

## 2.21 Cumulative Impacts

### 2.21.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

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

California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7.

### 2.21.2 Methodology

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

- Identify resources to be analyzed
- Define the Study Area for each resource (i.e., Resource Study Area [RSA])
- Describe the current health and historical context for each resource
- Identify direct and indirect impacts of the proposed project
- Identify other reasonably foreseeable actions that affect each resource

- Assess potential cumulative impacts
- Report results
- Assess the need for mitigation

### 2.21.2.1 Resources Excluded from Cumulative Impacts Analysis

As specified in the Caltrans guidance, if the proposed Project would not result in a direct or indirect impact to a resource, it would not contribute to a cumulative impact on that resource and need not be evaluated with respect to potential cumulative impacts.

Those resources for which cumulative effects are not anticipated or for which the impacts were already analyzed in a cumulative context (e.g., transportation/traffic) are briefly discussed below.

- **Coastal Zone:** The Project Area is not located within the Coastal Zone. Therefore, the proposed Project would not contribute to cumulative adverse impacts to the Coastal Zone.
- **Wild and Scenic Rivers:** There are no wild and scenic rivers in the Project Area. Therefore, the proposed Project would not contribute to cumulative adverse impacts to wild and scenic rivers.
- **Land Use:** The proposed improvements associated with the Build Alternatives are consistent with local and regional goals to improve traffic operations and reduce congestion in the area. The Build Alternatives would improve areas that are currently designated or used for transportation. Implementation of the Build Alternatives would not result in any inconsistencies with State, regional, and local plans and policies, and the Build Alternatives would not require amendment of State, regional, or local plans and programs. In addition, no property acquisitions or relocations would be required under the Build Alternatives. Therefore, adverse cumulative impacts related to land use are not expected.
- **Parks and Recreation:** The Build Alternatives would not result in any permanent or temporary use of land from parks and recreational facilities within the Study Area and would not result in direct or indirect temporary or permanent impacts on any parks or recreational resources, including Section 4(f) resources. A “No Use Determination” finding has been made related to resources protected under Section 4(f). Therefore, the Build Alternatives would not contribute to cumulative adverse impacts related to parks and recreation.

- **Farmlands and Timberlands:** There are no existing farmlands or timberlands within the Project Area, and the Build Alternatives would not result in any temporary or permanent impacts associated with existing or future farmlands or timberlands. Therefore, the Build Alternatives would not contribute to cumulative adverse impacts related to farmlands and timberlands.
- **Growth:** The Build Alternatives would not provide new transportation facilities nor create new access points to areas previously not accessible. The Build Alternatives would accommodate existing and planned growth and would not influence growth beyond what is currently planned as growth is anticipated to occur in the Project Area, regardless of whether the Build Alternatives are completed. The Build Alternatives do not induce growth or remove obstacles to growth in the area and, therefore, would not contribute to cumulative adverse impacts related to growth.
- **Utilities and Emergency Services:** Although the construction of Alternatives 3 and 4 may affect existing surface or subsurface utility facilities, requiring protection in-place, removal, or relocation, Project Features PF-UES-1 through PF-UES-3 would be incorporated to address potential temporary adverse effects of construction on utilities. Construction of Alternatives 3 and 4 would require lane closures, which may result in temporary delays for emergency service providers as they travel through the Study Area during construction, but cumulative adverse effects would not be expected to occur due to the implementation of Project Feature PF-TR-1, which requires development and implementation of a Transportation Management Plan during construction. Additionally, the Build Alternatives would not permanently adversely affect utilities or emergency services and, therefore, would not contribute to cumulative adverse effects to utility facilities and emergency service providers.
- **Visual/Aesthetics:** The Build Alternatives would not substantially change the existing views of and from Interstate (I) 5, and impacts to visual quality would be low or neutral. Therefore, the Build Alternatives would not contribute to cumulative adverse effects to visual resources.
- **Cultural Resources:** Construction of the Build Alternatives would not impact known cultural resources or cultural resources on or eligible for listing on the National Register of Historic Places. While cultural resources in the Study Area outside the Project Area may be directly or indirectly impacted by other projects, the Build Alternatives would not directly or indirectly impact those resources and, therefore, would not contribute to cumulative adverse impacts related to cultural resources.

- **Hydrology and Floodplains:** The Build Alternatives would not result in any changes to 100-year floodplain elevations, and no encroachments to any hydrologic channels are anticipated. Therefore, the Build Alternatives would not contribute to cumulative adverse effects related to hydrology and floodplains.
- **Geology/Soils/Seismic/Topography:** The potential impacts of the Build Alternatives related to geologic conditions and soils, as discussed in Section 2.10, Geology/Soils/Seismic/Topography, would be addressed based on revegetation of graded slopes, as described in Project Feature PF-GEO-1 and site-specific geotechnical design features as described in Measure GEO-1. As a result, the Build Alternatives would not contribute to cumulative adverse impacts related to geology, soils, seismic, and topography.
- **Air Quality:** The analysis of future air quality conditions in Section 2.13, Air Quality, for 2035 (Opening Year) and 2055 (Future Year) is a cumulative analysis in that it considers air quality generated by existing and future planned land uses and the effect of future planned development and transportation improvements. With implementation of Project Feature PF-AQ-1, identified in Section 2.13, construction-related emissions would not be substantial and are unlikely to contribute to cumulative air quality issues. Overall, the Build Alternatives' emission effects would be low, and emissions with the Build Alternatives would be reduced from the existing condition. Therefore, the Build Alternatives would not contribute to cumulative adverse impacts related to air quality.
- **Noise:** Although it is possible that other nearby projects may be constructed during the same timeframe as the Build Alternatives, it is not anticipated that temporary noise impacts would contribute to a cumulative effect within the Study Area. Project Feature PF-N-1 requires compliance with Caltrans Standard Specifications Section 14-8.02 (2015) and would address construction noise impacts on sensitive land uses adjacent to the Project Area. The Noise Study Report completed for the proposed Project determined that noise abatement is required in various locations. Because of the constrained configuration and suburban location of the Project, abatement in the form of soundwalls is the only abatement measure analyzed. Measure N-1 requires noise abatement in the form of noise barriers and would minimize operational noise impacts on sensitive land uses adjacent to the Project Area. Adherence to standard city and county provisions that regulate noise and implementation of project-specific mitigation for the proposed development projects would ensure cumulative long-term noise impacts are not cumulatively considerable.

- **Natural Communities:** Although the Biological Study Area (BSA) contains natural communities (freshwater marsh) and area for wildlife movement for coyotes, riparian habitat in the freshwater marsh and the functionality of wildlife crossings are not expected to experience permanent impacts. Construction impacts to natural communities, including 0.04 acre of freshwater marsh land cover, would be addressed by the implementation of Project Features PF-NAT-1 through PF-NAT-5. In addition, construction impacts to natural communities would be avoided and/or minimized through measures NAT-1 and NAT-2. Generally, the Project Area is located in an already urbanized area; therefore, cumulative impacts to natural communities would be unlikely. Operation of the Build Alternatives would not result in any permanent impacts to freshwater marsh and is not expected to permanently affect wildlife movement or decrease the functionality of any wildlife crossings within the Project Area. As a result, the Build Alternatives would not contribute to cumulative adverse effects related to natural communities.
- **Wetlands and Other Waters:** There are a total of 34.87 acres of nonwetland waters and 0.58 acre of wetlands that are potentially subject to United States Army Corps of Engineers (USACE) jurisdiction within the Jurisdictional Delineation Study Area (JDSA). Construction of the Build Alternatives would result in temporary impacts to nonwetland and wetland waters subject to USACE jurisdiction; however, with implementation of Project Features PF-WQ-1, PF-NAT-1 through PF-NAT-5, measures NAT-1, NAT-2, and WET-1, temporary impacts to jurisdictional areas would not be adverse. The Build Alternatives would not result in any permanent impacts to jurisdictional features. Therefore, the Build Alternatives would not contribute to cumulative adverse effects related to wetlands and other waters.
- **Plant Species:** Although literature research has identified that the BSA contains suitable habitat for lucky morning-glory, southern tarplant, smooth tarplant, Peruvian dodder, Los Angeles sunflower, mud nama, Gambel's watercress, Sanford's arrowhead, southern mountains skullcap, and San Bernardino aster, none of these plants were observed or otherwise detected during field surveys conducted for the proposed Project. Therefore, none of these species are expected to occur within the Project Area. Furthermore, Measure PL--1, which requires the completion of pre-construction clearance surveys, would be required, which would minimize potential temporary direct impacts to suitable habitat. No additional special-status plant species or special-status plants were identified during literature research, observed, or otherwise detected during field surveys for

the proposed Project. As a result, the Build Alternatives would not impact special-status plant species and, therefore, would not contribute to cumulative adverse effects related to special-status plant species.

- **Animal Species:** One special-status animal species, great blue heron, was observed or otherwise detected in the BSA during the field surveys conducted for the proposed Project, and 29 other special-status animal species have the potential to occur in the BSA. However, Project Features PF-ANS-1 through PF-ANS-5 and Measures ANS-1 through ANS-11 would minimize impacts to special-status animal species, and the Build Alternatives have been determined to have no effect on any species federally or State-listed as endangered or threatened or any nonlisted special-status animal species that have been identified as potentially occurring within the vicinity of the Project Area. Therefore, the Build Alternatives would not contribute to cumulative adverse effects related to special-status animal species.
- **Invasive Species:** The Build Alternatives would not substantially increase the potential for spread of invasive species. Compliance with invasive species control procedures (refer to Measure IS-1 in Section 2.20, Invasive Species) would address this impact. Therefore, the Build Alternatives would not contribute to cumulative adverse effects related to invasive species.

### **2.21.3 Resources Evaluated for Cumulative Impacts**

The following discussion of potential cumulative impacts is presented by environmental resource area. The reasonably foreseeable projects considered in this analysis are presented in Table 2.21.1 and shown on Figure 2.21-1.

**Table 2.21.1: Planned Projects List**

ID Number	Name	Jurisdiction/Location	Planned Uses	Status	Potential Environmental Impacts
1	Fast5Express Carwash (2762 El Camino Real)	City of Tustin	A new Fast5Express carwash at the Tustin Marketplace.	Under Construction	No adverse effect on environmental resource areas
2	The Hill	City of Tustin	Construction of a new, four-story vertical mixed-use project within the Red Hill Avenue Specific Plan area. Includes 137 residential units and 7,000 sq ft of commercial retail space.	Under Review	Aesthetics Air Quality (temporary) Noise (temporary) Transportation (temporary) Tribal Cultural Resources
3	Police Department Improvements	City of Tustin	Short- and long-term improvements to existing Police Department facility.	Under Review	No adverse effect on environmental resource areas
4	Civic Center Alternate Power Source	City of Tustin	Generator installation.	Under Review	No adverse effect on environmental resource areas
5	Signal Synchronization (First Street from I-5 to Centennial Way)	City of Tustin	Signal equipment installation and synchronization measures.	Under Review	Transportation (temporary)
6	Signal Synchronization (Tustin Avenue and First Street intersection, Fourth Street and Irvine Boulevard)	City of Tustin	Signal synchronization.	Under Review	No adverse effect on environmental resource areas
7	Main Street Improvements	City of Tustin	Public improvements, roadway improvements, pedestrian and bicycle facility improvements, and gateway signage installation. Parklets and seating installations along El Camino Real.	Ongoing	Transportation (temporary)
8	Newport Avenue Rehabilitation	City of Tustin	Rehabilitation and repairs to the existing roadway and facilities.	Under Construction	Transportation (temporary)
9	Del Amo/Newport Improvements	City of Tustin	Roadway and median improvements near Schools First campus.	Completed	Transportation (temporary)
10	Old Town Improvements	City of Tustin	Enhancements to mobility, walkability, traffic calming, and wayfinding within public rights-of-way.	Under Review	No adverse effect on environmental resource areas
11	Citywide Pedestrian ADA Improvements	City of Tustin	Reconstruction of pedestrian infrastructure and installation of equipment that meets ADA standards.	Ongoing	Noise (temporary) Transportation (temporary)
12	Red Hill Avenue Rehabilitation	City of Tustin	Rehabilitation and repairs to the existing roadway and facilities.	Under Review	Transportation (temporary)
13	El Camino Real/Tustin Ranch Improvement	City of Tustin	Modifications to add a second westbound left-turn lane and exclusive right-turn lane on El Camino Real at Tustin Ranch Road.	Under Review	Air Quality Noise Transportation (temporary)
14	Newport Avenue Extension Phase II	City of Tustin	Extension of Newport Avenue from its current terminus to south of Edinger Avenue, including construction of a railroad underpass, realignment of a flood control channel, and roadway improvements.	On Hold	Air Quality Hydrology and Water Quality Noise Transportation
15	Valencia Avenue Widening	City of Tustin	Widening and intersection improvements, including acquisition of right-of-way to facilitate widening to augmented primary arterial status.	Under Review	Air Quality (temporary) Noise (temporary) Transportation (temporary)
16	Main and 15 <sup>th</sup> Street Traffic Signal Installation	City of Santa Ana	Traffic signal installations.	Under Construction	No adverse effect on environmental resource areas
17	Santa Ana Boulevard and 5 <sup>th</sup> Street Protected Bike Lanes	City of Santa Ana	Protected bike lanes and sidewalks for additional ADA access.	Under Construction	Transportation (temporary)
18	OC Streetcar	City of Santa Ana	Capital Improvement Project. Streetcar system.	Under Construction	Air Quality (temporary) Cultural Resources Hazardous Materials Noise

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ID Number	Name	Jurisdiction/Location	Planned Uses	Status	Potential Environmental Impacts
19	Warner Avenue Improvements	City of Santa Ana	Improvements and widening of Warner Avenue segment from four to six lanes.	Under Review	Air Quality (temporary) Cultural Resources Hazardous Materials (temporary) Noise (temporary and long-term) Transportation (temporary)
20	1 <sup>st</sup> Street Pedestrian Improvements and Rehabilitation from Flower Avenue to Standard Avenue	City of Santa Ana	Design and construction of pedestrian safety improvements. Reconstruction/resurfacing of existing pavement and replacement/installation of missing or damaged features.	Under Construction	Air Quality (temporary) Hazardous Materials Noise (temporary) Transportation (temporary)
21	2700 North Main Residential Development	City of Santa Ana	243-unit apartment building at a former office building and associated parking lot.	Under Review	Air Quality (temporary) Hazardous Materials Noise (temporary)
22	AMG Family Affordable Apartments	City of Santa Ana	552 affordable residential units and 10,000 sq ft of commercial space. Includes demolition of existing strip mall and auto-related commercial uses.	Under Construction	Air Quality (temporary) Hazardous Materials Noise (temporary) Transportation (temporary)
23	Cabrillo Crossing Townhomes	City of Santa Ana	35 single-family attached townhomes, including 6 proposed as live/work and 4 proposed as affordable.	Under Review	Air Quality (temporary) Hazardous Materials Noise (temporary) Transportation Tribal Cultural Resources
24	Central Pointe Mixed-Use Development	City of Santa Ana	644 multifamily residential units and 15,130 sq ft of commercial space.	Approved	Aesthetics Air Quality (temporary) Land Use and Planning Noise (temporary) Transportation Tribal Cultural Resources
25	Crossroads at Washington	City of Santa Ana	86-unit affordable residential community with 1,060 sq ft of commercial space, amenities, and parking.	Approved	Air Quality (temporary) Noise Land Use and Planning Transportation Tribal Cultural Resources
26	Warner Redhill Mixed-Use Development	City of Santa Ana	Industrial redevelopment of 212,121 sq ft, including demolition of existing industrial buildings and landscaping.	Approved	Air Quality (temporary) Greenhouse Gas Emissions Hazardous Materials Land Use and Planning Noise Transportation Tribal Cultural Resources
27	Garry Avenue Business Park	City of Santa Ana	91,500 sq ft industrial warehouse building.	Under Review	Air Quality (temporary) Greenhouse Gas Emissions Hazardous Materials Noise Transportation



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ID Number	Name	Jurisdiction/Location	Planned Uses	Status	Potential Environmental Impacts
28	Hampton Inn Hotel	City of Santa Ana	73,322 sq ft hotel with 135 rooms and the use of an existing building as a restaurant. Includes relocation of a historic building and demolition of existing parking, office building, and residential structures.	Approved	Aesthetics Air Quality Cultural Resources (historic) Hazardous Materials Noise Population and Housing Transportation
29	The Heritage	City of Santa Ana	1,221-unit mixed-use development surrounding a 1-acre central park open to the public. Includes 12,900 sq ft of retail, 5,00 sq ft of restaurant space, and 56,000 sq ft of office.	Under Construction	Air Quality Cultural Resources Geology and Soils Greenhouse Gas Emissions Land Use Noise Transportation/Traffic
30	Innovative Housing Opportunities Mixed-Use Project	City of Santa Ana	Mixed-use project with 160 affordable housing units and 15,000 sq ft of commercial space.	Under Review	Aesthetics Air Quality (temporary) Hazardous Materials Noise (temporary)
31	Legado at the Met	City of Santa Ana	278-unit multifamily residential development with a 617-parking-space garage.	Approved	Air Quality Geology and Soils Noise Transportation Tribal Cultural Resources
32	The Madison	City of Santa Ana	260-unit mixed-use development with 445 parking spaces and 6,600 sq ft of commercial space.	Approved	Air Quality Noise Tribal Cultural Resources
33	MainPlace Mall Transformation Project	City of Santa Ana	Specific Plan including 1,900 units, 400 hotel rooms, 1,400,000 sq ft commercial space, and 750,000 sq ft of office.	Under Construction	Aesthetics Air Quality (temporary) Biological Resources Land Use Noise (temporary) Population/Housing Utilities and Service Systems
34	One Broadway Plaza	City of Santa Ana	Re-entitlement to include 327 units and 23 floors of office and commercial uses.	On Hold	Aesthetics Air Quality (temporary and long-term) Cultural Resources (historic) Transportation/Traffic Utilities and Service Systems
35	Russell Fischer Commercial Center	City of Santa Ana	7,500 sq ft commercial building and 2,800 sq ft gas station/convenience store. Revised to include an automated car wash and remodel the existing gas station and convenience store.	Litigation	Air Quality Hazardous Materials Noise Transportation Tribal Cultural Resources
36	Tapestry Hotel by Hilton	City of Santa Ana	139-room hotel and 2,000 sq ft restaurant with 142 parking spaces. Includes a zoning amendment.	Under Review	Aesthetics Biological Resources Cultural Resources Tribal Cultural Resources

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ID Number	Name	Jurisdiction/Location	Planned Uses	Status	Potential Environmental Impacts
37	Tom's Trucks residential and Adaptive Reuse Development	City of Santa Ana	Conversion of an existing truck center to a 117-unit residential development.	Under Review	Aesthetics Air Quality Hazardous Materials Land Use and Planning Noise Transportation
38	Warmington Residential Development	City of Santa Ana	51-unit residential development with 15.028 sq ft of open space and 105 parking spaces.	Review Complete	Air Quality Hazardous Materials Noise
39	Wermers Elks Site "Elan" Mixed-Use Development	City of Santa Ana	Redevelopment of the former Elks Club site into a 603-unit mixed-use development with 20,000 sq ft of commercial space.	Under Construction	Aesthetics Air Quality Geology and Soils Noise Population and Housing Transportation Tribal Cultural Resources
40	The Westerly	City of Santa Ana	79 townhomes, 86 live/work units, and 209 parking spaces. Includes retail plaza.	Under Review	Aesthetics Air Quality Biological Resources Noise Population and Housing Tribal Cultural Resources
41	WISEPlace PSH Adaptive Reuse Development	City of Santa Ana	Adaptive reuse project to convert the Santa Ana-Tustin YMCA into a mixed-use development with 49 permanent supportive housing units and 20 parking stalls.	Approved	Aesthetics Cultural Resources (historic) Noise
42	Chapman Avenue and Flower Street Left Turn Signal Modification	City of Orange	Protected left turn for northbound and southbound approaches on Flower Street at Chapman Avenue to improve operation efficiency and enhance safety.	Completed	Transportation (temporary)
43	Radar Feedback Signs: La Veta, Collins, & Chapman	City of Orange	Installation of radar feedback signs on segments of three arterials with a history of speed-related accidents. La Veta Avenue from Flower Street to Bedford Street, Collins Avenue from Wanda Road to Bond Avenue, and Chapman Avenue from Jamboree Road to Orange Park Boulevard.	Completed	No adverse effect on environmental resource areas
44	Main Street Signal Synchronization	City of Orange	Signal synchronization.	Completed.	No adverse effect on environmental resource areas
45	Katella Avenue Street Rehabilitation and Signal Synchronization	City of Orange	Rehabilitation of pavement, reconstruction of ramps to be ADA-compliant, and signal synchronization.	Under Construction (Rehabilitation) and Under Review (Synchronization)	No adverse effect on environmental resource areas
46	NEXX Burger	City of Orange	Proposal to demolish an existing restaurant and construct a new fast-food drive-through restaurant.	Approved	Air Quality (temporary) Hazardous Materials Noise (temporary)
47	Marriott Dual Hotel	City of Orange	Demolition of an existing Motel 6 and Denny's Restaurant and construction of a 306-key dual hotel.	Approved	Air Quality (temporary) Hazardous Materials Noise (temporary)
48	7-Eleven Gas Station	City of Orange	Demolition of an existing drive-through restaurant and construction of a new 4,319 sq ft convenience store with fuel service and associated site improvements.	Under Construction	Air Quality (temporary) Hazardous Materials Noise (temporary)

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ID Number	Name	Jurisdiction/Location	Planned Uses	Status	Potential Environmental Impacts
49	IDI Orange	City of Orange	Demolition of existing buildings to construct two warehouse buildings with ancillary office space.	Under Review	Biological Resources Cultural Resources Geology and Soils Hazardous Materials Tribal Cultural Resources
50	Sunrise Senior Assisted Living and Memory Care	City of Orange	Demolition of an existing office to construct a 93-unit senior assisted living and memory care facility.	Under Construction	Air Quality (temporary) Hazardous Materials Noise (temporary)
51	In-N-Out	City of Orange	Proposed demolition of an existing sit-down restaurant for the construction of a new fast-food drive through restaurant.	Under Review	Air Quality (temporary) Hazardous Materials Noise (temporary)
52	Town and Country Apartments and Townhomes	City of Orange	Redevelopment of an office complex to 653 apartments and 74 townhomes.	Under Construction	Air Quality (temporary) Biological Resources Hazardous Materials Hydrology and Water Quality Noise (temporary) Population and Housing
53	Lincoln Avenue Improvements	City of Anaheim	Various improvements to 0.5-mile stretch, including ADA-compliant curb ramps.	Under Review	Aesthetics Biological Resources Cultural Resources Hazards and Hazardous Materials Paleontological Resources Public Services Transportation/Traffic Tribal Cultural Resources
54	ANNA Multimodal Study	The Anaheim Resort Specific Plan area and the Platinum Triangle area	A multimodal transit plan for alternative active transportation options connecting the Anaheim Resort area and the Platinum Triangle	Under Review	Aesthetics Land Use and Planning Public Services Transportation/Traffic Utilities and Service Systems
55	Platinum Triangle	City of Anaheim	947 residential units and 25,000 sq ft of commercial space. Total of 17 projects within the Platinum Triangle, with A-Town Metro and OCV!BE not fully completed (see below).	Approved	Aesthetics Air Quality Cultural Resources Greenhouse Gas Emissions Hazards and Hazardous Materials Hydrology and Water Quality Land Use and Planning Noise Population and Housing Public Services Recreation Transportation/Traffic Utilities and Service Systems
56	Platinum Triangle: A-Town Metro (Areas C and D)	City of Anaheim	508 multifamily residential units with retail space and structured parking. 638 dwelling units have been completed; 1,108 dwelling units and 50,000 commercial sq ft have been approved but not constructed yet.	Completed (638 dwelling units); approved (1,108 dwelling units; 50,000 commercial sq ft)	Aesthetics Air Quality Cultural Resources Greenhouse Gas Emissions

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ID Number	Name	Jurisdiction/Location	Planned Uses	Status	Potential Environmental Impacts
					Hazards and Hazardous Materials Hydrology/Water Quality Land Use and Planning Noise Population and Housing Public Services Recreation Transportation and Traffic Utilities and Service Systems
57	Platinum Triangle: OCV!BE	City of Anaheim	95 acres of mixed-use development, including 1,500 residential units, 1,922,776 sq ft of commercial uses, and 961,055 sq ft of office uses.	Approved	Aesthetics Air Quality Cultural Resources Greenhouse Gas Emissions Hazards and Hazardous Materials Hydrology/Water Quality Land Use and Planning Noise Population and Housing Public Services Recreation Transportation and Traffic Utilities and Service Systems
58	Platinum Triangle: Stadium Lofts	City of Anaheim	390 dwelling units; 10,659 commercial sq ft.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
59	Platinum Triangle: Gateway Apartment Homes	City of Anaheim	352 dwelling units.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
60	Platinum Triangle: Shops at Stadium Towers	City of Anaheim	15,605 commercial sq ft.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Noise
61	Platinum Triangle: Park Viridian	City of Anaheim	320 dwelling units.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
62	Platinum Triangle: Jefferson Platinum Triangle I and II	City of Anaheim	400 dwelling units.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials

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ID Number	Name	Jurisdiction/Location	Planned Uses	Status	Potential Environmental Impacts
					Population and Housing Public Services Transportation and Traffic
63	Platinum Triangle: 1818 Platinum Triangle	City of Anaheim	265 dwelling units.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
64	Platinum Triangle: Anavia	City of Anaheim	250 dwelling units.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
65	Platinum Triangle: Anaheim Apartment Communities	City of Anaheim	336 dwelling units; 1,298 commercial sq ft.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
66	Platinum Triangle: Avalon Anaheim Stadium	City of Anaheim	251 dwelling units; 11,807 commercial sq ft.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
67	Platinum Triangle: Jefferson Stadium Park	City of Anaheim	1,079 dwelling units; 14,600 commercial sq ft.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
68	Platinum Triangle: The George	City of Anaheim	340 dwelling units.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
69	Platinum Triangle: Parallel (formerly Platinum Vista)	City of Anaheim	386 dwelling units.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
70	Platinum Triangle: Chapman Grand (formerly Katella Grand)	City of Anaheim	399 dwelling units.	Completed	Air Quality Cultural Resources

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					Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
71	Platinum Triangle: Gateway Apartment Homes Phase II	City of Anaheim	395 dwelling units.	Completed	Air Quality Cultural Resources Hazards and Hazardous Materials Population and Housing Public Services Transportation and Traffic
72	Platinum Triangle: Trumark Homes	City of Anaheim	153 dwelling units.	Completed	Air Quality Biological Resources Cultural Resources Hazards and Hazardous Materials Noise Paleontological Resources Transportation and Traffic Tribal Cultural Resources
73	Center City Corridors Specific Plan	City of Anaheim	Planning study for potential redevelopment of the specific plan area, including alternative active transportation systems integration.	Under Review	Aesthetics Air Quality (temporary) Land Use Noise (temporary) Population/Housing Utilities and Service Systems
74	Angel Stadium Redevelopment	City of Anaheim	Redevelopment of Angel Stadium.	Under Review	No adverse effect on environmental resource areas
75	Palais Industrial Building	City of Anaheim	Demolition of existing building for a 100,000 sq ft building.	Under Review	Air Quality (temporary) Hazardous Materials Noise (temporary)
76	Ball Road Mixed-Use Development	City of Anaheim	Mixed-use development consisting of 15,000 sq ft of commercial uses, 1,320 residential units, and 204,335 sq ft of open space.	Under Review	Air Quality Biological Resources Cultural Resources Geology and Soils Greenhouse Gas Emissions Hazardous Materials Hydrology and Water Quality Noise Transportation Tribal Cultural Resources
77	Anaheim RV Park	City of Anaheim	159 attached townhome development at the existing RV park.	Approved	Greenhouse Gas Emissions Hazards and Hazardous Materials Hydrology and Water Quality Noise Paleontological Resources Public Services Transportation Utilities and Service Systems

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78	Lincoln Colony Apartments	City of Anaheim	43-unit apartment building.	Approved	Noise (temporary) Tribal Cultural Resources
79	Broadway Townhomes	City of Anaheim	Demolition of existing office buildings for 34 single-family attached townhomes	Under Review	Biological Resources Cultural Resources Geology and Soils Hazards and Hazardous Materials Hydrology and Water Quality Tribal Cultural Resources
80	Anaheim Transportation Network Maintenance Facility	City of Anaheim	New maintenance facility with bus washing for Anaheim Transportation Network Maintenance Facility.	Under Review	Air Quality Hazardous Materials Noise Tribal Cultural Resources
81	Katella Gateway Anaheim	City of Anaheim	Construction of 1,163 hotel rooms, 1,108 residential units, 32,450 sq ft of retail space, and 2,629 parking spaces.	Under Review	Aesthetics Air Quality Noise Population and Housing Tribal Cultural Resources
82	Yamaha International Headquarters	City of Buena Park	Replacement of existing two-story office and one-story warehouse building with a two-story corporate office building. Expansion to existing three-story office/storage building and other campus improvements, including reduction of parking stalls.	Entitled	Air Quality Hazardous Materials Noise
83	8281 Page Street Residential Development	City of Buena Park	54 residential townhome units, with two open space areas.	Approved	Air Quality Cultural Resources Hazards and Hazardous Materials Noise Transportation Tribal Cultural Resources
84	M+D Properties, 34 Unit Mixed Use	City of Buena Park	34-unit apartment and commercial mixed-use building.	Approved	Aesthetics Air Quality Biological Resources Noise Transportation Tribal Cultural Resources
85	Rick Gomez Park	City of Buena Park	0.46-acre pocket park.	Completed	No adverse effect on environmental resource areas
86	8 <sup>th</sup> Street Rehabilitation	City of Buena Park	Rehabilitation and improvements, including ADA ramp construction.	Under Review	No adverse effect on environmental resource areas
87	Intersection Improvement at Valley View Avenue and Alondra Boulevard	City of La Mirada	Improvements to existing intersection as part of ongoing Valley View Avenue Interchange Project.	Under Review	No adverse effect on environmental resource areas
88	Valley View Avenue Interchange	City of La Mirada	Bridge replacement, railroad overpass, ramp improvements, HOV lane and mixed-flow lane on I-5, and frontage road modifications. Part of I-5 Widening Project (ongoing).	Under Construction	Air Quality Biological resources Greenhouse Gas Emissions Transportation (temporary)
89	Signal Installation at Alondra Boulevard and Phoebe Avenue	City of La Mirada	New traffic signal.	Under Review	No adverse effect on environmental resource areas
90	I-5 Improvement Project (I-405 to SR-55)	OCTA	Additional general-purpose lane in each direction, additional auxiliary lanes, modification of ramp configurations for nine select interchanges, braiding the northbound Sand Canyon	PS&E Phase	Cultural Resources Greenhouse Gas Emissions

**Table 2.21.1: Planned Projects List**

ID Number	Name	Jurisdiction/Location	Planned Uses	Status	Potential Environmental Impacts
			Avenue on-ramp and southbound SR-133 to northbound I-5 connector with the northbound Jeffrey Road off-ramp, and converting existing buffer-separated HOV lanes to continuous-access HOV lanes.		
91	SR-57 Northbound Improvement Project	OCTA	Extension of the fifth general-purpose lane, additional exit lanes to Katella Avenue off-ramp, and shoulder widening.	Approved	Biological Resources Utilities Noise Section 4(f)
92	SR-55 Improvement Project (I-5 to SR-91)	OCTA	Additional general-purpose lane in each direction between I-5 and SR-22, Katella Avenue southbound on- and off-ramps modifications, Lincoln Avenue southbound off-ramp modification, and 4 <sup>th</sup> Street northbound and southbound off-ramps modifications.	Approved	Biological Resources Paleontological Resources Greenhouse Gas Emissions
93	SR-55 Improvement Project (I-405 to I-5)	OCTA	Improvements to four bridges, retaining walls, ramp configurations, lane reconstruction, utilities relocation, and local street modifications and realignment.	Under Construction	Hazardous Materials Transportation
94	Transit Security and Operations Center	OCTA	New TSOC facility to house OCTA operational and security functions.	Under Construction	Air Quality Hazardous Materials Noise Tribal Cultural Resources
95	I-5 (SR-57 to SR-55) Project (OCTA)	Caltrans District 12	A Second carpool lane, carpool lane restriping, and demolition of I-5/Main St HOV on- and off-ramps.	Completed	Hazards and Hazardous Materials Hydrology/Water Quality Land Use and Planning Noise Public Services Transportation and Traffic Utilities and Service Systems

Sources: Current, Planned, and Capital Improvement Projects from Study Area City websites. Refer to municipal websites in References.

ADA = Americans with Disabilities Act

HOV = high-occupancy vehicle

I = Interstate

OCTA = Orange County Transportation Authority

PS&E = Plans, Specifications, and Estimates

sq ft = square foot/feet

SR = State Route

TSOC = Transit Security and Operations Center



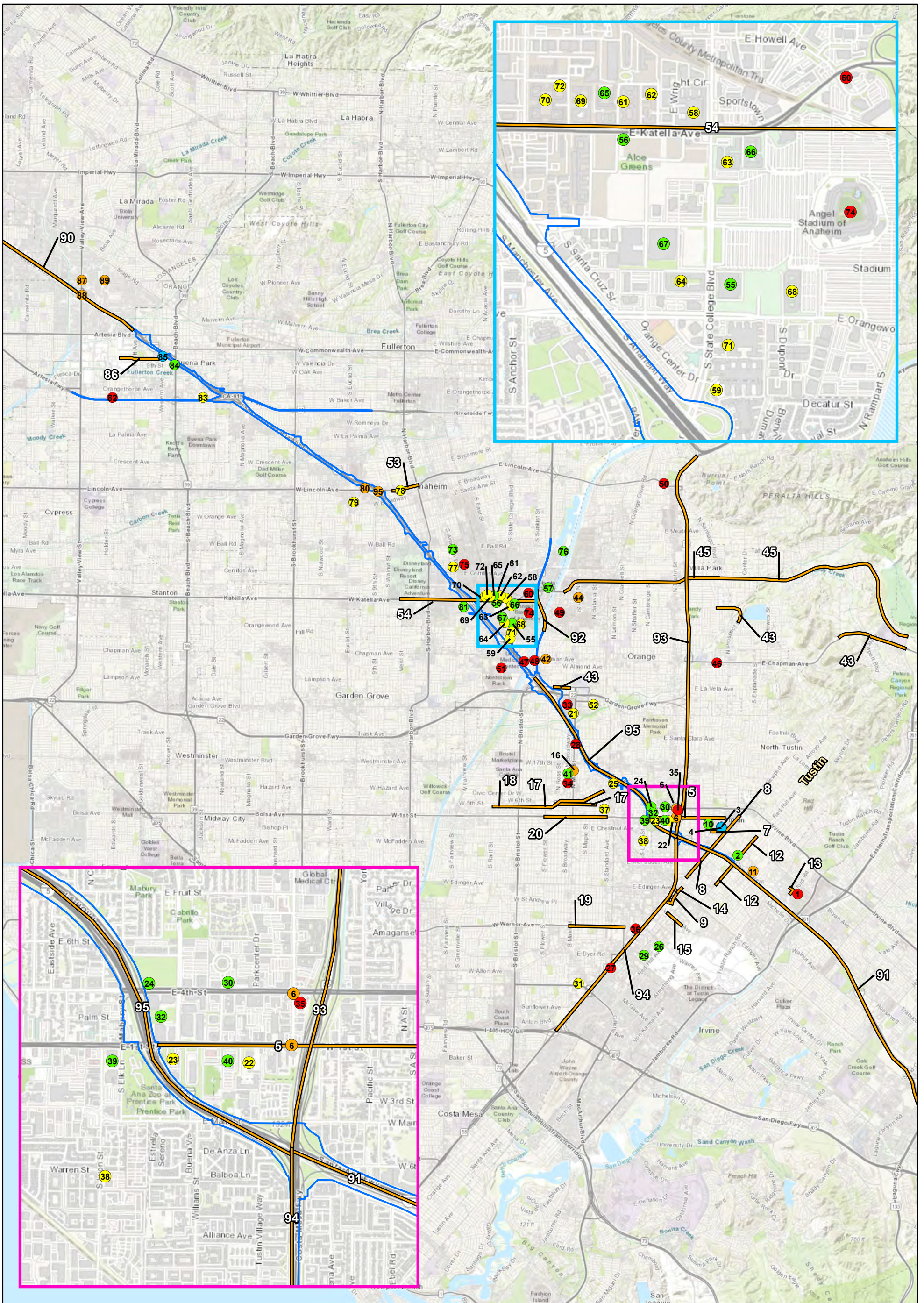
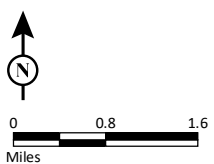


FIGURE 2.21-1

LEGEND

- Project Area
- Commercial and Services
- Facilities
- Mixed Use
- Residential
- Transportation



SOURCE: Esri (2022)

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I-5 Managed Lanes Project  
(Red Hill Avenue to Orange County/Los Angeles County Line)

Planned Projects

EA No. 0Q950

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In general, most of the development projects listed are infill projects, and the listed transportation projects would improve existing facilities rather than construct new facilities.

The following resources are evaluated in this section for cumulative impacts: community impacts, water quality, and hazards and hazardous materials.

### **2.21.3.1 Community Impacts**

#### ***Community Character and Cohesion***

The RSA for cumulative community impacts includes portions of the cities of Tustin, Santa Ana, Orange, Anaheim, Fullerton, Buena Park, and La Mirada, specifically the Census Tracts listed in Table 2.3.1 in Section 2.3, Community Impacts. It should be noted that community information related to the cities of Irvine and Santa Fe Springs are excluded from this analysis, as the city areas that coincide with the improvements associated with the Build Alternatives would be so minimal as to not warrant further analysis. Census tracts provide established boundaries for community demographics. Almost all of the RSA census tracts exhibit at least one to three community cohesion indicators in comparison to the overall Orange County population. Four of the RSA census tracts did not exhibit any community cohesion indicators in comparison to the overall Orange County population (Census Tracts 525.24, 755.07, 761.02, and 761.04). Most of the Study Area census tracts appear to have at least one ethnically homogenous community (primarily a Spanish, Korean, or Vietnamese-speaking community). About half of the Study Area census tracts reported higher average household size than Orange County. Very few Study Area census tracts reported a higher percentage of elderly residents than Orange County. Few of the Study Area census tracts reported higher percentages of residents who own their homes than Orange County, and few Study Area census tracts reported higher percentages of long-term residents than Orange County. Based on these factors, the Study Area appears to exhibit a low to moderate degree of community cohesion.

Most of the cities within the RSA have a higher employed civilian labor force rate than the County; however, Fullerton and La Mirada reported a lower employed civilian labor force percentage compared to Orange County and the other RSA cities. The cities of Fullerton, La Mirada, Orange, Tustin, and nine census tracts reported a higher percentage of residents who are high school graduates or higher than Orange County overall (86 percent). The City of Fullerton, the City of Tustin, and six census tracts reported a higher percentage of residents who are college graduates or higher than Orange County (41.2 percent). Orange County has a lower percentage of persons

living in poverty compared to the State of California (12.6 percent) as a whole; however, Los Angeles County has a higher percentage of persons living in poverty (14.2 percent). All cities within Orange County within the RSA have a higher or similar percentage of persons living in poverty compared to the county; however, La Mirada has a much lower percentage of persons living in poverty compared to Los Angeles County as a whole.

During construction, community members would still be able to use community services and facilities. However, there would be some degree of inconvenience due to construction-related delays, temporary closures, and construction equipment operation. Application of PF-TR-1 (Transportation Management Plan [TMP]) would minimize or reduce these temporary impacts. One benefit to community character and cohesion is that construction jobs would generate temporary employment and revenues for both local and regional economies.

It is unlikely that community character and cohesion would be permanently impacted by the Build Alternatives in any of the cities within the RSA. It is also important to note that I-5 has been a prominent transportation corridor in the area since the late 1950s, and most of the communities in the RSA have been established adjacent to the existing I-5 right-of-way (ROW). Changes associated with the Build Alternatives would result in minimal alterations to community character and cohesion, and no substantial adverse effects to communities would occur.

As previously noted in Table 2.21.1, several planned transportation and development projects occur in the general vicinity of the Project Area with the potential to cumulatively affect communities in the area. Projects related to the State Route (SR) 55/I-5 interchange (refer to Project IDs 92 and 93), could compound effects to communities within the RSA for the proposed Project. However, these projects occur near communities that are already freeway-adjacent geographically and are largely developed. Therefore, impacts to community cohesion are unlikely. Therefore, the Build Alternatives would not change the fundamental nature of adjacent communities and would not contribute to a considerable cumulative impact to community character and cohesion. Mitigation would not be required.

### ***Displacements***

The Build Alternatives would not result in any residential or business displacements. Although the Build Alternatives would not displace residences or businesses, a few of the identified planned transportation and development projects have the potential to

displace some businesses and/or residents. Therefore, there could be some cumulative effects if multiple displacements occur in the same area. Additionally, the planned land development projects would add or modify businesses or residences. However, it is anticipated that businesses and/or residents affected by planned projects could be relocated to surrounding areas, and there are adequate available properties in surrounding areas to accommodate the business and residential displacements for the planned projects. The Build Alternatives would not result in permanent acquisition of land or the displacement of residents and businesses. Therefore, the Build Alternatives would not contribute to a considerable cumulative impact with respect to displacements in the community, and mitigation would not be required.

### ***Environmental Justice***

Construction activities associated with the Build Alternatives would temporarily affect residents and businesses in the Study Area. Those impacts would include temporary disruptions of local traffic patterns, delay times, congestion, noise levels, vibration, and dust. However, impacts from dust and air pollution resulting from construction activities would be substantially minimized through applicable Caltrans and regional regulations to control excessive fugitive dust emissions and emissions from construction vehicles, and would adhere to Caltrans Standard Specification Section 14-9 (PF-AQ-1) for reducing air pollution during construction. Noise resulting from construction activities would be substantially minimized through compliance with Caltrans Standard Specifications Section 14-8.02 (PF-N-1). Construction-related closures could temporarily impede movement in the Study Area, which would result in temporary effects to all population groups, including environmental justice communities. However, these temporary construction effects would be minimized through implementation of PF-TR-1 (TMP). Therefore, the Build Alternatives would not result in any disproportionate temporary adverse effects to environmental justice communities in the Study Area .

Completion of the Build Alternatives would contribute to improving trip reliability and Express Lane (EL) operation along I-5 within the Project Area; however, those benefits would not extend to low-income and minority motorists if they are unable to purchase/obtain a FasTrak transponder and maintain funding in a FasTrak account in order to use the ELs. In recognition of the challenges that low-income and minority motorists may face in accessing these benefits, Caltrans would implement a minimization measure for Equity communities consisting of an Equity Assistance Plan (EAP) as part of Alternatives 3 and 4 (Measure EQ-1) to provide assistance to

individuals who meet certain income and demographic characteristics by providing them with free or low-cost FasTrak transponders and/or FasTrak account credits to assist with covering the cost of tolls incurred through use of the I-5 ELs. With implementation of the EAP, the Build Alternatives would not result in any permanent adverse effects to environmental justice populations.

As previously noted in Table 2.21.1, several planned transportation and development projects occur in the general vicinity of the Project Area with the potential to cumulatively affect environmental justice communities in the area. Projects related to the Central Pointe Mixed-Use Development (refer to Project ID 24), the Crossroads at Washington (refer to Project ID 25), The Madison (refer to Project ID 32), Platinum Triangle: OCV!BE (refer to Project ID 57), Lincoln Colony Apartments (refer to Project ID 78), 8281 Page Street Residential Development (refer to Project ID 83), M+D Properties (refer to Project ID 84), the I-5 Improvement Project (I-405 to SR-55) (refer to Project ID 90), and projects related to the SR-55/I-5 interchange (refer to Project IDs 92 and 93) could compound temporary effects to environmental justice communities within the RSA should an overlap in construction periods occur. However, these projects would implement measures that would avoid and/or minimize temporary impacts related to access, delays, air quality, and noise. In addition, the other planned projects do not include the conversion of HOV lanes to tolled lanes. Therefore, the Build Alternatives would not contribute to a considerable cumulative impact to environmental justice communities, and mitigation would not be required.

### **2.21.3.2 Traffic and Transportation**

The analysis of future traffic conditions in Section 2.5, Traffic/Transportation, for 2035 (Opening Year) and 2055 (Horizon Year) is a cumulative analysis in that it considers traffic generated by existing and future planned land uses and the effect of future planned transportation improvements. As a result of the cumulative analysis presented in Section 2.5, the Build Alternatives would generally improve traffic operations and reduce congestion. However, Alternative 4 would result in significant and unavoidable impacts to VMT.

After post-processing the raw VMT output from the NCST calculator, Alternative 4 is anticipated to result in 98,406,000 additional vehicle miles traveled (VMT). To reduce VMT further by 13,460,000 VMT annually, VMT reduction elements are included in the design of Alternative 4 such as park-and-ride facilities (applies to all Build Alternatives), tolling for operations, and managed lanes volume control (applies

to Alternatives 3 and 4). This results in Alternative 4 generating 84,946,000 VMT annually and would require mitigation.

Mitigation Measures T-1 through T-5 would be implemented and would mitigate for 22,257,680 VMT annually, or roughly 26.2% of the total VMT generated by Alternative 4 and reduce the VMT to 62,688,320. However, even with implementation of measures T-1 through T-5, impacts to VMT associated with Alternative 4 would be significant and unavoidable. Implementation of VMT mitigation measures T-1 through T-5 is contingent on the availability of excess toll revenue or net toll revenue. Further refinement of mitigation measures T-1 through T-5 will continue as the Project moves forward and will include input from Caltrans, stakeholders, and the Traffic and Revenue Study. Policies, approvals, and commitments surrounding the implementation of measures T-1 through T-5 will be determined after the circulation of the Draft Environmental Document.

As discussed in Section 2.5 and 3.1.17, the Build Alternatives would result in less than significant impacts relating to conflicts with the circulation system, roadway design hazards, and emergency access. Other past, present, and reasonably foreseeable projects in the region would be required to meet standard requirements to provide transportation facilities that accommodate both pedestrian, bicycle, and vehicle travel. Therefore, the Build Alternatives, when considered with the projects identified in Table 2.21.1, would not result in circulation system, roadway design hazards, and emergency access impacts that are cumulatively considerable.

Alternative 4's VMT net change would exceed respective thresholds and result in significant and unavoidable impacts. Even with implementation of the limited feasible mitigation measures discussed above, the VMT generated as a result of the Build Alternatives cannot be reduced to levels that would be less than significant. Therefore, the contribution of the Build Alternatives to cumulative transportation impacts from increases in VMT would be considerable and significant. No mitigation measures beyond the measures identified in T-1 through T-5 are available. Therefore, this cumulative impact would be significant and unavoidable.

### **2.21.3.3 Paleontology**

The RSA for paleontological resources includes areas where excavation would occur for the Build Alternatives. Geologic mapping indicates the Project Area contains Very Young Wash Deposits; Young Alluvium, Unit 2; Young Alluvial Fan Deposits; and Young Axial Channel Deposits. Although not mapped, Artificial Fill is likely

also present at the surface of the Project Area from the prior construction of Interstate (I) 5 and other roads. While Artificial Fill may contain fossils, these fossils have been removed from their original location and are thus out of stratigraphic context.

Therefore, they are not considered important for scientific study. As such, Artificial Fill has no paleontological sensitivity. Very Young Wash Deposits are mapped within the Project Area where the Project Area crosses the Santa Ana River. Although these Very Young Wash Deposits can contain remains of plants and animals, not enough time has passed for the remains to have become fossilized. Therefore, the Very Young Wash Deposits are considered to have no paleontological sensitivity. The upper 10 feet of the Young Alluvium, Unit 2; Young Alluvial Fan Deposits; and Young Axial Channel Deposits are assigned a low paleontological sensitivity above a depth of 10 feet and a high sensitivity below that mark, given the sediments of the Young Alluvium, Unit 2; Young Alluvial Fan Deposits; and Young Axial Channel Deposits below a depth of 10 feet may be old enough to contain scientifically significant paleontological resources.

According to the fossil locality searches conducted by the NHMLAC and the SDNHM, there are no known fossil localities within the boundaries of the Project Area. However, both museums have records of several fossil localities near the project from geologic units within or similar to those found within the Project Area, either at the surface or at depth. The NHMLAC reports five fossil localities near the project from geologic units within or similar to those found within the Project Area. The SDNHM reports five localities near the Project Area, all located at the Anaheim Gardenwalk from within Pleistocene sediments.

The construction of Alternatives 3 and 4 would require ground disturbance, excavation, and modifications to existing freeway and local street facilities and structures. Specifically, if construction of either Alternative 3 or 4 requires excavation that extends more than 25 feet below the original ground surface, those activities could result in impacts to paleontological resources. The new lanes, new shoulders, new and re-established auxiliary lanes, and ramps are expected to require excavation to depths of less than 5 feet below the original ground surface and would not have the potential to impact paleontological resources. Excavation depths for retaining walls and noise barriers would depend on the location and final design. As such, excavation for some of the undercrossings, overcrossings, retaining walls, and noise barriers may extend below a depth of 10 feet and have the potential to impact paleontological resources.



In the event that unanticipated paleontological resources are identified during construction, Project Feature PF-PAL-1 would be implemented to proceed accordingly. Additionally, Mitigation Measure PAL-1 would be implemented which requires the development of a Paleontological Mitigation Plan for the proposed Project in order to ensure impacts to paleontological resources are less than significant.

The Build Alternatives and other projects in the vicinity of the RSA could disturb sensitive sediments that may contain paleontological resources; thus contributing to cumulative impacts to paleontological resources. Projects that include excavation in previously undisturbed areas could, in conjunction with nearby construction requiring ground disturbance, contribute cumulatively to impacts on paleontological resources. However, impacts to 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 RSA 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. Therefore, the Build Alternatives, in combination with other planned projects, would not result in substantial cumulative impacts to paleontological resources, and mitigation would not be required.

#### **2.21.3.4 Water Quality**

The RSA for water quality impacts includes the five watersheds within the Project Area: the Lower San Gabriel River Watershed, the Santiago Creek Watershed, the Lower Santa Ana River Watershed, the Bolsa Chica Channel-Frontal Huntington Harbor Watershed, and the San Diego Creek Watershed. As described in Section 2.9, Water Quality and Stormwater Runoff, receiving waters that could be impacted by the Build Alternatives include Coyote Creek, Fullerton Creek, Carbon Creek, Lower Santiago Creek (or Santiago Creek Reach 1), Santa Ana River Reaches 1 and 2, Bolsa Chica Channel, San Diego Creek Reach 1, and Peters Canyon Wash.

The Build Alternatives would result in ground disturbance during construction that would result in exposed soil that is susceptible to erosion compared to existing conditions. Additionally, there is a potential for construction-related pollutants to be spilled or leaked or to be transported via storm runoff into drainages adjacent to the Project Area and into downstream receiving waters. If the removal of groundwater from sheet pile driving and shoring operations is required under Alternatives 3 and 4,

it is possible that dewatering activities could result in the release of unsuitable and untreated water if discharged directly to the environment. Construction activities could also result in accidental releases of construction-related hazardous materials that might affect groundwater. However, temporary construction-related impacts would be addressed by the implementation of Project Features PF-WQ-2, PF-WQ-3, and PF-WQ-6, which require compliance with the Construction General Permit and Stormwater Pollution Prevention Plan and local National Pollutant Discharge Elimination System (NPDES) permits that are applicable to construction dewatering. Therefore, construction of the Build Alternatives would not result in any temporary adverse impacts to water quality.

The Build Alternatives would result in a permanent net increase in impervious surface area. An increase in impervious surface area would increase the volume of runoff during a storm, thereby increasing the potential for more effectively transporting pollutants to receiving waters. Also, an increase in impervious surface area would increase the total amount of pollutants in stormwater runoff and nonstormwater runoff, which would increase the amount of pollutants traveling to on-site drainages and downstream receiving waters. However, the Build Alternatives would be subject to Project Features PF-WQ-1, PF-WQ-4, PF-WQ-5, and PF-WQ-7, which would require the implementation of Caltrans-approved Treatment Best Management Practices (BMPs), Design Pollution Prevention BMPs, and full trash capture (FTC) measures to avoid and/or minimize the discharge of pollutants of concern. BMPs would treat 100 percent of the new impervious surface area, providing water quality benefits to on-site drainages and downstream receiving waters. Therefore, operation of the Build Alternatives would not result in any permanent adverse impacts to water quality.

Cumulative development in the RSA is a continuation of the existing urban pattern of development that has already resulted in extensive modifications to watercourses in the area. The area's watercourses have been either channelized or left in natural conditions, and drainage systems have been put into place to respond to the past urbanization that has occurred in this area. Each of the planned projects identified in Table 2.21.1 could potentially increase the volume of stormwater runoff and contribute to pollutant loading in stormwater runoff, thereby resulting in cumulative impacts to hydrology and surface water quality. In addition, the construction and operation of these projects could result in localized degradation of groundwater quality that could eventually impair the underlying aquifer's continued use if

pollutant discharge quantities are large enough. Cumulative impacts to groundwater supply could also occur due to increases in impervious surfaces that impair groundwater recharge and increases in consumptive uses of groundwater.

However, each related project must include BMPs to reduce construction- and operation-related impacts to water quality and hydrology in compliance with applicable NPDES permits and local plans and ordinances. Each related project must consider and address impacts to impaired receiving waters and total maximum daily loads (TMDLs) for receiving waters. The TMDL program is a cumulative approach to identifying all constituents that adversely affect the beneficial uses of water bodies and then identifying appropriate reductions in pollutant loads or concentrations from all sources so that the receiving waters can maintain/attain the beneficial uses in the Basin Plan. Thus, by complying with TMDLs, a project's cumulative impacts to overall water quality in the RSA are taken into account. Regional programs and BMPs, such as TMDL programs and the NPDES Permit Program, have been designed under an assumption that this area would continue its pattern of urbanization. The regional programs and associated requirements are designed to address the cumulative effects of proposed development. Because the Build Alternatives and other cumulative projects would comply with applicable NPDES requirements and would include BMPs to reduce the volume of stormwater runoff and pollutants of concern in stormwater runoff, the cumulative hydrology and water quality impacts of the Build Alternatives and the related projects would be less than significant. Therefore, the Build Alternatives would not contribute to a considerable cumulative impact related to hydrology and water quality, and mitigation would not be required.

### **2.21.3.5 Hazardous Waste/Materials Impacts**

The RSA for hazardous waste/materials extends approximately 1 mile from the Project Area, consistent with the National Priority List (NPL) records search area for the Initial Site Assessment.

The RSA has historically been used as roadway, agricultural, and commercial land since the 1920s. The overall land development within and adjoining the Project Area gradually increased starting in the 1960s, with development mostly including public roadways and commercial properties and the remainder of the adjacent properties being developed for mixed industrial, residential, and institutional purposes. The use and generation of hazardous waste/materials is a normal function of commercial and industrial operations. Extensive prior improvements were made to I-5 between 1994

and 2005, including widening and changes to the interchanges and grade separations. It is likely that the I-5 improvements between 1994 and 2005 included hazardous waste investigations and remedial actions for some of the older potential impact sites that were previously acquired during widening. However, potential sources of hazardous materials within the Project Area include the presence of residual hazardous waste/materials from Recognized Environmental Condition (REC) sites, herbicides and pesticides used in former agricultural properties, and potential asbestos-containing materials (ACM) and lead-based paint (LBP).

Through excavation, demolition, and construction activities, the Build Alternatives have the potential to encounter contaminated soil and groundwater, aerially deposited lead, polychlorinated biphenyls, pavement-marking materials, pesticides, ACMs, LBP, herbicides and pesticides, and treated wood waste.

Should a Build Alternative be selected as the Preferred Alternative, during final design, aerially deposited lead studies would be conducted along the I-5 ROW within the proposed disturbance limits and electrical transformers and equipment would be evaluated for PCB content or releases as detailed in Project Features PF-HAZ-1 and Measure HAZ-1. Project Features PF-HAZ-1, PF-HAZ-2, PF-HAZ-3, PF-HAZ-4, and PF-HAZ-6 would also require Caltrans special provisions as part of final design to ensure proper removal, handling, and disposal of traffic striping waste, ACMs, and LBPs at a permitted disposal facility and proper management or disposal of treated wood waste in accordance with current Department of Toxic Substances Control (DTSC) guidance. Monitoring of soil excavation for the possible presence of unknown hazardous material sources would be conducted during excavation as required by PF-HAZ-5. In addition, the Build Alternatives would be required to adhere to State and federal regulations with respect to the use, generation, and disposal of hazardous waste/materials during construction and operation of the Build Alternatives. Based on an urbanized RSA and adherence to regulatory requirements, the Build Alternatives would not result in any temporary or permanent adverse hazardous waste/materials impacts.

The planned projects in Table 2.21.1 consist primarily of transportation, residential, commercial, and mixed-use uses with some industrial facilities. Residential and transportation uses are typically low-risk uses with respect to hazardous waste/materials impacts. Comparatively, commercial and industrial facilities may present a higher risk with respect to hazardous waste/materials impacts depending on the type of operations and the degree to which these materials are used. Regardless,

there is an existing regulatory framework in place for use, generation, and disposal of hazardous waste/materials and penalties for noncompliance.

Like the Build Alternatives, some of the planned projects have the potential to be exposed to hazardous waste/materials through releases at adjacent or nearby properties or through renovation or demolition of buildings or other structures. This could occur with transportation projects such as SR-55 (I-5 to SR-91) (refer to Project ID 92), which may require the demolition of structures such as bridges or the removal of yellow pavement traffic markings, or in development projects such as the 2700 North Main Residential Development (refer to Project ID 21), which may include the unintentional release of hazardous materials, as well as the Hampton Inn Hotel (refer to Project ID 28) and Marriott Dual Hotel (refer to Project ID 47), which require the demolition of buildings. Likewise, these planned projects would be required to comply with State and federal regulations with respect to the use, generation, and disposal of hazardous materials/waste during construction and operation. Therefore, the Build Alternatives, in combination with other planned projects, would not result in substantial cumulative hazardous waste/materials impacts, and mitigation would not be required.

#### **2.21.4 Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, and/or mitigation measures for cumulative impacts are required.

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