3.6 Cumulative Impacts

3.6.1 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 types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

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

Construction and operation of the build alternatives would result in direct and indirect impacts that could contribute to cumulative effects to the built and natural environment when combined with other related past, present, and reasonably foreseeable future actions.

3.6.2 Methodology

Cumulative impacts were identified by comparing the impacts of the proposed project and other past, current, or proposed actions in the area to establish whether, in the aggregate, they could result in cumulative environmental impacts. Both direct and indirect impacts are assessed. The cumulative effect analysis focuses on those issues and resources that would be affected by aggregation of stress factors on the environment and does not address in detail those topics that would not have additional environmental effects from the cumulative condition. The analysis

provided in this section considered the effects of the other projects and the build alternatives in assessing whether a particular environmental parameter would experience cumulative adverse impacts. Specific geographic boundaries for cumulative effects are determined for each environmental topic analyzed and may vary accordingly.

Further actions anticipated to occur include further growth within the Cities of Costa Mesa, Fountain Valley, Garden Grove, Huntington Beach, Los Alamitos, Westminster, and Seal Beach as well as the County of Orange unincorporated community of Rossmoor. The growth would require continued expansion of supporting infrastructure such as roadways, commercial uses, public services, and utilities. The anticipated growth is reflected in the regionally adopted growth projections and is planned for in the General Plans of the communities in which the proposed project is located. The following eight steps serve as the guidelines for identifying and assessing cumulative impacts and are based on the *Caltrans Standard Environmental Reference – Cumulative Impacts* (Caltrans, November 2008).[23]

- Identify the resources to consider in the cumulative impact analysis by gathering input from knowledgeable individuals and reliable information sources. This process is initiated during project scoping and continues throughout the environmental analysis.
- Define the geographic boundary of the Resource Study Area (RSA) for each resource to be addressed in the cumulative impact analysis.
- Describe the current health and historical context of each resource.
- Identify the direct and indirect impacts of the proposed project that might contribute to a cumulative impact on the identified resources.
- Identify a set of current and reasonably foreseeable future actions or projects and their associated environmental impacts to include in the cumulative impact analysis.
- Assess cumulative impacts.
- Report the results of the cumulative impact analysis.
- Assess the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact.

3.6.3 Affected Environment

I-405 is considered a bypass route to I-5 (or the Santa Ana/Golden State Freeway) through Orange County and an important component of the county's transportation system. Within Orange County, I-405 extends 24 miles northwesterly from I-5 in Mission Viejo to the Los

[23] http://www.dot.ca.gov/ser/cumulative_guidance/approach.htm; accessed January 9, 2012.

Angeles/ Orange County line. I-405 is a controlled access facility with a fenced ROW separated by grade from crossing traffic, with vehicular access limited to interchanges.

The project study area is located within an extensively urbanized area of Orange County. Eight municipalities are responsible for land use and zoning oversight within the project study area and include the Cities of Costa Mesa, Fountain Valley, Garden Grove, Huntington Beach, Los Alamitos, Westminster, and Seal Beach, as well as the Orange County unincorporated community of Rossmoor. The dominant land uses within the project study area include low- and medium-density residential (single- and multiple-family), commercial (neighborhood and regional), institutional (government and schools), light industrial (general manufacturing), and agricultural (row crops).

Development within the project study area generally occurred in the post-World War II period with land uses that are master-planned communities with large boulevards and freeways intersecting homogenous single-family residential cul-de-sac communities. Large retail centers serve as significant local landmarks and as areas promoting community cohesion by providing free and ticketed entertainment, along with a variety of shopping and services. Most planned development projects include reuse or redevelopment of existing land uses. Within some project study area communities, parcels have been identified for specific development proposals or are within a Community Redevelopment Area.

3.6.4 Reasonably Foreseeable Projects

Several projects are known to be proposed, approved, or under implementation along the I-405 corridor, as summarized in Table 3.6-1. Note that the Traffic Study prepared for this project has accounted for all projects listed in the Central Orange County Corridor MIS up to the year 2035.

3.6.5 Resources not Subject to Cumulative Impact Analysis

Based on the nature of the proposed project, the affected project area, and the impact analysis for each resource conducted for this Final EIR/EIS, it was determined the following resources would not require detailed cumulative impact analysis for the reason described under each resource area:

3.6.5.1 Land Use

The RSA for land use and planning covers the boundary of eight cities/communities located along the I-405 corridor, as described in Section 3.1.1, Land Use. As noted above, the communities in which the proposed project is located are almost entirely built out, containing few undeveloped or vacant parcels. General plans serve as the long-range planning documents

Table 3.6-1: Reasonably Foreseeable Projects

Project Name	Project Location	Project Description	Anticipated Completion Date
SR-22 West County Connectors (WCC) Project	In cities of Garden Grove, Westminster, Seal Beach, Los Alamitos, Long Beach, and the community of Rossmoor.	The SR-22 WCC Project will link HOV lanes/carpool lanes on I-405 with those on SR-22 and I-605 to create a seamless HOV connection amongst the three freeways.	Scheduled for completion in 2014.
Costa Mesa Freeway (SR-55) Improvements	SR-55 between SR-22 and I-405 and between SR-91 and SR-22, in Costa Mesa	Add new lanes to SR-55 between SR-22 on the north and I-405 on the south and improvements on SR-55 between SR-91 on the north and SR-22 on the south. This is part of Measure M projects. The project will increase freeway capacity, reduce congestion, and smooth traffic flow by adding new lanes and delivering operational improvements between interchanges.	Construction is in stages and is scheduled to be completed in 2015.
Caltrans Highway Restriping (ID: 12-0J4404)	405 – PM 0.0-PM 24.2 In cities of Irvine and Seal Beach	Remove existing HOV buffer and restripe freeway to provide a continuous HOV access and standard GP lane shoulders in Orange County from I-5 in Irvine to I-605 in Seal Beach.	Estimated completion date 2012.
Caltrans Highway Paving (ID: 12-0K5104)	PM 9.5-17.7 Costa Mesa to Westminster	Cold plane asphalt concrete pavement and hot mix asphalt concrete, northbound I-405 off-ramp to westbound Bolsa Avenue and southbound on-ramp from Bristol Street to northbound I-405 at Euclid Street/Santa Ana River.	Estimated completion in 2010.
Caltrans Highway Paving (ID: 12-0L5404)	PM11.5-16.9, in cities of Costa Mesa, Fountain Valley, Westminster, and Huntington Beach	Overlay 0.1' RHMA-type G.	Estimated completion date 2011.
Amstar Red Oak Project	7302-7400 Center Avenue, across from Goldenwest College. Southeast corner of Gothard Street and Center Avenue, City of Huntington Beach	The applicant, Red Oak Investments LLC, proposes to develop the 3.8-acre site with approximately 440 luxury residential units in 5 residential stories, located above approximately 10,000 square feet of street-level retail and commercial uses. Open space amenities will be included.	Entitlements Approved. EIR, Zoning Map Amendment, General Plan Amendment, and Conditional Use Permit by Planning Commission completed in 2008. Construction schedule is not available.
Beach and Edinger Corridors Specific Plan	Along Beach Boulevard, from the Coastal Zone boundary in the south to Edinger Avenue, and along Edinger Avenue from Beach Boulevard westward to Goldenwest	A 459-acre project along the city's two major corridors to allow mixed use development. The project amends the following: the General Plan Amendment to change the various land use categories within the Beach and Edinger Corridors to Mixed Use; Zoning Map Amendment to reflect Beach and Edinger Corridors Specific Plan; and Zoning Text	Effective April 16, 2010.

Table 3.6-1: Reasonably Foreseeable Projects

Project Name	Project Location	Project Description	Anticipated Completion Date
	Street, City of Huntington Beach	Amendment to adopt the Specific Plan document. Overall, buildout of the Specific Plan (estimated at 2030) could result in the addition of up to 6,400 new dwelling units, 738,400 square feet of retail uses, 350 hotel rooms, and 112,000 square feet of office uses.	
The Village of Bella Terra Development	Huntington Beach 7777 Edinger Avenue Adjacent to 1-405 Project corridor (less than 0.5-mile away)	The site is bordered by Center Avenue to the north, Edinger Avenue to the south, the Bella Terra mall to the east, and a railroad ROW and commercial property to the west. The applicant is proposing General Plan Amendments and Zoning Text Amendments to allow development of a multi-level mixed-use retail (ranging from 138,085 to 414,255 square feet) and residential development (ranging from 538 to 713 units).	Entitlements Approved (EIR: October 14, 2008; GPA/ZTA: November 17, 2008). The Addendum to EIR 2007-03 was prepared in August 2010. Construction is scheduled to be completed in 2012; full occupancy in 2014.
Costco/DJM Development	Village of Bella Terra-7777 Edinger Avenue, City of Huntington Beach	On March 15, 2010, the Planning and Building Caltrans received an application for a new Costco as part of the Village at Bella Terra development. The 154,113-square-foot Costco will include tire sales/installation, outside food service, and a gas station. Additionally, the Village at Bella Terra will include up to 468 multi-family residential units with 30,000 square feet of additional retail. The proposal includes demolition of the former Mervyns and Montgomery Wards. The entitlement application includes a Zoning Text Amendment, General Plan Amendment, Site Plan Review, and Environmental Assessment.	A public hearing took place in August 2010. Construction schedule is not available.
Measure M Project ID L: Traffic Light Synchronization Program	Countywide	OCTA is currently working with Caltrans and local cities to develop a master plan for countywide synchronization. As plans for future improvements develop, the $8 million Measure M and State-funded Traffic Light Synchronization Program will synchronize 10 roadways between 2009 and 2011. The project would coordinate traffic signals in key corridors – 700-mile network with 2,000 signals (includes local share)	In the process of being established by OCTA, KOA Corporation, WGZE, and Kimley-Horn and Associates. Included in OCTA's 2010 LRTP, on "Preferred Project List". Anticipated completion 2023.
Measure M Project ID L: Bolsa Avenue Bridge Widening	Along Bolsa Avenue from Chestnut Street to Goldenwest Avenue, City of Westminster	Widen Bolsa Avenue from four to six lanes.	Anticipated completion by 2011. Part of OCTA's 2010 LRTP.

Table 3.6-1: Reasonably Foreseeable Projects

Project Name	Project Location	Project Description	Anticipated Completion Date
Measure M Project ID L: Seal Beach Boulevard Street Widening Project	At I-405 southbound off-ramp, City of Seal Beach	Widening project at I-405 southbound off-ramp. City of Seal Beach is lead agency.	Anticipated completion date 2012. Part of OCTA's 2010 LRTP.
Measure M Project ID L: Harbor Boulevard/I-405 Interchange Improvements	At the I-405 interchange on northbound Harbor Boulevard, southbound on-ramp to Law Court, City Costa Mesa	Channelizations and operations improvements at the I-405 interchange on northbound Harbor Boulevard, southbound on-ramp to Law Court. Lead Agency is City of Costa Mesa.	Part of OCTA's 2010 LRTP. Completed in 2010.
Measure M Project ID L: Goldenwest Bridge Widening	Goldenwest Bridge over I-405, City of Westminster	Widen over I-405 from five to six lanes (addition of one southbound lane). City of Westminster is Lead Agency.	Funded and anticipated to be finished in 2010. Included in OCTA's 2010 LRTP.
Measure M Project ID L: Seal Beach Boulevard Improvement	Seal Beach Boulevard I-405 overpass, City of Seal Beach	Overpass bridge lengthening turn lanes and ramps realignment from Beverly Manor Road to Old Ranch Parkway. City of Seal Beach is Lead Agency.	Funded and anticipated completion 2010; included in OCTA's 2010 LRTP.
Measure M Project ID L: Harbor Boulevard Improvement	Harbor Blvd at Gisler Avenue, in City of Costa Mesa	Implement intersection channelization on Harbor Boulevard at Gisler Avenue. Add fifth northbound lane on Harbor Boulevard and right-turn lane on Gisler Avenue to northbound Harbor Boulevard, and second southbound I-405 slip on-ramp lane. City of Costa Mesa is Lead Agency.	Included in OCTA's LRTP. Completed in 2010.
Measure M Project ID S: Go Local Transit Program	Countywide. Westminster, Huntington Beach, Fountain Valley, and other cities in the county	Includes extensions to transit routes and new structures in Westminster, Huntington Beach, Fountain Valley, and other cities in the county.	Included in OCTA's 2010 LRTP. Anticipated completion in 2035.
Measure M Project ID S: Soundwall Program	Countywide	Construct soundwalls along freeways to minimize traffic noise from freeways into residential neighborhoods.	Included in OCTA's 2010 LRTP, Anticipated completion 2035.

Table 3.6-1: Reasonably Foreseeable Projects

Project Name	Project Location	Project Description	Anticipated Completion Date
Measure M Project ID S: I-405/Bear Street HOV Access	Bear Street and I-405, City of Costa Mesa	Add HOV ramps at Bear Street	Included in OCTA's 2010 LRTP, Completion date is not available.
Middle Harbor Redevelopment Project	Port of Long Beach	Expansion of an existing marine container terminal in the Middle Harbor area. The Project would consolidate two existing container terminals into one 345-acre terminal. Construction would include creation of approximately 54.6 acres of land, dredging, and wharf construction; construction of an intermodal rail yard; and reconstruction of terminal buildings.	EIS/EIR under preparation. NOI/NOP released in 2005. (2009-2030)
Piers G & J Terminal Redevelopment Project	Port of Long Beach	Redevelopment of two existing marine container terminals into one terminal in the Southeast Harbor Planning District area. The project will develop a marine terminal of up to 315 acres by consolidating portions of two existing terminals on Piers G and J and several surrounding parcels. Construction is now underway and will occur in four phases; it will include creation of approximately 53 acres of land, dredging, concrete wharves, rock dikes, and road and railway improvements.	Approved project. Construction underway. (2005-2015)
Pier S Marine Terminal	Port of Long Beach	Development of a 150-acre container terminal and construction of navigational safety improvements to the Back Channel.	EIS/EIR to be prepared. (2008-2012)
Shoreline Gateway Project	City of Long Beach	Mixed-use development of a 22-story residential tower with retail, commercial, and office uses located north of Ocean Boulevard, between Atlantic Avenue and Alamitos Avenue.	EIR certified in 2006.

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for communities located within the project study area. Planned transportation and other development projects must comply with land use designations and associated policies contained within these plans as part of project review and implementation. Given these requirements, planned and approved projects listed in Table 3.6-1 would be consistent with applicable general plan and zoning requirements. The build alternative will result in conversion of 12.6 to 13.9 acres of other land uses, as described in Section 3.1.1, Land Use, to transportation use. Implementation of minimization measures LU-1 through LU-2 would minimize project effects on land use; therefore, no substantial impacts pertaining to land use conversion on a cumulative basis are anticipated.

3.6.5.2 Parks and Recreation

The RSA for parks and recreation facilities includes those resources located 0.5-mile from I-405. Parks and recreation facilities within the RSA have been constructed as urbanization of the area has occurred. These resources are largely comprised of city or county-owned and maintained facilities and provide recreational opportunities to area residents. Within the study area 0.5-mile from the proposed project, recreation opportunities would not be impacted. There are localized impacts to three parks: Buckingham Park, Cascade Park, and Pleasant View Park, as well as the Santa Ana River Trail; however, these impacts would not result in a loss of recreational function in these locations. In addition, planned projects are primarily transportation-related, which does not result in demand for recreational services, but instead facilitates access; however, residential land uses and, to a lesser extent, mixed-use projects identified in Table 3.6-1 would create additional demand for recreational services. Potential impacts to parks and recreation from the implementation of these proposed projects would be addressed through the provision of parkland or in lieu fees, as required by the local jurisdiction and implementation of COM-13 and LU-3 through LU-6. Moreover, proposed project-related impacts to Section 4(f) resources would be addressed through the incorporation of avoidance or minimization measures LU-3 through LU-6. Based upon the information and analysis above, only *de minimis* impacts pertaining to parks and recreation or Section 4(f) resources on a cumulative basis are anticipated.

3.6.5.3 Growth

The RSA for growth would be regional in nature because I-405 is the major link between Los Angeles County and Orange County. Given the mature nature of the local communities, inducement of substantial growth effects has been limited, but it serves to maintain or enhance the existing economic vitality of each jurisdiction, particularly with the loss of industrial/manufacturing uses over the last decade. The projects listed in Table 3.6-1 individually and collectively do not create growth impacts. The proposed project is not anticipated to induce

any growth either regionally or in the local project area; therefore, it is not anticipated to contribute to any cumulative direct or indirect growth impacts. I-405 and parallel arterial highways, as well as arterial east-west streets, experience severe daily congestion. The economic attractiveness of this corridor location remains strong despite these congestion problems. Any area growth is a product of these nontransportation-related influences. Based upon the information and analysis above, growth-related direct or indirect cumulative impacts are not anticipated; therefore, no further analysis is necessary and no additional measures are required.

3.6.5.4 Farmland

Agricultural resources along the I-405 corridor within the project limits are largely limited to two locations in Seal Beach and Costa Mesa; therefore, they form the RSA for this environmental parameter. Agricultural resources have been almost entirely eliminated from this area of northern Orange County due to post-World War II urbanization. Existing agricultural uses are limited to remnant parcels originally comprising large land tracts. None of the proposed build alternatives would require the use or acquisition of agricultural resources within Seal Beach or Costa Mesa. In addition, there would be no effects on points of access and associated onsite roads, equipment and crop storage and staging areas, or planting and harvesting activities; therefore, no avoidance or minimization measures are required. Planned projects contained within Table 3.6-1 would be required to address potential impacts through measures and as part of project approvals required by the implementing jurisdiction in which they are located. Based upon the information and analysis above, direct or indirect cumulative impacts to farmland are not anticipated, and no further analysis is required.

3.6.5.5 Community Impacts

The components of community impacts that could have the potential to be affected on a cumulative basis include community disruption deriving from roadway construction and increased urbanization due to expanded pavement/hardscape; modified/new ramps; concrete barriers; new retaining, tieback, and sound walls; and new freeway appurtenances (e.g. changeable message signs, overhead traffic sensors, and video cameras). Additionally, community character of the area would be further urbanized with the loss of mature landscaping, which currently softens the urban nature of the roadway, until the new landscaping is established.

The RSA for community impact assessment includes the localized area within the project limits and surrounding vicinity within a 0.5-mile radius of the I-405 corridor.

Development within the RSA generally occurred in the post-World War II period with land uses that are master-planned communities with large boulevards and freeways intersecting

homogenous single-family residential cul-de-sac communities. Large retail centers serve as significant local landmarks and as areas promoting community cohesion by providing free and ticketed entertainment, along with a variety of shopping and services. While the land uses in the project area are similar, there is a diverse population composed of varied socioeconomic neighborhoods within the cities/community covering the I-405 corridor within the project limits.

The study area census tract data do not characterize the resident population as a predominantly minority population. On the contrary, the population along this corridor contains large proportions of white populations. As contemplated by EO 12898, however, some portions of the study area census tracts do contain larger percentages of minority populations and are subject to environmental justice consideration, but as a whole, the study corridor is not minority or low-income dominated.

The project impacts on the community for each alternative are discussed in detail in Section 3.1.4, Community Impacts, of this Final EIR/EIS and summarized below.

- Residents and businesses located near the construction zone may occasionally experience some inconvenience due to construction equipment and material obstruction, traffic lane closure, and parking restriction.
- Several public or privately owned parcels (up to 91, 92, and 109 parcels for Alternatives 1, 2, and 3, respectively) would be affected by the required ROW acquisition to accommodate the freeway widening and associated roadway improvements.
- Businesses and residents near the construction zone would experience a higher level of impacts over a prolonged period of time than other groups of people who would also benefit from the proposed project.

Several transportation-related projects are under construction or have been planned for construction within the vicinity of the I-405 Improvement Project, as listed in Table 3.6-1. Most of these projects are scheduled to be completed before commencement of the I-405 Improvement Project construction in 2016. Many development projects would be implemented over time as planned and approved by respective community plans and general plans.

Community impacts from construction of the build alternatives would include temporary access control and business disruption from construction materials delivery and other activities; traffic congestion within and nearby the construction zone and along the construction material hauling routes; air pollutant emissions from construction activities; and temporary noise-level elevations from construction equipment operations. The level of these impacts would escalate if the construction period overlaps with other construction projects in the vicinity or is extended

considerably. Based on the known projects listed in Table 3.6-1, many transportation projects are under construction and would be completed prior to construction commencement of the proposed project in 2015; however, if some projects are delayed or their construction periods extended, the build alternatives, in combination with these projects, could further inconvenience residences and businesses, potentially resulting in deterioration of quality of life and loss of business revenues. It should be noted, however, that standard construction techniques, in combination with Measures COM-1 through COM-12, would address impacts associated with access and would be anticipated to reduce these impacts; therefore, no substantial impacts pertaining to community disruption on a cumulative basis are anticipated.

The Draft EIR/EIS identified three commercial establishments located on three parcels (Sports Authority [APN 143-301-39]; Days Inn & Suites [APN 143-301-34]; Fountain Valley Skating Center [APN 143-301-33]) within Fountain Valley near the intersection of I-405 and Warner Avenue subject to full acquisition. Due to significant comments that were received during the Draft EIR/EIS and Supplemental Draft EIR/EIS regarding the braided ramps at Magnolia/Warner, the Northbound and Southbound Magnolia and Warner Interchanges were eliminated. As a result, a design option was proposed at the Southbound Interchange and the three businesses that were previously identified as full acquisitions will no longer be acquired (See Figure 3.1.4-4). The partial acquisition to Boomers and other business at this location remains the same as discussed in the Draft EIR/EIS.

Based upon the information and analysis above, community impact related direct or indirect cumulative impacts are not anticipated to result, and no further analysis is necessary and no additional measures are required; however, it should be noted that the proposed project is intended to add capacity and reduce congestion on the GP and HOV lanes along the entire I-405 corridor from SR-73 to I-605; enhance interchange operations; and increase mobility, improve trip reliability, maximize throughput, and optimize operations of the I-405 freeway network. Once the project is completed, area residents and businesses along the I-405 corridor, including new development projects, would receive beneficial impacts from a less-congested freeway network and improved mobility at various interchanges and local streets along the I-405 corridor. The impact from the proposed project implementation on the mainline travelers and corridor cities would be considered beneficial on a cumulative basis.

3.6.5.6 Utilities/Emergency Services

Utilities and emergency services are actively planned for and developed based upon service needs of the area in which they are provided. The RSA, which is comprised of utilities, emergency services, and public services, is limited to the immediate vicinity of the active

construction work areas; however, various water, sewer, power, and other utility lines currently cross the RSA and may require relocation or special handling during construction activities. Proposed action construction activities requiring relocation of an underground sewer main, for example, could be scheduled to coincide with a telephone company project to underground telephone lines. In this way, a situation may be avoided where constant construction and accompanying traffic delays occur on a busy street due to poorly coordinated schedules. The effect of other projects contained in Table 3.6-1 on utilities and emergency services would be assessed as part of the environmental review of those projects; however, for transportation and public infrastructure projects, the impacts from these projects would be beneficial because they normally improve circulation in their respective project areas. Emergency services would benefit from improved access and circulation. Measures UT-1 and UT-2 would help reduce impacts to utilities and emergency services during construction activities. Based upon the information and analysis above, direct or indirect cumulative impacts to utilities and emergency services are not anticipated to result, and no further analysis is necessary and no additional measures are required.

3.6.5.7 Traffic and Transportation/Pedestrian and Bicycle Facilities

Transportation facilities (e.g., local roadways, I-405) have historically been developed to address mobility associated with urbanization and to facilitate commerce. As a result, an extensive local roadway and regional highway network has been developed within this portion of Orange County. Cumulative traffic effects were considered within the project area and include the mainline, ramp arterial intersections, and nearby arterial intersections, as discussed in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities. The traffic network (i.e., RSA) used in the traffic forecasting process consists of the existing transportation system, as well as projects with committed funding that were included in the 2008 RTP and/or have received environmental clearance. As a result, the forecasting network includes not only facilities and services in place today, but also those transportation improvements funded and committed for implementation through the horizon year. Land development projects are accounted for in the TAZ socioeconomic forecast data used in the traffic forecasting model. Forecast socioeconomic data by TAZ include population, employment by industrial sector, dwelling unit, and school enrollment data that account for land development and related trips expected within the forecast horizon (year 2040). As discussed above, the traffic analysis considers cumulative traffic impacts from all state and local projects within the study area.

All reasonably foreseeable transportation and land development projects are included in the traffic volumes forecast for the project, as discussed in Section 3.1.6. With implementation of the project and inclusion of the measures identified in Section 3.1.6, traffic conditions within the

study area would not be adversely impacted in either the design or horizon year; therefore, no cumulatively considerable adverse direct or indirect traffic effects are anticipated.

Measure T-1 would address potential construction-related impacts to traffic and circulation.

Measures T-2 through T-9 and T-12 address intersection operations in the portion of the study area within Orange County once the proposed project is implemented. With implementation of the project and inclusion of proposed traffic measures T-2 through T-9 and T-12, traffic conditions within the study area in Orange County would not be adversely affected by the project. Based on the information and analysis above in Section 3.1.6, the Project's contribution to cumulative impacts is less than significant; if other projects address their contribution to cumulative impacts, cumulative impacts would be less than significant. No further analysis is necessary and no additional measures are required.

Measures T-10 and T-11 address intersection operations in the portion of the study area within Los Angeles County once the proposed project is implemented. With implementation of the project and inclusion of proposed traffic measures T-10 and T-11, traffic conditions within the study area in Los Angeles County would not be adversely affected by the project. Based on the information and analysis above in Section 3.1.6, the Project's contribution to cumulative impacts is less than significant; if other projects address their contribution to cumulative impacts, cumulative impacts would be less than significant. No further analysis is necessary and no additional measures are required.

3.6.5.8 Visual/Aesthetics

The RSA pertaining to visual and aesthetics would be confined along the I-405 corridor within the project limits. Prior to World War II, the RSA was comprised of rural agricultural views, punctuated by urban development; however, the RSA is now highly urbanized, containing residential, commercial, and industrial land uses. As noted above, only remnant parcels of agricultural lands remain and are limited to the Costa Mesa and Seal Beach areas. The topography of the RSA and other factors limit the quality and range of available views. The overall effect of the proposed project development, combined with other projects identified in the project area as listed in Table 3.6-1, would generally increase the hard surfaces over the vegetated ones currently in the corridor. Construction of the build alternatives would result in changes to the visual quality and/or character associated with vegetation removal, increase in local traffic as residents travel longer distances on local streets to enter I-405 at the limited access points, and impaired (through increased time and distance) automobile and/or pedestrian access to businesses, public services, schools, and other facilities . For the build alternatives, the

removal of the eucalyptus trees and other vegetation within the interchange areas would likely have the greatest impact on the visual quality; however, this effect would remain until trees grow back to existing conditions. In addition, the project would result in further urbanization due to expanded pavement, which would add additional hardscape, modified new ramps, concrete barriers, and new retaining, tieback, and sound walls. These changes would permanently modify the visual quality of the surrounding communities and, as a result, would affect the existing community character. Because the corridor is already so urbanized, the added pavement would not cause substantial impact on a cumulative basis. Measures VIS-1 through VIS-21, which would include new landscape plantings in the highway interchanges, especially along soundwalls, would reduce the perceived amount of paving. Many other landscape or design treatments would also be employed, including construction of drainage basins and bioswales, which are more natural in appearance. Based upon the information and analysis above, direct or indirect cumulative impacts related to visual and aesthetic resources are not anticipated to result, and no further analysis is necessary and no additional measures are required.

3.6.5.9 Cultural Resources

The RSA pertaining to cultural resources is the APE established for cultural resource study of this project. The RSA has experienced rapid urbanization over the last 70 years, directly and indirectly affecting historical architectural and archaeological resources. Of the 12 archaeological sites previously recorded within the 0.25-mile archaeological record search radius, 3 have been recorded within the direct APE. These include CA-ORA-113, CA-ORA-162, and CA-ORA-1352, while the remaining 9 do not occur within the direct APE. In addition, the Segerstrom House (3315 Fairview Avenue, Costa Mesa) was determined eligible for listing in the NRHP. One resource, Westminster Lanes (6471 Westminster Avenue, Westminster) and one historic district, Leisure World, (Seal Beach Boulevard, Seal Beach) were determined to appear eligible for listing in the NRHP and the CRHR as a result of this project. On October 20, 2011, the SHPO concurred that the Segerstrom House was eligible for the NRHP under Criterion C; however, the eligibility for Leisure World and Westminster Lanes was indeterminate and the SHPO recommended proceeding with the project given that the finding was No Historic Properties Affected. No other known cultural resources are located within the project APE.

As discussed in Section 3.1.8, Cultural Resources, there would be little to no potential to permanently impact these cultural resources. The proposed project would not result in the partial or full acquisition of historic architectural cultural resources. Furthermore, all work would occur within Caltrans ROW where these properties are located.

Several roadway improvement projects have been constructed or planned within the same locality as the proposed project, as listed in Table 3.6-1. Prior to implementation of these projects, impacts related to cultural resources would have to be analyzed and Measures CUL-1 through CUL-3 would have been implemented. It is not anticipated that the proposed project, when viewed in the context of other reasonably foreseeable projects, would create a situation in which a collection or group of resources would be subjected to impacts (i.e., permanent or temporary) resulting from the combination of projects. In addition, the effects of other cumulative projects on cultural resources would be evaluated as part of the environmental review process for those projects. Based upon the information and analysis above, direct or indirect cumulative impacts related to cultural resources are not anticipated to result, and no further analysis is required.

3.6.5.10 Hydrology and Floodplains

The geographic context (i.e., RSA) for the analysis of cumulative impacts associated with hydrology and floodplain is the area covered by HSA 801.11 and HSA 845.61. The RSA has undergone considerable urbanization over the past 70 years, resulting in substantial alteration of the local hydrology and floodplains. Few areas within the RSA are unpaved, and most drainages are channelized. As discussed in Section 3.2.1, Hydrology and Floodplains, the proposed project would result in up to 12 floodplain encroachments, depending on which alternative is identifed. All of the build alternatives would require culvert extensions, pier construction within water bodies, and reinforced concrete box extensions; however, based on the LHS prepared as part of this project, implementation of the proposed project would not create a high-risk condition. Although a moderate risk was identified for encroachment in the Santa Ana River, the LHS indicated that there is still sufficient freeboard and channel capacity. Furthermore, the floodplain study determined that floodplain encroachments would not adversely affect the BFEs within the project study area. Because the 100-year flood would still be contained within the existing floodplain boundaries at each location, there would be no increased risk to life or property associated with the proposed improvements. Development of the proposed project, in combination with all other development that would occur in the HSAs (see Table 3.6-1), would not flood upstream of the proposed project improvements; therefore, no transportation routes would be interrupted or terminated beyond existing conditions.

A Final LHS would also be prepared during final design. With implementation of Avoidance, and Minimization Measures HYD-1 through HYD-8 identified in Section 3.2.1.4, Avoidance, Minimization, and/or Mitigation Measures, the proposed project would not result in any adverse impacts to the natural and beneficial floodplain values, would not result in a significant change in flood risks or damage, does not have significant potential for interruption or termination of

emergency services or emergency routes, and is not considered an adverse encroachment. The proposed project would not contribute to a cumulative impact to hydrology or floodplains.

Planned projects contained within Table 3.6-1 would also be required to analyze their individual and cumulative impacts to hydrology and floodplains. These proposed projects would be required to be designed such that conveyance facilities have adequate capacity to meet projected flows. Similarly, FEMA and local requirements ensure that development within the floodplain or floodway consider potential effects to buildings and their occupants or visitors. Based upon the information and analysis above, direct or indirect cumulative impacts related to hydrology and floodplains are not anticipated to result, and no further analysis is necessary and no additional measures are required.

3.6.5.11 Water Quality and Stormwater Runoff

The geographic context (i.e., RSA) for the analysis of cumulative impacts associated with water quality is the area covered by HSA 801.11 and HSA 845.61. The RSA has undergone considerable urbanization over the past 70 years, resulting in increased stormwater runoff volumes and deteriorated water quality. Few areas within the RSA are unpaved, and most drainages are channelized. Development of the proposed project, in combination with all other development that would occur in the HSAs (see Table 3.6-1), would involve construction activities, new development from which runoff would discharge into waterways, increases in stormwater runoff from new impervious surface area, and possibly reduction in groundwater recharge areas. Construction of new development throughout the HSAs could result in erosion of soil, thereby cumulatively degrading water quality within the HSAs. In addition, the increase in impervious surface area and more intensive land uses within the HSAs resulting from future development may also adversely affect water quality by increasing the amount of stormwater runoff, transportation-related pollutants, and associated TDCs entering the storm drain system. New development, however, would have to comply with existing regulations regarding construction practices that minimize risks of erosion and runoff. Among the various regulations are the applicable provisions of Caltrans Statewide NPDES Permit; County and municipal codes related to control of stormwater quality for new development and significant redevelopment; municipal grading permits; and other NPDES permits. This would minimize degradation of water quality at individual project construction sites. Compliance with applicable SWRCB and RWQCB regulations would ensure that water quality is maintained to the MEP for potential projects within the HSAs; therefore, direct or indirect impacts associated with water quality from implementation of the proposed project would not be adverse, and the proposed project would not have a cumulatively considerable contribution to the cumulative effects related to water quality. It should be noted, however, that Avoidance and Minimization Measures WQ-1 through

WQ-6 would also be implemented as part of the proposed project. Based upon the information and analysis above, direct or indirect cumulative impacts related to water quality and stormwater runoff are not anticipated to result, and no further analysis is necessary and no additional measures are required.

Although implementation of the proposed project would not have a cumulatively considerable contribution to the adverse effects on groundwater recharge in the basin, the overall development associated with the projects listed in Table 3.6-1 could directly and/or indirectly result in the loss of groundwater volume and recharge areas. This loss would be mitigated by OCWD with operation of the Groundwater Replenishment System. The Groundwater Replenishment System would increase groundwater supplies by injecting reclaimed water into the basin and protecting it against seawater intrusion. In addition, all of the projects would be required to implement Treatment BMPs to the MEP. Treatment BMPs, such as biofiltration swales and infiltration devices, augment groundwater by retaining stormwater runoff, which subsequently infiltrates into the groundwater regime; therefore, direct or indirect impacts associated with groundwater from the proposed project would not be adverse, and the proposed project would not have a cumulatively considerable contribution to cumulative effects related to groundwater. Based upon the information and analysis above, direct or indirect cumulative impacts related to groundwater recharge are not anticipated to result, and no further analysis is necessary and no additional measures are required.

3.6.5.12 Geology/Soils/Seismicity

The RSA is comprised of the area traversing I-405. The Orange County area is seismically active and contains geological hazards of varying degrees; however, seismically induced impacts are localized and would not result in any cumulative impact as a result of the proposed project implementation. In addition, the proposed project would also include the implementation of Measures GEO-1 through GEO-7, which are intended to verify that the geological conditions of the construction sites are properly characterized, as reflected in the geotechnical studies. Moreover, hazards mapping provisions require that the location of proposed structures be evaluated for their susceptibility to catastrophic risks, including seismic and geotechnical hazards. California building standards have been developed to consider such risks. The combination of these provisions ensures that risks to these structures and their inhabitants, visitors, or users are minimized; therefore, the build alternatives and planned projects contained within Table 3.6-1 would be required to adhere to these guidelines. Based upon the information and analysis above, direct or indirect cumulative impacts related to geology, soils, or seismicity are not anticipated to result, and no further analysis is necessary and no additional measures are required.

3.6.5.13 Paleontology

The RSA pertaining to paleontological resources is the Area of Potential Disturbance (APD) established for the paleontology resource study of this project. As discussed under Section 3.2.4, Paleontology, because Pleistocene vertebrates have been found at 10 to 15 ft bgs and deeper near the project, and because vertebrate fossils have been recovered from borings in the project vicinity, it is concluded that improvements proposed for the project are situated above paleontologically sensitive sediments; therefore, disturbance of sediments below grade has the potential to impact paleontological resources. Implementation of the proposed project has the potential to encounter paleontological resources during augering and foundation activities due to the high sensitivity of the subsurface formations in the study area; however, Measure PAL-1 outlines monitoring and proper handling of paleontological resources if paleontological resources are encountered during construction activities. With implementation of Measure PAL-1, potential impacts to paleontological resources are not cumulatively considerable. In addition, the effects of other cumulative projects on paleontological resources would be evaluated as part of the environmental review process for those projects. Based upon the information and analysis above, direct or indirect cumulative impacts related to paleontological resources are not anticipated to result, and no further analysis is necessary and no additional measures are required.

3.6.5.14 Hazardous Waste/Materials

The RSA for hazardous waste and materials is limited to local roadways and freeways within Orange County because these materials can be obtained and disposed of within this area. The transportation, use, storage, and disposal of hazardous waste and associated materials are highly regulated by local, state, and Federal laws; therefore, impacts associated with hazardous waste and materials would be localized. As discussed in Section 3.2.5, Hazardous Waste/Materials, with the implementation of Measures HAZ-1 through HAZ-5, the proposed project would not result in substantial permanent adverse impacts related to hazardous waste and materials. Future land use and transportation projects noted in Table 3.6-1 would comply with applicable City and County Hazardous Waste Management Plans, ordinances, and State regulations related to hazardous materials, which would ensure that there would be no adverse hazardous material impacts resulting from future development in the cities and the county; therefore, the proposed project would not contribute to cumulative hazardous waste and materials impacts. Based upon the information and analysis above, direct or indirect cumulative impacts related to hazardous waste and materials are not anticipated to result, and no further analysis is necessary and no additional measures are required.

3.6.5.15 Air Quality

The RSA for air quality is regional in nature. Although air quality within the SCAB has been improving, historically mobile and stationary emissions have represented substantial sources of the overall regional pollution problem. Cumulative projects include local development, as well as general growth, within the project area; however, as with most development, the greatest source of emissions is from vehicular traffic that can travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and, when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for a project's air quality analysis must be regional by nature.

Construction and operation of cumulative projects would further degrade the local air quality, as well as the air quality of the basin. Air quality would be temporarily degraded during construction activities that occur separately or simultaneously; however, the greatest cumulative impact on the quality of regional air would be the incremental addition of pollutants from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with construction of these projects. It should be noted that the proposed project is a transportation improvement and not a direct trip generator. In addition, Avoidance and Minimization Measures AQ-1 through AQ-14 would adequately address construction-related air quality impacts.

With respect to emissions that may contribute to exceeding State and federal standards, a CO and PM screening analysis was performed. The results of this analysis illustrate that localized levels would not exceed published air quality standards; therefore, it does not present an adverse cumulative impact. Implementation of the proposed project would improve traffic flow and congestion within the project limits of I-405. Furthermore, the I-405 traffic lanes would see an increase in vehicle speeds and associated decrease in emissions under any of the build alternatives compared to the No Build Alternative; therefore, the proposed project would not result in an adverse cumulative impact. Based upon the information and analysis above, direct or indirect cumulative impacts related to air quality are not anticipated to result, and no further analysis is necessary and no additional measures are required.

3.6.5.16 Noise

The RSA for noise includes sensitive noise receptors (e.g., residences, churches) within approximately 500 ft of I-405. Over the last 70 years, ambient noise conditions have increased due to greater urbanization; however, numerous land use controls have been adopted or are required by local jurisdictions to ensure that noise-generating land uses are situated in appropriate and compatible locations or employ noise-reduction equipment capable of meeting

noise standards. The proposed action is expected to contribute to temporary and permanent cumulative noise impacts. Permanent impacts would be addressed through implementation of Avoidance and Minimization Measure NOI-1, which includes the installation of noise barriers along the alignment at specific locations. During construction, noise impacts could be more severe if the construction period overlaps with other construction projects in the vicinity. The standard construction methods would be applied in addition to Avoidance and Minimization Measure NOI-2 and NOI-3 to minimize individual and cumulative noise impacts during construction. In addition, Caltrans/OCTA would coordinate with other agencies to schedule construction activities so that the potential for conflicts between the proposed action and other large, unrelated projects is minimized.

With regard to project operations, Final EIR/EIS is based on accepted, regional land use forecasts for 2040, which include cumulative assumptions about future transportation improvements. The above project-specific evaluation for the proposed action includes the impacts from cumulative development activity within the region. Based upon the information and analysis above, direct or indirect cumulative impacts related to noise are not anticipated to result, and no further analysis is necessary and no additional measures are required.

3.6.5.17 Energy

The RSA for energy is limited to Orange County because construction materials and equipment can be obtained within this area. Although diminishing, fossil fuels and other sources of energy used to manufacture and transport goods remain readily available. As discussed in Section 3.2.8, Energy, factors to consider in energy consumption before and during project construction include materials extraction, product manufacturing (e.g., asphalt, concrete), transporting materials to the site, construction worker VMTs during construction, and fossil fuel consumption by construction vehicles. The planned and approved projects listed in Table 3.6-1 would cumulatively contribute to regional energy consumption. This increased fuel consumption would be temporary, would cease at the end of the construction activity, and would not have a residual requirement for additional energy input. The marginal increases in fossil fuel use resulting from project construction are not expected to have appreciable impacts on energy resources.

In terms of project operation, while each build alternative associated with the proposed action is expected to result in more vehicles using the highway in 2040, each vehicle would be expected to use less fuel than under the No Build Alternative. In conjunction with other current or future planned projects within the study area, the proposed action would not be expected to result in cumulatively adverse effects related to energy consumption. It should also be noted that planned projects contained within Table 3.6-1 would be required to adhere to the local building code or

applicable ordinances that require the use of energy-efficient building materials and other systems (e.g., heating and air conditioning) designed to reduce energy consumption. Based upon the information and analysis above, direct or indirect cumulative impacts related to energy are not anticipated to result; therefore, no protection measures are needed, and no further analysis is necessary and no additional measures are required.

3.6.5.18 Biological Environment

Natural Communities

The RSA pertaining to natural communities is the BSA, which was established for biological resource study of this project. As previously described in Section 3.3, Biological Environment, the BSA for the project is defined as the project's proposed limits of physical ground disturbance (i.e., project footprint) plus an approximate 150-ft-wide buffer that includes sufficient adjacent area to adequately assess the effects of the proposed action on biological resources. The 150-ft buffer was determined by a qualified biologist prior to initiating field surveys as a consequence of the urban and anthropogenic influences adjacent to the project footprint. The natural communities within the RSA have largely been removed due to urbanization over the last 70 years. Implementation of any of the build alternatives would not result in impacts to USFWS critical habitat or wildlife corridors because neither exists within the BSA, as discussed in Section 3.3.1, Natural Communities. Furthermore, implementation of the build alternatives would not result in permanent impacts to natural communities of special concern. Vegetation communities/land cover types that would be permanently impacted within the BSA include developed land and drainage. Implementation of any build alternative would permanently impact approximately 79.3 to 101.2 acres of developed land and approximately 1.6 to 2.0 acres of drainage area. Given that the proposed project's impacts would be addressed through Avoidance and Minimization Measure BIO-1, the project's contribution to impacts on natural communities would not be cumulatively considerable. It should be noted that planned projects contained within Table 3.6-1 are proposed within a highly urbanized and developed area. Impacts resulting from the implementation of these proposed projects would be anticipated to be similar in nature to those described for the build alternatives; however, project-specific analysis would be required for each to ensure that impacts to natural communities are assessed and adequately mitigated. Based upon the information and analysis above, direct or indirect cumulative impacts related to natural communities are not anticipated to result, and no further analysis is necessary and no additional measures are required.

Wetlands and Other Waters

The RSA pertaining to wetlands and other waters is the BSA, which was established for biological resource study of this project, as described above. Wetlands and other waters within the RSA have largely been removed due to urbanization over the last 70 years. As discussed in Section 3.3.2, Wetlands and Other Waters, a detailed jurisdictional delineation was conducted within the BSA. No wetlands would be impacted by the project. Implementation of one of the build alternatives would permanently impact 0.99 to 1.14 acres of jurisdictional waters of the U.S. Given that the proposed project's impacts would be addressed through Avoidance and Minimization Measures BIO-2 and BIO-3, the project's contribution to wetlands and other waters impacts would not be cumulatively considerable. Planned projects contained in Table 3.6-1 are located within highly urbanized and developed areas. Existing drainages are largely channelized, containing few wetland areas. Project-specific analysis would be required for each of these planned developments to ensure that impacts to wetlands or other waters are assessed and adequately mitigated. Based upon the information and analysis above, direct or indirect cumulative impacts related to wetlands and other waters are not anticipated to result, and no further analysis is necessary and no additional measures are required.

Plant Species

The RSA pertaining to plant species is the BSA, which was established for biological resource study of this project, as described above. Plant species within the RSA have largely been removed due to urbanization over the last 70 years. As discussed previously under Section 3.3.3, Plant Species, botanical surveys to establish the presence/absence of special-status plant species in the BSA were conducted during the appropriate blooming period in 2009 and 2010. No plant species observed within the BSA are considered special-status; therefore, the proposed project would not result in cumulative impacts to special-status plant species. Planned projects contained within Table 3.6-1 are proposed within a highly urbanized and developed area dominated by nonnative plant species. Project-specific analysis would be required for each of these planned developments to ensure that impacts to sensitive plant species are assessed and adequately mitigated. Based upon the information and analysis above, direct or indirect cumulative impacts related to plant species are not anticipated to result, and no further analysis is necessary and no additional measures are required. Although no special status plant species were observed during preliminary surveys, pre-construction special status plant surveys will be conducted prior to any ground disturbing activities and addressed through Avoidance and Minimization Measures BIO-4.

Animal Species

The RSA pertaining to animal species is the BSA, which was established for biological resource study of this project, as described above. Animal species within the RSA have largely been removed due to urbanization over the last 70 years. As discussed previously under Section 3.3.4, Animal Species, there are no special-status animal species on the project site. Raptors and other birds protected by the MBTA may nest in existing trees and shrubs within and adjacent to the BSA. Direct permanent impacts, such as the direct removal of nests, may occur (e.g., during vegetation clearing). Indirect permanent impacts, such as nest failure, may also occur as a result of excessive disturbance of the nesting birds (e.g., from excessive noise and disruption from increased human activities). Given that the proposed project's impacts would be addressed through Avoidance and Minimization Measures BIO-5 through BIO-9, the project's contribution to special-status animal species impacts would not be cumulatively considerable. Similar impacts as those described above would be anticipated for planned projects contained within Table 3.6-1. Project-specific analysis would be required for each of these planned developments to ensure that impacts to sensitive animal species are assessed and adequately mitigated. Based upon the information and analysis above, direct or indirect cumulative impacts related to animal species are not anticipated to result, and no further analysis is necessary and no additional measures are required.

Threatened and Endangered Species

The RSA pertaining to T/E species is the BSA, which was established for biological resource study of this project, as described above. Threatened and endangered species within the RSA have largely been extirpated due to urbanization over the last 70 years. As discussed previously under Section 3.3.5, Threatened and Endangered Species, there are no state or federal T/E-listed species in the BSA; therefore, the proposed project would not result in cumulative impacts to T/E-listed species. Similar impacts as those described above would be anticipated for planned projects contained within Table 3.6-1. Project-specific analysis would be required for each of these planned developments to ensure that impacts to threatened and endangered species are assessed and adequately mitigated. Based upon the information and analysis above, direct or indirect cumulative impacts related to threatened or endangered species are not anticipated to result, and no further analysis is necessary and no additional measures are required.

Invasive Species

The RSA pertaining to invasive species is the BSA, which was established for biological resource study of this project, as described above. Urbanization over the last 70 years has greatly facilitated the introduction and dominance of invasive species within the RSA. As discussed previously under Section 3.3.6, Invasive Species, the proposed project would provide the benefit

of removal of existing invasive species within the BSA to the extent practicable; however, implementation of the proposed project could have the potential to spread invasive species by the entering and exiting of construction equipment contaminated by invasive species, the inclusion of invasive species in seed mixtures and mulch, and the improper removal and disposal of invasive species so that seed is spread along the highway. Because the project area is predominantly confined to heavily developed, disturbed areas containing public and private infrastructure, and with implementation of Avoidance and Minimization Measure BIO-10, the proposed project's contribution to invasive species impacts would not be cumulatively considerable. Similar impacts as those described above would be anticipated for planned projects contained within Table 3.6-1. Project-specific analysis would be required for each of these planned developments to ensure that impacts associated with invasive species are assessed and adequately mitigated. Based upon the information and analysis above, direct or indirect cumulative impacts related to invasive species are not anticipated to result, and no further analysis is necessary and no additional measures are required.

3.6.6 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the measures described throughout Chapter 3 (and Appendix E), would minimize and reduce impacts. Similarly, the reasonably foreseeable projects contained within Table 3.6-1 would also be required to address potential impacts through avoidance, minimization, and/or mitigation as part of project approvals required by the implementing jurisdiction in which they are located. No additional measures beyond those identified above are required to address the proposed project's contribution to cumulative impacts.

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