

2.4 Cumulative Impacts

2.4.1 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.

The 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.

2.4.2 Methodology

The potential for cumulative effects was evaluated by considering the direct and indirect effects of the proposed project and other past, present, or reasonably foreseeable future actions (“cumulative projects”) in the area to establish whether, in the aggregate, they could result in cumulative environmental effects. The cumulative effects analysis discussed in this section focuses on those issues and resources that would be affected by the 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, and need not be further evaluated. The analysis provided in this section considered the effects of the other cumulative projects and the Build Alternatives in assessing whether a particular environmental parameter would experience cumulative adverse effects. Resource Study Areas (RSAs) for cumulative effects have been identified for each respective environmental topic analyzed in this section.

The following steps, based on Caltrans’ “Guidance for Preparers of Cumulative Impact Analysis,” were used as guidelines for identifying and assessing cumulative effects:

- Identify the project-specific resources to consider in the cumulative effect analysis by gathering input from knowledgeable individuals and reliable information sources. The analyses provided earlier in Sections 2.1 through 2.3 of this Initial Study/Environmental Assessment (IS/EA) were used as the basis for determining whether the proposed project, after any required mitigation, would potentially contribute to cumulative effects.
- Define the geographic boundary, or RSA, for each resource to be addressed in the cumulative effect analysis.

- Describe the current health and historical context of each resource.
- Identify the direct and indirect effects of the proposed project that might contribute to a cumulative effect on the identified resources.
- Identify other current and reasonably foreseeable future actions or projects and their associated environmental effects to include in the cumulative effect analysis. The cumulative transportation and land development projects are approved and planned projects.
- Assess the potential cumulative effects and report the results of the cumulative impact analysis.
- Report the results of the cumulative impact analysis in the environmental document, identifying the RSA, its current health and historical context, project impacts that might contribute to a cumulative impact, other current and reasonably foreseeable actions considered in the cumulative impact analysis, information sources and methodology, and conclusions.
- Assess the need for additional avoidance, minimization, mitigation and/or recommendations for actions by other agencies to address a cumulative effect.

2.4.3 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 are briefly discussed below.

- *Coastal Zones*: The project area is not located within the Coastal Zone. Therefore, the proposed project would not contribute to cumulative adverse impacts related 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.
- *Farmlands or Timberlands*: According to the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP), there are no designated important farmlands in the project area. According to the City of Los Alamitos General Plan Land Use Element, there are no agricultural land uses or timberlands within the vicinity of the project site. Therefore, the proposed project would not contribute to cumulative adverse impacts to farmlands or timberlands.
- *Land Use*: The freeway and arterial improvements to accommodate the Build Alternatives are consistent with local and regional goals to improve traffic operations and pedestrian and bicycle facilities in the area. The project improvements would occur in an area already designated and currently used for transportation. Therefore, no adverse cumulative impacts related to land use are expected.

- *Parks and Recreation*: The proposed project would not adversely impact parks, recreational facilities, or Section 4(f) resources. As discussed in Section 2.1.1, Land Use, there are a number of parks, schools with recreational facilities, a golf course, a trail, and a community/youth center that have been identified within 0.5-mile of the proposed project. Based on the analysis, it was determined that the project would not result in any adverse temporary, permanent, or indirect effects to all facilities with the exception of the Coyote Creek Trail. The proposed project would not affect the existing trail alignment, but would result in temporary construction impacts to the two trail access points along Katella Avenue. Although construction activities would be required in these areas, the project would incorporate a stage construction approach, where only half of the access improvements would occur at a single time. While half of the access ramp is being modified to accommodate project improvements, the other half would remain open for recreational access. As such, trail access to and from Katella Avenue would be maintained at all times on both sides of Katella Avenue. In addition, the construction duration of the improvements to the access ramps would be minimal (up to four weeks in duration). The trail access points would be restored to pre-project conditions upon completion of the construction process. Short-term impacts to trail operations are considered minimal and would not impair existing activities, features, or attributes of the existing trail. Therefore, the proposed project would not contribute to cumulative adverse impacts related to parks and recreation.
- *Growth*: As noted in Section 2.1.2, Growth, the project area is built-out, which is not indicative of substantial new growth in the area. The pattern and rate of population and housing growth following implementation of the proposed project would be expected to remain consistent with the population anticipated by existing plans for the area. Furthermore, no new or expanded infrastructure, housing, or other similar permanent physical changes to the environment would be necessary as an indirect consequence of the proposed project. The proposed project would not induce growth or remove obstacles to growth in the area, and therefore, would not contribute to cumulative adverse impacts related to growth.
- *Environmental Justice*: The proposed project would have no effect to minority or low-income populations because no such populations have been identified within the project area, based upon research conducted with the U.S. Census Bureau. Therefore, the proposed project is not subject to the provisions of Executive Order 12898, and it is not anticipated that the proposed project would contribute to cumulative adverse effects regarding environmental justice.
- *Utilities and Emergency Services*: With the exception of short-term effects during construction, the proposed project would not result in long-term operational adverse effects to utilities and emergency services. Therefore, the proposed project would not contribute to cumulative adverse effects to utility facilities and emergency service providers.
- *Traffic/Transportation*: The proposed project would improve interchange traffic operations and pedestrian and bicycle facilities. The analysis of future traffic conditions in Section 2.1.5, Traffic and Transportation/Pedestrian and Bicycle Facilities of this IS/EA 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. This analysis determined that the Build Alternatives result in improved traffic conditions as compared to the No-Build Alternative.

Therefore, the proposed project would not contribute to cumulative adverse effects in this regard.

- Visual/Aesthetics: The proposed project would not substantially change the existing views of and from I-605 or Katella Avenue. Therefore, the proposed project would not contribute to cumulative adverse effects to visual resources.
- Cultural Resources: Construction of the Build Alternatives would not impact known cultural resources. While cultural resources in the study area outside the project area may be directly or indirectly impacted by other projects, the proposed project would not directly or indirectly impact those resources, and therefore, would not contribute to adverse impacts related to cultural resources.
- Hydrology/Floodplains: The proposed project would not substantially impact the existing floodplains or hydraulic performance of Coyote Creek, Los Alamitos, and Katella Storm Drain Channel, and the proposed improvements associated with the Build Alternatives are classified as minimal risk. Therefore, the proposed project would not contribute to cumulative adverse effects related to hydrology and floodplains.
- Water Quality: The proposed project would not result in adverse construction-related water quality impacts because project features implemented during construction would avoid and minimize potential water quality impacts. In addition, operation of the proposed project would not result in a substantial increase in impervious surfaces and would implement water quality controls that would minimize pollutant discharges during the operational phase. Therefore, the proposed project would not contribute to cumulative adverse water quality effects.
- Geology and Soils: The potential impacts of the proposed project related to geologic conditions and soils would be avoided or minimized based on implementation of geotechnical design features, Soil Management Best Management Practices (BMPs), and other project features. As a result, the proposed project would not contribute to cumulative adverse impacts related to geology and soils.
- Air Quality: The analysis of air quality provided in Section 2.2.6, Air Quality, of this IS/EA is a cumulative analysis in that it considers the emissions of traffic generated by existing and future planned land uses and the effects of other future planned transportation improvements. Temporary air quality impacts would be minimized through implementation of dust control, equipment management, and other project features. The proposed project would not contribute to cumulative air quality impacts because it would not violate any air quality standard, would not contribute substantially to an existing air quality violation, and would not expose sensitive receptors to substantial pollutant concentrations.
- Noise: The analysis of noise impacts provided in Section 2.2.7, Noise, of this IS/EA is a cumulative analysis in that it considers the traffic noise generated by existing and future planned land uses and the effects of other future planned transportation improvements on the noise environment. After implementation of required measures, the noise level increase attributable to the proposed project would not exceed Caltrans thresholds and Noise Abatement Criteria (NAC); therefore, the proposed project would not contribute to cumulative adverse effects related to noise.

- *Natural Communities*: Based on the Natural Environment Study (Minimal Impacts) (NES-MI), no native plant communities or natural communities of special concern occur within the biological study area (BSA). Further, although construction activities could have temporary impacts to wildlife linkages within the BSA, the project would not encroach into Coyote Creek. Therefore, the proposed project would not contribute to cumulative adverse effects related to natural communities.
- *Plant Species*: According to the NES-MI, a total of 15 special-status plant species were identified as potentially occurring within the BSA (two of which are Federally listed). However, the BSA is primarily composed of existing developments (e.g., commercial, residential, and transportation land uses), roadways, medians, pedestrian sidewalks, landscaped areas, and channelized waterways, with no naturally occurring habitat types remaining. Therefore, the NES-MI concluded that special status plant species are not expected to occur and are presumed absent from the BSA based on specific habitat requirements for special-status plant species, availability and quality of habitat within the BSA, and known distributions. There are no critical habitats identified for plant species by the U.S. Fish and Wildlife Service (USFWS) for the project area. Therefore, the proposed project would have no impact regarding special-status plant species and would not contribute to cumulative adverse effects related to special-status plant species.
- *Animal Species*: The proposed project area is primarily composed of existing developments (e.g., commercial, residential, and transportation land uses), roadways, medians, pedestrian sidewalks, landscaped areas, and channelized waterways, with no naturally occurring habitat types remaining. In addition, the project area does not contain suitable habitat for any special-status animal species, and no special-status animal species were observed or otherwise detected during field surveys for the proposed project. Therefore, the proposed project would not impact special-status animal species and, therefore, would not contribute to cumulative adverse effects related to special-status animal species.
- *Threatened and Endangered Species*: Based on the U.S. Fish and Wildlife Service (USFWS) Species List acquired for the proposed project, a total of six federally listed and seven State listed threatened or endangered plant and animal species were determined to have potential to occur in the general vicinity of the biological study area (BSA). However, no federal or State listed threatened or endangered plant and animal species were observed in the BSA, and are not expected to occur based on lack of suitable habitat and known distributions.

The National Marine Fisheries Service (NMFS) Species Lists identified four special-status species/essential fish habitats with potential to occur in the general vicinity of the BSA. However, no special-status species/essential fish habitats were observed in the BSA, and are not expected to occur based on lack of suitable habitat.

A “no effect” finding was determined for all species on the USFWS Species List and NMFS Species List having the potential to occur in the BSA. Therefore, the proposed project would not impact threatened and endangered species, and would not contribute to cumulative adverse effects related to threatened and endangered species.

- *Invasive Species*: The proposed project would not substantially increase the potential for the spread of invasive species. Compliance with project features would address this impact. Therefore, the proposed project would not contribute to cumulative adverse effects related to invasive species.

- **Climate Change:** The analysis of air quality provided in Section 3.3, Climate Change, of this IS/EA is a cumulative analysis in that it considers the emissions of traffic generated by existing and future planned land uses and the effects of other future planned transportation improvements. While construction activities associated with the proposed project would result in a slight increase in GHG emissions during construction, operational emissions during the Build scenarios would decrease from the No-Build scenario. Additionally, adherence to Measures CC-1 through CC-4 would further reduce GHG emissions and potential climate change impacts from the project. As discussed in Section 3.3, it is too speculative to make a determination regarding the project's direct impact and its contribution on a cumulative scale to climate change.

2.4.4 Resources Evaluated for Cumulative Analysis

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 2.4-1, Reasonably Foreseeable Projects. The following resources are evaluated in this section for cumulative impacts: hazardous waste/materials and wetlands and other waters. In the context of the respective RSA, the two Build Alternatives studied would have a similar potential contribution to cumulative impacts for these resources.

Table 2.4-1: Reasonably Foreseeable Projects

No.	Project Name	Jurisdiction	Project Uses	Status
City of Los Alamitos				
1	Fairfield Inn and Suites Marriott	10650 Los Alamitos Boulevard	Development of a four story, 108-room hotel.	Approved by City of Los Alamitos Planning Commission. Awaiting final plans.
2	Los Alamitos Boulevard Median Improvements Project	Los Alamitos Boulevard from Katella Avenue to Cerritos Avenue	Construction of medians along four segments of Los Alamitos Boulevard from Katella Avenue to the south to Cerritos Avenue to the north.	Project approval is anticipated by September 2017.
City of Long Beach				
3	Dorado Residential Development Project	3655 Norwalk Boulevard	Development of 40 single-family residential units on a 5.8-acre site.	Approved by Long Beach City Council on February 14, 2017.
4	Coffee Shop	5861-5865 Spring Street/ 3003 Los Coyotes Diagonal	Construction of an 1,800-square-foot commercial building.	Project approved September 2017.
5	Alamitos Generating Station Battery Energy Storage System Project	690 North Studebaker Road	300 megawatt grid energy storage facility.	CEQA document adopted by City of Long Beach Planning Commission on August 3, 2017.
Sources: Correspondence between Dave Hunt, City Engineer, City of Los Alamitos and Alan Ashimine, Michael Baker International, August 2, 2017; and correspondence between Craig Chalfant, Senior Planner, City of Long Beach and Alan Ashimine, Michael Baker International, August 10, 2017.				

2.4.4.1 Community Impacts

The RSA for community impacts includes two census tracts: Census Tract 1100.06 and Census Tract 1101.08. These census tracts capture the neighborhoods and community facilities within proximity to the project area that are most likely to be impacted by the proposed project. Refer to Figure 2.1.3-1.

The Build Alternatives would not result in adverse permanent effects related to community impacts. The Build Alternatives would not physically divide any established community, change any existing community boundaries, or create a new barrier to movement within the project area. In addition, beneficial impacts would occur under either of the Build Alternatives as a result of the improvement of pedestrian and bicycle facilities. Therefore, no adverse permanent

impacts would occur with regard to regional and local demographics, housing characteristics, or community character and cohesion under the Build Alternatives.

The Build Alternatives have the potential to result in temporary effects related to community character and cohesion during the short-term construction process. These effects could include temporary traffic, air quality, noise, and visual/aesthetics as a result of construction. However, various project features have been incorporated as part of the Build Alternatives that would minimize impacts related to community character and cohesion.

Similar to the Build Alternatives, each of the planned projects has the potential to result in temporary effects during construction, related to community character and cohesion. The majority of the planned projects within Table 2.4-1 are outside of the RSA associated with the proposed project. In addition, each planned project would be subject to its own environmental review and regulatory standards (e.g., local noise standards, South Coast Air Quality Management District [SCAQMD] construction requirements) to minimize impacts on a project-specific basis over the construction process. Therefore, the project, in combination with other planned projects, would not result in substantial cumulative community impacts.

2.4.4.2 Paleontology

The surface of the proposed project area is mapped as Holocene to late Pleistocene young alluvium. Near to the Palos Verdes Hills, extinct Pleistocene animals have been found as shallow as 5 feet deep and a camel specimen was recovered from 3.9 miles away, 8.5 feet below ground surface. For the most part, fossils of extinct Pleistocene animals start appearing at about 10 feet below ground surface in California's large valleys. Accordingly, sediments less than 10 feet below the original ground surface are given a low sensitivity and those that are more than 10 feet deep are given a high sensitivity. The project site is partially underlain by young alluvium (Pleistocene) more than 10 feet deep, which has a high paleontological sensitivity.

While there are no known, recorded paleontological resources within the proposed project boundaries, earth-moving activities associated with construction of the Build Alternatives could result in the disturbance or loss of paleontological resources, including scientifically important fossil remains, associated fossil specimen data, and corresponding geologic and geographic locality data. Any loss of paleontological resources would most likely occur in areas underlain by areas in the proposed project boundaries mapped as Pleistocene young alluvium. As such, Measure PAL-1 has been incorporated; PAL-1 would require preparation of a Paleontological Mitigation Plan (PMP) that would minimize effects in this regard.

Potential paleontological effects associated with the Build Alternatives would be primarily localized in nature, and would be minimized through preparation of a PMP. Any localized effects would have a limited capacity to interact with any of the planned cumulative projects in the area. Each of the planned projects would be subject to environmental review as part of their approval process, and potential impacts to paleontological resources would be minimized on a project-by-project basis. Thus, the project, in combination with other planned projects, would not result in substantial cumulative paleontological impacts.

2.4.4.3 Hazardous Waste/Materials

The RSA for hazardous waste/materials is an approximately 0.5-mile radius from the proposed project site, consistent with the records search area for the Phase I Initial Site Assessment (Phase I ISA) that was prepared for the proposed project.

No regulatory properties have been reported within the RSA, nor have any known corrective actions, restoration, or remediation been planned or completed. The RSA had not been under investigation for violation of any environmental laws, regulations, or standards, as identified in the databases reported by EDR. However, according to the Phase I ISA, I-605 in the vicinity of the project site has been utilized by a high volume of traffic since its' construction in 1966, and the potential for lead contamination to exist within exposed soils on-site due to aerially deposited lead (ADL) is likely. As such, it was determined that there is a Recognized Environmental Condition (REC) on the project site as a result of ADL.

Measures, as described in Section 2.2.5, Hazardous Waste/Materials, will be implemented to minimize potential impacts relative to hazardous waste/materials. These measures pertain to the removal of traffic striping, underground utilities, relocation of transformers, soil sampling/excavation, and unknown hazardous materials.

In addition, the Build Alternatives would be required to adhere to all Caltrans, State, and federal regulations with respect to the use, generation, and disposal of hazardous waste/materials during construction and operation of the project. Groundwater contamination is typically a more prevalent cumulative concern, due to the ability of contaminants to migrate throughout the groundwater basin. However, based on the Phase I ISA, groundwater was not determined to be a REC associated with the proposed project. Based on an urbanized RSA and adherence to regulatory requirements, the contribution of the project to cumulative hazardous waste/materials impacts is not considerable.

Like the Build Alternatives, each of the planned projects has 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. Likewise, the planned projects would be required to comply with State and federal regulations with respect to the use, generation, and disposal of hazardous waste/materials during construction and operation. Therefore, the project, in combination with other planned projects, would not result in substantial cumulative hazardous waste/materials impacts.

2.4.4.4 Wetlands and Other Waters

The RSA for wetlands and other waters is an approximately 0.5-mile radius from the proposed project site, consistent with the area mapped for the U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) research conducted for the Jurisdictional Delineation (JD) prepared for the proposed project.

The RSA includes three drainage features consisting of Coyote Creek, Los Alamitos Channel, and Basin A. The only drainage feature that would be affected by the Build Alternatives would be Los Alamitos Channel. Specifically, the project would result in approximately 0.011-acre of permanent impacts to U.S. Army Corps of Engineers/State Water Resources Control Board (USACE/SWRCB) jurisdiction (non-wetland waters), and approximately 0.02-acre of permanent impacts to California Department of Fish and Wildlife (CDFW) jurisdictional streambed through implementation of project features affecting Los Alamitos Channel.

There would be no temporary project impacts to jurisdictional waters beyond what has been identified immediately above regarding permanent impacts. The limits of disturbance identified within the Jurisdictional Delineation Report were conservative, and accounted for all temporary impacts that could occur as a result of construction of the Build Alternatives.

In addition, there would be no impacts to jurisdictional wetlands since the proposed project would not result in any disturbance of Basin A.

As discussed in Section 2.3.1, Wetlands and Other Waters, of this IS/EA, the proposed project falls within the boundaries of the Orange County Transportation Authority's (OCTA) Measure M2 Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The purpose of the NCCP/HCP is to offset project-related impacts to 10 animal species and 3 plant species, collectively referred to as "Covered Species" by the OCTA NCCP/HCP.¹

As discussed in Section 2.3.1 of this IS/EA, the proposed project is identified as a "Covered Project," under Section 3.1.1, Covered Freeway Improvement Projects, of the OCTA NCCP/HCP (identified as Project M: I-605 Freeway Access Improvements and under Section 3.1.1.13 of the OCTA NCCP/HCP). As part of the M2 program, OCTA has established a Programmatic Individual Permit for the M2 freeway projects, which has established Letter of Permission (LOP) procedures. This Permit streamlines the individual project CWA Section 404 permitting for the M2 freeway projects. The programmatic process allows the USACE to evaluate impacts to aquatic resources more comprehensively, and provides compensatory mitigation to offset impacts to the aquatic resources resulting from the individual projects. The USACE review, including inter-agency coordination, of each LOP application ensures adverse impacts are avoided and minimized to the maximum extent practicable, adequate and appropriate compensatory mitigation occurs for impacts to the aquatic resources, and each project's proposed activities comply with established LOP permitting procedures. The LOP is intended to fully mitigate all jurisdictional impacts occurring with implementation of the M2 freeway projects, including the proposed project. The Build Alternatives would be required to adhere to Measure WET-1, which would require the provision of compensatory mitigation for jurisdictional impacts. As noted above, this compensatory mitigation would fully offset impacts to aquatic resources that may occur under the project.

Like the Build Alternatives, each of the planned projects has the potential to impact wetlands and other waters. Likewise, the planned projects would be required to comply with State and federal regulations and obtain applicable regulatory permits with respect to jurisdictional areas, wetlands, and other waters during construction and operation. Therefore, the proposed project, in combination with other planned projects, would not result in substantial cumulative impacts to wetlands and other waters.

2.4.5 Avoidance, Minimization, and/or Mitigation Measures

No additional avoidance, minimization, and/or mitigation measures are required with adherence to the project features and measures discussed above.

¹ In 2006, Orange County voters approved renewal of Measure M (Measure M2), which extended a 0.5% sales tax to fund transportation improvement programs. A portion of the funds were set aside to fund the Environmental Mitigation Program to provide funding for programmatic mitigation to offset impacts from the freeway projects in the 13 freeway segments covered by Measure M2.

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