potential of CO_2 is assigned as a value of 1, and the global warming potential of other gases is assigned as multiples of CO_2. Both operational and construction emissions associated with the proposed project are analyzed in the sections below and emission values, if required, are expressed in CO_2e to provide a standardized measure of their impact.

The CEQA Guidelines generally address GHG emissions as a cumulative impact due to the global nature of climate change (Public Resources Code, Section 21083(b)(2)). As the California Supreme Court explained, “because of the global scale of climate change, any one project’s contribution is unlikely to be significant by itself” (*Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497, 512). In

assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment.

3.3.4.1 Operational Emissions

As discussed in Chapter 1, *Introduction*, two Build Alternatives have been developed to meet the purpose and need of the Project: Build Alternative 1 (Southbound I-5 Hook Ramps) and Build Alternative 3 (Transportation System Management [TSM]/ Transportation Demand Management [TDM]). Build Alternative 1 also includes a design variation (Build Alternative 1a) with a new public street at the new southbound I-5/Avenida De La Carlota ramp terminal intersection south of El Toro Road.

There would be no material difference in traffic conditions or vehicle miles traveled (VMT) under Build Alternative 1 and its design variation (Build Alternative 1a). Accordingly, the discussion for Build Alternative 1 also applies to Build Alternative 1a, unless otherwise noted. Build Alternative 3 only includes technological improvements; no physical or geometric changes would occur. Accordingly, Build Alternative 3 would not result in any permanent changes to VMT. As such, Build Alternative 3 is not discussed further in this section, as there would be no impact on operational GHG emissions.

As shown in the Caltrans *Interstate 5/El Toro Road Interchange Improvement Project Supplemental Air Quality Report*, modeled CO_2e emissions in the Project area under existing/baseline 2023 conditions would be approximately 92,703 metric tons CO_2e per year. Emissions in Design-Year 2055 are projected to be less than in existing/baseline 2023 for Build Alternative 1 and approximately the same as the No-Build Alternative. There would be a slight increase in emissions over the No-Build Alternative that equates to 0.032 percent to 0.036 percent, depending on year; however, this incremental increase is minimal and does not represent a meaningful change in regional operating conditions or VMT. In addition, SCAG's 2024–2050 RTP/SCS complies with the emission-reduction targets established by ARB and meets the requirements of SB 375, as codified in Government Code Section 65080(b) et seq., by achieving per-capita GHG emission reductions relative to 2005 of 8 percent by 2020 and 18 percent by 2035, which meets or exceeds targets set by ARB. As required by SB 375, the SCS outlines growth strategies that better integrate land use and transportation planning and help reduce the state's GHG emissions from cars and light trucks. The Project is listed in the 2024–2050 RTP/SCS. The Project will assist the region with its overall goals to reduce vehicle-related GHGs by relieving congestion and improving traffic flow, thereby reducing emissions. This is consistent with the RTP/SCS's identified strategies to manage congestion by maximizing the current system and ensuring it operates with maximum efficiency and effectiveness.

The 2024–2050 RTP/SCS commits $11.9 billion toward mixed-flow and interchange improvements and $11.9 billion for TSM (including Intelligent Transportation System) improvements in the region. Both TSM and TDM elements may be incorporated into the Build Alternative for the Project. Together, congestion management, TDM, and TSM strategies will all help the region achieve its goals of VMT and vehicle-hours-traveled reduction. Specifically, TSM and TDM measures may provide the following benefits: lessen the number of trips, lessen peak-hour travel, conserve energy, and provide more travel alternatives. As a result, these strategies may reduce GHG emissions.

3.3.4.2 Construction Emissions

Construction GHG emissions would result from material processing and transportation, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. While construction GHG emissions are only produced for a short time, they have long-term effects in the atmosphere, so cannot be considered “temporary” in the same way as criteria pollutants that subside after construction is completed.

Use of long-life pavement, improved traffic management plans, and changes in materials can also help offset GHG emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities. The table below summarizes estimated construction-related GHG emissions in metric tons per year.

As discussed above in Section 3.3.3.1, *Operational Emissions*, Build Alternative 3 does not include any physical improvements. Therefore, Build Alternative 3 would not result in any temporary construction emissions, and the alternative is not discussed further in this section. Required construction activity Build Alternative 1 and its design variation (Build Alternative 1a) would be the same. Accordingly, the discussion for Build Alternative 1 also applies to Alternative 1a, unless otherwise noted.

Construction emissions were estimated for Build Alternative 1 using the Caltrans Construction Emissions Tool (CAL-CET2021 v1.0.4). GHG emissions generated over the 2.5- to 3-year construction period are presented in Table 3.3-2. The total construction emissions are 1,668 metric tons CO_2e for Build Alternative 1.

Table 3.3-2. Modeled Construction GHG Emissions

Alternative	CO_2	CH_4	N_2O	CO_2e
Build Alternative 1 and its design variation (Build Alternative 1a)	1,647	< 1	< 1	1,668

Source: Caltrans 2025a

All construction contracts include Caltrans Standard Specifications related to air quality. Section 7-1.02A and 7 1.02C, Emissions Reduction, requires contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all

ARB emission reduction regulations. Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes (as reflected in Project Feature **PF-AQ-1**). Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

Avoidance and Minimization Measures **GHG-1**, **AQ-1,** and **AQ-2** are expected to minimize construction GHG emissions from the Project. These measures would reduce emissions associated with construction activities by promoting more efficient energy use and reducing reliance on fossil fuel–powered equipment. Specifically, **AQ-1** requires the use of solar-powered construction signal and message boards, where feasible, and **AQ-2** requires that electricity be obtained from existing power sources rather than temporary diesel or gasoline generators, to the extent feasible. In addition, **GHG-1** includes the use of LED traffic signals, which consume less electricity than standard lighting and would further reduce CO_2 emissions associated with the Project.

3.3.4.3 CEQA Conclusion

The Project would improve overall traffic operations and reduce vehicle congestion, resulting in a net reduction in operational GHG emissions compared to Existing/ Baseline 2023. This impact is considered less than significant under CEQA.

Because operational emissions would decrease, the Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. For further analysis, see Section 3.7.8, *GHG Emissions*.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

3.3.5 Greenhouse Gas Reduction Strategies

In response to AB 32, the Global Warming Solutions Act, California is implementing measures to achieve emission reductions of GHGs that cause climate change. Additionally, Caltrans has enacted policies and initiatives to reduce GHG emissions in transportation to reach the state's climate goals. For a full list of statewide and Caltrans GHG reduction strategies, refer to SER, Chapter 16, Climate Change.

3.3.5.1 Project-Level GHG Reduction Strategies

The following measures will also be implemented in the Project to reduce GHG emissions and potential climate change impacts from the Project. These measures include Project Features **PF-TRA-1** in Section 2.2.7, *Transportation*, and **PF-AQ-1** in Section 2.3.5, *Air Quality*.

PF-TRA-1 Transportation Management Plan, involves the development of a Transportation Management Plan (TMP) that will include the following elements: public awareness campaigns, motorist information, incident

management, construction methods, demand management, and alternate route planning. By reducing delays to motorists in the Project vicinity during the construction period, this measure would reduce emissions associated with vehicle idling and congestion.

PF-AQ-1 The contractor will adhere to Caltrans Standard Specifications for Construction (Section 14-9.02), which specifically require compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

In addition to the standard project measures above, the following measures will be implemented in the Project to reduce GHG emissions and potential climate change impacts from the Project.

GHG-1 The Project will incorporate the use of energy-efficient lighting, such as light-emitting diode (LED) traffic signals. LED bulbs—or balls, in the stoplight vernacular—consume less electricity than traditional lights, which will also help reduce the Project's CO_2 emissions.

AQ-1 To the extent feasible, all construction signal/message boards shall be solar powered.

AQ-2 To the extent feasible, electricity shall be obtained from power poles rather than temporary diesel or gasoline generators.

3.3.6 Adaptation

While reducing GHG emissions is crucial in combating climate change, it is only one part of the solution. Caltrans must proactively plan for the impact of climate change on California's transportation infrastructure. This involves modifying and protecting facilities to reduce potential damage and build resilience against future climate-related challenges.

Caltrans has conducted District Climate Change Vulnerability Assessments to identify segments of the State Highway System that are vulnerable to climate change impacts, such as sea level rise, increased temperatures, and extreme weather events. These assessments help prioritize areas for adaptation efforts and inform the development of strategies to enhance the resilience of critical infrastructure.

Additionally, Caltrans periodically prepares a Sustainability Roadmap, which outlines the agency's strategic plans and progress reports aimed at achieving state sustainability goals. The roadmap is a 2-year progress report on several important milestones achieved by Caltrans while implementing EOs B-16-12, B-18-12, and the adaptation planning process of EOs B-30-15, N-19-19, and N-82-20.

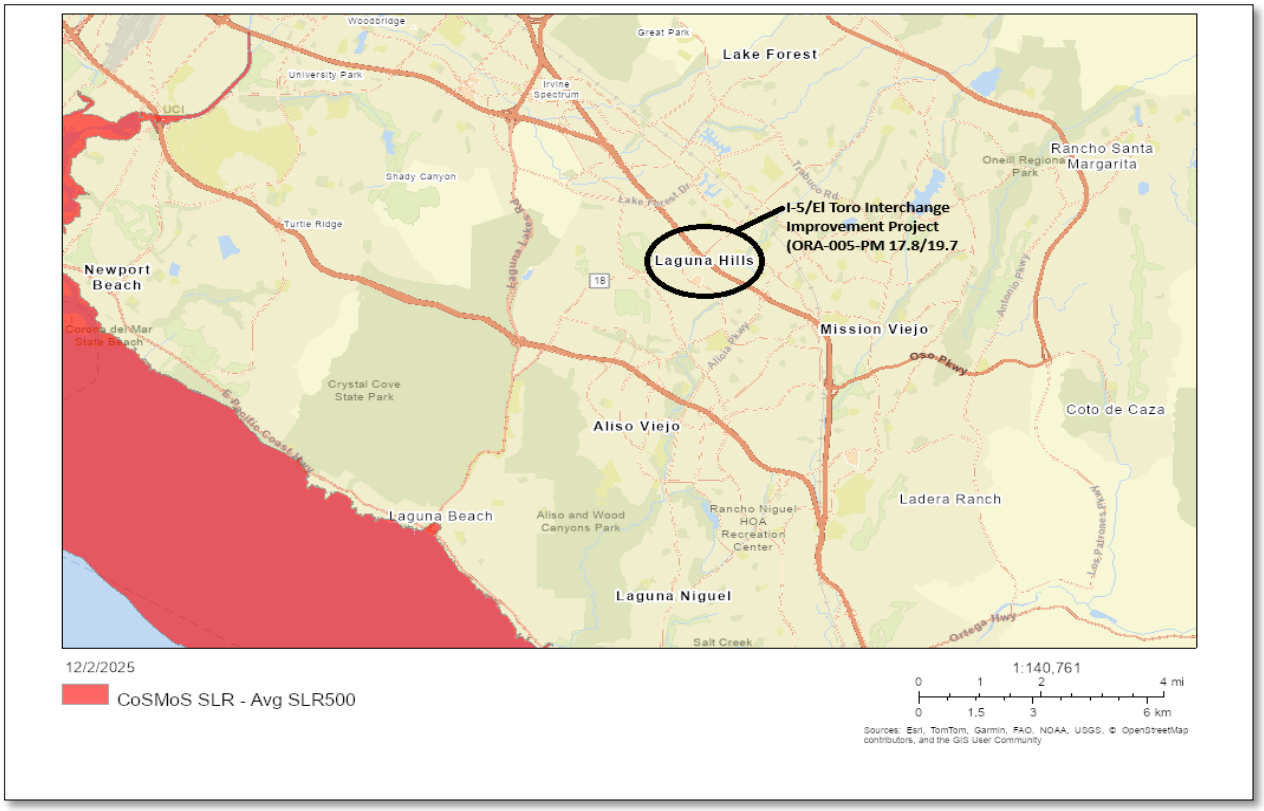
Refer to SER, Chapter 16, Climate Change for additional information regarding federal, state, and Caltrans adaptation efforts.

3.3.6.1 Project Adaptation Analysis

Sea-Level Rise

The Project is outside the coastal zone and not in an area subject to sea-level rise (see Figure 3.3-4). Accordingly, direct impacts on transportation facilities due to projected sea-level rise are not expected.

Figure 3.3-4. Projected Sea Level Rise



Precipitation and Flooding

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Map Number 06059C0427J), the Project is within Zone X (Area of Minimal Flood Hazard). Based on the Caltrans District Climate Change Vulnerability Assessment Map (Caltrans 2025b), the 100-year storm precipitation depth in the Project area is expected to increase by up to 2.8 percent in 2025, up to 3.6 percent in 2055, and up to 3.5 percent by 2085. This indicates heavier rainfall during storm events. Average annual rainfall in the Project area is about 2.95 inches, mainly falling during the winter months of January to March (Caltrans 2025a). Accordingly, even a 10 percent increase in precipitation in the Project area would amount to only a fraction of an inch more rainfall.

Therefore, it is expected that the Project would be adapted to the anticipated changes in storm precipitation under climate change.

Wildfire

The Project is in a highly urbanized area that is not designated as a fire hazard severity zone based on Office of the State Fire Marshal mapping and applicable local general plans. The Project area does not include vegetation, topography, or fuel conditions typically associated with wildland fire risk. Consistent with Caltrans climate vulnerability mapping, wildfire risk in the Project area is considered low through 2085. Accordingly, the Project is not expected to be substantially affected by wildfire and is considered resilient to future wildfire conditions.

Temperature

The Caltrans District 12 Climate Change Vulnerability Assessment Map (Caltrans 2025b) indicates temperature changes during the Project's design life. Based on the map, the average minimum air temperature in the Project area is projected to increase by up to 2.1 degrees Fahrenheit (°F) by 2025, by up to 4.6 °F by 2055, and by up to 7.2 °F by 2085. The average maximum temperature over 7 consecutive days in the Project area is projected to increase by up to 1.8 °F by 2025, by up to 4.9 °F by 2055, and by up to 8.8 °F by 2085. Therefore, the overall minimum and maximum daily temperatures in the Project area are projected to continue to increase from 2022 to 2085.

Temperature can affect pavement performance, and changes in temperature can cause blowups, buckling, and rutting, affecting the pavement's roadway life. FHWA's Long-Term Pavement Performance program shows that 36 percent of total damage to flexible pavements and 24 percent of total damage to rigid pavements is caused by environmental factors. Pavements are designed based on the typical historical climatic conditions for the Project area. However, as weather changes occur due to climate change, historical climatic conditions may no longer accurately represent future environmental conditions.

Temperature affects the choice of pavement materials, the design of foundations and retaining walls in terms of ground moisture conditions, and the need for expansion/ contraction of bridge joints. The changes in temperature in the Project area help determine the selection of the pavement binder grade and material. A binder must be selected that can maintain pavement integrity under both extreme cold and heat conditions. Based on the projected temperature increase in the Project area, the binder will need to allow the pavement to maintain integrity under high temperatures. The temperature increase should also be considered when determining the expansions and contraction allowances for bridge joints. Higher average temperatures can affect flexible pavement; increased maximum pavement temperatures increase the potential for rutting and shoving, requiring more rut-resistant asphalt mixtures. This may require raising high-temperature asphalt binder grades, increasing the use of the binder polymerization, and/or improving the aggregate structure in asphalt mixtures. Higher average temperatures can also increase the age hardening of the asphalt binder in flexible pavements. To mitigate this, binders that will age more slowly may be used or

projects may expand the use of asphalt pavement preservation techniques to reduce binder aging. During extreme heat waves, there is also an increased potential for asphalt rutting and shoving to flexible pavement. To mitigate this, **CC-1** and **CC-2** should be utilized, while considering that the historical basis for selecting binder grades may no longer be valid. Higher average temperatures can also affect rigid pavement, as higher temperatures increase the potential for concrete temperature-related curling and moisture warping. To mitigate this, projects will need to factor in more consideration for the concrete coefficient of thermal expansion and drying shrinkage. Projects may need to incorporate design elements to reduce damage from thermal effects, such as through using shorter joint spacing, thicker slabs, less rigid support, and enhanced load transfer. Additionally, higher extreme maximum temperatures, such as a during a heat wave, will increase the risk of concrete pavement blowups on rigid pavement, due to excessive slab expansion. To mitigate this, pavement design should use shorter joint spacing in the new design and keep joints clean. In extreme cases, projects should install expansion joints in existing pavements.

Based on the projected temperature increase, the Project will likely have to assess ground conditions, as less water can alter the design factors for foundations and retaining walls. If extreme high temperatures are also accompanied by drought, there is increased potential for subgrade shrinkage, which should be considered for the pavement design. Any landscaping and vegetation will need to withstand higher temperatures. Additionally, extreme temperatures could cause pavement discontinuities and deformations, which could lead to more frequent maintenance. As there is a substantial projected temperature increase in the Project area, worker safety will be affected if employees spend extended time outside in high temperatures, such as during maintenance work. To ensure worker safety in higher extreme temperatures, more work may be required to be conducted at night, affecting construction and maintenance scheduling.

Because of the long-term timeframe of these future temperature changes and the uncertainty in exact magnitude, phased adaptation options or short-term actions can be used until it is clear how climate conditions are changing. One short-term strategy would be to utilize perpetual pavement, a thick asphalt layer with multiple layers of varying levels of stiffness. The surface layer could then easily be replaced as needed to accommodate changes to temperature and climate over time.

Project-level Climate Change Adaptation and Mitigation Strategies

The following adaptation measures will be implemented to reduce the effects of climate change on the Project.

CC-1 Adjust the pavement binder and mix design specifications to better match expected future environmental conditions. Move to stiffer asphalt grades and use slower-aging binders as needed to address increased temperatures and projected temperature change.

CC-2 Adjust the pavement structural design to account for temperature and climatic changes. Incorporate design elements, like shorter joint spacing and others,

to reduce damage from high temperatures. For concrete pavements, robust designs that limit moisture damage and shrinkage are a good alternative. Stabilized subbases and base materials may be a good alternative to unbound bases especially in areas where the groundwater table may rise or precipitation is increasing.

3.4 SENATE BILL 743/INDUCED DEMAND ANALYSIS

3.4.1 Regulatory Setting

SB 743 (2013) amended CEQA to allow the Governor's Office of Planning and Research to develop new guidelines under CEQA establishing alternative metrics to levels of service for the analysis of transportation impacts. On December 28th, 2018, the Office of Administrative Law approved the amendments to the CEQA Guidelines including changes related to SB 743. The amended CEQA Guidelines add a new section on determining the significance of transportation impacts, and generally specify VMT as the most appropriate measure of transportation impacts. In 2020, Caltrans prepared guidance documents for the implementation of SB 743 and adopted VMT as the CEQA transportation metric. These documents, the "Transportation Analysis Framework" and "Transportation Analysis under CEQA," along with other information can be found on the Caltrans SB 743 website. In addition, a Caltrans Headquarters memorandum documenting review of the Project's VMT methodology and results is included in Appendix H.

This Project is not among the types of projects identified in Section 5.1.1 of the Transportation Analysis under CEQA as likely to lead to a measurable and substantial increase in VMT. The Project consists primarily of interchange ramp reconfiguration and operational improvements, along with TSM/TDM features, and does not include the addition of freeway through lanes or other capacity-enhancing improvements typically associated with induced travel demand at the regional level. The Project would not result in substantial changes in traffic demand or travel patterns; therefore, an induced demand analysis is not required.

3.5 WILDFIRE

3.5.1 Regulatory Setting

SB 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection (CAL FIRE) to develop amendments to the "CEQA Checklist" for the inclusion of questions related to fire hazard impacts for projects located on lands classified as Very High Fire Hazard Severity Zones (FHSZs). The 2018 updates to the CEQA Guidelines expanded this to include projects "near" these Very High FHSZs.

Wildfire risk in California is addressed through statewide mapping, land use planning, and emergency response coordination. CAL FIRE identifies FHSZs within State

Responsibility Areas (SRAs) and Local Responsibility Areas (LRAs) to guide planning and risk reduction efforts in areas susceptible to wildfire.

At the state level, CAL FIRE is responsible for identifying FHSZs and managing wildfire risk in SRAs. In addition, ARB and other state agencies regulate emissions and construction practices that may indirectly relate to wildfire risk.

At the local level, general plans and safety elements for Laguna Hills, Lake Forest, Laguna Woods, and Mission Viejo include policies and strategies to reduce wildfire risk, address emergency response and evacuation planning, and guide development in fire-prone areas.

3.5.2 Affected Environment

The Project is within the I-5 transportation corridor, a highly urbanized area. The surrounding environment consists of commercial, industrial, and residential land uses; it does not include the brush- or grass-covered areas typically associated with wildfire risk.

A review of the City of Laguna Woods General Plan Safety Element (City of Laguna Woods 2014), City of Laguna Hills Safety Element (City of Laguna Hills 2022), and City of Mission Viejo General Plan Public Safety Element (City of Mission Viejo 2009) found that the Project site is not within an SRA or a Very High FHSZ. The relatively flat topography and the absence of wildland fuel further limit the potential for wildfire occurrence or spread within the Project area.

3.5.3 Environmental Consequences

The Project is not within or near an SRA or a Very High FHSZ. The surrounding area is highly urbanized and lacks the vegetation and topography typically associated with wildfire risk.

Because the Project is within an existing transportation corridor and a non-fire hazard area, it would not increase wildfire risk or result in wildfire-related impacts under any of the Build Alternatives.

3.5.4 Avoidance, Minimization, and/or Mitigation Measures

Because the Project would not result in impacts related to wildfire, no avoidance, minimization, or mitigation measures are required.

3.6 CUMULATIVE IMPACTS

3.6.1 Regulatory Setting

Under CEQA (Guidelines Section 15355), “cumulative impacts” refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Cumulative impacts on resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts.

The cumulative impact analysis methodology utilized was based on the eight-step process set forth in the Caltrans *Standard Environmental Reference (SER) Guidance for Preparers of Cumulative Impact Analysis* (2005).

Table 3.6-1 lists local planned projects considered in this cumulative impact analysis. The locations of these projects are shown on Figure 2.2.1-2, *Current and Future Development Projects*, in Section 2.2.1, Existing and Future Land Use.

Table 3.6-1. Cumulative Project List

ID #	Name	Location	Project Description	Status
Development Projects				
#2	Use Permit UP 07-25-5819	26336 Rockfield Blvd 22865, 22861, 22859 Lake Forest Drive Lake Forest, CA	Expansion of the existing Subaru vehicle dealership. The project includes, but is not limited to, a new six-level parking structure with a service center on the ground level, a new car wash, and an addition and facade remodel to the main sales building.	**Proposed.** A use permit application has been submitted to the city.
#3	The Tiller House (Laguna Hills Inn)	23061 Avenida De La Carlota Laguna Hills, CA	The project is a renovation project to an existing hotel that includes façade renovation and a ground floor addition of 1,306 square feet to include a lobby waiting area and seating for food consumption and business.	**Constructed.** The project was approved in 2022 and renovation was completed in 2024.
#4	Site Development Permit 07-25-5817	23221 Lake Center Dr Lake Forest, CA	Conversion of Sammy's Original into a medical office for Head and Neck Associates of Orange County. The project would involve the addition of approximately 1,150 square feet and an exterior façade remodel.	**Proposed.** A site development permit application has been submitted to the city.
#5	Lake Forest Redevelopment Project	Southwest corner of the El Toro Road and Rockfield Boulevard intersection in Lake Forest, CA	The project would modify the existing shopping center/strip mall on the southwest corner of El Toro Road and Rockfield Boulevard. The proposed land uses for the redevelopment of this property include residential and retail.	**Proposed.** The project is currently in the planning phase.
#6	Site Development Permit 07-24-5724 Chase Mixed-Use	23861 El Toro Rd Lake Forest, CA	Demolition of the existing Arby's/The Pub Restaurant building to construct a new five-level residential building with 165 units, approximately 3,275 square feet of retail, and a five-level parking garage. Conversion of the existing Chase Bank building into a hotel with surface parking and construction of a four-story hotel connected via a passageway/patio to the existing Chase Bank building.	**Proposed.** A site development permit application has been submitted to the city.

ID #	Name	Location	Project Description	Status
#7	The Village at Laguna Hills	24155 Laguna Hills Mall Laguna Hills, CA	The Village at Laguna Hills project would redevelop the former Laguna Hills Mall property, a 68-acre site. The proposed project would include restaurants, parks, entertainment, shopping, and living spaces.	**Proposed.** The redevelopment plan was originally approved in 2022, but has been revised due to changing market conditions. Approvals for the new redevelopment plan is anticipated to be completed in late 2025 or early 2026, followed by a 6- to 12-month process to obtain building permits to start construction.
#8	Oakbrook Plaza	24422 Avenida De La Carlota Laguna Hills, CA	This is a new 240-unit multi-residential development project that would be on a 4.16-gross-acre site. The total size of the development, including parking, would be 572,421 square feet.	**Proposed.** The city is currently processing the developer's application.
#9	Honali Plaza Remodel	24721–24781 Alicia Parkway Laguna Hills, CA	The project is a remodeling of a 85,000-square-foot neighborhood shopping center.	**Completed.** The project was approved in 2022 and construction has been completed.
#10	Dutch Bros. Coffee	24791 Alicia Parkway Laguna Hills, CA	The project is a 950-square-foot coffee shop with a drive-thru.	**Constructed.** The project was approved in 2024 and construction has been completed.
#11	Laguna Hills Plaza Remodel	24791-24881 Alicia Parkway Laguna Hills, CA	The project is a remodeling of an existing shopping plaza. The proposed building area is 101,413 square feet.	**Under Construction.** The project was approved in 2023 and is currently under construction.
Transportation Projects				
#1	I-405 Multi-Asset Project	I-5 to Harbor Boulevard in the cities of Irvine and Costa Mesa, and a portion of unincorporated Orange County	Extend life expectancy of pavement, improve safety and efficiency for all modes of travelers and maintenance crews, enhance traffic operation, manage congestion, and provide ability to collect, analyze, and utilize data for systems performance along the I-405 corridor.	**Under Construction.** Estimated completion of construction is March 2027.

Source: Caltrans 2026a

3.6.2 Resources Considered for Cumulative Impact Analysis

As specified in the Caltrans guidance, if Build Alternatives 1 and its design variation (Build Alternative 1a) or 3 would not result in direct or indirect impacts on a resource, it would not contribute to a cumulative impact on that resource and need not be evaluated with respect to potential cumulative impacts.

All the projects listed in Table 3.6-1 are proposed to complete construction prior to the start of construction of Build Alternatives 1 and its design variation (Build Alternative 1a) and 3; therefore, most of the resources would result in no cumulative impacts. Resources for which cumulative effects are not anticipated or for which the impacts were already analyzed in a cumulative context (e.g., traffic, air quality, noise) are briefly discussed below.

- **Coastal Zone:** The Study Area is not within the Coastal Zone. Therefore, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not contribute to cumulative adverse impacts on coastal zones.
- **Wild and Scenic Rivers:** No wild and scenic rivers are within the Study Area. Therefore, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not contribute to cumulative adverse impacts on wild and scenic rivers.
- **Farmlands/Timberlands:** No farmlands or timberlands are within the Study Area. Therefore, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not contribute to cumulative adverse impacts on farmlands or timberlands.
- **Mineral Resources:** There are no mineral resources within or adjacent to the Study Area. Therefore, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not contribute to cumulative adverse impacts on mineral resources.
- **Land Use:** Build Alternative 1 and its design variation (Build Alternative 1a) would result in minor temporary and permanent changes in general plan land use designations as a result of the incorporation of land not currently designated for transportation uses into the I-5/El Toro Road Interchange. Partial acquisitions may result in noncompliance with existing development standards, such as loss of landscaping or setbacks. As outlined in Avoidance and Minimization Measure **LU-1**, design modifications will be considered during final design of the Project to avoid or minimize noncompliance with development standards, as feasible. If it is determined that noncompliance is unavoidable, Caltrans will coordinate with the Cities of Laguna Hills, Laguna Woods, and Lake Forest to obtain landscaping or setback variances for properties where the Project would reduce the required amount of landscaping below the applicable municipal landscaping and setback requirements. In addition, parcels acquired by the Build Alternatives would be converted from their existing land use to transportation land use. With implementation of Avoidance and Minimization Measure **REL-1** (refer to Section 2.2.5, *Relocations and Real Property Acquisitions*), property acquisition will be conducted in compliance with the requirements of the Uniform Relocation

Assistance and Real Property Acquisition Policies Act of 1970. Additionally, with implementation of Avoidance and Minimization Measure **LU-3**, Caltrans will coordinate with the Cities of Lake Forest, Laguna Hills, and Laguna Woods to reflect the modification of land use designations for properties that will be acquired for the Project that are not currently designated for transportation uses within the Land Use Elements of their respective general plans. As a result, Build Alternative 1 and its design variation (Build Alternative 1a) would not contribute to cumulative effects on general plan land use designations. In addition, Build Alternative 1 and its design variation (Build Alternative 1a) would not result in permanent direct or indirect temporary or permanent adverse impacts related to consistency with existing plans and policies, and, as a result, would not contribute to cumulative adverse impacts related to consistency with plans and policies. Build Alternative 3 would not result in any ground disturbance or other activities that would affect land use; therefore, no cumulative adverse impact on land use would occur.

- **Parks and Recreation:** Build Alternative 1 and its design variation (Build Alternative 1a) would result in the permanent acquisition of approximately 0.59 acre from Cavanaugh Park in Lake Forest. The acquisition would affect less than 10 percent of the park's total acreage. The City of Lake Forest is currently planning a separate park revitalization project that includes relocation and upgrading of park amenities. If implemented prior to Project construction, impacts would be limited primarily to vegetated areas because existing recreational facilities would have already been relocated. If the city project does not occur prior to construction, Avoidance and Minimization Measures **LU-4 (Section 4f-1)** and **LU-5 (Section 4f-2)** would be implemented to address impacts on park features, and the City of Lake Forest would be compensated for acquired parkland in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (**REL-1**). Because recreational opportunities would be maintained through implementation of these measures, and because the Project would not increase population or generate demand for additional recreational facilities, Build Alternative 1 and Build Alternative 1a would not make a cumulatively considerable contribution to adverse cumulative impacts on parks and recreation. Build Alternative 3 would not result in impacts on parks and recreational facilities and therefore would not contribute to cumulative recreational impacts.
- **Growth:** Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would improve existing and future traffic operation, reduce congestion, and accommodate existing and future planned growth that would occur with or without the Build Alternatives. Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 do not include growth or remove obstacles to growth in the area and; therefore, would not contribute to cumulative adverse impacts related to growth.
- **Community Impacts:** Build Alternative 1 and its design variation (Build Alternative 1a) would not require residential relocations, divide established neighborhoods, or substantially alter the character of surrounding communities.

Permanent impacts would be limited primarily to parking losses, property acquisitions, and changes associated with transportation improvements within an existing freeway corridor. The Project would also improve traffic operations and maintain pedestrian connectivity through Americans with Disabilities Act–compliant sidewalks, curb ramps, and crosswalks. Because the Project would not substantially alter population characteristics, housing availability, community facilities, or neighborhood cohesion, and would not contribute to the creation of physical barriers within the community, its contribution to cumulative impacts on community character and cohesion would not be cumulatively considerable. Build Alternative 3 would not result in impacts on community character and cohesion. Therefore, the Build Alternatives would not make a cumulatively considerable contribution to adverse cumulative impacts on community character and cohesion.

- **Relocations:** Build Alternative 1 and its design variation (Build Alternative 1a) would result in non-residential business displacements associated with property acquisitions. Relocation assistance would be provided in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (**REL-1**), and replacement properties are available within the replacement area. In addition, displaced businesses would receive relocation assistance and compensation consistent with applicable regulations. As a result, Build Alternative 1 and its design variation (Build Alternative 1a) would not contribute to cumulative adverse impacts related to relocations and real property acquisition. Build Alternative 3 would not require property acquisition or relocations; therefore, no cumulative adverse impacts related to relocations and real property acquisition would occur.
- **Utilities and Emergency Services:** Construction of Build Alternative 1 and its design variation (Build Alternative 1a) may result in temporary service disruptions to some utilities in the area; however, any potential impacts on utilities or utility users during construction would be minimized by implementation of Project Feature **PF-UES-3**. Although partial and full lane closures may be required during construction, closures and detours would be phased and coordinated with local jurisdictions and emergency service providers to maintain access and minimize disruption. This would be addressed by the implementation of Project Features **PF-UES-1** and **PF-UES-2**. In addition, the TMP would require coordination between the Orange County Sheriff's and Fire Departments (**PF-UES-2**). There is a potential for construction of the identified cumulative projects to occur simultaneously with Build Alternative 1 and its design variation (Build Alternative 1a). For those projects that are not Caltrans projects, those jurisdictions would implement their own measures to address short-term construction effects on utilities and emergency services. Because the construction schedule and all detours and closures would be coordinated internally within Caltrans and with local jurisdictions and emergency service providers, Build Alternative 1 and its design variation (Build Alternative 1a) would not contribute to cumulative adverse impacts on utility facilities or to the provision of emergency services. Build Alternative 3 would not result in any ground

disturbance or other activities that would affect utilities or emergency services; therefore, no cumulative adverse impact on utilities or emergency services would occur.

- **Traffic/Transportation:** Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would improve interchange traffic operations and pedestrian and bicycle facilities. The analysis of future traffic conditions in Section 2.2.7, *Transportation*, for 2035 (Opening Year) and 2055 (Horizon Year) is a cumulative analysis. The analysis considers traffic generated by existing and future planned land uses and the effect of future planned transportation improvements. This analysis determined that Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would result in improved traffic conditions as compared to the No-Build Alternative. Therefore, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not contribute to long-term cumulative adverse effects on traffic operations, and pedestrian and bicycle facilities. Short-term effects during construction are anticipated under Build Alternative 1 and its design variation (Build Alternative 1a); however, implementation of Project Feature **PF-TRA-1** would address short-term construction-related impacts on vehicular, pedestrian, and cycling movements. Build Alternative 3 would not result in any construction activities that would result in short-term construction effects.
- **Cultural Resources:** Construction of Build Alternatives 1 and its design variation (Build Alternative 1a) or 3 would not affect known cultural resources or cultural resources on or eligible for listing on the National Register of Historic Places. While the identified cumulative projects could affect cultural resources outside the Project limits, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not directly or indirectly affect any significant cultural resources and, therefore, would not contribute to cumulative adverse impacts related to cultural resources. While not anticipated, if cultural materials or human remains are discovered during construction, all earthmoving activity within and around the immediate discovery area would be diverted until a qualified archaeologist or the Orange County Coroner can assess the nature of the find. Project Feature **PF-CUL-1** addresses the possibility of discovery of cultural materials during construction. Project Feature **PF-CUL-2** addresses the possibility of discovery of human remains during construction. Additionally, Caltrans projects now require that Cultural Sensitivity Training be given to contractors prior to construction starting (**PF-CUL-3**). These impacts are site specific and would not combine with impacts from cumulative projects; therefore, there would be no cumulative adverse impacts related to cultural resources. Build Alternative 3 would not result in any construction activities that would result in construction-period effects on archaeological resources or human remains.
- **Hydrology and Floodplains:** No floodplains exist within the Study Area; therefore, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not encroach into any floodplains or substantially change the hydrology of the Study Area. Consequently, Build Alternatives 1 and its design variation (Build

Alternative 1a) and 3 would not contribute to cumulative adverse impacts on hydrology and floodplains.

- **Water Quality:** Runoff from the Study Area discharges to Aliso Creek and San Diego Creek watersheds, which could be affected by construction of Build Alternative 1 and its design variation (Build Alternative 1a). Any temporary construction-related impacts on Aliso Creek or San Diego Creek would be addressed through implementation of Project Features **PF-WQ-2** and **PF-WQ-3**, which require compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit and preparation of a Stormwater Pollution Prevention Plan (SWPPP), respectively. If dewatering is required, Project Feature **PF-WQ-7** will be implemented, which requires compliance with the General Waste Discharge Requirements (WDRs). Build Alternative 1 and its design variation (Build Alternative 1a) would have a net increase in impervious surfaces that would include the construction of permanent best management practices (BMPs), as described in Project Feature **PF-WQ-5**, to target pollutants of concern and reduce the volume and velocity of stormwater prior to discharge. Additionally, Project Features **PF-WQ-1**, **PF-WQ-4**, and **PF-WQ-6** will be implemented. Build Alternative 1 and its design variation (Build Alternative 1a) would comply with the requirements of the NPDES Construction General Permit, the Caltrans NPDES permit requirements, and the Caltrans Stormwater Management Plan, and would implement BMPs to target pollutants of concern in stormwater runoff during construction and operation. In addition, all projects within the Aliso Creek and San Diego Creek watershed would be required to comply with applicable permit requirements to reduce impacts on water quality during construction and operation. As a result, Build Alternative 1 and its design variation (Build Alternative 1a) would not contribute to cumulative adverse impacts related to water quality. Alternative 3 only includes technological improvements and no physical or geometric improvements are proposed; therefore, no cumulative adverse impact on water quality would occur.
- **Geology/Soils/Seismic/Topography:** Construction activities under Build Alternative 1 and its design variation (Build Alternative 1a) would disturb soil. Temporary effects of those activities would include soil compaction and an increased possibility of soil erosion. Build Alternative 1 and its design variation (Build Alternative 1a) are expected to have minimal effect on geologic and topographic conditions. However, design and construction of Build Alternative 1 and its design variation (Build Alternative 1a) could be constrained by seismic shaking, landslides, slope instability, liquefaction, erosion, and corrosion.

  Due to shallow soil variability and groundwater within the Project limits, it is recommended that special construction methods for retaining walls and soundwalls be considered. As stipulated in Avoidance and Minimization Measure **GEO-2**, a site-specific geotechnical investigation and laboratory testing would be performed for the proposed embankments, roadways, and structures to develop appropriate subsurface profiles for design and address constructability issues.

  There are no known active or potentially active surface faults within the Project limits, nor is the Project in an Alquist-Priolo mapped area. Therefore, the

potential for ground rupture is considered to be low. However, the Project is subject to seismic shaking, as it is in the seismically active region of Southern California and is seismically vulnerable based on the calculated peak ground acceleration measurements. As such, Build Alternative 1 and its design variation (Build Alternative 1a) would be designed and constructed in accordance with Caltrans' current highway and structure seismic design standards, as discussed in Project Feature **PF-GEO-1**, which would minimize potential impacts. With implementation of Project Feature **PF-GEO-1**, no direct or indirect adverse long-term impacts due to seismic shaking would occur as a result of Build Alternative 1 and its design variation (Build Alternative 1a).

The southern portion of the Project is within an identified liquefaction zone. As stipulated in Avoidance and Minimization Measure **GEO-2**, a site-specific subsurface investigation and evaluation of liquefaction will be performed during the design phase for the Project, following identification of the preferred alternative, to address potential impacts of liquefaction on bridge, wall, and embankment foundations. The Project will follow Caltrans' latest design requirements to minimize any potential effects related to liquefaction and seismically induced settlement. With implementation of Project Feature **PF-GEO-1** and Avoidance and Minimization Measure **GEO-2**, no direct or indirect adverse long-term impacts are expected to occur as a result of Build Alternative 1 and its design variation (Build Alternative 1a).

Project Feature **PF-GEO-1** and Avoidance and Minimization Measure **GEO-2** would address and avoid and/or minimize short- and long-term geotechnical effects under Build Alternative 1 and its design variation (Build Alternative 1a). Because Build Alternative 1 and its design variation (Build Alternative 1a) would not result in effects related to geology, soils, seismicity, and topography, they would not contribute effects related to those parameters. Therefore, Build Alternative 1 and its design variation (Build Alternative 1a) would not contribute to cumulative adverse effects to these resources.

Build Alternative 3 proposes technological improvements, and no physical or geometric improvements requiring soil-disturbing activities would occur within the Project limits. Therefore, this alternative is not expected to affect geologic or topographic conditions or be affected by fault rupture or other seismic hazards within the Project limits. Consequently, Build Alternative 3 would not contribute to cumulative adverse effects on these resources.

- **Paleontological Resources:** Project construction under Build Alternative 1 and its design variation (Build Alternative 1a) are expected to affect geologic units with high potential for paleontological resources and therefore could result in impacts on any resources harbored within, if present. A Paleontological Mitigation Plan (PMP) will be prepared by a qualified paleontologist, a curation agreement will be obtained if paleontological resources warranting preservation are collected, and paleontological monitoring will be implemented during ground-disturbing activities in areas of high paleontological sensitivity in order to address impacts on paleontological resources, should they be present, as identified in

Project Feature **PF-PAL-1** and Mitigation Measure **PAL-1**. Impacts on paleontological resources, should they occur, would not be substantial.

Build Alternative 1 and its design variation (Build Alternative 1a) and other projects in the vicinity of the Project limits could disturb sensitive sediments that may contain paleontological resources, thus contributing to cumulative impacts on paleontological resources. Projects such as Lake Forest Redevelopment Project, The Village at Laguna Hills, and Oakbrook Plaza would potentially excavate in previously undisturbed areas and could, in conjunction with nearby construction requiring ground disturbance, contribute cumulatively to impacts on paleontological resources. However, impacts on paleontological resources as a result of other projects would depend on the depth of excavation, if excavation is required, and the presence of sensitive sediments. Additionally, the Project limits and the surrounding environment are urbanized and largely underlain by disturbed sediments (artificial fill). The potential to encounter paleontological resources would be highly dependent on factors mentioned previously, and the potential to encounter paleontological resources during construction activities would be minimal. Build Alternative 1 and its design variation (Build Alternative 1a), in combination with other planned projects, would not result in substantial cumulative impacts on paleontological resources.

Build Alternative 3 proposes technological improvements, and no physical or geometric improvements requiring soil-disturbing activities would occur within the Project limits. Therefore, this alternative is not expected to affect paleontological resources. Consequently, Build Alternative 3 would not contribute to cumulative adverse effects on these resources.

- **Hazardous Waste/Materials:** In general, only projects occurring adjacent or very close to Build Alternative 1 and its design variation (Build Alternative 1a) were considered for this cumulative impact analysis due to the limited potential impact area associated with the release of hazardous materials into the environment. However, no adverse impacts related to hazardous waste resulting from Build Alternative 1 and its design variation (Build Alternative 1a) have been identified. Implementation of Avoidance and Minimization Measure **HAZ-1** prior to construction activities would reduce potential impacts from sites with a history of contamination. Additionally, implementation of Project Features **PF-HAZ-1** and **PF-HAZ-3** would address potential exposure impacts associated with previously unidentified contamination by providing directives in the event that soil and/or groundwater contamination is encountered during construction activities. Moreover, development of related projects in contaminated areas would require remediation in compliance with state and federal environmental regulations, consequently improving overall environmental quality.

  Demolition of structures to occur as part of Build Alternative 1 and its design variation (Build Alternative 1a), along with demolition activities of related projects, could expose the surrounding environment (e.g., residents, schools) to hazardous materials (i.e., asbestos and lead). However, implementation of Avoidance and Minimization Measures **HAZ-4** and **HAZ-5** would address these risks. Compliance with applicable regulations along with implementation of

Avoidance and Minimization Measures **HAZ-4** and **HAZ-5** would ensure that the surrounding environment would not be exposed to risks related to hazardous material releases during demolition activities. Implementation of Build Alternative 1 and its design variation (Build Alternative 1a) would not cumulatively contribute to hazardous materials or hazardous impacts in the region.

Alternative 3 only includes technological improvements and no physical or geometric improvements are proposed; therefore, no cumulative adverse impact on hazardous materials or waste would occur.

- **Air Quality:** Construction activities for Build Alternative 1 and its design variation (Build Alternative 1a) would not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and Project-level conformity analysis. During construction, short-term degradation of air quality may occur because of the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. However, with implementation of Project Features **PF-AQ-1** and **PF-AQ-2** and Avoidance and Minimization Measures **AQ-1** and **AQ-2**, construction-related emissions would not be substantial and are unlikely to contribute to cumulative air quality issues. Additionally, cumulative construction impacts for projects under concurrent development in the vicinity of Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 have been included in air quality and GHG modeling as indicated in the Supplemental Air Quality Report (Caltrans 2025).

  The emissions analysis indicates that operation of Build Alternative 1 and its design variation (Build Alternative 1a) would generate approximately the same quantities of emissions as under the No-Build Alternative. Compared to existing conditions, operation of Build Alternative 1 and its design variation (Build Alternative 1a) and the No-Build Alternative under all future-year conditions would slightly decrease reactive organic gas, nitrogen oxides (NO_X), and carbon monoxide (CO) emissions. Emissions of particulate matter 10 microns or less in diameter (PM_{10}) and particulate matter 2.5 microns or less in diameter ($PM_{2.5}$) would be similar to those under existing conditions. Build Alternative 1 and its design variation (Build Alternative 1a) would not generate emission quantities that would have a significant effect on air quality compared to existing and No-Build conditions. Therefore, Build Alternative 1 and its design variation (Build Alternative 1a) would not contribute to a cumulative air quality impact.

  Build Alternative 3 only includes technological improvements; no physical or geometric changes would occur. Accordingly, Build Alternative 3 would not result in any permanent changes to VMT or temporary construction emissions. As such, Build Alternative 3 would have no air quality effect and implementation would not cumulatively contribute to air quality impacts in the region.

- **Noise:** During construction of Build Alternative 1 or its design variation (Build Alternative 1a), noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Standard construction equipment is expected to generate maximum noise levels ranging from 74 to 90

A-weighted decibels (dBA) at a distance of 50 feet, while pile driving would generate maximum noise levels of approximately 101 dBA at 50 feet. Each piece of construction equipment would be a localized noise source (i.e., point source); therefore, noise produced by construction equipment would be reduced at a rate of about 6 decibels (dB) per doubling of distance. The closest sensitive receptors are within 50 feet of construction areas for each Build Alternative. Sensitive receptor locations may be subject to short-term noise higher than 86 dBA maximum sound level (L_{max}) generated by construction activities along the Project limits. Project Feature **PF-N-1** requires compliance with Caltrans' Standard Specifications Section 14-8.02 and would address construction noise impacts on sensitive land uses adjacent to the Project limits. The noise level from the contractor's operations between the hours of 9:00 p.m. and 6:00 a.m. shall not exceed 86 dBA L_{max} at a distance of 50 feet. If needed based on public comments received during the draft environmental document public review, a noise control plan may be prepared to minimize construction noise including backup alarms.

In addition, the analysis of future noise conditions related to the Build Alternatives for 2035 (Opening Year) and 2055 (Horizon Year) is a cumulative analysis and considers all the related projects. The analysis considers existing and future planned land uses and the effect of future planned transportation improvements. Five noise barriers and one noise barrier system were analyzed along the Project alignment for Build Alternative 1 and its design variation (Build Alternative 1a). Each analyzed barrier was found to be feasible (meeting the 5-dB insertion loss requirement) and meet the noise reduction design goal of 7 dBA. However, as discussed in the Supplemental Noise Abatement Decision Report, noise barriers NB234A1 and NB235A1 are proposed as part of Build Alternative 1 and its design variation (Build Alternative 1a). Noise barrier NB234A1 would replace an existing noise barrier segment that would be removed to accommodate roadway widening improvements and is currently recommended at a height of 18 feet, with reasonable barrier heights at 18 and 22 feet. Noise barrier NB235A1 has reasonable barrier heights ranging from 16 to 22 feet. Final barrier heights will be determined prior to approval of the Final Environmental Document. With implementation of noise abatement, Build Alternative 1 and its design variation (Build Alternative 1a) would not contribute to a cumulative noise impact.

Build Alternative 3 only includes technological improvements; no physical or geometric changes would occur. Accordingly, Build Alternative 3 would not result in any permanent changes to noise or temporary construction noise. As such, Build Alternative 3 would have no noise effect and implementation would not cumulatively contribute to noise impacts in the area.

- **Energy:** Although construction activities under Build Alternative 1 and its design variation (Build Alternative 1a) would require energy consumption, the construction fuel requirements would be temporary and would not result in a permanent increase in statewide annual energy consumption. Furthermore, Project Feature **PF-AQ-1**, which requires compliance with all applicable laws and regulations related to air quality, including restrictions on idling of construction

vehicles, would be employed and reduce energy consumption during construction. In addition, Standard Project Measure **PF-TRA-1** requires the development of a TMP, which would reduce energy consumption by minimizing construction-related traffic delays and associated vehicle idling and fuel use. Energy consumption would also be reduced during construction with implementation of Avoidance and Minimization Measures **AQ-1 and AQ-2**, which require solar-powered construction signal/message boards and, to the extent feasible, use of onsite electricity from power poles rather than temporary diesel or gasoline generators. Furthermore, Avoidance and Minimization Measure **GHG-1** requires the use of energy-efficient lighting, which would further reduce energy consumption. Operation of Build Alternative 1 and its design variation (Build Alternative 1a) would consume approximately the same quantity of direct energy as under the No-Build Alternative. Therefore, Build Alternative 1 and its design variation (Build Alternative 1a) would not contribute to cumulative impacts related to energy consumption.

Build Alternative 3 only includes technological improvements; no physical or geometric changes would occur. Accordingly, Build Alternative 3 would not result in any permanent changes to VMT or temporary construction energy use. As such, Build Alternative 3 would have no impact on energy resources and implementation would not cumulatively contribute to energy impacts in the region.

- **Natural Communities:** Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not result in direct or indirect impacts on natural communities. Willow riparian habitat and coastal sage scrub habitat are within the 500-foot buffer but outside of the Project site and impact area. Both habitat types are associated with Aliso Creek, which is well outside the construction footprint. In addition, Project Feature **PF-BIO-1** and Avoidance and Minimization Measures **BIO-1** and **BIO-2** will be implemented to delimit Environmentally Sensitive Areas, control invasive species, and provide onsite training. As a result, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not contribute to cumulative adverse effects related to natural communities and, therefore, this environmental topic was not evaluated further in this analysis.
- **Wetlands and Other Waters:** Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not result in direct or indirect impacts on jurisdictional waters. Aliso Creek is outside of the Project site and impact area. Features 1 and 2 are outside of the impact area, and no impacts are anticipated. In addition, Avoidance and Minimization Measures **BIO-1** and **BIO-2** will be implemented to delimit Environmentally Sensitive Areas and provide onsite training. As a result, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not contribute to cumulative adverse effects related to wetlands and other waters and, therefore, this environmental topic was not evaluated further in this analysis.
- **Plant Species:** Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not result in direct or indirect impacts on special-status plant species. Potential habitat for special-status plant species only occurs within the 500-foot buffer of the biological study area (BSA) in areas where no impacts are

anticipated. In addition, Project Feature **PF-BIO-1** and Avoidance and Minimization Measures **BIO-1** and **BIO-2** will be implemented to delimit environmentally sensitive areas, control invasive species, and provide onsite training. As a result, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not contribute to cumulative adverse effects related to plant species and, therefore, this environmental topic was not evaluated further in this analysis.

- **Animal Species:** Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not result in direct or indirect impacts on special-status animal species. Potential habitat for these species is primarily associated with Aliso Creek and adjacent habitats, which are within the 500-foot buffer of the BSA but 2,700 feet outside the impact area. Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not result in direct impacts on nesting birds protected under the Migratory Bird Treaty Act and California Fish and Game Code provided that measures are implemented to avoid impacts during the nesting season (February 1–September 30). In addition, Project Features **PF-BIO-1**, **PF-BIO-2**, and **PF-BIO-3** and Avoidance and Minimization Measure **BIO-2** will be implemented to delimit environmentally sensitive areas, provide onsite training, avoid nesting birds, and provide biological monitoring. As a result, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not contribute to cumulative adverse effects related to animal species and, therefore, this environmental topic was not evaluated further in this analysis.
- **Threatened and Endangered Species:** Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not result in direct or indirect impacts on federally or state-listed species. Potential habitat for listed species is limited to Aliso Creek and adjacent habitats, which are within the 500-foot buffer of the BSA but outside the impact area. Based on the analysis in the Natural Environment Study (Minimal Impacts), a No Effect determination has been made for all listed species and their habitats. In addition, Project Features **PF-BIO-2** and **PF-BIO-3** and Avoidance and Minimization Measures **BIO-1** and **BIO-2** will be implemented to delimit environmentally sensitive areas, provide onsite training, avoid nesting birds, and provide biological monitoring. As a result, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not contribute to cumulative adverse effects related to threatened and endangered species and, therefore, this environmental topic was not evaluated further in this analysis.
- **Invasive Species:** Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not substantially increase the potential for the spread of invasive species. Compliance with Project Feature **PF-BIO-1** would address impacts related to invasive species. Therefore, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not contribute to cumulative adverse effects related to invasive species.

3.6.3 Resource-by-Resource Cumulative Impact Analysis

3.6.3.1 Visual/Aesthetics

The Resource Study Area (RSA) for visual/aesthetics is the vicinity surrounding the Project limits. The RSA is in an urban area and surrounds commercial, residential, civic, community park/open space, and transportation uses. The location of the Build Alternatives establishes the context for determining the impact of proposed changes to the existing visual setting. Existing ornamental landscaping and mature trees are present within the Project area. Distant views of the Santa Ana Mountains and the San Joaquin Hills are available to the northeast and west, respectively. Overall, the visual character and visual quality associated with Build Alternative 1 and its design variation (Build Alternative 1a) are considered moderate.

Visual impacts as a result of the construction and implementation of Build Alternative 1 and its design variation (Build Alternative 1a) include key views that represent public views from both public right of way and publicly accessible areas within and adjacent to the Project limits, as indicated in the Supplemental Visual Impact Assessment (Caltrans 2026b). Visual impacts related to Build Alternative 1 and its design variation (Build Alternative 1a) would occur in the vicinity of the Project limits.

Build Alternative 3 only includes technological improvements; no physical or geometric changes would occur. Accordingly, Build Alternative 3 would not result in any permanent or temporary visual impacts. As such, Build Alternative 3 would have no impact on visual resources and implementation would not cumulatively contribute to visual impacts in the region. Therefore, this alternative is not discussed further.

Under Build Alternative 1 and its design variation (Build Alternative 1a), the scale of construction would cause visual disruptions on I-5 and adjacent areas for approximately 2.5 to 3 years, and would include night lighting, dust, temporary structures, hauling of materials, contractor staging areas, tree removals, and detours. Lane closures may increase the duration that motorists would view the surrounding landscapes, which could increase their sensitivity and the Project's overall visual impact. The visual impact would be the greatest immediately following Project completion because some land would appear bare; new concrete structures would appear striking; and some views would be slightly impaired from the structures, barriers, and walls.

As it is not feasible to analyze all the views in which Build Alternative 1 and its design variation (Build Alternative 1a) would be seen, key views were selected that would most clearly demonstrate the change in the visual resources of Build Alternative 1 and its design variation (Build Alternative 1a). Key views also represent the viewer groups that have the highest potential to be affected by the Build Alternatives considering exposure and sensitivity. Analysis of Build Alternative 1 and its design variation (Build Alternative 1a) visual impact key views indicates that the visual impact would have a slightly adverse visual change and very low adverse visual sensitivity.

Build Alternative 1 and its design variation (Build Alternative 1a) would involve improvements to the I-5/El Toro Road Interchange, as well as ancillary improvements to local roadways and the construction of replacement soundwalls at various locations. As discussed above, the location of Build Alternative 1 and its design variation (Build Alternative 1a) establishes the context for determining the impact of proposed changes to the existing visual setting. This includes projects in the immediate vicinity of the Project limits that may be visible to travelers along Avenida De La Carlota in conjunction with Build Alternative 1 and its design variation (Build Alternative 1a).

Build Alternative 1 and its design variation (Build Alternative 1a) and the cumulative development projects listed in Table 3.6-1 are within a highly developed area. As shown in Table 3.6-1, there are six projects (i.e., 26336 Rockfield Blvd, Site Development Permit 07-25-5817, Lake Forest Redevelopment Project, Site Development Permit 07-24-5724 Chase Mixed-Use, The Village at Laguna Hills [formerly Laguna Hills Mall], and Oakbrook Plaza) in the immediate vicinity of the Project limits. All six projects would be similar in nature to the existing development at these locations. Although viewers traveling on Avenida De La Carlota may notice visual changes as a result of Build Alternative 1 and its design variation (Build Alternative 1a) and aforementioned cumulative development, Avenida De La Carlota is not a designated scenic corridor. The cumulative projects would be consistent with the intended land use designation for the area (the Laguna Hills General Plan designates these sites as “Village Commercial,” which allows for commercial mixed-use residential development). Therefore, Build Alternative 1 and its design variation (Build Alternative 1a) and their respective impacts on key views would not cumulatively contribute to a change in character/quality. Consequently, the extent of impacts resulting from cumulative development would be moderate. With implementation of measures **VIS-1** through **VIS-5**, cumulatively considerable impacts resulting from implementation of Build Alternative 1 and its design variation (Build Alternative 1a) would be addressed.

3.7 CEQA ENVIRONMENTAL CHECKLIST

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words “significant” and “significance” used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as BMPs and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature

and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.7.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:

Question	CEQA Determination
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less Than Significant Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No Impact

3.7.1.1 CEQA Significance Determinations for Aesthetics

a) Have a substantial adverse effect on a scenic vista?

No Impact

The Build Alternatives would not have a substantial adverse impact on a scenic vista because the Project area does not include any scenic vistas. No impact would occur.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact

I-5 is not a designated State scenic highway within the Project area; therefore, scenic resources associated with a State Scenic Highway are not present within the Project area and no impact would occur.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant

As discussed in the Visual/Aesthetics section in Chapter 2, Build Alternative 1 and its design variation (Build Alternative 1a) would include the construction of a new structure

(e.g., bridge), a new sound wall, reduction of an existing parkway, and removal of mature trees. Build Alternative 1a also includes a new public street. Build Alternative 3 would not involve ground disturbance.

The Supplemental Visual Impact Assessment determined that overall, the visual effects of Build Alternative 1 and its design variation (Build Alternative 1a) would be slightly adverse but would not substantially degrade the existing visual character or quality of public views within the Project area. Views from the freeway would be diminished in quality due to the added bridge structure (i.e., height and new elements in the landscape) and views toward I-5 would also be affected.

Visual impacts would be greatest immediately following construction completion, when some areas would appear bare, new concrete structures would be visually prominent, and certain views would be partially impaired by structures, barriers, and sound walls. These impacts would diminish over time as the planting materials become established and as architectural features, colors, and aesthetic elements are fully implemented consistent with the Project corridor.

Build Alternative 1 and its design variation (Build Alternative 1a) includes context-sensitive design solutions, including architectural treatments for bridge and soundwall structures, and replacement of landscaping removed during construction with ornamental plantings and tree coverage to minimize visual impacts and maintain the Project area's visual character. In addition, **VIS-1** through **VIS-5** incorporate measures to minimize damage to existing vegetation, maintain visual consistency through compatible landscaping and design, require coordination with affected cities to maintain streetscape continuity, and minimize construction-related visual disturbance.

Additionally, Build Alternative 1 and its design variation (Build Alternative 1a) would not diminish the views that contribute to El Toro Road within the Project area being designated as a Landscape Corridor. El Toro Road within the Project area is designated as a Landscape Corridor under the County of Orange General Plan Scenic Highway Plan. Development within the corridor is intended to complement the Landscape Corridor and be consistent with the County of Orange General Plan.

Therefore, although Build Alternative 1 and its design variation (Build Alternative 1a) would introduce new visual elements, including a bridge structure, sound walls, and modifications to existing landscaping, the Project incorporates context-sensitive design features and landscaping treatments that would maintain the overall visual character and quality of public views within the Project area. Build Alternative 3 would not alter existing visual conditions. Consequently, the Build Alternatives would not substantially degrade the existing visual character or quality of public views of the site and its surroundings, and impacts would be less than significant. No mitigation is required.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact

The Build Alternatives would not include new lighting elements in an area in which there is currently no lighting. Operation of the Build Alternatives would not result in a substantial new source of light or glare. No impact would occur.

3.7.2 Agriculture and Forestry Resources

In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

Question	CEQA Determination
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	No Impact

3.7.2.1 CEQA Significance Determinations for Agriculture and Forestry Resources

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact

According to the California Department of Conservation, Division of Land Resources Protection, Farmland Mapping and Monitoring Program data, there is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance present within the Project area (California Department of Conservation 2022). Build Alternative 1 and its design variation (Build Alternative 1a) would occur within an existing developed transportation corridor and would not involve the conversion of farmland. Build Alternative 3 would not involve ground disturbance or conversion of land uses. Therefore, there would be no conversion of such farmland to non-agricultural uses with implementation of the Build Alternatives. There would be no impact, and no mitigation is required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact

The Project would not involve the permanent or temporary conversion of land zoned for agricultural use under Build Alternative 1 and its design variation (Build Alternative 1a), which would occur within an existing developed transportation corridor, or Build Alternative 3, which would not involve ground disturbance or changes in land use. The Project would not involve the permanent or temporary conversion of land zoned for agricultural use by the general plans of the City of Laguna Hills (City of Laguna Hills 2009), City of Lake Forest (City of Lake Forest 2020), City of Laguna Woods (City of Laguna Woods 2024), and County of Orange (County of Orange 2015).

Additionally, based on a review of the Williamson Act Parcels map for Orange County (California Department of Conservation 2026), no land under Williamson Act contract is within the Project limits and, therefore, no land under contract would be affected by the Build Alternatives. Furthermore, the Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. There would be no impact, and no mitigation is required.

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

In accordance with the City of Laguna Hills (City of Laguna Hills 2009), City of Lake Forest (City of Lake Forest 2020), City of Laguna Woods (City of Laguna Woods 2024), and County of Orange (County of Orange 2015), the Project area is not within any timberlands or forest lands. The land use designation for the Project area is limited to commercial and urban development.

Build Alternative 1 and its design variation (Build Alternative 1a) would occur within an existing developed transportation corridor and would not conflict with existing zoning for forest land or timberland or result in rezoning. Build Alternative 3 would not involve ground disturbance or changes in land use.

The Project would not conflict with any zoning or re-zoning of timberlands or forest lands due to the lack of these environmental resources in the Project area. No timberland or timberland-zoned timberland production areas are within the Project area.

Therefore, Build Alternative 1 and it design variation (Build Alternative 1a) and Build Alternative 3 would not conflict with existing zoning for forest land or timberland, or cause rezoning of such lands. No impact would result, and no mitigation is required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact

In accordance with the City of Laguna Hills (City of Laguna Hills 2009), City of Lake Forest (City of Lake Forest 2020), City of Laguna Woods (City of Laguna Woods 2024), and County of Orange (County of Orange 2015), the Project area is not within any timberlands or forest lands, and the land use designation is limited to commercial and urban development.

Build Alternative 1 and its design variation (Build Alternative 1a) would occur within an existing developed transportation corridor and would not result in the loss or conversion of forest land. Build Alternative 3 would not involve ground disturbance or conversion of land uses.

In addition, there would be no loss of forest lands or conversion of forest lands to non-forest land uses due to the absence of forest lands in the Project area.

Therefore, the Build Alternatives would not result in the loss or conversion of forest land. No impact would result, and no mitigation is required.

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

No Impact

The Project is within a highly developed urbanized residential area and does not involve any forest lands or farmlands. Build Alternative 1 and its design variation (Build Alternative 1a) would occur within an existing developed transportation corridor and would not result in changes that would convert farmland or forest land to non-agricultural or non-forest uses. Build Alternative 3 would not involve ground disturbance or changes in land use. Changes to the existing environment would not result in conversion of farmlands or forest lands to non-agricultural or non-forest uses due to the lack of such land and resources in the Project area. Therefore, the Project would have no impact on farmlands or forest lands, and no mitigation is required.

3.7.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

Question	CEQA Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less Than Significant Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Less Than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less Than Significant Impact

3.7.3.1 CEQA Significance Determinations for Air Quality

This section was prepared using information from the *Interstate 5/El Toro Road Interchange Improvement Project Supplemental Air Quality Report* (Caltrans 2025) and Section 2.3.5, *Air Quality*, of this EIR/EA. The following discussions are based on those analyses.

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

Less-than-Significant Impact

The Project is in the South Coast Air Basin (SCAB) and is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD is required, pursuant to the federal Clean Air Act, to reduce emissions of criteria pollutants for which

the SCAB is in nonattainment. SCAQMD's most recent plan to achieve air quality standards is the 2022 Air Quality Management Plan (AQMP).

The 2022 AQMP was adopted by the SCAQMD Governing Board on December 2, 2022. The 2022 AQMP outlines comprehensive control strategies to meet $PM_{2.5}$, ozone, and lead standards and maintain CO, nitrogen dioxide (NO_2), and PM_{10} standards. These strategies are based, in part, on the regional population, housing, and employment projections (and related transportation-source emissions) prepared by the region's cities and counties and adopted by SCAG. Projects that propose development that is consistent with the growth anticipated in the relevant land use plans and transportation plans used in the formulation of the AQMP are therefore considered to be consistent with the AQMP. The governing transportation planning documents relevant to the Project area are the SCAG 2024–2050 RTP/SCS and the SCAG 2025 Federal Transportation Improvement Program (FTIP).

A project would conflict with or obstruct implementation of a regional air quality plan if it is inconsistent with the growth assumptions of the plan. The Project is included in SCAG's 2024–2050 RTP/SCS under Project ID 2M0717 and SCAG's 2025 FTIP under Project ID ORA131105. On May 10, 2024, FHWA found that the RTP/SCS conformed to the AQMP. The SCAG 2025 FTIP was determined to conform by FHWA and the Federal Transit Administration on December 16, 2024. Because the Project is included as proposed in both the SCAG 2024–2050 RTP/SCS and the 2025 FTIP, which were found to conform to the AQMP responsible for attaining and maintaining compliance with air quality standards, the Project would not conflict with or obstruct implementation of an air quality plan. Impacts associated with Build Alternative 1a would be consistent with those described for Build Alternative 1. Build Alternative 3 does not include physical improvements and is also consistent with regional plans; therefore, it would not conflict with or obstruct implementation of an air quality plan. Consequently, impacts resulting from the Project would be less than significant.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less-than-Significant Impact

As discussed in Section 2.3.5, *Air Quality*, the Project has satisfactorily demonstrated the Project-level conformity requirements and is not anticipated to result in violations of the 1-hour or 8-hour CO standards or worsen existing PM_{10} and $PM_{2.5}$ violations or delay timely attainment of the standards. Therefore, localized air quality impacts would be less than significant.

The regional emission analysis presented in Table 2.3.5-5 in Section 2.3.5 of this EIR/EA indicates that compared to existing conditions, operation of the Build Alternative 1 and its design variation (Build Alternative 1a) would decrease reactive organic gases, NO_X, and CO emissions under all future-year conditions. This is a regional emissions benefit. Emissions of PM_{10} and $PM_{2.5}$ would be similar to those under existing

conditions, increasing by a maximum of 17 pounds per day under Design-Year 2055 conditions. Such an increase would not exceed the regional thresholds developed for the purpose of bringing the SCAB into attainment. For reference, SCAQMD's regional PM_{10} and $PM_{2.5}$ thresholds are 150 and 55 pounds per day, respectively. Therefore, regional air quality impacts during Project operations would be less than significant.

Construction would begin in 2029 and would last approximately 2.5 to 3 years for Alternative 1 and its design variation (Build Alternative 1a). Temporary construction emissions would result from grubbing/land clearing, excavation, borrow import, structure concrete, drainage/landscaping, paving, and striping. Pollutant emissions would vary daily depending on the level of activity, specific operations, and prevailing weather. Table 2.3.5-4 in Section 2.3.5 presents the maximum number of construction-related emissions during a peak construction day for Build Alternative 1 and its design variation (Build Alternative 1a). Table 2.3.5-4 indicates that peak emissions would occur during the excavation and borrow import phases. Emissions of all pollutants would be well below SCAQMD's regional thresholds, which are given for informational purposes. Emissions would be minimized through Project Features **PF-AQ-1** and **PF-AQ-2**, which include Caltrans' Standard Specification 14-9.02 and SCAQMD Rule 403. In addition, **PF-TRA-1** requires development of a TMP, which would reduce emissions by minimizing construction-related traffic delays and associated vehicle idling. Furthermore, emissions would be further minimized through Avoidance and Minimization Measures **AQ-1** and **AQ-2**, which require solar-powered signal/message boards and obtaining electricity from power poles rather than diesel or gas generators to the extent feasible. Build Alternative 3 does not include physical or geometric changes and would not result in construction emissions. Regional air quality impacts during Project construction would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact

Some population groups, such as children, the elderly, and acutely and chronically ill persons, especially those with cardio-respiratory diseases, are considered more sensitive to air pollution than others. Sensitive receptors include residential areas, schools, hospitals, other health care facilities, child/day care facilities, parks, and playgrounds. There are several residential areas and St. George's Episcopal Church/ Pathway School within 1,000 feet of the Project area. The nearest receptor (St. George's Episcopal Church/Pathway School) is approximately 27 feet from the Project.

Construction activities would result in the short-term generation of emissions in the immediate vicinity from the use of heavy-duty construction equipment, material movement trips, and worker commute trips. Additional indirect emissions may result from temporary delays in roadway operation during the construction period. As discussed in Section 2.3.5, *Air Quality*, under *Pollutant Overview*, all criteria pollutants and mobile-source air toxics (MSAT) that would be generated by the Project are associated with some form of health risk (e.g., asthma and other respiratory tract effects). However, as shown in Table 2.3.5-4 in Section 2.3.5 and discussed above, all

criteria pollutants generated during construction would be below SCAQMD's regional thresholds.

SCAQMD has also published localized significance thresholds (LSTs) that represent the maximum onsite emissions from a project that are not expected to cause or contribute to an exceedance of health-protective ambient air quality standards. The applicable LSTs are for source receptor areas 19 (Lake Forest) and 20 (Laguna Hills, Laguna Woods) for a 5-acre site with receptors within 25 meters. Based on the total emissions estimates presented in Table 2.3.5-4, maximum daily PM_{10} emissions would exceed the LST. However, the table is not isolated to only onsite emission sources, to which the LSTs apply; PM_{10} emissions from onsite only sources would be less than presented in Table 2.3.5-4. The comparison to SCAQMD's LSTs is given for informational purposes. Implementation of the SCAQMD Rules and Caltrans Standard Construction Specifications, which are provided in Project Features **PF-AQ-1** and **PF-AQ-2** in Section 2.3.5, *Air Quality*, and are standard for all Caltrans projects, would avoid or minimize potential short-term air quality impacts on sensitive receptors. **PF-AQ-2** specifically requires compliance with SCAQMD Rule 403, which requires control of fugitive dust emissions during earth-moving activities and construction/demolition activities, and for any surface area through heavy- and light-duty vehicular movement or other means. In addition, **PF-TRA-1** requires development of a TMP, which would reduce emissions by minimizing construction-related traffic delays and associated vehicle idling. Furthermore, emissions would be further minimized through Avoidance and Minimization Measures **AQ-1** and **AQ-2**, which require solar-powered signal/message boards and obtaining electricity from power poles rather than diesel or gas generators to the extent feasible.

Following the construction period, operational emissions associated with roadway operations would include tailpipe emissions as well as re-entrained road dust from vehicles operating in the Project vicinity. Although emissions of PM_{10} and $PM_{2.5}$ would slightly increase under Build Alternative 1 compared to existing conditions (as indicated in Table 2.3.5-5), these emissions increases would be throughout the Project region, and emissions increases in specific locations would be a small proportion of any projected increases. For Build Alternative 1, MSAT emissions in the Build scenario (2055) would be substantially lower than existing conditions (see Table 2.3.5-6). Impacts associated with Build Alternative 1a would be consistent with those described for Build Alternative 1. Build Alternative 3 does not include physical or geometric changes and would not result in construction or operational emissions that would expose sensitive receptors to substantial pollutant concentrations. Therefore, the Project would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less-than-Significant Impact

Construction activities associated with Build Alternative 1 and its design variation (Build Alternative 1a) could generate short-term odors from equipment exhaust and asphalt paving in the immediate vicinity of active work areas. However, implementation of Project Features **PF-AQ-1** and **PF-AQ-2**, which require compliance with Caltrans Standard Specifications and SCAQMD Rule 403, as well as Avoidance and Minimization Measures **AQ-1** and **AQ-2**, would minimize emissions during construction. Some phases of construction, particularly asphalt paving, would result in short-term odors in the immediate area of each paving site. Such odors would be quickly dispersed below detectable thresholds as distance from the site increases. Project operation would not create objectionable odors and would not introduce new odor sources beyond those associated with existing traffic. Build Alternative 3 does not include physical or geometric changes and would not result in construction or operational emissions that would generate objectionable odors. The Project would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people, and impacts would be less than significant.

3.7.4 Biological Resources

Would the project:

Question	CEQA Determination
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact

3.7.4.1 CEQA Significance Determinations for Biological Resources

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?

No Impact

The Project would not have a substantial adverse effect on any species identified as a candidate, sensitive, or special-status species. As described in Sections 2.4.3.2, 2.4.4.2, and 2.4.5.2, the BSA contains potential habitat for several special-status species, including the federally and state-listed endangered southwestern willow flycatcher and least Bell's vireo, and the federally listed threatened California gnatcatcher, as well as several rare plant species. However, all suitable habitat is within Aliso Creek and adjacent to areas that fall within the 500-foot buffer zone but remain outside of the Project site and impact area (Section 2.4.1.2). The nearest sensitive habitat that could potentially support these species is 2,700 feet from proposed construction activities.

Because Build Alternative 1 and its design variation (Build Alternative 1a) would occur within a highly developed urban area, with the nearest sensitive habitat (willow riparian and coastal sage scrub [CSS] associated with Aliso Creek) being a substantial distance from construction activities, there is no potential for direct impacts such as habitat loss or disturbance. Also, indirect impacts—such as noise, dust, or human activity—are not anticipated to notably extend over this distance in an already urbanized setting. Build Alternative 3 only includes technology improvements, and no physical or geometric improvements are proposed; therefore, Build Alternative 3 would not result in direct or indirect impacts on special-status species.

As analyzed in Sections 2.4.3.3, 2.4.4.3, and 2.4.5.3, no direct or indirect impacts on special-status species are anticipated because their potential habitats are outside the work areas. Nonetheless, the following avoidance and minimization measures are included as best practice to further ensure protection of special-status species: **PF-BIO-1**, **BIO-1**, **BIO-2**, **PF-BIO-2**, and **PF-BIO-3**. No impact would occur.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact

The Project would not have a substantial adverse effect on riparian habitat or other sensitive natural communities. As detailed in Sections 2.4.1.2 and 2.4.2.2, the BSA contains two sensitive natural communities of special concern under CEQA: willow riparian habitat (California State Rank 3) and CSS habitat, both within Aliso Creek south

of I-5. Neither of these habitat types are within the Project site or impact area under Build Alternative 1 and its design variation (Build Alternative 1a).

The willow riparian habitat is dominated by black willow, arroyo willows, and red willows, while the CSS is dominated by California sagebrush with other native species. These habitats are within the 500-foot buffer of the BSA and are well outside the Project site and impact area under Build Alternative 1 and its design variation (Build Alternative 1a). The 2,700-foot distance between these sensitive communities and construction activities, combined with the Project's location in an already highly developed area, eliminates the potential for direct impacts from habitat removal or indirect impacts from construction-related disturbance.

As analyzed in Sections 2.4.1.3 and 2.4.2.3, no direct or indirect impacts on sensitive natural communities or riparian areas under Build Alternative 1 and its design variation (Build Alternative 1a) are anticipated because they are outside the work areas. Build Alternative 3 would not involve ground disturbance and would have no direct or indirect impacts on sensitive natural communities or riparian areas. Nonetheless, the following avoidance and minimization measures are included as best practice to further ensure protection of sensitive natural communities and riparian areas: **PF-BIO-1**, **BIO-1**, and **BIO-2**. No impact would occur.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact

The Project would not have any adverse effect on state or federally protected wetlands. As documented in Section 2.4.2.2, jurisdictional waters of the United States and waters of the State are present within the BSA, totaling approximately 6.94 acres and 11.53 acres, respectively. None of these jurisdictional waters are within the impact area under Build Alternative 1 and its design variation (Build Alternative 1a).

The jurisdictional features include Aliso Creek, an unvegetated concrete v-ditch (Unnamed Feature 1), and a newly constructed basin (Unnamed Feature 2). Aliso Creek is within the 500-foot buffer but outside the Project site and impact area where no construction activities would occur. Features 1 and 2 are within the Project site, but outside of the impact area; therefore, no impacts on these features are anticipated under Build Alternative 1 and its design variation (Build Alternative 1a). Build Alternative 3 would not involve ground disturbance and would have no direct or indirect impacts on state or federally protected wetlands.

As analyzed in Section 2.4.2.3, no direct or indirect impacts on state or federally protected wetlands are anticipated because the jurisdictional features are outside the work areas. Nonetheless, the following avoidance and minimization measures are included as best practice to further ensure protection of state or federally protected wetlands: **BIO-1** and **BIO-2**. No impact would occur.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact

The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established wildlife corridors. As described in Section 2.4.1.2, the BSA is almost completely developed and surrounded by existing development, with the only natural wildlife corridor being Aliso Creek at the southeastern end of the BSA.

Aliso Creek serves as a movement corridor connecting the Santa Ana Mountains in the northeast to the Laguna Coast and Aliso Canyon wilderness areas in the southwest. However, this corridor is outside both the Project site and impact area under Build Alternative 1 and its design variation (Build Alternative 1a) and would not be affected by construction activities. The Project's location within existing transportation infrastructure means it would not create new barriers to wildlife movement or fragment existing habitat connections. Build Alternative 3 would not involve ground disturbance and would not contribute to habitat fragmentation.

As analyzed in Section 2.4.1.3, the Project would not contribute to habitat fragmentation because it occurs within an already highly developed urban environment; therefore, no impact is anticipated. Nonetheless, the following avoidance and minimization measures are included as best practice to further ensure protection of species movement within established wildlife corridors: **PF-BIO-1**, **BIO-1**, and **BIO-2**. No impact would occur.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact

The Project would not conflict with any local policies or ordinances protecting biological resources. The Project under Build Alternative 1 and its design variation (Build Alternative 1a) has been designed to avoid impacts on sensitive biological resources and incorporates comprehensive avoidance and minimization measures as detailed in Sections 2.4.1.4, 2.4.3.4, and 2.4.4.4.

The Project's location in a highly developed area with sensitive habitat 2,700 feet from the impact area minimizes potential conflicts with biological resource protection policies. Under Build Alternative 1 and its design variation (Build Alternative 1a), the complete avoidance of impacts on special-status species, sensitive natural communities, and jurisdictional waters supports consistency with local environmental protection objectives. No local policies or ordinances have been identified in potential conflict with Build Alternative 1 and its design variation (Build Alternative 1a), and no impacts are anticipated. Build Alternative 3 only includes technology improvements, and no physical

or geometric improvements are proposed; therefore, no conflict with any local policies or ordinances protecting biological resources would occur.

As analyzed in Sections 2.4.1.3, 2.4.3.3, and 2.4.4.3, no conflicts with any local policies or ordinances protecting biological resources are anticipated. Nonetheless, the following avoidance and minimization measures are included as best practice to further ensure local compliance: **PF-BIO-1**, **BIO-1**, **BIO-2**, **PF-BIO-2**, and **PF-BIO-3**. No impact would occur.

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

No Impact

The Project would not conflict with the provisions of any adopted habitat conservation plan (HCP), natural community conservation plan (NCCP), or other local, regional, or state approved HCP. The Project area is not within the boundaries of any adopted HCP.

While some species potentially occurring in the area are covered under the OCTA NCCP/HCP, the BSA is outside of the approved plan area, which is approximately 2 miles to the southwest. No impacts on special-status species would result from implementation of Build Alternative 1 and its design variation (Build Alternative 1a); therefore, no direct or indirect impacts on HCP/NCCP lands are anticipated. Build Alternative 3 would not involve ground disturbance and no impacts on HCP/NCCP lands are anticipated.

As analyzed in Section 2.4.1.3, no impacts on HCP/NCCP lands are anticipated. Nonetheless, the following avoidance and minimization measures are included as best practice to further ensure protection of HCP/NCCP lands: **PF-BIO-1**, **BIO-1**, and **BIO-2**. No impact would occur.

3.7.5 Cultural Resources

Would the project:

Question	CEQA Determination
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Less Than Significant Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	Less Than Significant Impact

3.7.5.1 CEQA Significance Determinations for Cultural Resources

The information used in this section is from the Supplemental Historic Property Survey Report (SHPSR) (Caltrans 2025a), the Supplemental Archaeological Survey Report (SASR) (Caltrans 2025b), and the Supplemental Historical Resources Evaluation Report (SHRER) (Caltrans 2025c).

a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?

No Impact

There are no historical resources within the Project's Supplemental Area of Potential Effects (SAPE); therefore, there would be no impact.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less-Than-Significant Impact

There are no known archaeological resources within the Project's SAPE that would be affected by the Project. If previously unidentified cultural materials are unearthed during construction, it is Caltrans' policy that work be halted in that area until a qualified archaeologist can assess the significance of the find. It is Caltrans' policy to avoid cultural resources whenever possible. In the event that previously unknown buried cultural materials are encountered during construction, compliance with Project Feature **PF-CUL-1** would ensure that potential impacts on previously unknown archaeological resources would be less than significant. No mitigation is required.

PF-CUL-1 If buried cultural resources are encountered during Project activities, it is Caltrans' policy that work stop within 60 feet of the area until the Caltrans Project Archaeologist can evaluate the nature and significance of the find. *Caltrans Standard Specification 14-2.03A*.

Additionally, Caltrans projects now require that Cultural Sensitivity Training be given to contractors prior to construction starting (**PF-CUL-3**).

PF-CUL-3 The Resident Engineer responsible for providing Cultural Sensitivity Training to the Contractor at the Pre-Construction Meeting will go over the requirements of Caltrans Standard Specification 14-2.03A (may request Caltrans Archaeologist assistance). *Caltrans Standard Specification 14-2.03C.*

Impacts resulting from the Project would be less than significant.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less-than-Significant Impact

No conditions exist that suggest human remains are likely to be found within the Project's SAPE. Due to the level of past disturbance, it is not anticipated that human remains, including those interred outside of formal cemeteries, would be encountered during earth removal or disturbance activities. However, in the event that unknown human remains are found, proper treatment is required in accordance with applicable laws. With implementation of Project Feature **PF-CUL-2**, potential impacts on unknown human remains would be less than significant. No mitigation is required.

PF-CUL-2 In the event that human remains are found, provisions of the Health and Safety Code 7050.5 apply. The county coroner shall be notified, and all construction activities within 60 feet of the discovery shall stop. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the NAHC, who will then notify the Most Likely Descendant. Further provisions of Public Resources Code 5097.98 are to be followed as applicable. *Caltrans Standard Specification 14-2.03A*.

3.7.6 Energy

Would the project:

Question	CEQA Determination
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less Than Significant Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Less Than Significant Impact

3.7.6.1 CEQA Significance Determinations for Energy

This section was prepared using information from the *Supplemental Energy Analysis Report for the Interstate 5/El Toro Road Interchange Improvement Project* (Caltrans 2025) and Section 2.3.7, *Energy*, of this EIR/EA. The following discussions are based on those analyses.

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less-than-Significant Impact

As discussed in Section 2.3.7, *Energy*, temporary construction activities associated with Build Alternative 1 and its design variation (Build Alternative 1a) would result in energy consumption. Temporary energy consumption would result from use of diesel-powered heavy equipment and heavy-duty trucks for material hauling and delivery and light-duty vehicles for worker commute trips, almost all of which would involve the consumption of petroleum-based gasoline or diesel fuel. Temporary construction-period activities would require the consumption of 20,195 million British thermal units under Build Alternative 1 its design variation (Build Alternative 1a). Build Alternative 3 would not involve construction activities and therefore would not result in temporary energy consumption.

For long-term operation, energy consumption would occur primarily in the form of vehicle fuel use. As shown in Table 2.3.7-2, Build Alternative 1 and its design variation (Build Alternative 1a) would consume approximately the same quantity of direct energy as the No-Build Alternative and would reduce energy consumption relative to existing conditions. There would be no change in maintenance-related indirect energy consumption. All lighting that would be affected within the Project limits would be replaced with energy efficient alternatives, per Avoidance and Minimization Measure **GHG-1**.

Construction activities would be implemented to improve traffic flow during peak travel demand periods and reduce stop-and-go conditions. Furthermore, through innovations such as longer pavement lives, an improved TMP, and changes in materials, the energy used during construction would be offset to some degree by longer intervals between maintenance and rehabilitation activities. Therefore, Build Alternative 1 and its design variation (Build Alternative 1a) would not result in potentially significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources. Furthermore, Project Feature **PF-AQ-1** (refer to Section 2.3.5, *Air Quality*) requires compliance with all applicable laws and regulations related to air quality, including restrictions on idling of construction vehicles, and Standard Project Measure **PF-TRA-1** (refer to Section 2.2.7, *Transportation*) requires development of a TMP, both of which would reduce energy during construction. Energy consumption would also be reduced during construction with implementation of Avoidance and Minimization Measures **AQ-1** and **AQ-2** (refer to Section 2.3.5, *Air Quality*), which require solar-powered construction signal/message boards and, to the extent feasible, use of onsite electricity from power poles rather than temporary diesel or gasoline generators. Furthermore, Avoidance and Minimization Measure **GHG-1** (refer to Section 3.3.5.1, *Project-Level GHG Reduction Strategies*) requires the use of energy-efficient lighting, which would further reduce energy consumption.

Build Alternative 3 includes only technological improvements and would not result in substantial changes in traffic demand or travel patterns; therefore, operational energy

use would not differ materially from existing or no-build conditions. Although minor energy use may be associated with technological improvements, this would not represent a substantial increase in overall transportation energy demand or a wasteful or inefficient use of energy resources.

Based on the consumption of energy resources during temporary construction activities under Build Alternative 1 and its design variation (Build Alternative 1a) and the minimal change in operational energy demand across all Build Alternatives, the Project would not result in potentially significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-than-Significant Impact

The 2017 and 2022 Climate Change Scoping Plans prepared by ARB call for prioritizing transportation sustainability as part of the statewide goals to achieve GHG reductions. Analyses by ARB show fossil fuel demand will decrease by more than 45 percent by 2030 through implementation of a range of transportation programs related to efficient land use, affordable housing, infrastructure for cyclists and pedestrians, public transit, new vehicle technologies, fuels, and freight (ARB 2017). The California Energy Commission adopts an Integrated Energy Policy Report every 2 years and an update every other year. The most recent report was adopted in October 2025 (CEC 2025). Among the state policies summarized in the report, the Final 2024 Integrated Energy Policy Report discusses the effort to move the transportation sector's diverse vehicle segments away from petroleum to near-zero-emission vehicles operating with low-carbon fuels and zero-emission vehicles that run on electricity from batteries or hydrogen fuel cells (CEC 2025). Each of these programs would contribute to reductions in energy use or increases in energy efficiency.

Energy-efficient projects that incorporate conservation measures facilitate long-term energy planning and avoid the need for unplanned or additional energy capacity. Projects that support renewable energy, either directly (e.g., by installing electric-vehicle chargers and shifting the mode of travel to active forms of transportation) or indirectly (by complying with state and local renewable standards), reduce consumption of non-renewable resources and accelerate statewide decarbonization efforts.

All of the Build Alternatives would implement local transportation improvements that would not conflict with or obstruct such statewide energy and energy efficiency efforts. Implementation of Build Alternative 1 and its design variation (Build Alternative 1a) would involve short-term increases in indirect energy consumption from construction activities. Long-term operations of the Build Alternatives would involve approximately the same energy consumption from vehicles on the roadway relative to the No-Build Alternative, and energy consumption would be substantially lower than under existing conditions. Project Features **PF-AQ-1** and **PF-TRA-1**, and Avoidance and Minimization Measures **AQ-1**, **AQ-2**, and **GHG-1**, would be implemented during Project construction

and operation. The Build Alternatives also include TSM elements that will increase the efficiency of existing facilities, including coordination of traffic signals to promote the efficient flow of traffic. These measures and strategies support state and local energy plans and policies. Therefore, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

3.7.7 Geology and Soils

Would the project:

Question	CEQA Determination
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	No Impact
ii) Strong seismic ground shaking?	Less Than Significant Impact
iii) Seismic-related ground failure, including liquefaction?	Less Than Significant Impact
iv) Landslides?	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	Less Than Significant Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Less Than Significant Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	Less Than Significant Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Less Than Significant with Mitigation Incorporated

3.7.7.1 CEQA Significance Determinations for Geology and Soils

The potential for the Build Alternatives to result in impacts related to geology and soils was assessed from the *Lake Forest General Plan 2040 Public Safety Element* (City of Lake Forest 2025), *City of Laguna Hills Safety Element Update* (City of Laguna Hills 2022), and *City of Laguna Woods General Plan Safety Element* (City of Laguna Woods 2014); *Technical Memorandum: Geotechnical Review of District Preliminary Geotechnical Report* (Group Delta 2025); *Preliminary Geotechnical Report* (Caltrans 2018); and *Supplemental Paleontological Identification Report and Paleontological Evaluation Report* (Caltrans 2025).

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

No Impact

According to the Alquist-Priolo Earthquake Fault Zone map (2025), the Project footprint associated with Build Alternative 1 and its design variation (Build Alternative 1a) does not overlap with an Alquist-Priolo Earthquake Fault Zone, and there are no known active or potentially active faults mapped as crossing or in the immediate vicinity of either Project footprint. Because the Project area is not intersected by a known fault and is not within an Alquist-Priolo Earthquake Fault Zone, neither Build Alternative 1 nor its design variation (Build Alternative 1a) would expose people or structures to effects associated with fault displacement and ground rupture. Build Alternative 3 would not involve ground disturbance and would also not expose people or structures to fault rupture hazards. Therefore, there would be no impact, and no mitigation is required.

ii) Strong seismic ground shaking?

Less-than-Significant Impact

According to the Earthquake Shaking Potential for California map (2025) (see Figure 2.3.2-2), the Project limits for Build Alternative 1 and its design variation (Build Alternative 1a) are within an area classified as IX on the Modified Mercalli Intensity scale, which means this area could experience violent shaking during an earthquake. The Project limits for Build Alternative 1 and its design variation (Build Alternative 1a) are not directly over any active faults but are close to pre-quaternary faults. According to the *Preliminary Geotechnical Report* prepared for this Project, the three most significant faults near the Project area are the San Joaquin Hills fault, the Newport-Inglewood Fault Zone (S. Los Angeles section-southern), and the Newport-Inglewood fault (offshore). These three faults have been identified as capable of generating strong motion in the Project area. The proximity of active faults and degree or urbanization makes loss of life and risk of structural damage considerable from primary seismic hazards of ground shaking. However, with the identified existing seismic risks in the Project area, Build Alternative 1 and its design variation (Build Alternative 1a) will be designed and constructed in compliance with the Caltrans Seismic Design Criteria (Project Feature **PF-GEO-1**). Build Alternative 1 and its design variation (Build Alternative 1a) would not further the exposure of people to substantial adverse effects resulting in the risk of loss, injury, or death that involves strong seismic ground shaking. Build Alternative 3 would not involve construction of new structures and would not increase exposure of people or structures to seismic hazards. As a result, the potential for exposing people and structures to strong seismic ground shaking would be less than significant, and no mitigation is required.

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact

According to the California Geological Survey Earthquake Zones of Required Investigation map, the southern portion of the Project limits under both Build Alternative 1 and its design variation (Build Alternative 1a) are underlain by young axial channel deposits (Qya) within a liquefaction zone (see Figure 2.3.2-3 [CGS 2025]). These deposits below groundwater are more prone to liquefaction potential. The other geologic units (mapped as $Qvof_a$, Tm, and Tn on Figure 2.3.2-1) within the Project limits under both Build Alternative 1 and its design variation (Build Alternative 1a) are generally medium-dense to dense sands and clays that are not prone to liquefaction. However, locally, there could be loose saturated sand layers within these units. Therefore, the area within the Project limits under Build Alternative 1 and its design variation (Build Alternative 1a) could be subject to liquefaction and seismically induced settlements.

Build Alternative 1 and its design variation (Build Alternative 1a) would include some fill along the southbound direction to accommodate the widening for a planned off-ramp. As stipulated in Avoidance and Minimization Measure **GEO-2**, a site-specific subsurface investigation and evaluation of liquefaction would be performed to address potential impacts of liquefaction on bridge, wall, and embankment foundations proposed. In addition, an evaluation of the large fill embankments for the flyover approach would be conducted to assess the potential for long-term settlement. The Project would follow Caltrans' latest design requirements to minimize any potential effects related to liquefaction and seismically induced settlement. With implementation of Project Feature **PF-GEO-1** and Avoidance and Minimization Measure **GEO-2**, Build Alternative 1 and its design variation (Build Alternative 1a) would result in less-than-significant impacts due to liquefaction.

Build Alternative 3 would not involve ground disturbance and would not be subject to liquefaction hazards. Therefore, impacts would be less than significant and no mitigation is required.

iv) Landslides?

No Impact

Landslides commonly occur in connection with other natural disasters, such as earthquakes, volcanoes, wildfires, and floods. Steep, bare slopes; deposits of stream or river sediment; clay-rich rock; and heavy rains can also cause landslides. Based on California Geological Survey mapping, the Project footprint under Build Alternative 1 and its design variation (Build Alternative 1a) are not within an area that is at risk for seismically induced landslides (see Figure 2.3.2-3). Combined with the relatively flat terrain within the footprint of Build Alternative 1 and its design variation (Build Alternative 1a), there is no risk of seismically induced landslides or rockfall. Therefore, there would be no impact on Build Alternative 1 and its design variation (Build Alternative 1a) as a result of this hazard.

Build Alternative 3 would not involve ground disturbance or changes to topography and, therefore, would not result in landslide-related impacts. Accordingly, no impact would occur and no mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?

Less-than-Significant Impact

Construction of Build Alternative 1 and its design variation (Build Alternative 1a) would temporarily disturb soils within the Caltrans right of way as well as within areas needed for temporary construction easements. Excavated soil in construction areas would be exposed, resulting in increased potential for soil erosion during construction compared to existing conditions. During a storm event, erosion could occur at an accelerated rate due to the exposure of soils during grading activities. During all construction activities for Build Alternative 1 and its design variation (Build Alternative 1a), the construction contractor would be required to adhere to the requirements of the General Construction Permit and to implement erosion and sediment control BMPs specifically identified in the SWPPP to keep sediment from moving off site into receiving waters and affecting water quality in those waters during construction. Build Alternative 3 would not involve ground disturbance and would not result in soil erosion or loss of topsoil.

During operation, an increase in impervious surface can increase stormwater runoff volume and velocity and lead to downstream erosion. However, Build Alternative 1 and its design variation (Build Alternative 1a) are linear, with many stormwater discharge points that would distribute the additional stormwater runoff to multiple locations, thereby diffusing potential erosion impacts. Build Alternative 3 would not result in changes to impervious surface or drainage patterns and, therefore, would not affect stormwater runoff or erosion during operation. Erosion impacts related to water quality are specifically evaluated in Section 2.3.1, *Water Quality and Stormwater Runoff*, and Section 3.7.10 in this EIR/EA. With implementation of Project Features discussed in Sections 2.3.1 and 3.7.10, and BMPs during construction and operation of Build Alternative 1 and its design variation (Build Alternative 1a), potential soil erosion or topsoil loss impacts would be less than significant. Implementing BMPs is standard for all Caltrans projects and required for the General Construction Permit. No mitigation is required.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less-than-Significant Impact

No issues related to soil instability in the Project limits of Build Alternative 1 and its design variation (Build Alternative 1a) are known at this time. According to the Preliminary Geotechnical Report, it has been determined that the embankments of the bridges within the Project limits may experience seismically induced lateral deformations depending on the depth, areal extent, and post-liquefaction residual

strength of the potentially liquefiable layers. However, as stated in the Preliminary Geotechnical Report, such deformations would be minor. As such, Build Alternative 1 and its design variation (Build Alternative 1a) would not increase exposure to seismic hazards in the vicinity of the Project limits relating to liquefaction, lateral spreading, and seismic settlement. Design and construction of Build Alternative 1 and its design variation (Build Alternative 1a) would be consistent with the Caltrans *Highway Design Manual*; therefore, the potential effects related to unstable soils on the structures and facilities proposed under Build Alternative 1 and its design variation (Build Alternative 1a) would be less than significant.

Build Alternative 3 would not involve ground disturbance or structural loading and would not result in impacts related to unstable soils or geologic units. Therefore, impacts would be less than significant and no mitigation is required.

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

Less-than-Significant Impact

Much of Orange County is covered by soil considered to be expansive. The potential for impacts associated with expansive soils would be the same as with the existing condition because improvements would be designed to address such effects. Design and construction of Build Alternative 1 and its design variation (Build Alternative 1a) would be consistent with the Caltrans *Highway Design Manual* (which includes measures to address expansive soils); therefore, the potential impacts associated with expansive soils would be less than significant, and no mitigation is required.

Build Alternative 3 would not involve ground disturbance and would not result in impacts related to expansive soils. Therefore, impacts would be less than significant and no mitigation is required.

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

No Impact

Neither Build Alternative 1 nor its design variation (Build Alternative 1a) would use septic tanks or alternative methods for disposal of wastewater into subsurface soils and would not connect to existing public wastewater infrastructure. Therefore, Build Alternative 1 and its design variation (Build Alternative 1a) would not result in impacts related to septic tanks or alternative wastewater disposal methods, and no mitigation is required.

Build Alternative 3 would not involve septic systems or subsurface wastewater disposal and would also not result in impacts.

Accordingly, no impact would occur and no mitigation is required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant with Mitigation

Proposed excavations for the Project under Build Alternative 1 and its design variation (Build Alternative 1a) would potentially affect several sedimentary geologic formations with high potential for paleontological resources at all depths below any artificial fill. Four geologic units classified as having high potential for paleontological resources are mapped within and adjacent to the Project footprint under Build Alternative 1 and its design variation (Build Alternative 1a).

- Quaternary very old alluvial-fan deposits (early to middle Pleistocene)
- Quaternary very old axial-channel deposits (early to middle Pleistocene)
- Pliocene Niguel Formation
- Miocene Monterey Formation

Of these, Project-related ground disturbance is likely to affect the very old alluvial-fan deposits and Monterey Formation.

Two geologic units classified as having low potential for paleontological resources are mapped within the Project footprint under Build Alternative 1 and its design variation (Build Alternative 1a).

- Quaternary young alluvial-fan deposits (late Pleistocene to Holocene)
- Quaternary young axial-channel deposits (late Pleistocene to Holocene)

Although Holocene deposits can contain remains of plants and animals, only organic material from the early to middle Holocene is considered scientifically important (SVP 2010). Young axial-channel and alluvial-fan deposits began deposition during the Pleistocene and thus underwent a transition to Holocene at unknown depths. Therefore, deeper excavations into these deposits may affect Pleistocene-age sediments with high potential for paleontological resources. Although the exact depth of this temporal shift is not known, ground disturbance greater than 10 feet below ground surface may affect paleontological resources. Artificial fill is considered to have no potential for such resources.

Previously conducted geotechnical borings indicate up to 20 feet of artificial fill underlying the I-5 overpass at El Toro Road. However, little to no artificial fill is documented in the remainder of the Project footprint, and only small amounts were observed at the on-ramps and off-ramps at El Toro Road during the paleontological field survey. Build Alternative 1 and its design variation (Build Alternative 1a) are expected to affect two geologic units with high potential for paleontological resources: (1) early to middle Pleistocene very old alluvial-fan deposits; and (2) Miocene Monterey Formation.

Build Alternative 3 would not involve ground disturbance and therefore would not affect paleontological resources or unique geologic features.

Mitigation Measure **PAL-1**, provided in Section 2.3.3, *Paleontology*, requires preparation and implementation of a PMP during construction of the Project for alternatives with ground disturbance that could affect paleontological resources. Project Feature **PF-PAL-1**, also provided in Section 2.3.3, *Paleontology*, addresses the possibility of paleontological resources discoveries during construction. Adherence to the PMP and Project Feature **PF-PAL-1** during construction would reduce potential impacts on paleontological resources, should they occur, to a less-than-significant level. Impacts would be less than significant with mitigation incorporated.

3.7.8 GHG Emissions

Would the project:

Question	CEQA Determination
a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?	Less Than Significant Impact

3.7.8.1 CEQA Significance Determinations for GHG Emissions

This section was prepared using information from the *Interstate 5/El Toro Road Interchange Improvement Project Air Quality Report* (Caltrans 2025) and Section 3.3, *Climate Change*, of this EIR/EA. The following discussions are based on those analyses.

a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Less-than-Significant Impact

Construction GHG emissions for Build Alternative 1 and its design variation (Build Alternative 1a) would be expected to result from material processing, onsite construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase. Project construction would be expected to involve crawler tractors, excavators, graders, rollers, rubber-tired loaders, scrapers, rough-terrain forklifts, and paving equipment, among other types of construction equipment. Projected GHG construction emissions were calculated for the Project using the Caltrans Construction Emissions Tool (CAL-CET2021 v1.0.4). The total construction emissions are 1,668 metric tons CO_2e (see Table 3.3-2 in Section 3.3, *Climate Change*). Build Alternative 3 consists of TSM/TDM and other technological improvements and would not involve physical or geometric changes, ground disturbance, or construction activity; therefore, Build Alternative 3 would not generate temporary construction GHG emissions.

Avoidance and Minimization Measures **GHG-1**, **AQ-1**, and **AQ-2**, as well as Standard Project Measures **PF-TRA-1** and **PF-AQ-1**, are expected to reduce construction GHG emissions impacts from construction of the Project. In addition, Climate Change Adaptation Measures **CC-1** and **CC-2** would be incorporated into final design to account for projected future climate conditions and help maintain long-term pavement performance and infrastructure resilience. Together, these measures would reduce GHG emissions and potential climate change impacts would be implemented as part of the Project.

Regional vehicular travel data, along with the CT-EMFAC2021 emission rates, were used to calculate the expected CO_2e emissions for Baseline-Year 2023, Opening-Year 2035, RTP Horizon-Year 2050, and Design-Year 2055 with- and without-Project conditions. The results of the modeling are summarized in Section 3.3, *Climate Change*. As shown in Table 3.3-2, compared to Baseline-Year 2023, in all future years, the No-Build Alternative and Build Alternative 1 and its design variation (Build Alternative 1a) would result in a decrease in GHG emissions. Because operational GHG emissions under Build Alternative 1 and its design variation (Build Alternative 1a) would decrease compared to existing conditions, the operational impact would be less than significant.

Build Alternative 3 consists of TSM/TDM and other technological improvements and would not result in substantial changes in traffic demand or travel patterns. Therefore, Build Alternative 3 is not expected to result in a substantial increase in operational GHG emissions.

Based on the temporary construction emissions associated with Build Alternative 1 and its design variation (Build Alternative 1a), the reduction in operational GHG emissions under Build Alternative 1 and its design variation (Build Alternative 1a), and the minimal operational GHG impacts associated with Build Alternative 3, the Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Impacts would be less than significant.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Less-than-Significant Impact

The Project is identified in SCAG's 2024–2050 RTP/SCS under project number 2M0717. The Project directly supports the 2024–2050 RTP/SCS mobility and accessibility performance outcome by reducing vehicle delay and improving traffic operations. Reducing congestion and efficiently managing traffic demand (i.e., throughput) is expected to help minimize idling GHG emissions, as well as lower the time traffic spends at a lower vehicle speed where GHG emissions are higher. Therefore, this strategy contributes to overall GHG reduction efforts regarding mobile sources within the SCAG region. In addition, as discussed above and in Section 3.3, *Climate Change*, operational vehicle emissions with the Project are expected to decline relative to Baseline-Year 2023 conditions. Therefore, the Project supports measures and goals identified in the state's Climate Change Scoping Plans and other regulations

adopted for the purpose of reducing the emissions of GHGs. There would be no conflict with any applicable plans, policies, or regulations adopted for the purposes of reducing the emissions of GHGs. This impact would be less than significant.

3.7.9 Hazards and Hazardous Materials

Would the project:

Question	CEQA Determination
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less Than Significant Impact
c) Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	No Impact
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two nautical miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No Impact

3.7.9.1 CEQA Significance Determinations for Hazards and Hazardous Materials

The analysis in this section is supported by findings and conclusions found in the Project-specific *Initial Site Assessment – Interstate 5/El Toro Road Interchange Improvements Orange County, California* (ISA) (Stantec Consulting Services, Inc. 2025), and Section 2.3.4, *Hazardous Waste/Materials*, of this EIR/EA.

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less-than-Significant Impact

Because no hazardous materials would be transported, handled, or disposed of under the No-Build Alternative or Build Alternative 3, there would be no impacts associated with the routine transport, use, or disposal of hazardous materials under these alternatives.

Under Build Alternative 1 and its design variation (Build Alternative 1a), Project construction would involve the routine transport, use, and disposal of hazardous materials such as solvents, paints, oils, grease, and fuels. Such transport, use, and disposal must comply with applicable regulations, such as those discussed under Section 2.3.4.1, *Regulatory Setting*. Although small amounts of solvents, paints, oils, grease, and fuels would be transported, used, and disposed of during the construction phase, these materials are typically used in construction projects and would not represent the transport, use, and disposal of acutely hazardous materials. In addition, BMPs would be employed during construction to prevent spills of hazardous materials into the surrounding environment, as required by the Project-specific SWPPP to be prepared under the statewide Construction General Permit detailed in Section 3.7.10, *Hydrology and Water Quality*. Therefore, potential construction impacts associated with the routine transport, use, or disposal of hazardous materials as part of Build Alternative 1 and its design variation (Build Alternative 1a) would be less than significant.

The Project would consist of modifications and improvements to the existing I-5/El Toro Road Interchange; therefore, long-term hazardous materials usage would be minimal. Project operations under Build Alternative 1 and its design variation (Build Alternative 1a) would use hazardous chemicals that are typically used during maintenance. These could include common materials such as fuel, paints, solvents, and other maintenance materials. Landscape maintenance within the Project area would also use a variety of commercial products that are considered hazardous materials, including fuel, pesticides, and herbicides. Such materials are considered common and are unlikely to be stored or used in quantities that would result in a significant release. Any spills involving these materials would be small, localized, and cleaned up as they occur. Therefore, potential operational impacts associated with the routine transport, use, or disposal of hazardous materials as part of Build Alternative 1 and its design variation (Build Alternative 1a) would be less than significant.

Impacts would be less than significant, and no mitigation is required.

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

Less-than-Significant Impact

Potential impacts associated with the routine transport, handling, or disposal of hazardous materials are discussed under threshold a), above.

No ground disturbance would occur under the No-Build Alternative and Build Alternative 3; therefore, there would be no impacts associated with foreseeable upset and accident conditions involving the release of hazardous materials under these alternatives.

As discussed in Section 2.3.4.4, *Recognized Environmental Concerns* subsection, the Project-specific ISA (January 2025) identified multiple recognized environmental conditions (RECs)[1] associated with the Project area. These include:

- Agricultural use in the Project area,
- Aerially deposited lead (ADL),
- Contamination associated with the Chevron gas station at 23891 Bridger Road,
- Historical releases associated with former gas stations in the Project area,
- A former automotive repair shop at 24196 Laguna Hills Mall, and
- Former dry cleaners in the Project area.

In addition, the following business environmental risks were identified in the ISA:

- Groundwater and soil vapor monitoring wells within the Project area, and
- Asbestos-containing materials (ACMs) and lead-based paint (LBP) within existing structures.

For additional details regarding each of the RECs noted above, please refer to the *Recognized Environmental Concerns* subsection of Section 2.3.4.4 or the Project-specific ISA.

Contaminated Sites and Historical Agricultural Use

Sites with a history of contamination, including the hazardous materials sites identified as RECs, were identified in Table 2.3.4-1, *Hazardous Waste/Material Sites with Potential to Affect the Project*, of Section 2.3.4. The sites identified had soil and groundwater that had been affected by contaminants that included gasoline, diesel, and volatile organic compounds. In addition to contamination associated with the aforementioned hazardous material sites, the potential for exposure to pesticides and/or herbicides in soil exists because historical land use in portions of the Project area included agriculture. Additional details are found in the ISA.

As stated, the potential for contaminated onsite soil or groundwater exists within the Project site under Build Alternative 1 and its design variation (Build Alternative 1a). Depending on the contaminant characteristics and extent of contamination at particular locations, ground disturbance and excavation activities conducted during construction have the potential to encounter contaminated soil. Furthermore, dewatering within the Project area could result in the withdrawal of contaminated groundwater. If groundwater contains contaminants above regulatory levels, a release of the water could present a

[1] The ISA noted that the limits and locations of partial takes and temporary construction easements, along with ground disturbance (depths) on each parcel, were unknown at the time of the ISA's preparation. Therefore, the recommendations presented in the ISA were conservative and assumed that the permanent and temporary acquisitions could occur anywhere within the Project area. In addition, the ISA suggested that recommendations be revisited once limits of acquisition and depths of ground disturbance were better defined.

hazard to people or the environment unless properly managed. Encountering contaminated soil or groundwater would create an exposure risk for construction personnel and the surrounding environment. To address these risks, the Project applicant would incorporate Avoidance and Minimization Measure **HAZ-1**, requiring that a soil and groundwater sampling program be conducted to assess the presence of contaminants within the Project site (as part of a Phase II Environmental Site Assessment). The Phase II Environmental Site Assessment would consider the affected media and contaminants specified in the ISA. The assessment will determine whether contamination exists and recommend subsequent steps to follow, including adhering to applicable Caltrans Standard Specifications (as part of **PF-HAZ-1**).

Aerially Deposited Lead

There is potential for ADL to exist within the Project area (due to the age of El Toro Road and I-5) under Build Alternative 1 and its design variation (Build Alternative 1a). Soil sampling for the presence of ADL should be performed in unpaved locations of the construction zone (as part of Avoidance and Minimization Measure **HAZ-1**) prior to construction activities. In addition, implementation of Avoidance and Minimization Measure **HAZ-2** would require that soils contaminated with ADL be handled, treated, and disposed of properly.

Pavement-Marking Materials

White and yellow lane striping and pavement-marking materials removed during construction as part of Build Alternative 1 and its design variation (Build Alternative 1a) may contain hazardous materials including, but not limited to, lead and hexavalent chromium. Implementation of Avoidance and Minimization Measure **HAZ-3** would require the construction contractor to test, remove, and properly dispose of white and yellow lane and pavement-marking materials in accordance with applicable Caltrans Standard Specifications (as part of **PF-HAZ-2**) and the Caltrans Construction Manual.

Asbestos-containing Materials and Lead-based Paint

ACMs and LBP may be present in structures proposed to be demolished as part of the Project (depending on the structure's construction date) under Build Alternative 1 and its design variation (Build Alternative 1a). Implementation of Avoidance and Minimization Measure **HAZ-4** would require proper testing, removal, and disposal of ACMs for structures to be demolished as part of the Project. Implementation of Avoidance and Minimization Measure **HAZ-5** would reduce potential exposure impacts associated with LBP during demolition.

Previously Unidentified Contamination

Should affected soil (as evidenced by staining and/or odors) be encountered during construction activities, implementation of **PF-HAZ-3** would be required. Compliance with applicable regulations would minimize the potential for upset or accident conditions involving the release of hazardous materials. As a result, impacts would be less than significant.

c) Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Less-than-Significant Impact

The Pathway School at 23802 Avenida De La Carlota in Laguna Hills is within the limits of disturbance of Build Alternative 1 and its design variation (Build Alternative 1a). In addition, Ralph A. Gates Elementary School at 23882 Landisview Avenue, Lake Forest, is within 0.25 mile of the Project. No construction or operational activities involving the use, storage, or handling of hazardous materials would occur under the No-Build Alternative or Build Alternative 3; therefore, no impacts would result under these alternatives.

As discussed in threshold a), above, routine hazardous materials such as solvents, paints, oils, grease, and fuels would be used, handled, stored, disposed of, and transported during construction in accordance with applicable local, state, and federal regulations. Routine maintenance activities during operation of Build Alternative 1 and its design variation (Build Alternative 1a) would comply with applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. Therefore, construction and operation of Build Alternative 1 and its design variation (Build Alternative 1a) would result in less-than-significant impacts related to the emission or handling of hazardous waste or materials near existing or proposed schools. No mitigation is required.

As noted under threshold b), implementation of Build Alternative 1 and its design variation (Build Alternative 1a) would have the potential to expose construction personnel and the surrounding environment (including schools) to hazardous waste generated during construction activities because of nearby contaminated sites, the disturbance of hazardous building materials, and the Project area's historical agricultural use, ADL-affected soils, lead-containing materials, and previously unidentified contamination. However, compliance with applicable regulations, along with implementation of Project Features and measures mentioned under threshold b), would minimize the potential impact on the surrounding environment (including nearby schools) to a less-than-significant level.

d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?

No Impact

A supplemental environmental database search was conducted through the State Water Resources Control Board's (SWRCB's) GeoTracker (SWRCB 2025), Department of Toxic Substances Control's EnviroStor (Department of Toxic Substances Control 2025), and California Environmental Protection Agency Cortese List Data Resources

(California Environmental Protection Agency 2025)[2] in December 2025. Although several hazardous material sites within the Project footprint under Build Alternative 1 and its design variation (Build Alternative 1a) met the criteria for a Cortese List site, all were listed with a closed status, indicating that they have been remediated to the satisfaction of the applicable oversight agency. Therefore, Build Alternative 1 and its design variation (Build Alternative 1a) would not result in impacts associated with Cortese List sites. Build Alternative 3 and the No-Build Alternative would not involve ground disturbance or site acquisition or result in impacts related to Cortese List sites. However, other active sites with a history of release(s) within or adjacent to the Project footprint with potential to affect the Project are discussed under threshold b), above. Therefore, no impact would occur and no mitigation is required.

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

No Impact

There are no airports within 2 miles of Build Alternative 1 and its design variation (Build Alternative 1a). The closest airport is the John Wayne Airport in Santa Ana, approximately 8.90 miles northwest from the Project's northern terminus. Similarly, Build Alternative 3 and the No-Build Alternative would not result in impacts related to airport proximity. Therefore, implementation of the Project would not result in a safety hazard or excessive noise associated with airport proximity. Accordingly, no impact would occur and no mitigation is required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact

Ground disturbance would not occur under the No-Build Alternative and Build Alternative 3; therefore, no impacts associated with impairment or interference with an adopted emergency response or evacuation plan would occur under these alternatives.

[2] The California Environmental Protection Agency's Cortese List Data Resources (https://calepa.ca.gov/SiteCleanup/CorteseList/) provides information regarding the facilities or sites identified as meeting the "Cortese List" requirements and include:

- The list of hazardous waste and substances sites from the Department of Toxic Substances Control's EnviroStor database,
- The list of leaking underground storage tank sites from SWRCB's GeoTracker database,
- The list of solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside the waste management unit,
- The list of "active" cease-and-desist orders and cleanup-and-abatement orders from SWRCB, and
- The list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.

Under Build Alternative 1 and its design variation (Build Alternative 1a), it is possible that construction activities could affect site access due to temporary construction barricades or other roadway obstructions that could impede emergency access on site. However, compliance with city requirements regarding emergency access during construction activities would minimize potential impacts associated with emergency response times and access. Although construction would require the use of temporary roadway configurations that may cause some minor effects on emergency vehicle response in some situations, emergency vehicles would not be subject to traffic control devices such as stop signs or traffic signals and would be able to bypass other vehicles, which would be required to yield the right of way per California Vehicle Code Section 21806. Furthermore, implementation of **PF-TRA-1** would further reduce potential risks to emergency response during construction of Build Alternative 1 and its design variation (Build Alternative 1a) by requiring a TMP that includes an analysis of impacts on traffic, options for lane closures, and alternate route strategies.

As described in Section 1.2.1, *Purpose*, long-term benefits of the Project under Build Alternative 1 and its design variation (Build Alternative 1a) would include traffic flow improvement and traffic signal optimization, traffic mobility improvements at adjacent local street intersections, freeway ramp queuing reductions, and management of traffic demand through the use of technology, resulting in an improvement to local emergency response times and improving emergency access to the Project area long term. Impacts would be less than significant and no mitigation is required.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires

No Impact

The Project footprint under Build Alternative 1 and its design variation (Build Alternative 1a) is in a highly developed area of Orange County, California, with no wildlands intermixed. Land uses surrounding the Project footprint include mostly commercial and residential uses. According to the California Department of Forestry and Fire Protection's LRA FHSZs – City of Mission Viejo – Orange County map, the Project under Build Alternative 1 and its design variation (Build Alternative 1a) is not within a Very High, High, or Moderate FHSZ. Therefore, Build Alternative 1 and its design variation (Build Alternative 1a) would not expose people or structures to a significant risk involving wildland fires or exacerbate any existing wildfire risks. Build Alternative 3 and the No-Build Alternative would not involve changes to land use or vegetation conditions and would not expose people or structures to wildfire risks. Accordingly, no impacts would occur and no mitigation is required.

3.7.10 Hydrology and Water Quality

Would the project:

Question	CEQA Determination
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less Than Significant Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less Than Significant Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site;	Less Than Significant Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	Less Than Significant Impact
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	No Impact
(iv) impede or redirect flood flows?	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact

3.7.10.1 CEQA Significance Determinations for Hydrology and Water Quality

This section was prepared using information from the *El Toro Road Interchange Water Quality Assessment Report* (Caltrans 2025) and Section 2.3.1, *Water Quality and Stormwater Runoff*, of this EIR/EA. The following discussions are based on those analyses.

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less-than-Significant Impact

Construction activities associated with the Build Alternatives include ground-disturbing activities such as excavation and trenching, soil compaction, cut and fill activities, grading, and demolition. Build Alternative 1 and its design variation (Build Alternative 1a) would have a Disturbed Soil Area of 10.35 acres. No ground disturbance would be required under Build Alternative 3. Accordingly, construction-related impacts on water quality would not occur under Build Alternative 3. Ground-disturbing activities and runoff from work areas could cause soil erosion and sedimentation, reducing water quality in Aliso Creek and Cañada Channel.

Temporary impacts on water quality are related to sediment and sediment-bound pollutants that may be mobilized into drainage structures or other water bodies. Additionally, hazardous materials (e.g., gasoline, oils, grease, lubricants) from construction equipment, concrete waste created from the proposed structures (retaining wall/bridges/soundwalls), trash from workers and construction waste, and any other chemicals could accidently be released during construction. Contaminants from construction vehicles and equipment and sediment from soil erosion could increase the pollutant load in runoff being transported to receiving waters. Implementing Project Features **PF-WQ-2** and **PF-WQ-3** would reduce water quality impacts. As outlined in Project Feature **PF-WQ-2**, the Project would comply with the provisions of the NPDES Construction General Permit (Order No. 2022-0057-DWQ). Because more than 1 acre would be disturbed, the Project would prepare and implement a SWPPP (**PF-WQ-3**) that would be consistent with the Statewide Construction General Permit. The SWPPP would detail the construction-phase erosion and sediment control BMPs and the housekeeping measures for control of contaminants other than sediment. The BMPs identified in the Project SWPPP would include measures such as temporary soil stabilization measures, linear sediment barriers (i.e., silt fence, gravel bag berms, and fiber rolls), and construction site waste management (i.e., concrete washout, construction materials storage, and litter/waste management). Erosion control BMPs include source control measures, preservation of existing vegetation, and effective soil cover to prevent sediments from being dislodged by wind, rain, or flowing water. BMPs to control the pollutants include sediment control, catch basin inlet protection, construction materials management, and non-stormwater BMPs. The SWPPP would establish good housekeeping measures such as construction vehicle storage and maintenance, handling procedures for hazardous materials, and waste management BMPs, which would include procedural and structural measures to prevent the release of wastes and materials used at the site. The SWPPP also would detail spill prevention and control measures to identify the proper storage and handling techniques of fuels and lubricants, and the procedures to follow in the event of a spill. Project Feature **PF-WQ-6** would minimize any permanent impacts on water quality to meet California SWRCB Trash Provisions.

It is anticipated that the Project would not encounter groundwater during construction. In the event dewatering is required, exposure of pollutants or spills may contaminate water quality. Short-term construction dewatering is covered under the WDR for groundwater extraction discharges in the San Diego Region (Order NO. R9-2015-0013). Dewatering BMPs must be used to control sediment and pollutants, and the discharges must comply with the WDRs issued by the San Diego Regional Water Quality Control Board (RWQCB). Project Feature **PF-WQ-7** would minimize any temporary impact due to the discharge of groundwater to surface water. For water to be discharged to surface waters, the contractor would need to notify the San Diego RWQCB and comply with the RWQCB's requirements related to the quality of water and discharges. The Construction General Permit also includes dewatering activities as authorized non-stormwater discharges, provided that dischargers prove the quality of water to be adequate and not likely to affect beneficial uses. If it is found that the groundwater does not meet water quality standards, it must be treated as necessary prior to discharge so that all applicable water quality objectives (as designated in the Water Quality Control

Plan for the San Diego Basin and the Water Quality Control Plan for the Santa Ana River Basin) are met; or hauled off site for treatment and disposal at an appropriate waste treatment facility that is permitted to receive such water.

Reconstruction of the interchange and on- and off-ramps and construction of new ramps and/or new lanes or bridge structures would increase the impervious surface area. Build Alternative 1 and its design variation (Build Alternative 1a) would result in approximately 7.68 acres of new impervious surface, including approximately 2.74 acres of net new impervious surface and 4.94 acres of replaced impervious surface. Increases in impervious surface area could result in increased runoff and associated pollutants typical of a transportation facility. However, the types of pollutants would be similar to the pollutants discharged under existing conditions (i.e., oil and grease, gasoline, and metals). The Project will evaluate post construction treatment BMPs consistent with the Caltrans Statewide NPDES Municipal Separate Storm Sewer System (MS4) permit for the new impervious surface created by the Project. Treatment BMPs may include biofiltration, design pollution prevention infiltration areas, infiltration devices, detention devices, media filters, multi-chamber treatment train, wet basin, and open graded friction course. Project Features **PF-WQ-1**, **PF-WQ-4**, and **PF-WQ-5** would minimize any permanent impacts on water quality.

All Project activities would be subject to existing regulatory requirements. During Project operation, the Project would act in accordance with related regulatory agencies guidelines including the Caltrans Statewide MS4 (**PF-WQ-1**) and Orange County MS4 requirements, and meet the goals and objectives of the County's general plan. Furthermore, discharge of pollutants from urban runoff would be minimized with implementation of practices required by the Orange County Stormwater Program and other local, federal, and state requirements. With implementation of Project Features **PF-WQ-1** through **PF-WQ-7**, construction and operation of the Build Alternatives would not violate water quality standards or WDRs and impacts would be less than significant.

Because Build Alternative 3 would not involve construction activities and would not introduce new impervious surfaces, it would not result in construction- or operations-related water quality impacts.

With implementation of Project Features **PF-WQ-1** through **PF-WQ-7**, construction and operation of Build Alternative 1 and its design variation (Build Alternative 1a) and operation of Build Alternative 3 would not violate water quality standards or WDRs, and impacts would be less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less-than-Significant Impact

It is anticipated that Build Alternative 1 and its design variation (Build Alternative 1a) would not encounter groundwater during construction. No ground disturbance would be

required and therefore no groundwater would be encountered under Build Alternative 3. The Build Alternatives would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. If the Build Alternatives require the discharge of groundwater encountered/extracted during construction of structures (i.e., bridges, retaining walls, sound walls, or sign foundations) the discharge must comply with General WDRs from the San Diego RWQCB. These WDRs address short-term dewatering activities during construction.

Dewatering BMPs must be used to control sediment and pollutants, and the discharges must comply with the WDRs issued by the San Diego RWQCB. Project Feature **PF-WQ-7** addresses temporary impacts due to the discharge of groundwater to surface water during construction. Impacts resulting from the Project would be less than significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:

i) Result in substantial erosion or siltation on or off site;

ii) Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site;

Less-than-Significant Impact

During construction, existing drainage patterns could temporarily be altered through minor grading, potentially resulting in temporary erosion. BMPs would be implemented to manage runoff and potential erosion, as described in the SWPPP as part of Project Feature **PF-WQ-3** and in compliance with the Construction General Permit (**PF-WQ-2**). Good housekeeping practices identified in the SWPPP would prevent runoff and contain associated sediment. Post-construction erosion/siltation is addressed by the installation of permanent soil stabilization BMPs as part of Project Feature **PF-WQ-4**. As a result, excess soil disturbance would be minimized, and associated soil erosion impacts would be reduced.

Minimal additional impervious surface would be added as part of the Project. Build Alternative 1 and its design variation (Build Alternative 1a) would increase the impervious area by 7.68 acres. There would be no change in impervious area under Build Alternative 3. The increase in impervious surface could alter drainage patterns. With the realignment or new construction of the interchange, drainage facilities would be reconstructed and incorporate new permanent treatment BMPs for post-construction runoff (**PF-WQ-5**). Implementation of Design Pollution Prevention BMPs (**PF-WQ-4**) such as concentrated flow conveyance systems (i.e., ditches, berms, dikes and swales, overside drains, and outlet protection/velocity dissipation devices) would manage runoff and minimize the potential for flooding on or off site. Impacts resulting from the Project would be less than significant.

iii) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv) Impede or redirect flood flows?

No Impact

During construction, the drainage pattern of the site or area may be temporarily altered. Build Alternative 1 and its design variation (Build Alternative 1a) propose new intersections, realigning on- and off-ramps, and constructing new on-ramps. With the realignment or new construction of the interchange, drainage facilities would be reconstructed. Build Alternative 3 would not involve ground disturbance or modifications to existing drainage conditions.

Proposed drainage facilities would comply with Caltrans Statewide MS4 (**PF-WQ-1**) and Orange County MS4 requirements. Implementation of Design Pollution Prevention BMPs (**PF-WQ-4**) such as concentrated flow conveyance systems would manage runoff. As a result, the Project would not create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Project Features **PF-WQ-1** and **PF WQ-5** would minimize any additional sources of polluted runoff.

The Project site is not in a 100-year floodplain; therefore, the Project would not impede or redirect flood flows. Build Alternative 3 would not alter drainage conditions or affect flood flows.

Consequently, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not create or contribute runoff that would exceed the capacity of drainage systems or provide substantial additional sources of polluted runoff, nor would they impede or redirect flood flows. No impact would result, and no mitigation is required.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact

The Project site is not in a tsunami or seiche zone. The Build Alternatives are in FEMA Zone X, areas outside the 0.2 percent annual chance (500-year) flood and not within the 100-year flood zone. Build Alternative 1 and its design variation (Build Alternative 1a) would involve improvements within the existing transportation corridor and would not introduce new risks associated with inundation, and Build Alternative 3 would not involve ground disturbance or changes in land use. Therefore, the Project would not release pollutants due to inundation and no impacts would occur under Build Alternatives 1 and its design variation (Build Alternative 1a) or 3. No impact would result, and no mitigation is required.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact

The Project would comply with the appropriate water quality objectives for the region. As required by the NPDES Construction General Permit, BMPs would be implemented to control construction site runoff and to reduce the discharge of pollutants to storm drain systems from stormwater and other nonpoint-source runoff. Implementation of BMPs would ensure that water quality objectives that protect designated beneficial uses of surface and groundwater, as defined in the Water Quality Control Plan, are achieved. In addition, implementation of the appropriate general plan policies would require the protection of groundwater recharge areas and groundwater resources, as required by a sustainable groundwater management plan.

Build Alternative 1 and its design variation (Build Alternative 1a) would implement these requirements during construction and operation, and Build Alternative 3 would not involve construction activities or changes that could affect water quality or groundwater resources. Therefore, the Build Alternatives would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No impact would result, and no mitigation is required.

3.7.11 Land Use and Planning

Would the project:

Question	CEQA Determination
a) Physically divide an established community?	Less Than Significant Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact

3.7.11.1 CEQA Significance Determinations for Land Use and Planning

This section is based on the Supplemental Community Impact Assessment (Caltrans 2026) and Section 2.2.2, *Consistency with Federal, State, Tribal, Regional, and Local Plans and Programs*; Section 2.2.3, *Parks and Recreational Facilities*; and Section 2.2.5, *Relocations and Real Property Acquisitions*, of this EIR/EA.

a) Physically divide an established community?

Less-than-Significant Impact

The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and an outlying area.

During construction of Build Alternative 1 and its design variation (Build Alternative 1a), it is anticipated that there would be a temporary interruption or delay in accessing local businesses due to temporary detours, closures on local streets, and removal of approximately 53 total parking spaces within four properties. However, with implementation of a TMP (Project Feature **PF-TRA-1** [see Section 2.2.7, *Transportation*]) and **COM-2** (see Section 2.2.4, *Community Character and Cohesion*), temporary traffic impacts during construction, such as access and circulation, pedestrian and bicycle facilities, and parking during construction, would be reduced.

As described in Section 2.2.4, *Community Character and Cohesion*, of this EIR/EA, Build Alternative 1 and its design variation (Build Alternative 1a) would result in the permanent loss of approximately 54 total parking spaces within six properties and the removal of two private commercial parking lots due to full acquisition of two commercial properties (Assessor's Parcel Number [APN] 621-052-04 associated with The Village at Laguna Hills, and APN 616-033-05 located along Bridger Road), as described in Section 2.2.5, *Relocations and Real Property Acquisitions*, of this EIR/EA. In addition, some available on-street parking at the Bridger Road cul-de-sac may be permanently removed. However, it is anticipated that there would be sufficient parking spaces remaining for the surrounding community and the loss of parking would not create a physical barrier or division.

As described in Section 2.2.3, *Parks and Recreational Facilities*, of this EIR/EA, a new soundwall to reduce traffic noise would be constructed along I-5 adjacent to Cavanaugh Park under Build Alternative 1 and its design variation (Build Alternative 1a). Permanent use of a portion of the park would remove several existing recreational features, including the half basketball court, playground, and picnic table, along with some of the park's open space along I-5. The permanent use of approximately 0.59 acre of Cavanaugh Park amounts to less than 10 percent of the park's total acreage and the new soundwall would not restrict access to the remainder of the park. Therefore, the impacts on Cavanaugh Park would not create a physical barrier or division for the surrounding community.

Build Alternative 3 consists of transportation technology improvements and would not include physical or geometric modifications that could impair access, remove circulation routes, or otherwise physically divide an established community.

Therefore, the Build Alternatives would not physically divide an established community. Although temporary access disruptions would occur during construction of Build Alternative 1 and its design variation (Build Alternative 1a), access would be maintained throughout construction and the Project would not create a permanent physical barrier within the surrounding community. Impacts would be less than significant.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact

The Project, under all Build Alternatives, is anticipated to improve traffic mobility and operations at the I-5/El Toro Road interchange. As described in Section 2.2.2, *Consistency with Federal, State, Tribal, Regional, and Local Plans and Programs*, of this EIR/EA, the Project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. No impact would result, and no mitigation is required.

3.7.12 Mineral Resources

Would the project:

Question	CEQA Determination
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?	Less Than Significant Impact
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	Less Than Significant Impact

3.7.12.1 CEQA Significance Determinations for Mineral Resources

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Less-than-Significant Impact

The Resources Element of the *Orange County General Plan* identifies that significant construction aggregate resources are available in undisclosed portions of San Juan Creek, Trabuco Canyon, and the Santa Ana River (County of Orange 2013). However, Figure VI-3 in the Resources Element of the *Orange County General Plan* does not display any generalized mineral resource areas near the Project area (County of Orange 2013). A review of the Surface Mining and Reclamation Act of 1975 maps on the California Mineral Resources Data Portal indicates that there are areas of unknown mineral resource significance (MRZ-1) and areas containing known or inferred Portland cement concrete aggregate resource of undetermined mineral resource significance (MRZ-3) within the Project area (California Department of Conservation 2026). Although mineral resource significance is undetermined in parts of the Project area, the Project is

confined to primarily disturbed areas and previously paved areas. Therefore, the impact on mineral resources from the Project would be less than significant.

3.7.13 Noise

Would the project result in:

Question	CEQA Determination
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less Than Significant Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two nautical miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact

As discussed in the *Supplemental Noise Study Report for the Interstate 5/El Toro Road Interchange Project* (Caltrans 2026) and Section 2.3.6, Noise, an investigation of the Project area was conducted to identify land uses that could be subject to traffic and construction noise impacts from the Project alternatives. Land uses in the Project area consist primarily of single-family and multi-family residential, a school, a place of worship, a park, a playground, a basketball court (half-court), the exterior use areas for restaurants/bars, and other non-noise-sensitive land uses including retail.

Based on the Caltrans Traffic Noise Analysis Protocol (Protocol) all developed land uses are considered. However, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Accordingly, this CEQA impact analysis focuses on locations with defined outdoor activity areas, such as residential backyards of single-family homes and private or community outdoor use areas at multi-family residences (such as decks and balconies), a school, a place of worship, a park, a playground/basketball court, and outdoor seating/dining areas.

The Project area was divided into four separate Noise Analysis Areas (NAAs), as outlined below. The location of each NAA is shown on Figure 2.3.6-2. The following sections describe the land uses as they existed at the time of field noise measurements.

NAA 1 – East side of I-5 south of El Toro Road: The land uses in this NAA are primarily residential with some outdoor seating areas and retail land uses. There is an existing 16-foot noise barrier at the right of way, and several existing block walls on private property provide shielding from I-5 at the residences on the northbound side.

NAA 2 – West side of I-5 south of El Toro Road: The land uses in this NAA are a mix of restaurants with outdoor seating and retail. A large area of land has been cleared for

The Village at Laguna Hills future development that will likely include residential uses, outdoor recreational areas, hotels, restaurants, offices, and retail. To date, the exact land uses are not confirmed. The development is in the planning phase and has not been permitted to be constructed.

NAA 3 – East side of I-5 north of El Toro Road: The land uses in this NAA are primarily residential with other land uses being a park, which includes a playground, a basketball court (half-court), and outdoor seating areas, and retail. An existing 16-foot noise barrier located at the right of way, and several existing block walls on private property provide shielding from I-5 at the residences.

NAA 4 – West side of I-5 north of El Toro Road: The land uses in this NAA include multi-family residential, a school, a place of worship, and outdoor seating areas. There is an existing 16-foot noise barrier at the right of way, and several existing block walls on private property provide shielding from I-5 at the residences.

Under CEQA, the baseline noise level is compared to the design-year Build noise level. The assessment entails looking at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area. Key considerations include: the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level. The comparison between the baseline and Build condition is used to determine if the Project is predicted to result in a substantial increase in overall noise levels. The Protocol generally defines a noise increase as substantial when the predicted noise levels with project implementation exceed existing noise levels by 12 dBA or more. However, this 12 dB increase should not be considered a firm impact threshold, as there could be cases where an increase less than 12 dB would approach significance (such as a quiet rural environment) under CEQA or where a 12 dB increase would not necessarily be deemed significant (noisy urban environment) under CEQA.

3.7.13.1 CEQA Significance Determinations for Noise

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less-than-Significant Impact

Construction

Construction activities related to development of the Project are expected to cause short-term elevated noise levels at land uses surrounding the Project alignment. A design variation, Build Alternative 1a, includes all features of Build Alternative 1 in addition to a new public street entering the Village of Laguna Hills development at the new southbound I-5/Avenida De La Carlota ramp terminal intersection south of El Toro Road. The design variation is not expected to cause considerable differences in estimated construction noise levels when compared to Build Alternative 1. Therefore,

only Build Alternative 1 was evaluated and the results are also applicable to Build Alternative 1a, which differs only by the minor design feature noted previously. Build Alternative 3 consists of technology improvements and does not include any physical or geometric modifications. As such, no ground disturbance or substantial physical alterations would occur under Build Alternative 3, and no temporary or permanent construction-related noise impacts would be anticipated.

Under Build Alternative 1 and design variation (Build Alternative 1a), construction-related noise is expected to occur with the inclusion and use of construction equipment such as concrete mixers, bulldozers, backhoes, heavy trucks, and pile drivers. As discussed in Section 2.3.6, *Noise,* the project would be required to comply with Caltrans Standard Specifications (2025) for noise control, which is a standard requirement for all Caltrans projects. According to the requirements of the specifications, construction noise cannot exceed 86 dBA L_{max}, at 50 feet from the job site activities between 9:00 p.m. and 6:00 a.m. Impacts from construction are considered less than significant.

Operation

The following sections provide details regarding the traffic noise impacts predicted in each NAA for Alternative 1 and its design variation (Build Alternative 1a). Build Alternative 3 does not include any physical or geometric modifications; therefore, no operational noise impacts would be anticipated.

NAA 1: There are 43 modeled receivers (M01.01 through M01.43), representing 90 benefited receptors, within NAA 1. The predicted worst-hour exterior traffic noise levels range from 52 to 70 dBA equivalent hourly noise level (L_{eq}[h]) for existing conditions. The predicted worst-hour exterior traffic noise levels range from 53 to 72 dBA L_{eq}(h) under Build Alternative 1 design-year Build conditions. Design-year Build noise levels are predicted to change by approximately 1 to 2 dBA relative to existing noise levels. A 3 dBA increase is generally considered the point at which the human ear will perceive a difference in a noise level. Therefore, a 2 dB increase would not be considered perceptible. Consequently, under CEQA, noise impacts are considered less than significant as a result of the Project and no mitigation is required. However, under NEPA/23 Code of Federal Regulations (CFR) 772, because the noise levels at one receptor (M01.41) approaches or exceeds the noise abatement criteria of 72 dBA, noise abatement would need to be considered (as discussed in Section 2.3.6, *Noise*).

NAA 2: There are 19 modeled receivers (M02.01 through M02.19), representing two benefited receptors, within NAA 2. The predicted worst-hour exterior traffic noise levels range from 63 to 73 dBA L_{eq}(h) for existing conditions. The predicted worst-hour exterior traffic noise levels range from 62 to 74 dBA L_{eq}(h) for design-year Build conditions. Design-year Build noise levels are predicted to change by approximately -4 (i.e., a 4 dBA decrease) to 4 dBA relative to existing. It should be noted that modeled receivers M02.04 through M02.19 were modeled to analyze a future development (The Village at Laguna Hills) that is planned and programmed but has not been finalized at the time of this EIR/EA. The results of the analysis predict noise levels at modeled receivers representative of this future development are predicted to change by approximately -4 (i.e., a 4 dBA decrease) to 3 dBA relative to existing conditions. As discussed above, a

3 dBA increase is generally considered the point at which the human ear will perceive a difference in a noise level. Noise level increases in this NAA and at the future development are expected to increase by no more than 4 dB, which would potentially be discernable but would not be considered a substantial increase as defined by the Protocol (generally 12 dB or more). Noise levels at these receptors approach or exceed the NEPA/23 CFR 772 noise abatement criteria of 67 dBA; however, noise abatement was not considered, as the planned and programmed future project is not finalized (as discussed in Section 2.3.6, *Noise*). Additional consideration may be necessary during final design; however under CEQA, predicted noise impacts would be less than significant as a result of the Project and no mitigation is required.

NAA 3: There are 26 modeled receivers (M03.01 through M03.26), representing 47 benefited receptors, within NAA 3. The predicted worst-hour exterior traffic noise levels range from 54 to 79 dBA L_{eq}(h) for existing and 58 to 80 dBA L_{eq}(h) for design-year Build conditions. Noise levels under the design-year Build condition are predicted to change by approximately -1 (i.e., a 1 dBA decrease) to 13 dBA (M03.04/ST03.02) relative to existing noise levels. The higher end of the increases in predicted noise levels under the design-year Build condition relative to the existing conditions is due to the widening of the northbound mainline, which reduces the distance between the roadway and noise-sensitive residences, and the partial demolition of an existing 16-foot noise barrier to accommodate improvements to the ramps. Noise levels at one modeled receiver, representing one receptor, are predicted to increase by 13 dB over the existing.

An analysis of a noise barrier (NB234A1 - NB Mainline EOS) was prepared to determine if feasible abatement (providing 5 dB worth of insertion loss) was possible and is discussed in detail in Section 2.3.6, *Noise*. The analysis indicates that the noise barrier would reduce noise levels under the design-year Build condition by 8 to 16 dB at barrier heights of 10 to 22 feet.

Noise levels under the design-year Build condition are predicted to change by approximately -1 (i.e., a 1 dBA decrease) to 13 dBA relative to existing noise levels. With noise barrier NB234A1 – NB Mainline EOS, noise levels under the design-year Build condition would be reduced by 8 to 16 dB at barrier heights of 10 to 22 feet. It should be noted that this barrier is intended to replace an existing 16-foot noise barrier that extends from approximately STA 05+00 (along the northbound on-ramp station line) through 245+00 (along the main line station line) and, consistent with Caltrans District 12 guidance and precedent, a noise barrier that is demolished would be redesigned with the same dimension (height and extent) regardless of cost should the barrier be found not to be feasible or reasonable. Therefore, noise barrier NB234A1 shall be constructed as part of the Project. Under CEQA, noise impacts would be less than significant and no mitigation is required.

NAA 4: There are 89 modeled receivers, representing 182 benefited receptors, within NAA 4: M04.01 through M04.06a, M04.06b, M04.06c, M04.07 through M04.57a, M04.57b, M04.57c. M04.57d, M04.58-2 through M04.68-2a, M04.68b, and M04.69-2 through M04.83-2. The predicted worst-hour exterior traffic noise levels range from 51

to 80 dBA L_{eq}(h) for existing and 53 to 81 dBA L_{eq}(h) under design-year Build conditions. Design-year noise levels for Build Alternative 1 are predicted to change by approximately -1 (i.e., a 1 dBA decrease) to 10 dBA relative to existing noise levels. The higher end of the increases in predicted noise levels under the design-year condition relative to the existing condition is due to the partial demolition of an existing 16-foot noise barrier, which extends from approximately STA 227+50 to STA 236+00 to accommodate improvements to the ramps.

An analysis of a noise barrier (Noise Barrier 235A1) was prepared to determine if feasible abatement (providing 5 dB worth of insertion loss) was possible and is discussed in detail in Section 2.3.6, *Noise*. The noise barrier would extend from STA 02+00 (along the southbound off-ramp station line) through STA 262+00 (along the mainline station line), approximately 3,485 feet in length. The analysis indicates that the noise barrier would reduce noise levels under the design-year Build condition by 6 to 13 dB at barrier heights of 8 to 22 feet.

Although the Project is not predicted to result in a substantial increase in noise with noise barrier NB235A1 – SB Mainline EOS, noise levels under the design-year Build condition are predicted to be reduced. It should be noted that a portion of this barrier includes an existing 16-foot noise barrier that extends from approximately STA 227+50 to 236+00 and, consistent with Caltrans District 12 guidance and precedent, a noise barrier that is demolished would be redesigned with the same dimension (height and extent) regardless of cost should the barrier be found not to be feasible or reasonable. Therefore, noise barrier NB234A1 shall constructed as part of the Project. Under CEQA, noise impacts would be less than significant and no mitigation is required.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact

Any groundborne noise or vibration is expected to be limited to the construction period and would be short in duration. The Project would include typical construction activities using typical construction equipment (e.g., bulldozers, jack hammers, rollers) and non-standard construction activities, such as pile driving along the existing roadway alignment and within the Caltrans right of way. Based on the Caltrans Transportation and Construction Vibration Guidance Manual, the typical type of construction equipment (rollers and bull dozers) produces a peak particle velocity (PPV) of 0.210 and 0.089 PPV inch per second (in/sec), respectively, at a reference distance of 25 feet (FTA 2018). The Caltrans Manual references the damage potential for buildings extremely susceptible to vibration damage at 0.08 PPV in/sec (from Continuous/Frequent Intermittent Sources) with levels for newer residential structures being 0.5 PPV.

Under Build Alternative 1 and its design variation (Build Alternative 1a), the closest structure is approximately 75 feet from the closest location where piles would be driven. This location (M04.06b) is a commercial structure and therefore would fall under the modern industrial/commercial buildings classification with a threshold of 0.5 PPV. The

reference distance for an impact pile driver based on the Caltrans Manual at a distance of 25 feet is 0.65 PPV. At a distance of 75 feet, vibration level would attenuate to a level of 0.19 PPV based on the vibration equation referenced in the Caltrans Manual:

$$(PPV_{ref} \times (25/D)^{\wedge N} \times (E_{equip}/E_{ref})^{\wedge 0.5}).$$

- PPF_{ref} is the reference level of vibration at a distance of 25 feet (0.65 PPV),
- D is the distance (75 feet),
- E_{equip} is the reference energy for the pile driver, 36,000 foot-pounds
- E_{ref} is the rated energy of the equipment to be used, in this case it is assumed that the energy will be the same, 36,000 foot-pounds, and
- N is value related to the vibration attenuation rate through ground, in this case 1.1 which is the suggested value based on the Caltrans manual.

Based on the distance and the type of building surrounding the area where piles would be driven, levels of vibration and groundborne noise may be perceptible; however, they are not predicted to be significant under CEQA for Build Alternative 1 or its design variation (Build Alternative 1a). Alternative 3 does not include any physical or geometric modifications; therefore, no impacts due to vibration would be anticipated.

With respect to operations, the Project does not involve changes that would be expected to result in noticeable increases in groundborne vibration or groundborne noise levels from use or maintenance of the roadway. Once the Project is completed, long-term increases in groundborne vibration or groundborne noise levels from use or maintenance of the roadway would be less than significant.

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

No Impact

The Project is not within 2 miles of an airport. The closest airport is John Wayne International airport, which is approximately 10 miles away. Therefore, no impact would occur.

3.7.14 Population and Housing

Would the project:

Question	CEQA Determination
a) Induce substantial unplanned 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)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

3.7.14.1 CEQA Significance Determinations for Population and Housing

This section is based on the Supplemental Community Impact Assessment (Caltrans 2026) and Sections 2.2.1, *Existing and Future Land Use*, and 2.2.5, *Relocations and Real Property Acquisitions*, of this EIR/EA.

a) Induce substantial unplanned 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)?

No Impact

Build Alternative 1 and its design variation (Build Alternative 1a) propose improvements to existing roads and I-5, while Build Alternative 3 would consist of transportation technology improvements within the existing transportation network; the Build Alternatives would not create or eliminate any new freeways or roadways. The Project improvements would accommodate existing and planned development as approved in the context of adopted regional and local plans. The Project would not influence the amount, location, and/or distribution of growth in the Project area because no new facilities are proposed.

The Project would create short-term jobs in the surrounding area during the construction phase, which may help decrease the current rates of unemployment. However, because these jobs are temporary, it is not expected that workers would permanently relocate for work during the construction phase. As such, substantial population growth associated with Project construction is not anticipated. Therefore, no impact would occur.

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

No Impact

The Project, under all Build Alternatives, would not displace existing people or housing because no residential acquisitions are required and no residents would be displaced or relocated. No impact would occur.

3.7.15 Public Services

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

Question	CEQA Determination
a) Fire protection?	Less Than Significant Impact
b) Police protection?	Less Than Significant Impact
c) Schools?	No Impact
d) Parks?	Less Than Significant Impact
e) Other public facilities?	Less Than Significant Impact

3.7.15.1 CEQA Significance Determinations for Public Services

This section is based on the Supplemental Community Impact Assessment (Caltrans 2026) and Section 2.2.6, *Utilities and Emergency Services*, Section 2.2.7, *Transportation*, and Appendix A, *Section 4(f)*, for the Build Alternatives.

a) Fire protection?

Less-than-Significant Impact

The Project limits are within the cities of Lake Forest, Laguna Woods, and Laguna Hills. Fire protection and emergency response services in these cities are provided by the Orange County Fire Authority (OCFA), a regional fire service agency that serves 23 cities in Orange County as well as all unincorporated areas. Build Alternative 1 and its design variation (Build Alternative 1a) could temporarily impair the delivery of emergency services during construction, including fire response times, as a result of intermittent lane and ramp closures and associated detours. However, these temporary effects would be coordinated with OCFA through Project Feature **PF-TRA-1**, which requires implementation of a TMP. The TMP would include emergency access provisions, phased closures, detour routes, and advance public notifications to ensure emergency vehicles can maintain access throughout all construction stages.

In addition, **PF-UES-1** and **PF-UES-2** require direct coordination with OCFA regarding any closures, detours, or traffic control changes to ensure emergency access is preserved and response times are not disrupted. With these Project Features in place, construction would not require the expansion or new construction of fire facilities.

Build Alternative 3 consists of technology improvements and does not include any physical or geometric modifications. As such, no ground disturbance or substantial physical alterations would occur under Build Alternative 3, and no impacts on fire protection would occur.

Once operational, the Project would improve interchange efficiency, reduce queueing, and enhance traffic circulation within the I-5/El Toro Road Interchange area, which can benefit emergency response reliability and reduce delays for fire and emergency vehicles. Therefore, impacts on fire protection services would be less than significant.

b) Police protection?

Less-than-Significant Impact

Municipal policing is provided by the Orange County Sheriff's Department (OCSD) and freeway enforcement on I-5 is provided by the California Highway Patrol (CHP). As with fire protection and emergency medical services, Build Alternative 1 and its design variation (Build Alternative 1a) could temporarily impair the delivery of emergency services, including police response times, as a result of intermittent lane and ramp closures and associated detours during construction. However, temporary traffic control, closures, and detour routes would be directly coordinated with OCSD and CHP per **PF-UES-1**, **PF-UES-2**, and **PF-TRA-1** to maintain emergency access at all times for patrol and incident response during construction. No new police facilities or staffing are required to maintain acceptable service during construction or operation.

Build Alternative 3 consists of technology improvements and does not include any physical or geometric modifications. As such, no ground disturbance or substantial physical alterations would occur under Build Alternative 3, and no impacts on police protection would occur.

As mentioned above, operation of the Project would improve interchange efficiency, reduce queueing, and enhance traffic circulation throughout the I-5/El Toro Road Interchange area, which can benefit emergency response reliability and reduce delays for police and emergency vehicles. Therefore, impacts on police protection would be less than significant.

c) Schools?

No Impact

The community impact study area (RSA) is defined as a 0.5-mile radius from the Project's maximum limits of disturbance. Three schools operated by the Saddleback Valley Unified School District are within the RSA, including two elementary schools and an early childhood learning center. No schools are within the Project limits; the closest schools, Ralph A. Gates Elementary School and La Tierra Early Childhood Center, are approximately 0.22 mile and 0.24 mile from the Project limits, respectively.

Build Alternative 1 and its design variation (Build Alternative 1a) would not result in temporary or permanent physical impacts on school facilities, as no construction activities would occur on school property and no access disruptions to school sites would occur. In addition, Build Alternative 1 and its design variation (Build Alternative 1a) would not result in increased enrollment or demand for school services because

these alternatives are not growth-inducing and would not generate new population or housing.

Build Alternative 3 consists of technology improvements and does not include any physical or geometric modifications. As such, no ground disturbance or substantial physical alterations would occur under Build Alternative 3, and no impacts on schools would occur.

Because none of the Build Alternatives would affect the operation, access, or capacity of existing schools or require the construction or expansion of new or physically altered school facilities to maintain acceptable service levels, the Project would not result in substantial adverse physical impacts related to schools. Therefore, no impact would occur under CEQA.

d) Parks?

Less-than-Significant Impact

As described in Section 2.2.3, *Parks and Recreational Facilities*, there are 14 recreational facilities within 0.5 mile of the Project limits. The Project would not result in the need for new or physically altered parks, nor would it increase demand on existing recreational facilities such that new or expanded facilities would be required. Project activities would not alter or affect any of these facilities, with the exception of Cavanaugh Park, which is adjacent to the I-5 corridor.

Build Alternative 1 and its design variation (Build Alternative 1a), would require temporary construction easements of approximately 0.5 acre of Cavanaugh Park. As a result, the half basketball court, playground equipment, picnic table, and portions of the open grass area would be temporarily unavailable for public use during construction. These temporary effects would be minimized through inclusion of Project Features **PF-TRA-1**, **PF-CI-1**, **PF-CI-2**, and **PF-N-1**, which address public access, construction staging, site maintenance, and noise control. All temporarily affected areas would be restored following construction.

Build Alternative 1 and its design variation (Build Alternative 1a) would also require permanent acquisition of approximately 0.59 acre of Cavanaugh Park to accommodate Project improvements. This would potentially remove several existing recreational features along the park's boundary with I-5.

As discussed in Section 2.2.3, *Parks and Recreational Facilities*, the City of Lake Forest is currently planning a separate park revitalization project that includes relocation and upgrading of park amenities. If the city's project is implemented prior to construction, impacts on park facilities would be limited to vegetated areas because the existing park features would have already been relocated. If the city's project does not proceed, Avoidance and Minimization Measures **LU-4 (Section 4f-1)** and **LU-5 (Section 4f-2)** would be implemented to address impacts on park features, consistent with Section 4(f). In coordination with the City of Lake Forest, Caltrans would address impacts on recreational amenities through incorporation of Avoidance and Minimization Measure

LU-4 (Section 4f-1) and conduct public outreach to ensure replacement features meet community needs through Avoidance and Minimization Measure **LU-5 (Section 4f-2)**. Compensation for the acquired parkland and facilities would be provided in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Avoidance and Minimization Measure **REL-1**). Replacement of park facilities and planned upgrades would maintain recreational service levels and are not expected to generate additional demand for parkland.

Build Alternative 3 consists of technology improvements and does not include any physical or geometric modifications. As such, no ground disturbance or substantial physical alterations would occur under Build Alternative 3, and no impacts on parks would occur.

All other parks and trails within the study area would remain accessible and would not be physically altered or affected by the Project. Because the Project would not create substantial demand for parks or require the construction of new parks and includes project features and measures to replace and restore affected recreational amenities at Cavanaugh Park, the Project would result in a less-than-significant impact on parks under CEQA.

e) Other public facilities?

Less-than-Significant Impact

Other public facilities within the RSA include three places of worship, two post offices, one city hall, one library, and the Laguna Hills Transportation Center & Park-n-Ride lot.

Build Alternative 1 and its design variation (Build Alternative 1a) would have direct temporary impacts on St. George Episcopal Parish/Church (23802 Avenida De La Carlota, Laguna Hills) during construction. Build Alternative 1 and its design variation (Build Alternative 1a) would require a temporary construction easement of approximately 6,459 square feet at St. George Episcopal Parish/Church, which would temporarily affect approximately 10 parking spaces during construction. Access to the church and its facilities would be maintained during construction; therefore, operation of the church is not anticipated to be affected. The property contains sufficient parking such that the temporary loss of these spaces is not anticipated to interfere with the facility's operations. The affected parking spaces would be fully restored following completion of construction activities. In addition, Build Alternative 1 and its design variation (Build Alternative 1a) would require permanent partial acquisition of 1,855 square feet of APN 616-022-03, where St. George Episcopal Parish/Church is located, which would include the loss of approximately 10 permanent parking spaces. Relocation of the church or acquisition of the building facilities would not be required by the Project. The permanent partial acquisition would not inhibit use of the remaining portion of the property or affect church operations. Impacts related to the partial acquisition of St. George Episcopal Parish/Church property would be addressed in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Avoidance and Minimization Measure **REL-1**).

Other community facilities adjacent to the Project limits may experience short-term construction-related impacts, including an increase in noise, dust, and air pollution from the use of construction equipment. However, these effects would be temporary and would be minimized through standard construction measures, including Project Features **PF-AQ-1** and **PF-AQ-2**. Construction activities would also adhere to local noise ordinances and Project Feature **PF-N-1** so that any noise nuisance to adjacent community facilities would be minimized.

Build Alternative 1 and its design variation (Build Alternative 1a) would involve construction activities that require temporary lane closures, rerouting of traffic, and other traffic-related activities. Access would be maintained at all times through implementation of Project Feature **PF-TRA-1**, which provides alternative access routes, traffic management, and continued access to adjacent properties during construction, ensuring that visitors and patrons of nearby public facilities, including St. George Episcopal Parish/Church, would be able to access these facilities throughout construction.

Build Alternative 3 consists of technology improvements and does not include any physical or geometric modifications. As such, no ground disturbance or substantial physical alterations would occur under Build Alternative 3, and no impacts on public facilities would occur.

The temporary construction-related effects and permanent partial acquisition would not result in substantial adverse physical impacts on existing public facilities, nor would they reduce the capacity or functionality of these facilities such that new or physically altered governmental facilities would be required. The Project would not result in population growth or increased demand for public services and would not require the construction or expansion of new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives. Temporary construction-related effects would not affect the long-term function or capacity of these facilities, and all temporary impact areas would be restored following construction. With implementation of the aforementioned Project Features and Avoidance and Minimization Measures, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, and impacts on other public facilities would be less than significant.

3.7.16 Recreation

Question	CEQA Determination
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?	Less Than Significant Impact
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?	Less Than Significant Impact

3.7.16.1 CEQA Significance Determinations for Recreation

This section is based on Section 2.2.3, *Parks and Recreational Facilities*, Section 2.2.6, *Utilities and Emergency Services*, and Appendix A, *Section 4(f)*, and the Supplemental Community Impact Assessment (Caltrans 2026).

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?

Less-than-Significant Impact

The Project would not increase population or otherwise generate demand for additional recreational facilities. There are 14 recreational facilities that occur within 0.5 mile of the Project limits; however, the Project would not introduce new residential uses or other Project features that would increase visitation to these recreational resources.

As discussed in threshold d) in Section 3.7.15, approximately 0.59 acre of Cavanaugh Park would be required during construction under Build Alternative 1 and its design variation (Build Alternative 1a). This would temporarily limit access to several park features, but these conditions would not result in deterioration of the facility. Construction impacts would be minimized through Project Features **PF-TRA-1**, **PF-CI-1**, **PF-CI-2**, and **PF-N-1**, which address access, staging, noise, and site restoration. All temporarily affected park areas would be restored following construction. Build Alternative 3 would not involve construction and would not limit access to park features. The Project would not increase recreational demand or result in conditions that would accelerate deterioration of existing facilities; therefore, impacts on recreational facilities would be less than significant under CEQA.

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?

Less-than-Significant Impact

The Project does not include construction of new recreational facilities or expansion of existing parks. As discussed under threshold a) and in Section 3.7.15.1, Parks, Build Alternative 1 and its design variation (Build Alternative 1a) would result in temporary use and permanent acquisition of portions of Cavanaugh Park, while Build Alternative 3 would not affect parks or recreational facilities. If the City of Lake Forest's planned park revitalization project is not implemented prior to construction, Avoidance and Minimization Measure **LU-4 (Section 4f-1)** would provide replacement recreational amenities for affected park features, such as the half basketball court, playground, and picnic table, and Avoidance and Minimization Measure **LU-5 (Section 4f-2)** would require coordination with the community regarding preferred replacement amenities. In addition, compensation for acquired parkland and facilities would be provided in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Avoidance and Minimization Measure **REL-1**).

These measures would maintain recreational opportunities and service levels at Cavanaugh Park and would not require construction of new recreational facilities or expansion of existing recreational facilities elsewhere. The Project would not increase population or recreational demand such that new or expanded recreational facilities would be required. Therefore, the Project would not require the construction or expansion of recreational facilities that could result in adverse physical effects on the environment, and impacts would be less than significant under CEQA.

3.7.17 Transportation

Would the project:

Question	CEQA Determination
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Less Than Significant Impact
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Less Than Significant Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less Than Significant Impact
d) Result in inadequate emergency access?	Less Than Significant Impact

3.7.17.1 CEQA Significance Determinations for Transportation

This section is based on the *Final Traffic Operations Analysis Report* (Caltrans 2026a), the *Supplemental Community Impact Assessment* (Caltrans 2026b), and the Draft Project Report (Caltrans 2026c) prepared for the Project.

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less-than-Significant Impact

Construction of Build Alternative 1 and its design variation (Build Alternative 1a) would temporarily affect traffic circulation and pedestrian and bicycle access in the vicinity of the Project limits along and immediately adjacent to I-5. Those impacts would include short-term closures of freeway and arterial facilities as summarized in Section 2.2.7.3, *Environmental Consequences*, of this EIR/EA, and modifications to the existing facilities. Temporary closures are not expected to be long term and would be limited to overnight (between 10 p.m. and 5 a.m.) closures. Temporary modifications to connector and ramp facilities and arterial streets could include temporary lane closures; narrowing the widths of the travel lanes, ramps, and local arterials; and reductions in the number of available travel lanes and speed limits. These temporary modifications would allow for traffic to pass through the Project limits at these locations, but those travelers would be expected to experience some delays as they travel on those facilities. A TMP,

including construction staging, traffic control, and detour details, will be developed during final design in coordination with Caltrans and affected local jurisdictions as part of Project Feature **PF-TRA-1**. Final timing of closures will be determined during the final design phase of the Project as part of the TMP.

Construction of Build Alternative 1 and its design variation (Build Alternative 1a) would result in the following temporary closures of pedestrian and bicycle facilities:

- The crosswalk on the south side of the Avenida De La Carlota/El Toro Road intersection would be temporarily closed. Pedestrians and bicyclists would be routed to the crosswalk on north side of the intersection.
- The crosswalk on the west side of the Avenida De La Carlota/El Toro Road intersection would be temporarily closed. Pedestrians and bicyclists would be routed to the crosswalk on west side of the Regional Center/El Toro Road intersection.
- The crosswalk on the north side of the Avenida De La Carlota/El Toro Road intersection would be temporarily closed. Pedestrians and bicyclists would be routed to the crosswalk on the south side of the intersection.

Construction-related traffic effects associated with Build Alternative 1 and its design variation (Build Alternative 1a) would be temporary and limited to the construction period. Because applicable transportation plans, programs, ordinances, and policies are generally intended to address the long-term operation and performance of the transportation system, temporary construction activities would not conflict with an applicable program, plan, ordinance, or policy addressing the circulation system. Implementation of Project Feature **PF-TRA-1** (Transportation Management Plan) would further minimize temporary disruptions to motorists, pedestrians, and bicyclists during construction. No mitigation is required.

Build Alternative 3 does not include any physical or geometric improvements and therefore would not include construction activities on the I-5 mainline, ramp, or arterial facilities. Consequently, there would be no temporary impacts under Build Alternative 3.

Tables 2.2.7-7 through 2.2.7-9 in Section 2.2.7 of this EIR/EA show the traffic volumes, levels of service, and delay for the Build Alternatives and the No-Build Alternative in the AM and PM peak hours in 2035 and 2055. As shown, for most segments and ramps, the Build Alternatives would perform similar to or better than the No-Build Alternative in both 2035 and 2055.

The Build Alternatives are consistent with the applicable local general plans and RTPs to reduce congestion and improve operation within the Project limits. For example, the Build Alternatives are consistent with City of Lake Forest General Plan Policy M-2.1, Vehicle Level of Service (LOS), because they would result in a more efficient transportation system by providing roadway improvements and implementing TSM and TMD applications to manage traffic demand. They are also consistent with City of Laguna Woods Policy Objective M-2.1 because they would result in a more efficient transportation system by providing roadway improvements and implementing TSM and

TMD applications to manage traffic demand. In addition to the improvements on the I-5 mainline, ramps, and intersections, the Build Alternatives would improve the intersections between the freeway ramps and the local arterial streets including accommodating pedestrians and bicycles. See Section 2.2.2, *Consistency with Federal, State, Tribal, Regional, and Local Plans and Programs*, for the full policy consistency analysis. Because the Build Alternatives would be consistent with applicable transportation policies and plans, the Project would not conflict or be inconsistent with an applicable program, plan, ordinance, or policy addressing the circulation system. Therefore, impacts would be less than significant.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less-than-Significant Impact

The Caltrans Transportation Analysis Under CEQA (September 2020) identifies project types that may be associated with induced VMT. This Project is not among the project types identified in Section 5.1.1 of the Transportation Analysis Under CEQA as likely to lead to a measurable and substantial increase in VMT. The Project consists primarily of interchange ramp reconfiguration and operational improvements, along with TSM/TDM features, and does not include the addition of freeway through lanes or other capacity-enhancing improvements typically associated with induced travel demand at the regional level. Analysis was conducted to assess if there was any induced demand at the local level.

A Project-specific assessment for the local area was conducted to evaluate potential changes in travel patterns associated with the ramp reconfiguration. The Transportation Analysis Framework (September 2020) notes that freeway ramps and minor arterials or collector-distributor roads associated with a freeway are outside the scope of application of the National Center for Sustainable Transportation –induced travel calculator. Therefore, the assessment was focused on localized traffic changes that could be assessed with a traffic analysis model. The Synchro/SimTraffic modeling software used for the Traffic Operations Analysis Report was the most appropriate tool to assess those changes. For Build Alternative 1 and its design variation (Build Alternative 1a), the reconfiguration of the ramps is projected to result in changes to the trips that have the potential to slightly change VMT. Build Alternative 3, the standalone TSM/TDM alternative, is not expected to change travel patterns or VMT.

Under the Design-Year 2055 No-Build Alternative, trip lengths are projected to be approximately 0.706 mile and 0.718 mile in the AM and PM peak periods, respectively. With Build Alternative 1 and its design variation (Build Alternative 1a) in Design-Year 2055, trip lengths are projected to be 0.727 mile and 0.725 mile in the AM and PM peak periods, respectively.

Therefore, under Build Alternative 1 and its design variation (Build Alternative 1a), trip lengths are expected to be slightly longer as compared to the No-Build Alternative in Design-Year 2055, primarily as a result of changes in the travel paths through the study

area network. As shown in Table 3.3-2, there is also expected to be an associated slight increase (0.08 percent) in VMT in Design-Year 2025 under Build Alternative 1 and its design variation (Build Alternative 1a) compared to the No-Build Alternative. As discussed previously, this projected VMT increase is attributable to the expected changes in travel paths through the interchange, and not a result of potential induced travel demand. As stated in Caltrans' Transportation Analysis Under CEQA Guidance, "Small increases of VMT attributable to a project that are consistent with the level of increase associated with the project types on the screened list (Section 5.1 [of the Transportation Analysis Under CEQA]), would likely not be deemed significant." As discussed previously, the Project is a screened activity that is exempt from further VMT analysis. The minimal increases in VMT associated with Build Alternative 1 and its design variation (Build Alternative 1a) are consistent with the level of VMT increase that would be expected for this type of project (screened activity) when compared to the No-Build condition.

Construction of Build Alternative 1 and its design variation (Build Alternative 1a) would result in a temporary increase in traffic associated with workforce travel and equipment and material deliveries. These activities would result in a short-term increase in VMT during construction. However, the increase in VMT would be limited to the construction period and would cease upon completion of construction. State CEQA Guidelines Section 15064.3 focuses on long-term transportation impacts associated with land use and operational travel demand. Accordingly, the temporary increase in VMT during construction does not affect the evaluation of operational VMT impacts.

Impacts would be less than significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less-than-Significant Impact

The Build Alternatives (including Build Alternative 1a) would be designed, constructed, and operated consistent with the Caltrans *Highway Design Manual* and other applicable standards and specifications for freeways, ramps, arterial intersections, retaining walls, noise barriers, drainage features, and utility relocations/modifications. In particular, the ramp realignment and spacing under Build Alternative 1 and its design variation (Build Alternative 1a) would meet current standards outlined in the Caltrans *Highway Design Manual*. Construction would be managed through a TMP and will include typical measures (e.g., traffic control, maintained access, signage) that would minimize temporary safety hazards. The Build Alternatives would not include hazardous design features. Farm equipment, pedestrians, and bicyclists would not be allowed to operate on the I-5 mainline and ramps. Pedestrians and bicyclists would be allowed to use arterial streets at their crossings with I-5. The ramp reconfiguration along the arterial, particularly splitting traffic into separate ramps, would improve traffic distribution and reduce conflict points at ramp intersections, which reduces safety hazards. Therefore,

the Build Alternatives would not include any hazardous design features or incompatible uses. Impacts would be less than significant; no mitigation is required.

Build Alternative 3 does not include any physical or geometric improvements and therefore would not include any hazardous design features or incompatible uses. Consequently, there would be no impact under Build Alternative 3.

d) Result in inadequate emergency access?

Less-than-Significant Impact

As described earlier in responses to thresholds a) and b) in Section 3.7.15, *Public Services*, construction of the Build Alternatives (including Build Alternative 1a) would result in temporary impacts on traffic circulation, including emergency services. Those impacts would be avoided and/or minimized based on implementation of the TMP during construction as required in Project Feature **PF-TRA-1**. The TMP would specifically address requirements for coordination with emergency service providers and accommodation of emergency travel routes and access to, through, and around active construction areas. In addition, Project Features **PF-UES-1** and **PF-UES-2**, provided in Section 2.2.6 in the EIR/EA, require the coordination of detour plans with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times. No mitigation is required.

Build Alternative 3 does not include any physical or geometric improvements and therefore would not result in inadequate emergency access. Consequently, there would be no temporary impact under Build Alternative 3. In the long term, the Build Alternatives would reduce traffic congestion and travel times along the I-5 mainline and in the vicinity of the I-5/El Toro Road Interchange. The improvements as a result of the Build Alternatives are expected to improve emergency response times in the vicinity of the I-5/El Toro Road Interchange. Therefore, the Build Alternatives would not result in adverse effects on the access of emergency services in the long term. Impacts would be less than significant.

3.7.18 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource (TCR), defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

Question	CEQA Determination
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	Less Than Significant Impact

Question	CEQA Determination
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Less Than Significant Impact

3.7.18.1 CEQA Significance Determinations for Tribal Cultural Resources

The potential for the Project to result in adverse impacts on TCRs was assessed in the SHPSR (Caltrans 2025a), the SASR (Caltrans 2025b), the SHRER (Caltrans 2025c), and Section 2.2.9, *Cultural Resources*, in this EIR/EA. As discussed in Section 2.2.9.2, a Historic Property Survey Report (Caltrans 2019a), Archaeological Survey Report (Caltrans 2019b), and Historical Resources Evaluation Report (Caltrans 2019c) were prepared in 2019 to analyze the original Project alternatives and are referenced herein. The following discussions are based on those analyses.

Tribal consultation under Section 106 of the National Historic Preservation Act (Section 106) and AB 52 was completed under the original 2019 Archaeological Survey Report. In 2024, Caltrans reinitiated consultation under Section 106 and AB 52 to address the Project's new Build Alternatives. A complete summary of consultation efforts between 2018 to 2025 is provided below.

The Native American Heritage Commission (NAHC) was contacted on August 7, 2018, to conduct a search of its Sacred Lands File (SLF) and provide a Native American Contact List. The NAHC responded on August 10, 2018, stating that the SLF search was negative, and provided a list of Native American tribes and representatives who may have knowledge of cultural resources in the Project area. In compliance with AB 52 and Section 106, a Project notification letter was sent on August 13, 2018, to the representatives provided by the NAHC (Strudwick 2019).

In response to the Project notification letter, the Gabrieleño Band of Mission Indians – Kizh Nation and the Juaneño Band of Mission Indians – Acjachemen Nation (Belardes) requested consultation on August 27, 2018, and October 3, 2018, respectively. Caltrans provided each tribe with additional Project information on the date their consultation request was received. Caltrans followed up multiple times with both tribes via email, offered to meet for a field visit, and requested their availability. No further responses from the tribes were received. The consultation with Gabrieleño Band of Mission Indians – Kizh Nation and the Juaneño Band of Mission Indians Acjachemen Nation did not result in the identification of TCRs within or near the Project.

In 2024, Caltrans reinitiated consultation under Section 106 and AB 52 for the Project's new Build Alternatives. On January 18, 2024, the NAHC was contacted requesting an SLF search and an updated list of potentially interested Native American groups and individuals. The NAHC responded on February 12, 2024, indicating that the SLF search was negative, and provided a list of Native American tribes and representatives who might have knowledge of cultural resources in the Project area. Using this list, Project

notification letters were sent to tribal contacts on April 14–17, 2025, inviting them to engage in formal consultation under AB 52 and Section 106.

On June 11, 2024, Caltrans met with representatives of the Gabrieleño Band of Mission Indians – Kizh Nation, who expressed concern that, despite negative SLF results and prior negative surveys, the area may still be sensitive for resources even if "disturbed." On June 11, 2024, following the meeting with tribal representatives, Caltrans provided California Department of Parks and Recreation 523 forms, the record search map, and Project maps. On March 7, 2025, Caltrans followed up with ground-disturbance details and field survey results; the tribe acknowledged receipt and requested a quick call, for which Caltrans provided availability. On June 24, 2025, Caltrans sent archaeological monitoring results from a separate Caltrans project within the current Project limits, along with a study-to-date summary, and requested any additional comments by June 27, 2025. No further response was received. Caltrans also provided these materials on June 19, 2025, to the Juaneño Band of Mission Indians – Acjachemen Nation (Belardes), who requested monitoring if any ground disturbance would disturb a cultural resource, and invited additional comments. No further response was received. The Soboba Band of Luiseño Indians deferred to tribes that are closer to the Project area. The tribal consultation conducted for the SHPSR in 2025 did not result in the identification of TCRs within or near the Project.

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

Less-than-Significant Impact

There are no known historical resources listed, or eligible for listing, in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k) within the Project's SAPE. Therefore, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not affect such resources. In addition, the possibility of discovering cultural materials or human remains during construction would be addressed with implementation of Project Features **PF-CR-1**, **PF-CR-2**, and **PF-CR-3**, as described in Section 2.2.9, *Cultural Resources*. Impacts would be less than significant, and no mitigation is required.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

Less-than-Significant Impact

As discussed above, no TCRs that meet the criteria under AB 52 have been identified in the Project's SAPE. In addition, no responses from California Native American tribes beyond those described above were received during the AB 52 consultation process. As such, Caltrans has conducted the consultation process for the Project as required under AB 52, and no TCRs have been identified within the Project's SAPE. Therefore, the

Project is not anticipated to result in impacts on a known TCR, as defined in Public Resources Code Section 21074.

In some cases, unanticipated discoveries of precontact resources may result in the identification of a TCR, which can include sites, features, and objects that are eligible for listing in the California Register of Historical Resources. Such resources could be determined by the lead agency to be significant according to the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. As in the case of the potential disturbance or destruction of unknown archaeological resources, the Project could result in disturbance or destruction of currently unknown TCRs. Based on the disturbed nature of the Project's SAPE, the negative SLF search results, the negative archaeological survey results, and the absence of TCRs identified through AB 52 consultation, the potential for encountering unknown TCRs is low. Although a low potential has been determined, in general, it is possible that previously undocumented cultural materials or human remains may be unearthed during site preparation, grading, or excavation for the Project. Those potential effects would be avoided or minimized through Project Features **PF-CUL-1**, **PF-CUL-2**, and **PF-CUL-3** (see Section 2.2.9, *Cultural Resources*, for full measure text), and less-than-significant impacts related to TCRs are anticipated.

3.7.19 Utilities and Service Systems

Would the project:

Question	CEQA Determination
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less Than Significant Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Less Than Significant Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Less Than Significant Impact

3.7.19.1 CEQA Significance Determinations for Utilities and Service Systems

The potential for the Build Alternatives (including Build Alternative 1a) to adversely affect utilities and service systems was assessed in Section 2.2.6, *Utilities and Emergency Services*.

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less-than-Significant Impact

Construction of Build Alternative 1 and its design variation (Build Alternative 1a) may affect existing surface or subsurface utility facilities, requiring protection in place, removal, or relocation. The utility facilities that could potentially be affected during construction are listed in Table 2.2.6-1 of Section 2.2.6, *Utilities and Emergency Services*, of this EIR/EA. An updated utility search would be conducted during final design of Build Alternative 1 and its design variation (Build Alternative 1a) to determine all utilities requiring protection in place, removal, or relocation. Completion of utility work may result in temporary service disruptions to some utility users in the vicinity of the Project. However, Project Features **PF-UES-1** and **PF-UES-2** have been incorporated into Build Alternative 1 and its design variation (Build Alternative 1a) to address the potential temporary adverse effects on utilities during construction. In addition, **PF-UES-3** would be included to reduce any potential impacts on utilities or utility users during construction. Build Alternative 3 would not involve ground disturbance and therefore would not affect existing surface or subsurface utility facilities. All existing utility facilities are expected to be maintained during operation of the Build Alternatives and the Project would not result in an increased demand for utility services or construction of new utility structures. Therefore, impacts would be less than significant and no mitigation is required.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact

Water use during construction of Build Alternative 1 and its design variation (Build Alternative 1a) would be limited to water trucked to the site for dust control, and the amount used would be minimal. Water use during operation of Build Alternative 1 and its design variation (Build Alternative 1a) would be nominal and limited to areas where revegetation requires short-term irrigation while plant material becomes established. Build Alternative 3 would not involve construction and therefore would not require water use. As a result, the Build Alternatives would not require the water districts serving the Project limits to provide new or expanded water supplies or entitlements to meet demand during normal, dry, or multiple dry years. Therefore, impacts would be less than significant and no mitigation is required.

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

No Impact

Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not generate wastewater or discharge wastewater to the area sewer system. Therefore, the Build Alternatives would not exceed wastewater treatment requirements, require or result in the construction of new wastewater treatment facilities, or result in the need for a determination by a wastewater treatment provider that adequate capacity exists to serve the Build Alternatives. Therefore, no impact would occur and no mitigation is required.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less-than-Significant Impact

Construction of Build Alternative 1 and its design variation (Build Alternative 1a) would generate typical construction-related waste materials, including vegetation and plant debris, concrete, asphalt, wood, and limited quantities of excess soil generated from geotechnical borings, utility work, and roadway excavation. The overall amount of solid waste generated during construction would be small relative to the permitted daily capacity of regional landfills and construction-recycling facilities in Orange County. Construction of Build Alternative 1 and its design variation (Build Alternative 1a) is not expected to generate unusual or excessive volumes of waste and would not place a measurable burden on landfill capacity. Therefore, the amount of waste generated during construction of Build Alternative 1 and its design variation (Build Alternative 1a) is anticipated to be accommodated by the existing recycling and landfill facilities in Orange County. Build Alternative 3 would not involve construction; therefore, no waste would be generated as a result of this alternative.

Operational solid waste generated by Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would be limited to routine litter and roadway-maintenance waste. Similar amounts of solid waste would be collected during operation of the Build Alternatives compared to existing conditions. As such, construction and operational waste would not exceed state or local solid-waste standards or impair the attainment of solid-waste reduction goals. Therefore, the amount of waste generated during construction and operation of the Build Alternatives is considered less than significant. No mitigation is required.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less-than-Significant Impact

During construction of Build Alternative 1 and its design variation (Build Alternative 1a) and operation of all Build Alternatives, any waste materials generated, including hazardous or contaminated materials encountered during construction, would be managed and disposed of in accordance with federal, state, and local regulations related to recycling and solid-waste handling. Compliance with these regulations would minimize the amount of waste entering local landfills. Build Alternative 3 would not involve construction activities; therefore, it would not generate construction-related waste materials. Impacts associated with solid waste would be less than significant under the Build Alternatives, and no mitigation is required.

3.7.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

Question	CEQA Determination
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No Impact

3.7.20.1 CEQA Significance Determinations for Wildfire

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact

A primary consideration for work on existing alignments is the potential to disrupt emergency response or evacuation routes during construction. The Project would not impair or physically interfere with implementation of applicable emergency response plans from construction through long-term operations under Build Alternative 1 and its design variation (Build Alternative 1a). No potential evacuation routes would be impeded or disrupted during Project construction and operation, and the Project is not

expected to cause a substantial increase in emergency response times during construction.

Build Alternative 3 would not involve construction activities; therefore, it would not affect emergency response or evacuation routes during construction.

PF-TRA-1 requires the development of a TMP, which would be implemented during the construction phase to ensure that construction-related traffic would not substantially impair an adopted emergency response plan or emergency evacuation plan. The Build Alternatives would not impair emergency response or evacuation plans. No impact would result, and no mitigation is required.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact

The potential for wildfire-related impacts associated with infrastructure was assessed based on the general plans for the Cities of Laguna Hills, Lake Forest, and Laguna Woods. Review of the *City of Laguna Woods General Plan Safety Element* (City of Laguna Woods 2014), *City of Laguna Hills Safety Element* (City of Laguna Hills 2022), and *City of Mission Viejo General Plan Public Safety Element* (City of Mission Viejo 2009) indicated the Build Alternatives are not within a fire hazard zone, and the Project limits and surrounding areas are within highly urbanized environments that do not include brush- and grass-covered areas typically associated with wildfire risk.

The Project is within the existing I-5 transportation corridor, which consists of urban, developed, and disturbed environments with long-term commercial, industrial, and residential land uses. Under Build Alternative 1 and its design variation (Build Alternative 1a), construction and operational activities would occur within this developed corridor, and Build Alternative 3 would not involve ground disturbance or construction activity.

The Project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) under Build Alternatives 1 and its design variation (Build Alternative 1a) or 3 that would exacerbate wildfire risk or result in temporary or ongoing impacts on the environment. Therefore, no impacts related to fire risk from associated infrastructure would occur under Build Alternatives 1 and its design variation (Build Alternative 1a) and 3. No impact would result, and no mitigation is required.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact

The Project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) under Build Alternatives 1 and its design variation (Build Alternative 1a) or 3 that would exacerbate fire risk or result in temporary or ongoing impacts on the environment. The Project is within an urban, developed corridor that is not within a fire hazard zone and does not include vegetation conditions typically associated with wildfire risk. Therefore, no impacts related to fire risk from associated infrastructure would occur under the Build Alternatives. No impact would result, and no mitigation is required.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact

The I-5 corridor is relatively flat and located in an urban area that does not include brush- and grass-covered areas typically found in areas susceptible to wildfire. Therefore, Build Alternatives 1 and its design variation (Build Alternative 1a) and 3 would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Consequently, no impacts related to post-fire flooding, landslides, or slope instability would occur under the Build Alternatives. No impact would result, and no mitigation is required.

3.7.21 Mandatory Findings of Significance

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

Question	CEQA Determination
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less Than Significant Impact

3.7.21.1 CEQA Significance Determinations for Mandatory Findings of Significance

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

Less-than-Significant Impact

As discussed in greater detail in Section 2.2.9, *Cultural Resources*, Section 2.4.3, *Plant Species*, and Section 2.4.4, *Animal Species,* the Build Alternatives (including Build Alternative 1a) would not degrade the quality of 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, or substantially reduce the number or restrict the range of a rare or endangered plant or animal species. Although impacts on biological resources are not anticipated, the Project would implement **BIO-1** and **BIO-2** as avoidance and minimization measures.

Build Alternative 1 and its design variation (Build Alternative 1a) would involve ground-disturbing activities; however, as discussed in Section 2.2.9, *Cultural Resources*, there are no historical resources within the Project's SAPE. Although there is potential for previously unidentified archaeological resources or human remains to be encountered during construction, implementation of **PF-CUL-1** through **PF-CUL-3** would require work stoppage and evaluation of inadvertent discoveries by a qualified archaeologist, compliance with applicable state requirements for the treatment of human remains, and cultural sensitivity training for construction personnel. Accordingly, impacts on cultural resources, including resources that may represent important examples of California history or prehistory, would be less than significant.

As discussed in this EIR/EA, impacts on biological and cultural resources would be avoided or minimized through implementation of applicable Project Features and avoidance and minimization measures. Consequently, the Build Alternatives would not substantially degrade the quality of the environment, substantially reduce biological populations or habitats, substantially reduce the number or restrict the range of rare or endangered plant or animal species, or eliminate important examples of the major periods of California history or prehistory. Therefore, impacts would be less than significant.

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.)

Less-than-Significant Impact

As discussed in Section 3.6, *Cumulative Impacts*, some transportation and development projects may be under construction and operation at the same time as the Build Alternatives (including Build Alternative 1a). However, the Build Alternatives would result in improved operating conditions along I-5 within the Project limits compared to existing conditions and would not contribute to cumulative adverse effects on other resource areas. Therefore, with incorporation of avoidance and minimization measures and Project features described throughout Chapter 2, the potential impacts of the Build Alternatives are not considered cumulatively considerable and would be less than significant.

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

Less-than-Significant Impact

As discussed throughout Chapter 2 of this IS/EA, the Build Alternatives (including Build Alternative 1a) would not result in environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. Furthermore, the Build Alternatives would improve overall traffic operations and reduce vehicle congestion within the Project limits. This would reduce traffic delay, thereby reducing travel time and improving the human environment.

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