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CITY OF FOUNTAIN VALLEY GENERAL PLAN EIR

City of Fountain Valley

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Abbreviations and Acronyms

ABBREVIATIONS AND ACRONYMS

AAQS	ambient air quality standards
AB	Assembly Bill
ACM	asbestos-containing materials
ADT	average daily traffic
amsl	above mean sea level
AQMP	air quality management plan
AST	aboveground storage tank
BAU	business as usual
bgs	below ground surface
BMP	best management practices
CAA	Clean Air Act
CAFE	corporate average fuel economy
CalARP	California Accidental Release Prevention Program
CalEMA	California Emergency Management Agency
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
cfs	cubic feet per second
CGS	California Geologic Survey
CMP	congestion management program

Abbreviations and Acronyms

CNDDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CO	carbon monoxide
CO ₂ e	carbon dioxide equivalent
Corps	US Army Corps of Engineers
CSO	combined sewer overflows
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dba	A-weighted decibel
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gases
GWP	global warming potential
HCM	Highway Capacity Manual
HQTA	high quality transit area
HVAC	heating, ventilating, and air conditioning system
IPCC	Intergovernmental Panel on Climate Change
L _{dn}	day-night noise level
L _{eq}	equivalent continuous noise level
LBP	lead-based paint
LCFS	low-carbon fuel standard
LOS	level of service
LST	localized significance thresholds
M _w	moment magnitude
MCL	maximum contaminant level
MEP	maximum extent practicable

Abbreviations and Acronyms

mgd	million gallons per day
MMT	million metric tons
MPO	metropolitan planning organization
MT	metric ton
MWD	Metropolitan Water District of Southern California
NAHC	Native American Heritage Commission
NO _x	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
O ₃	ozone
OES	California Office of Emergency Services
PM	particulate matter
POTW	publicly owned treatment works
ppm	parts per million
PPV	peak particle velocity
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RMP	risk management plan
RMS	root mean square
RPS	renewable portfolio standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	state implementation plan
SLM	sound level meter
SoCAB	South Coast Air Basin
SO _x	sulfur oxides
SQMP	stormwater quality management plan
SRA	source receptor area [or state responsibility area]
SUSMP	standard urban stormwater mitigation plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

Abbreviations and Acronyms

TAC	toxic air contaminants
TNM	transportation noise model
tpd	tons per day
TRI	toxic release inventory
TTCP	traditional tribal cultural places
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	urban water management plan
V/C	volume-to-capacity ratio
VdB	velocity decibels
VHFHSZ	very high fire hazard severity zone
VMT	vehicle miles traveled
VOC	volatile organic compound
WQMP	water quality management plan
WSA	water supply assessment

1. Executive Summary

1.1 INTRODUCTION

This draft environmental impact report (DEIR) addresses the environmental effects associated with the implementation of the proposed City of Fountain Valley General Plan Update. The California Environmental Quality Act (CEQA) requires that local government agencies consider the environmental consequences before taking action on projects over which they have discretionary approval authority. An environmental impact report (EIR) analyzes potential environmental consequences in order to inform the public and support informed decisions by local and state governmental agency decision makers.

This DEIR has been prepared pursuant to the requirements of CEQA and the City of Fountain Valley's CEQA procedures. The City of Fountain Valley, as the lead agency, has reviewed and revised all submitted drafts, technical studies, and reports as necessary to reflect its own independent judgment, including reliance on City technical personnel from other departments and review of all technical subconsultant reports.

Data for this DEIR derive from onsite field observations, discussions with affected agencies, analysis of adopted plans and policies, review of available studies, reports, data and similar literature, and specialized environmental assessments (aesthetics, agricultural resources, air quality, biological resources, cultural resources, energy, geological resources, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire).

1.2 ENVIRONMENTAL PROCEDURES

This DEIR has been prepared pursuant to CEQA to assess the environmental effects associated with implementation of the proposed project, as well as anticipated future discretionary actions and approvals. CEQA established six main objectives for an EIR:

1. Disclose to decision makers and the public the significant environmental effects of proposed activities.
2. Identify ways to avoid or reduce environmental damage.
3. Prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
4. Disclose to the public reasons for agency approval of projects with significant environmental effects.
5. Foster interagency coordination in the review of projects.
6. Enhance public participation in the planning process.

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An EIR is the most comprehensive form of environmental documentation in CEQA and the CEQA Guidelines; it is intended to provide an objective, factually supported analysis and full disclosure of the environmental consequences of a proposed project with the potential to result in significant, adverse environmental impacts.

An EIR is one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Before approving a proposed project, the lead agency must consider the information in the EIR; determine whether the EIR was prepared in accordance with CEQA and the CEQA Guidelines; determine that it reflects the independent judgment of the lead agency; adopt findings concerning the project's significant environmental impacts and alternatives; and adopt a statement of overriding considerations if significant impacts cannot be avoided.

1.2.1 EIR Format

Chapter 1. Executive Summary: Summarizes the background and description of the project, the format of this EIR, project alternatives, and any critical issues remaining to be resolved, and the potential environmental impacts and mitigation measures identified for the project.

Chapter 2. Introduction: Describes the purpose of the EIR, background on the project, the notice preparation, the use of incorporation by reference, and Final EIR certification.

Chapter 3. Project Description: A detailed description of the project, including its objectives, its area and location, approvals anticipated to be required as part of the project, necessary environmental clearances, and the intended uses of this EIR. As the project is a General Plan, the project description is a summary of the lengthier document that is included as Appendix 3-1 to this EIR.

Chapter 4. Environmental Setting: A description of the physical environmental conditions in the vicinity of the project as they existed at the time the notice of preparation was published, from local and regional perspectives. These provide the baseline physical conditions from which the lead agency determines the significance of the project's environmental impacts.

Chapter 5. Environmental Analysis: Each environmental topic is analyzed in a separate section that discusses: the thresholds used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the project; the existing environmental setting; the potential adverse and beneficial effects of the project; the level of impact significance before mitigation; the mitigation measures for the project; the level of significance after mitigation is incorporated; and the potential cumulative impacts of the project and other existing, approved, and proposed development in the area.

Chapter 6. Unavoidable Impacts, Irreversible Changes, and Growth-Inducing Impacts: Describes the significant unavoidable adverse impacts and significant irreversible environmental changes associated with the project. Describes the ways in which the project would cause increases in employment or population that could result in new physical or environmental impacts.

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Chapter 7. Alternatives to the Project: Describes the alternatives and compares their impacts to the impacts of the project. Alternatives include the No Project Alternative.

Chapter 8. Organizations Consulted and Qualifications of Preparers: Lists the people and organizations that were contacted during the preparation of this EIR, as well as the people who prepared this EIR for the project.

Appendices. The appendices for this EIR are available online at: <https://www.fountainvalley.org/1282/General-Plan-Update>

- Appendix 2-1: NOP/NOP Comments
- Appendix 5.2-1: Air Quality and Greenhouse Gas Emissions Modeling
- Appendix 5.3-1: Energy Modeling
- Appendix 5.9-1: Noise Monitoring and Modeling
- Appendix 5.12-1: Draft Transportation Existing Conditions Report
- Appendix 5.12-2: Vehicle Miles Traveled (VMT) Impact Assessment
- Appendix 5.12-3: Transportation Impact Assessment Guidelines
- Appendix 5.13-1: Existing Conditions Infrastructure Report

1.2.2 Type and Purpose of This DEIR

This DEIR fulfills the requirements for a Program EIR. Although the legally required contents of a Program EIR are the same as for a Project EIR, Program EIRs are typically more conceptual than Project EIRs, with a more general discussion of impacts, alternatives, and mitigation measures. According to Section 15168 of the CEQA Guidelines, a Program EIR may be prepared on a series of actions that can be characterized as one large project. Use of a Program EIR gives the lead agency an opportunity to consider broad policy alternatives and program wide mitigation measures, as well as greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive scale.

Agencies prepare Program EIRs for programs or a series of related actions that are linked geographically; logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or individual activities carried out under the same authority and having generally similar environmental effects that can be mitigated in similar ways.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine whether an additional CEQA document is necessary. However, if the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities may be within the Program EIR's scope, and additional environmental documents may not be required (Guidelines

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§ 15168[c]). When a lead agency relies on a Program EIR for a subsequent activity, it must incorporate feasible mitigation measures and alternatives from the Program EIR into the subsequent activities (Guidelines § 15168[c][3]). If a subsequent activity would have effects outside the scope of the Program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or an EIR. Even in this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The CEQA Guidelines encourage the use of Program EIRs, citing five advantages:

- Provide a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR;
- Focus on cumulative impacts that might be slighted in a case-by-case analysis;
- Avoid continual reconsideration of recurring policy issues;
- Consider broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them;
- Reduce paperwork by encouraging the reuse of data (through tiering). (Guidelines § 15168[h])

1.3 PROJECT LOCATION

The City of Fountain Valley and its Sphere of Influence (SOI) are centrally located in the County of Orange and is bounded by the Santa Ana River to the east, the City of Huntington Beach to the west and south, and the City of Westminster to the north. Interstate 405 (I-405) bisects the City, running diagonally northwest to southeast. See Figure 3-1, *Regional Location*, and Figure 3-2, *Citywide Aerial*, show the General Plan Area in its regional and local contexts in Chapter 3, *Project Description*.

1.4 PROJECT SUMMARY

The project is an update of the City of Fountain Valley's General Plan. The General Plan is a state-required legal document that provides guidance to decision-makers regarding the allocation of resources and determining the future physical form and character of development in the City. It is the official statement of the City regarding the extent and types of development needed to achieve the community's physical, economic, social, and environmental goals. Although the General Plan is composed of individual chapters that individually address a specific area of concern, the General Plan embodies a comprehensive and integrated planning approach for the jurisdiction.

1.4.1 Proposed General Plan

The project includes the following elements that address all the required topics in state law:

- Land Use (required topic)
- Housing (incorporates updates in other elements to maintain state certification)
- Circulation and Mobility (required topic)

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- Open Space and Conservation (required topics)
- Public Facilities and Safety (required topics of safety, climate adaptation and resiliency, and noise)

The proposed project also includes revisions to the City's Development Code and Zoning Map to maintain consistency with the changes created through the General Plan Update. This includes Zoning Map changes, removal of the housing opportunity (-HO) overlay district, the creation of a new Very High Density Residential (R5) zoning district, and the creation of an Inclusionary Housing Ordinance.

1.4.1.1 LAND USES AND BUILDOUT

Chapter 3, *Project Description*, shows Figure 3-3, *Existing Land Use*, illustrates existing land uses and Figure 3-4, *Proposed Land Use Plan*, shows the land use designations regulating development. The land use designations in the City will largely remain as designated under the current General Plan with the addition of Very High Density Residential (VHDR), Mixed Use 1 (MU1) and Mixed Use 2 (MU2) designations. Buildout projections shown in Table 3-1, *Buildout Statistical Summary*, compares the existing conditions with the buildout envisioned under the proposed project (See Chapter 3, *Project Description*, for Table 3-1). The proposed project would result in a net increase of 6,238 units, 16,073 residents, 1,305,886 square feet of non-residential uses, and 4,057 employees.

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1.5 SUMMARY OF PROJECT ALTERNATIVES

The CEQA Guidelines (§ 15126.6[a]) state that an EIR must address “a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives.” The alternatives in this EIR were based, on part, on their potential ability to reduce or eliminate the impacts determined to be significant and unavoidable for implementation of the project. Project alternatives are assessed in further detail in Chapter 7, *Alternatives to the Project*.

1.6 NO PROJECT/EXISTING GENERAL PLAN ALTERNATIVE

The No Project Alternative is required to discuss the existing conditions at the time the notice of preparation is published and evaluate what would reasonably be expected to occur in the foreseeable future if the proposed project is not approved (CEQA Guidelines, Section 15126.6(e)). Pursuant to CEQA, this Alternative is also based on current plans and consistent with available infrastructure and community services. Therefore, the No Project/Existing General Plan Alternative assumes that the proposed General Plan would not be adopted, and the development intensity assumed in the existing General Plan would be followed.

1.6.1 Housing Priority Alternative

A Housing Priority Alternative would prioritize future development for residential to maximize the City’s ability to accommodate and build its RHNA allocation. This Alternative would propose residential-only land use and zoning on any vacant land as well as underutilized parcels, both within and outside of specific plans. This Alternative would reduce the amount of nonresidential building square footage by converting currently designated industrial land to residential land. Under this Alternative, this conversion of land would reduce the number of jobs below existing conditions, freeing up all developable land to accommodate the City’s RHNA allocation at lower densities. This Alternative would result in less jobs but the same number of housing units as the proposed project.

1.7 ISSUES TO BE RESOLVED

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR contain issues to be resolved, including the choice among alternatives and whether or how to mitigate significant impacts. With regard to the proposed project, the major issues to be resolved include decisions by the lead agency as to:

1. Whether this DEIR adequately describes the environmental impacts of the project.
2. Whether the benefits of the project override those environmental impacts which cannot be feasibly avoided or mitigated to a level of insignificance.
3. Whether the proposed land use changes are compatible with the character of the existing area.
4. Whether the identified goals, policies, or mitigation measures should be adopted or modified.

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5. Whether there are other mitigation measures that should be applied to the project besides the Mitigation Measures identified in the DEIR.
6. Whether there are any alternatives to the project that would substantially lessen any of the significant impacts of the proposed project and achieve most of the basic project objectives.

1.8 AREAS OF CONTROVERSY

In accordance with Section 15123(b)(2) of the CEQA Guidelines, the EIR summary must identify areas of controversy known to the lead agency, including issues raised by agencies and the public. The City has no knowledge of expressed opposition to the project.

1.9 SUMMARY OF ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE AFTER MITIGATION

Table 1-1, *Summary of environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation*, summarizes the conclusions of the environmental analysis contained in this EIR. Impacts are identified as significant or less than significant, and mitigation measures are identified for all significant impacts. The level of significance after imposition of the mitigation measures is also presented.

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
CHAPTER 5 – ENVIRONMENTAL ANALYSIS			
5.1 AESTHETICS			
Impact 5.1-1: Development in accordance with the General Plan Update would not substantially alter or damage scenic vistas or substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.1-2: Buildout in accordance with the proposed land use plan would alter the existing visual appearance of the City but would not substantially degrade its existing visual character or quality and would not conflict with applicable zoning and other regulations governing scenic quality.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.1-3: Development in accordance with the General Plan would not generate substantial additional light and glare.	Less than significant	No mitigation measures are required.	Less than significant
5.2 AIR QUALITY			
Impact 5.2-1: Buildout of the General Plan Update, and associated emissions, would exceed the assumptions of the South Coast AQMD's AQMP.	Potentially significant	Mitigation Measure AQ-1: Prior to discretionary approval by the City of Fountain Valley for development projects subject to CEQA (California Environmental Quality Act) review (i.e., nonexempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City of Fountain Valley Planning Department for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the South Coast AQMD-adopted thresholds of significance, the City of Fountain Valley building department shall require feasible mitigation measures to reduce air quality emissions. Potential measures shall be incorporated as conditions of approval for a project and may include:	Less than significant

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> ■ Require fugitive dust control measures that exceed South Coast Air Quality Management District's Rule 403, such as: <ul style="list-style-type: none"> ● Requiring use of nontoxic soil stabilizers to reduce wind erosion. ● Applying water every four hours to active soil disturbing activities. ● Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials. ■ Using construction equipment rated by the United States Environmental Protection Agency as having Tier 4 interim or higher exhaust emission limits. ■ Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards. ■ Limiting nonessential idling of construction equipment to no more than five consecutive minutes. ■ Using Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufactures can be found on the South Coast Air Quality Management District's website at: http://www.aqmd.gov/prdas/brochures/Super-Compliant_AIM.pdf. <p>These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City's Planning Department.</p> <p>Mitigation Measure AQ-2: Prior to discretionary approval by the City of Fountain Valley for development projects subject to CEQA (California Environmental Quality Act) review (i.e., nonexempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project operation-phase-related air quality impacts to the City of Fountain Valley Planning Department for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology in assessing air quality impacts. If operation-related air pollutants are determined to have the potential to exceed the South Coast AQMD-adopted thresholds of significance, the City of Fountain Valley Planning Department shall require that applicants for new development projects incorporate mitigation measures to</p>	

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the conditions of approval. Possible mitigation measures to reduce long-term emissions could include, but are not limited to the following:</p> <ul style="list-style-type: none"> ■ For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plug-in of the anticipated number of refrigerated trailers to reduce idling time and emissions. ■ Applicants for manufacturing and light industrial uses shall consider energy storage and combined heat and power in appropriate applications to optimize renewable energy generation systems and avoid peak energy use. ■ Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with California Air Resources Board Rule 2845 (13 CCR Chapter 10 sec. 2485). ■ Provide changing/shower facilities as specified in the Nonresidential Voluntary Measures of CALGreen. ■ Provide bicycle parking facilities per the Nonresidential Voluntary Measures and Residential Voluntary Measures of CALGreen. ■ Provide preferential parking spaces for low-emitting, fuel-efficient, and carpool/van vehicles per the Nonresidential Voluntary Measures of CALGreen. ■ Provide facilities to support electric charging stations per the Nonresidential Voluntary Measures and Residential Voluntary Measures of CALGreen. ■ Applicant-provided appliances shall be Energy Star-certified appliances or appliances of equivalent energy efficiency (e.g., dishwashers, refrigerators, clothes washers, and dryers). Installation of Energy Star-certified or equivalent appliances shall be verified by the City during plan check. 	

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 5.2-2: Construction activities associated with future development that would be accommodated under the General Plan Update could generate short-term emissions in exceedance of the South Coast AQMD's threshold criteria.	Potentially significant	See Mitigation Measure AQ-1.	Significant and unavoidable
Impact 5.2-3: Implementation of the proposed project would generate additional, long-term emissions in exceedance of South Coast AQMD's threshold criteria and cumulatively contribute to the South Coast Air Basin's nonattainment designations.	Potentially significant	See Mitigation Measure AQ-2	Significant and unavoidable
Impact 5.2-4: The proposed project would not expose sensitive receptors to substantial toxic air contaminant concentrations.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.2-5: The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	Less than significant	No mitigation measures are required.	Less than significant
5.3 ENERGY			
Impact 5.3-1: Implementation of the General Plan Update would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.3-2: The General Plan Update would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than significant	No mitigation measures are required.	Less than significant

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.4 GEOLOGY AND SOILS			
Impact 5.4-1: Project residents and visitors would be subject to potential seismic-related hazards.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.4-2: Unstable geologic unit or soils conditions, including soil erosion, could result from development of the General Plan Update.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.4-3: Future development in the General Plan Area would require connection to the City's sewer system.	No impact	No mitigation measures are required.	No impact
Impact 5.4-4: Future development that would be accommodated by the General Plan Update could impact known and unknown paleontological resources.	Potentially significant	<p>Mitigation Measure GEO-1: High Sensitivity. Projects involving ground disturbances in previously undisturbed areas mapped as having "high" paleontological sensitivity shall be monitored by a qualified paleontological monitor during all ground disturbing activities. Monitoring shall include inspection of exposed sedimentary units during active excavations within sensitive geologic sediments. The monitor shall have authority to temporarily divert activity away from exposed fossils to evaluate the significance of the find and, if the fossils are determined to be significant, professionally and efficiently recover the fossil specimens and collect associated data. The paleontological monitor shall use field data forms to record pertinent location and geologic data, measure stratigraphic sections (if applicable), and collect appropriate sediment samples from any fossil localities.</p> <p>Mitigation Measure GEO-2: Low-to-High Sensitivity. Prior to issuance of a grading permit for projects involving ground disturbance in previously undisturbed areas mapped with "low-to-high" paleontological sensitivity, the project applicant shall consult with a geologist or paleontologist to confirm whether the grading would occur at depths that could encounter highly sensitive sediments for paleontological resources. If confirmed that underlying sediments may have sensitivity, construction activity shall be monitored by a qualified paleontologist. The paleontologist shall have the authority to halt construction during ground disturbing activities as outlined in Mitigation Measure GEO-3.</p> <p>Mitigation Measure GEO-3: All Projects. In the event of any fossil discovery, regardless</p>	Less than significant

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		of depth or geologic formation, ground disturbing activities shall halt within a 50-foot radius of the find until its significance can be determined by a qualified paleontologist. Significant fossils shall be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility in accordance with the standards of the Society of Vertebrate Paleontology. The most likely repository is the Natural History Museum of Los Angeles County. The repository shall be identified, and a curatorial arrangement shall be signed prior to collection of the fossils.	
5.5 GREENHOUSE GAS EMISSIONS			
Impact 5.5-1: Implementation of the General Plan Update would not result in a substantial increase in emissions but would not place the city on a trajectory to achieve the goals established under AB 1279 or progress toward the State's carbon neutrality goal.	Potentially significant	<p>Mitigation Measure GHG-1: The City of Fountain Valley shall prepare a Climate Action Plan (CAP) to achieve the GHG reduction targets of Senate Bill 32 and chart a trajectory to achieve the long-term GHG reduction goal set by AB 1279. The CAP shall be completed within 18 months of certification of the General Plan EIR. The CAP shall be updated every five years to ensure the City is monitoring the plan's progress toward achieving the City's greenhouse gas (GHG) reduction target and to require amendment if the plan is not achieving specified level. The update shall consider a trajectory consistent with the GHG emissions reduction goal established under SB 32 for year 2030, AB 1279 for year 2045, and the latest applicable statewide legislative GHG emission reduction that may be in effect at the time of the CAP update. The CAP update shall include the following:</p> <ul style="list-style-type: none"> ■ GHG invention ores of existing and forecast year GHG levels. ■ Tools and strategies for reducing GHG emission to achieve the GHG reduction goals of the Senate Bill 32 for year 2030. ■ Tools and strategies for reducing GHG emissions to ensure a trajectory with the long-term GHG reduction and carbon neutrality goal for year 2045 of Assembly Bill 1279 ■ Plan implementation guidance that includes, at minimum, the following components consistent with the proposed CAP: <ul style="list-style-type: none"> ● Administration and Staffing 	Significant and unavoidable

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> • Finance and Budgeting • Timelines for Measure Implementation • Community Outreach and Education • Monitoring, Reporting, and Adaptive Management • Tracking Tools 	
Impact 5.5-2: Implementation of the General Plan Update would not conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.	Less than significant	No mitigation measures are required.	Less than significant
5.6 HAZARDS AND HAZARDOUS MATERIALS			
Impact 5.6-1: Project construction and/or operations would involve the transport, use, and/or disposal of hazardous materials.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.6-2: The Plan Area is on a list of hazardous materials sites that could create a significant hazard to the public or the environment.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.6-3: The project site is not located in the vicinity of an airport, nor is it within the jurisdiction of an airport land use plan.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.6-4: Project development would not affect the implementation of an emergency responder or evacuation plan.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.6-5: Fountain Valley is not in a designated fire hazard zone, and implementation of the General Plan Update will not expose structures and/or residences to wildland fire danger.	Less than significant	No mitigation measures are required.	Less than significant

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.7 HYDROLOGY AND WATER QUALITY			
Impact 5.7-1: Development pursuant to the General Plan would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.7-2: Buildout of the General Plan would generate a substantial increase in water demand but would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.7-3: Development pursuant to the General Plan Update would increase the amount of pervious surfaces in the Plan Area and therefore could alter drainage patterns, but would not increase the potential for erosion and siltation on- or off-site, or create runoff water that would exceed the capacity of storm drain systems, or provide substantial additional sources of polluted runoff, or impede or redirect flood flows.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.7-4: The proposed project would not result in flood hazards associated with flood zones, tsunamis, or seiche zones, or due to dam inundation.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.7-5: Development pursuant to the General Plan Update would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than significant	No mitigation measures are required.	Less than significant

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.8 LAND USE AND PLANNING			
Impact 5.8-1: Project implementation would not divide an established community.	No impact	No mitigation measures are required.	No impact
Impact 5.8-2: Project Implementation would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No mitigation measures are required.	Less than significant
5.9 NOISE			
Impact 5.9-1: Construction activities associated with the buildout of the plan area would result in temporary noise increases at sensitive receptors	Potentially significant	<p>Mitigation Measure N-1: Prior to issuance of demolition, grading and/or building permits on sites adjacent to sensitive receptors, a note shall be provided on construction plans indicating that during grading, demolition, and construction, the project applicant shall be responsible for requiring contractors to implement the following measures to limit construction-related noise:</p> <ul style="list-style-type: none"> ■ During the entire permitted activity, equipment and trucks used for the project shall utilize the best available noise control techniques (e.g., improved mufflers, intake silencers, ducts, engine enclosures, and acoustical attenuation), wherever feasible. ■ Require impact tools (e.g., jack hammers and hoe rams) that are hydraulically or electrically powered whenever feasible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools. ■ Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses. ■ Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors. ■ Prior to the start of construction activities, a sign shall be posted at the job site, clearly visible to the public, that includes permitted construction days and hours, as well as contact information for the City's Building Inspection Supervisor and contractor's authorized representative. If the authorized 	Significant and unavoidable

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Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		contractor’s representative receives a noise or vibration complaint, they shall investigate, take appropriate corrective action, and report the action to the City. <ul style="list-style-type: none"> ■ Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes. ■ During the entire active construction period, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall be responsible for adjusting alarms based on the background noise level, or to utilize human spotters when feasible and in compliance with all safety requirements and laws. ■ Erect temporary noise barriers, where feasible, when construction noise is predicted to exceed the established noise standards and when the anticipated construction duration is greater than is typical (e.g., two years or greater). 	
Impact 5.9-2: Buildout of the plan area would cause substantial operational noise increases at sensitive receptors in the plan area that exceed established noise standards.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.9-3: Buildout of the individual land uses and projects for implementation of the GPU may expose sensitive uses to excessive levels of groundborne vibration.	Potentially significant	Mitigation Measure N-2: Prior to issuance of a building permit for a project requiring pile driving during construction within 135 feet of fragile structures, such as historical resources, 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster); or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration (FTA) architectural damage thresholds (e.g., 0.12 inches per second [in/sec] peak particle velocity [PPV] for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for	Less than significant

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Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		engineered concrete and masonry). If vibration levels would exceed this threshold, alternative uses such as drilling piles as opposed to pile driving and static rollers as opposed to vibratory rollers shall be used. If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded. Mitigation Measure N-3: During the project-level CEQA process for industrial developments under the General Plan Update or other projects that could generate substantial vibration levels near sensitive uses, a noise and vibration analysis shall be conducted to assess and mitigate potential noise and vibration impacts related to the operations of that individual development. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer and shall follow the latest CEQA guidelines, practices, and precedents.	
Impact 5.9-4: The proximity of the project area to an airport or airstrip would not result in exposure of future residents and/or workers to new airport-related noise	Less than significant	No mitigation measures are required.	Less than significant
5.10 POPULATION AND HOUSING			
Impact 5.10-1: The proposed project would directly induce substantial unplanned population growth.	Potentially significant	There are no feasible mitigation measures	Significant and unavoidable
Impact 5.10-2: The proposed project would not displace people and/or housing.	No impact	No mitigation measures are required.	No impact
5.11 RECREATION			
Impact 5.11-1: The proposed project would generate additional residents that would increase the use of existing park and recreational facilities.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.11-2: Project implementation would result in environmental impacts to provide new and/or expanded recreational facilities.	Less than significant	No mitigation measures are required.	Less than significant

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Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.12 TRANSPORTATION			
Impact 5.12-1: The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	Less than significant	No mitigation measures are required	Less than significant
Impact 5.12-2: The proposed project would conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b).	Potentially significant	No feasible mitigation measures	Significant and unavoidable
Impact 5.12-3: The proposed project would not result in a substantial increase in hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or result in inadequate emergency access.	Less than significant	No mitigation measures are required.	Less than significant
5.13 UTILITIES AND SERVICE SYSTEMS			
Impact 5.13-1: Sewer and wastewater treatment systems are adequate to meet project requirements.	Less than significant	No mitigation measures are required	Less than significant
Impact 5.13-2: Water supply and delivery systems are adequate to meet project requirements.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.13-3: Existing and/or proposed storm drainage systems are adequate to serve the drainage requirements of the proposed project.	Less than significant	No mitigation measures are required.	Less than significant
Impact 5.13-4: Existing and/or proposed facilities would/would not be able to accommodate project-generated solid waste.	Less than significant	No mitigation measures are required.	Less than significant.

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Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 5.13-5: The proposed project would comply with federal, state, and local statutes and regulations related to solid waste.	Less than significant	No mitigation measures are required.	Less than significant
CHAPTER 8 – IMPACTS FOUND NOT TO BE SIGNIFICANT			
8.1 AGRICULTURE AND FORESTRY RESOURCES			
a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	Less than significant	No mitigation measures are required.	Less than significant
b) Would the project conflict with zoning for agricultural use or a Williamson Act contract?	No impact	No mitigation measures are required.	No impact
c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	No impact	No mitigation measures are required.	No impact
d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?	No impact	No mitigation measures are required.	No impact

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Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	Less than significant	No mitigation measures are required.	Less than significant
8.2 BIOLOGICAL RESOURCES			
a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	Less than significant	No mitigation measures are required.	Less than significant
b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife?	No impact	No mitigation measures are required.	No impact
c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Less than significant	No mitigation measures are required.	Less than significant

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Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
d) Would the project interfere substantially with the movement of any native resident of migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less than significant	No mitigation measures are required.	Less than significant
e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less than significant	No mitigation measures are required.	Less than significant
f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No impact	No mitigation measures are required.	No impact
8.3 CULTURAL RESOURCES			
a) Would the project cause a substantial adverse change in the significance of historical resource pursuant to § 15064.5?	Potentially significant	Mitigation Measure CUL-1: Prior to any construction activities that may affect historical resources (i.e., structures 45 years or older), a historical resources assessment shall be performed by an architectural historian or historian who meets the Secretary of the Interior's Professionally Qualified Standards (PQS) in architectural history or history. This shall include a records search to determine if any resources that may be potentially affected by a project have been previously recorded, evaluated, and/or designated in the National Register of Historic Places (NRHP), California Register of Historic Resources (CRHR), or other registers of historic resources. Following the records search, the qualified architectural historian or historian shall conduct a reconnaissance-level and/or intensive-level survey in accordance with the California Office of Historic Preservation (OHP) guidelines to identify any previously unrecorded potential historical resources that	Less than significant

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Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>may be potentially affected by a proposed project. Pursuant to the definition of a historical resource under CEQA, potential historical resources shall be evaluated under a developed historic context.</p> <p>Mitigation Measure CUL-2: To ensure that projects requiring the relocation, rehabilitation, or alteration of a historical resource not impair its significance, the <i>Secretary of the Interior's Standards for the Treatments of Historic Properties</i> shall be used to the maximum extent possible. The application of the standards shall be overseen by a qualified architectural historian or historic architect meeting the PQS. Prior to any construction activities that may affect the historical resource, a report identifying and specifying the treatment of character-defining features and construction activities shall be provided to the City of Fountain Valley.</p> <p>Mitigation Measure CUL-3: If a proposed project would result in the demolition or significant alteration of a historical resource, it cannot be mitigated to a less than significant level. However, recordation of the resource prior to construction activities will assist in reducing adverse impacts to the resource to the greatest extent possible. Recordation shall take the form of Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), or Historic American Landscape Survey (HALS) documentation, and shall be performed by an architectural historian or historian who meets the PQS. Documentation shall include an architectural and historical narrative; medium- or large-format black and white photographs, negatives, and prints; and supplementary information such as building plans and elevations, and/or historic photographs. Documentation shall be reproduced on archival paper and placed in appropriate local, state, or federal institutions. The specific scope and details of documentation would be developed at the project level.</p> <p>Mitigation Measure CUL-4: If cultural resources that are eligible for listing to the NRHP, CRHR, or other registers of historic resources are identified within or adjacent to the proposed development, the construction limits shall be clearly flagged to assure impacts to eligible cultural resources are avoided or minimized to the extent feasible. Prior to</p>	

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		implementing construction activities, a qualified archaeologist shall verify that the flagging clearly delineates the construction limits and eligible resources to be avoided. Since the location of some eligible cultural resources is confidential, these resources will be flagged as environmentally sensitive areas (ESA).	
b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	Potentially significant	Mitigation Measure CUL-5: Prior to construction activities, the future project applicant shall retain a qualified archaeologist to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources. If cultural resources are discovered during ground disturbing activities, all ground disturbing activities within 50 feet of the find shall be halted until a meeting is convened between the developer, archaeologist, tribal representatives, and the Director of the Community Development Department. At the meeting, the significance of the discoveries shall be discussed and after consultation with the tribal representatives, developer, and archaeologist, a decision shall be made, with the concurrence of the Director of the Community Development Department, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources.	Less than significant
c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	Less than significant	No mitigation measures are required.	Less than significant
8.4 MINERAL RESOURCES			
a) Would the project result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?	No impact	No mitigation measures are required.	No impact

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Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	No impact	No mitigation measures are required.	No impact
8.5 PUBLIC SERVICES			
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:			
a) Fire protection?	Less than significant	No mitigation measures are required.	Less than significant
b) Police protection?	Less than significant	No mitigation measures are required.	Less than significant
c) Schools?	Less than significant	No mitigation measures are required.	Less than significant
d) Other public facilities?	Less than significant	No mitigation measures are required.	Less than significant
8.6 TRIBAL CULTURAL RESOURCES			
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:			
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public	Potentially significant	Mitigation Measure TCR-1: Prior to any ground disturbing construction activities, the project applicant shall retain a Native American monitor. The tribal monitor shall only be present onsite during the construction phases that involve ground-disturbing activities. Ground-disturbing activities are defined as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching within a project site. The tribal monitor will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The onsite monitoring shall end when the grading and excavation activities are completed or when the tribal representatives and monitor have indicated that the project site has a low potential for affecting tribal cultural resources.	Less than significant

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>		<p>Upon discovery of any tribal cultural resources, construction activities shall cease in the immediate vicinity of the find until the tribal monitor can assess the find. The evaluation of all tribal cultural resources unearthed by project construction activities shall be evaluated by a qualified archaeologist and/or tribal monitor. If the resources are Native American in origin, the tribal monitor shall coordinate with the project applicant and Director of the Community Development Department regarding treatment and curation of these resources as well as notifying local tribes of the find. Typically, the tribe(s) will request reburial or preservation for educational purposes. The project applicant may continue work on other parts of the project site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5(f)). If the tribal monitor determines a resource to constitute a "historical resource" or "unique archaeological resource," time and funding sufficient to allow for implementation of avoidance measures or appropriate mitigation must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Section 21083.2(b) for unique archaeological resources.</p> <p>If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. The project applicant and Director of the Community Development Department shall be responsible for ensuring that a public, nonprofit institution with a research interest in the materials, such as the Orange County Museum of Natural History, curate any historic archaeological material that is not Native American in origin if such an institution agrees to accept the material. If no institution accepts the archaeological material, the project applicant and Director of the Community Development Department shall offer it to a local historical society for educational purposes or retain the material and use it for educational purposes.</p>	
8.7 WILDFIRE			
<p>a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?</p>	<p>Less than significant</p>	<p>No mitigation measures are required.</p>	<p>Less than significant</p>

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
b) Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Less than significant	No mitigation measures are required.	Less than significant
c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water resources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Less than significant	No mitigation measures are required.	Less than significant
d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Less than significant	No mitigation measures are required.	Less than significant

1. Executive Summary

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2. Introduction

2.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The California Environmental Quality Act (CEQA) requires that all state and local governmental agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. This draft environmental impact report (DEIR) has been prepared to satisfy CEQA and the CEQA Guidelines. The environmental impact report (EIR) is the public document designed to provide decision makers and the public with an analysis of the environmental effects of the proposed project, to indicate possible ways to reduce or avoid environmental damage and to identify alternatives to the project. The EIR must also disclose significant environmental impacts that cannot be avoided; growth inducing impacts; effects not found to be significant; and significant cumulative impacts of all past, present, and reasonably foreseeable future projects.

The lead agency means “the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment” (CEQA § 21067). The City of Fountain Valley has the principal responsibility for approval of the City of Fountain Valley General Plan Update project. For this reason, the City of Fountain Valley is the CEQA lead agency for this project.

The intent of the DEIR is to provide sufficient information on the potential environmental impacts of the proposed City of Fountain Valley General Plan Update to allow the City of Fountain Valley to make an informed decision regarding approval of the project. Specific discretionary actions to be reviewed by the City are described in Section 3.4, *Intended Uses of the EIR*.

This DEIR has been prepared in accordance with requirements of the:

- California Environmental Quality Act (CEQA) of 1970, as amended (Public Resources Code, §§ 21000 et seq.)
- State Guidelines for the Implementation of the CEQA of 1970 (CEQA Guidelines), as amended (California Code of Regulations, §§ 15000 et seq.)

The overall purpose of this DEIR is to inform the lead agency, responsible agencies, decision makers, and the general public about the environmental effects of the development and operation of the proposed City of Fountain Valley General Plan Update project. This DEIR addresses effects that may be significant and adverse; evaluates alternatives to the project; and identifies mitigation measures to reduce or avoid adverse effects.

2. Introduction

2.2 NOTICE OF PREPARATION

The City of Fountain Valley determined that an EIR would be required for this project and issued a Notice of Preparation (NOP) on October 25, 2022 (see Appendix 2-1). The NOP was initially released in 2021 and distributed to the general public and surrounding jurisdictions and agencies but was not distributed through the State Clearinghouse. Accordingly, the NOP was reissued to the general public and through the State Clearinghouse in 2022. Comments received during the NOP comment periods in 2021 and 2022 are in Appendix 2-1. Table 2-1, *NOP Comment Letters Summary*, summarizes the comments received during the public comment period.

Table 2-1 NOP Comment Letters Summary

Agency/Organization/Individual	Date	Summary of Comments	Section of EIR Comment is Addressed
Agency			
Gabrieleno Band of Mission Indians - Kizh Nation	11/20/2021	The commenter is in agreement with the General Plan Update and asks to request consultation with any and all future projects when ground disturbance occurs within the City.	Chapter 8, Impacts Found Not to Be Significant
South Coast Air Quality Management District (South Coast AQMD)	12/07/2021	<ul style="list-style-type: none"> Asks the lead agency to send a copy of the EIR and accompanied technical reports upon its completion and public release directly to South Coast AQMD Staff recommends that the Lead Agency use South Coast AQMD's CEQA Air Quality Handbook and website, and CalEEMod2 land use emissions software when preparing the air quality and greenhouse gas analyses. South Coast AQMD staff recommends that the Lead Agency quantify criteria pollutant emissions and compare the emissions to South Coast AQMD's CEQA regional pollutant emissions significance thresholds and localized significance thresholds (LSTs) to determine the Proposed Project's air quality impacts. States lead agency should identify and any potential adverse air quality impacts that could occur from all phases of the Proposed Project and all air pollutant sources related to the Proposed Project. States emissions from the overlapping construction and operational activities should be combined and compared to South Coast AQMD's regional air quality CEQA operational thresholds to determine the level of significance. States any impacts resulting from the proposed project before and after mitigation measures must be analyzed. Provides a list of resources to assist in identifying potential mitigation measures for the proposed project. 	Section 5.2, <i>Air Quality</i> Section 5.5, <i>Greenhouse Gas Emissions</i>
Southern California Association of Governments (SCAG)	12/08/2021	<ul style="list-style-type: none"> States SCAG is the designated Regional Transportation Planning Agency under state law and is responsible for preparation of the Regional Transportation Plan (RTP) including the Sustainable Communities Strategy (SCS). Includes SCAG Connect SoCal 2020 goals that may be pertinent to the proposed project and encourages a comparison of SCAG goals with the with discussions of the consistency, non-consistency or non-applicability of the goals and supportive analysis. 	Section 5.8, <i>Land Use and Planning</i> Section 5.10, <i>Population and Housing</i>

2. Introduction

Table 2-1 NOP Comment Letters Summary

Agency/Organization/Individual	Date	Summary of Comments	Section of EIR Comment is Addressed
		<ul style="list-style-type: none"> • Recommends looking at land use and transportation strategies in the technical reports provided by Connect SoCal as a guidance for the proposed project. • Explains the importance of demographics and growth forecasts for regional and local planning. Includes the growth forecasts for adopted SCAG region and City of Fountain Valley from 2020 to 2045. • SCAG recommends review the Final Program Environmental Impact Report for Connect SoCal for project-level performance standard-based mitigation measures. • Includes SCAG 6th Cycle Final RHNA Allocation for the City of Fountain Valley • Suggests the City of Fountain Valley review the Environmental Justice Technical Report and the updated Environmental Justice Toolbox as a resource document if they consider including environmental justice related goals and policies in their General Plan Update. 	
Native American Heritage Commission (NAHC)	10/27/2022	<ul style="list-style-type: none"> • The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the proposed project as early as possible. • The NAHC explains Assembly Bill 52 (AB 52) and Senate Bill 18 (SB 18) which both have tribal consultation requirements. • AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015. • SB 18 applies to all California tribes and local governments that adopt or amend general plans or specific plans or create open space designations. • NAHC recommends contacting the appropriate regional California Historical Research Information System (CHRIS) Center for an archaeological record search • NAHC recommends if an archaeological inventory survey is required then prepare a professional report detailing the findings and recommendations of the records search and field study. • NAHC recommends contacting the NAHC for a Sacred Lands File search and a Native American Consultation List of appropriate tribes for consultation concerning the project site. 	Chapter 8, <i>Impacts Found Not to Be Significant</i>
California Geological Survey	11/16/2022	<ul style="list-style-type: none"> • States the DEIR should discuss liquefaction hazards and to refer to Seismic Hazard Zone Report 03 (1997) and the associated Seismic Hazard Zone Map for the Newport Beach quadrangle • States Cities and counties affected by earthquake zones of required investigation (ZORI) must regulate certain development projects within those areas. • States the Seismic Hazards Mapping Act (1990) requires sellers of real property and agents must disclose at the time of sale that the property lies within such a zone 	Section 5.4, <i>Geology and Soils</i>

2. Introduction

Table 2-1 NOP Comment Letters Summary

Agency/Organization/Individual	Date	Summary of Comments	Section of EIR Comment is Addressed
Department of Transportation District 12	11/23/2022	<ul style="list-style-type: none"> • Encourages the City of Fountain Valley to consider multimodal Complete Streets in the General Plan update, particularly in topics of Circulation, Healthy Communities Strategies, Public Safety, and Air Quality. • Asks to consider including a discussion on equity in General Plan Element updates. • Asks to consider providing a discussion about the City's multimodal mobility strategies relating to transit bus and rail services as well as active transportation for local and regional connectivity. • Encourages the implementation of new technologies, innovations and best practices that will enhance the safety on the transportation network. • Asks to include a discussion on incorporating designated areas/parking for freight delivery, package, and transportation network companies' pickup and drop-offs into the circulation topic area. • States that new development from the Housing Element Update should provide a vehicle mile traveled (VMT) based Traffic Impact Study and use Office of Planning and Research Guidance to identify VMT related impacts. • Suggests the Traffic Impact Study identify the future projects near-term and long-term safety or operational issues on or adjacent to any existing or proposed state facilities. 	Section 5.12, <i>Transportation</i>

2.3 SCOPE OF THIS DEIR

The scope of the DEIR was determined based on the comments received in response to the NOP and comments received at the scoping meeting conducted by the City. Pursuant to Sections 15126.2 and 15126.4 of the CEQA Guidelines, the DEIR should identify any potentially significant adverse impacts and recommend mitigation that would reduce or eliminate these impacts to levels of insignificance.

The information in Chapter 3, *Project Description*, establishes the basis for analyzing future, project-related environmental impacts. However, further environmental review by the City may be required as more detailed information and plans are submitted on a project-by-project basis.

2.3.1 Impacts Considered Less Than Significant or Reduced to Less Than Significant with Implementation of Mitigation Measures

The EIR identified the following impacts as having no impact, less than significant, or potentially significant impacts which would be reduced to less than significant with the implementation of mitigation measures identified in the EIR:

2. Introduction

Chapter 5 – Environmental Analysis

Aesthetics

- **Impact 5.1-1:** Development in accordance with the General Plan Update would not substantially alter or damage scenic vistas or substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- **Impact 5.1-2:** Buildout in accordance with the proposed land use plan would alter the existing visual appearance of the City but would not substantially degrade its existing visual character or quality and would not conflict with applicable zoning and other regulations governing scenic quality.
- **Impact 5.1-3:** Development in accordance with the General Plan would not generate substantial additional light and glare.

Air Quality

- **Impact 5.2-1:** Buildout of the General Plan Update, and associated emissions, would exceed the assumptions of the South Coast AQMD's AQMP.
- **Impact 5.2-4:** The proposed project would not expose sensitive receptors to substantial toxic air contaminant concentrations.
- **Impact 5.2-5:** The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Energy

- **Impact 5.3-1:** Implementation of the General Plan Update would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources.
- **Impact 5.3-2:** The General Plan Update would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency

Geology and Soils

- **Impact 5.4-1:** Project residents and visitors would be subject to potential seismic-related hazards.
- **Impact 5.4-2:** Unstable geologic unit or soils conditions, including soil erosion, could result from development of the General Plan Update.
- **Impact 5.4-3:** Future development in the General Plan Area would require connection to the City's sewer system.
- **Impact 5.4-4:** Future development that would be accommodated by the General Plan Update could impact known and unknown paleontological resources.

2. Introduction

Greenhouse Gas Emissions

- **Impact 5.5-2:** Implementation of the General Plan Update would not conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.

Hazards and Hazardous Materials

- **Impact 5.6-1:** Project construction and/or operations would involve the transport, use, and/or disposal of hazardous materials.
- **Impact 5.6-2:** The Plan Area is on a list of hazardous materials sites that could create a significant hazard to the public or the environment.
- **Impact 5.6-3:** The project site is not located in the vicinity of an airport, nor is it within the jurisdiction of an airport land use plan.
- **Impact 5.6-4:** Project development would not affect the implementation of an emergency responder or evacuation plan.
- **Impact 5.6-5:** Fountain Valley is not in a designated fire hazard zone, and implementation of the General Plan Update will not expose structures and/or residences to wildland fire danger.

Hydrology and Water Quality

- **Impact 5.7-1:** Development pursuant to the General Plan would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- **Impact 5.7-2:** Buildout of the General Plan would generate a substantial increase in water demand but would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin.
- **Impact 5.7-3:** Development pursuant to the General Plan Update would increase the amount of pervious surfaces in the Plan Area and therefore could alter drainage patterns, but would not increase the potential for erosion and siltation on- or off-site, or create runoff water that would exceed the capacity of storm drain systems, or provide substantial additional sources of polluted runoff, or impede or redirect flood flows.
- **Impact 5.7-4:** The proposed project would not result in flood hazards associated with flood zones, tsunamis, or seiche zones, or due to dam inundation.
- **Impact 5.7-5:** Development pursuant to the General Plan Update would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

2. Introduction

Land Use and Planning

- **Impact 5.8-1:** Project implementation would not divide an established community.
- **Impact 5.8-2:** Project Implementation would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect.

Noise

- **Impact 5.9-2:** Buildout of the plan area would cause substantial operational noise increases at sensitive receptors in the plan area that exceed established noise standards.
- **Impact 5.9-3:** Buildout of the individual land uses and projects for implementation of the GPU may expose sensitive uses to excessive levels of groundborne vibration.
- **Impact 5.9-4:** The proximity of the project area to an airport or airstrip would not result in exposure of future residents and/or workers to new airport-related noise.

Population and Housing

- **Impact 5.10-2:** The proposed project would not displace people and/or housing.

Recreation

- **Impact 5.11-1:** The proposed project would generate additional residents that would increase the use of existing park and recreational facilities.
- **Impact 5.11-2:** Project implementation would result in environmental impacts to provide new and/or expanded recreational facilities.

Transportation

- **Impact 5.12-1:** The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- **Impact 5.12-3:** The proposed project would not result in a substantial increase in hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or result in inadequate emergency access.

Utilities and Service Systems

- **Impact 5.13-1:** Sewer and wastewater treatment systems are adequate to meet project requirements.
- **Impact 5.13-2:** Water supply and delivery systems are adequate to meet project requirements.

2. Introduction

- **Impact 5.13-3:** Existing and/or proposed storm drainage systems are adequate to serve the drainage requirements of the proposed project.
- **Impact 5.13-4:** Existing and/or proposed facilities would/would not be able to accommodate project-generated solid waste.
- **Impact 5.13-5:** The proposed project would comply with federal, state, and local statutes and regulations related to solid waste.

Chapter 8 – Impacts Found Not to be Significant

Agriculture and Forestry Resources

- a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
- b) Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?
- c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?
- d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?
- e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Biological Resources

- a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Services?
- b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?
- c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

2. Introduction

- d) Would the project interfere substantially with the movement of any native residents or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of the native wildlife nursery sites?
- e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Cultural Resources

- a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?
- b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?
- c) Would disturb any human remains, including those interred outside of dedicated cemeteries?

Mineral Resources

Would the project:

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

Public Services

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

- a) Fire protection?
- b) Police protection?
- c) Schools?
- d) Other public facilities?

2. Introduction

Tribal Cultural Resources

- a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
 - ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Wildfire

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

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan?
- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water resources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

2.3.2 Unavoidable Significant Adverse Impacts

This DEIR identifies seven significant and unavoidable adverse impacts, as defined by CEQA, that would result from implementation of the proposed project. Unavoidable adverse impacts may be considered significant on a project-specific basis, cumulatively significant, and/or potentially significant. The City must prepare a “statement of overriding considerations” before it can approve the project, attesting that the decision-making body has balanced the benefits of the proposed project against its unavoidable significant environmental effects and has determined that the benefits outweigh the adverse effects, and therefore the adverse effects are considered acceptable. The impacts that were found in the DEIR to be significant and unavoidable are:

2. Introduction

Air Quality

- **Impact 5.2-2:** Construction activities associated with future development that would be accommodated under the General Plan Update could generate short-term emissions in exceedance of the South Coast AQMD's threshold criteria.
- **Impact 5.2-3:** Implementation of the proposed project would generate additional, long-term emissions in exceedance of South Coast AQMD's threshold criteria and cumulatively contribute to the South Coast Air Basin's nonattainment designations.

Greenhouse Gas Emissions

- **Impact 5.5-1:** Implementation of the General Plan Update would not result in a substantial increase in emissions but would not place the city on a trajectory to achieve the goals established under Executive Order S-03-05 or progress toward the State's carbon neutrality goal.

Noise

- **Impact 5.9-1:** Construction activities associated with the buildout of the plan area would result in temporary noise increases at sensitive receptors.

Population and Housing

- **Impact 5.10-1:** The proposed project would directly induce substantial unplanned population growth.

Transportation

- **Impact 5.12-2:** The proposed project would conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b).

2.4 INCORPORATION BY REFERENCE

Some documents are incorporated by reference into this DEIR, consistent with Section 15148 and Section 15150 of the CEQA Guidelines, and they are available for review at the City.

- City of Fountain Valley Municipal Code

2.5 FINAL EIR CERTIFICATION

This DEIR is being circulated for public review for 45 days. Interested agencies and members of the public are invited to provide written comments on the DEIR to the City address shown on the title page of this document. Upon completion of the 45-day review period, the City of Fountain Valley will review all written comments received and prepare written responses for each. A Final EIR (FEIR) will incorporate the received comments, responses to the comments, and any changes to the DEIR that result from comments. The FEIR

2. Introduction

will be presented to the City of Fountain Valley for potential certification as the environmental document for the project. All persons who comment on the DEIR will be notified of the availability of the FEIR and the date of the public hearing before the City.

The DEIR is available to the general public for review at various locations:

- On the City's website: <https://www.fountainvalley.org/1282/General-Plan-Update>
- In person at the City of Fountain Valley Planning and Building Department: 10200 Slater Avenue, Fountain Valley, CA 92708
- Fountain Valley Library: 17635 Los Alamos Street, Fountain Valley, CA 92708

The DEIR is being circulated for public review for 45 days. Interested agencies and members of the public are invited to provide written comments on the EIR to the City address shown on the title page of this document.

2.6 MITIGATION MONITORING

Public Resources Code Section 21081.6 requires that agencies adopt a monitoring or reporting program for any project for which it has made findings pursuant to Public Resources Code Section 21081. Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR.

The Mitigation Monitoring Program for the City of Fountain Valley General Plan Update project will be completed as part of the Final EIR, prior to consideration of the project by the City of Fountain Valley City Council.

3. Project Description

3.1 PROJECT LOCATION

The City of Fountain Valley and its Sphere of Influence (SOI) are centrally located in Orange County and is bounded by the Santa Ana River to the east, the City of Huntington Beach to the west and south, and the City of Westminster to the north. Interstate 405 (I-405) bisects the City, running diagonally northwest to southeast. Figure 3-1, *Regional Location*, and Figure 3-2, *Citywide Aerial*, show the General Plan Area in its regional and local contexts.

3.2 STATEMENT OF OBJECTIVES

Objectives for the proposed City of Fountain Valley General Plan Update project will aid decision makers in their review of the project and associated environmental impacts:

1. Provide well-designed and accessible residential neighborhoods and commercial and industrial districts to provide opportunities for people to live, work, and play.
2. Ensure that the City meets its proportionate share of affordable and market rate housing demand by accommodating the Regional Housing Needs Assessment (RHNA) allocation.
3. Increase jobs in the City to encourage more residents to work locally and reduce commuting out of the City to work.
4. Ensure that people, goods, and services move safely and efficiently through the City and connect to the larger region.
5. Ensure that Fountain Valley is a safe community for residents, businesses, and visitors.
6. Foster a vibrant community that supports healthy lifestyles, historical resources, arts, education, and culture for all residents.

3.3 PROJECT CHARACTERISTICS

“Project,” as defined by the CEQA Guidelines, means:

... the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and that is any of the following: (1)...enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or elements thereof pursuant to Government Code Sections 65100–65700. (14 Cal. Code of Reg. § 15378[a])

3. Project Description

3.3.1 Description of the Project

The project is an update to the City of Fountain Valley’s adopted General Plan. The General Plan is a state-required legal document that provides guidance to decision-makers regarding the allocation of resources and determining the future physical form and character of development in the City. It is the official statement of the City regarding the extent and types of development needed to achieve the community’s physical, economic, social, and environmental goals. Although the General Plan is composed of individual sections, or “elements,” that individually address a specific area of concern, the General Plan embodies a comprehensive and integrated planning approach for the jurisdiction. This section of the EIR summarizes the General Plan Update components and the proposed General Plan, and supporting documentation, is included as Appendix 3-1 to this EIR, and available on the City’s website: <https://www.fountainvalley.org/1282/General-Plan-Update>.

3.3.2 Proposed General Plan

The 2045 General Plan is the City’s policy and implementation framework that guides the long-term growth and improvement of the Fountain Valley community through interrelated components of City governance:

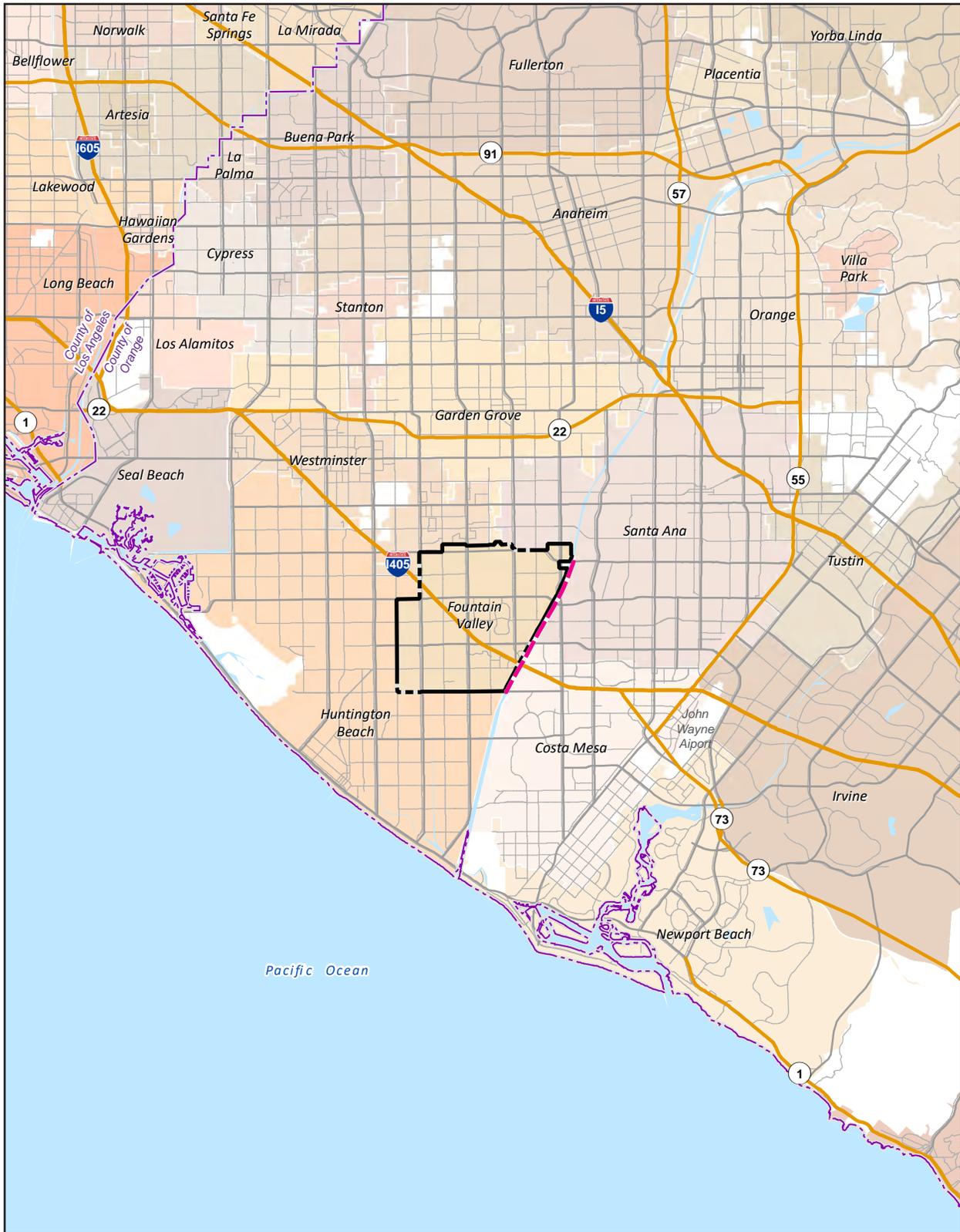
- **A Vision** that provides a sense of the purpose and mission for city governance and sets the tone for the other components of the plan. The Vision’s central theme is embracing change while preserving community values and quality of life.
- **A General Plan** that addresses state law and guides City decisions through long-term goals and policies to achieve Fountain Valley’s Vision. In addition to the topics required by state law, the plan will address the optional topics of economic development, community design, air quality, and governance.
- **An Implementation Plan** that identifies the actions needed to carry out the Plan’s policies. This includes initiatives by the City, as well as decisions on public and private development projects and City activity programs.

The proposed project updates the General Plan to guide the City’s development and conservation for the next 20-plus years through 2045. The proposed project is a comprehensive update of the General Plan to comply with state housing mandates; conform with new state laws related to community health, environmental justice, climate adaption, resiliency, and mobility; and bring long-term growth and fiscal projections into alignment with current economic conditions and state mandates.

The project also includes revisions to the City’s Development Code and Zoning Map to maintain consistency with the changes created through the General Plan update. This includes Zoning Map changes, removal of the housing opportunity (-HO) overlay district, the creation of a new Very High Density Residential (R5) zoning district, and the creation of an Inclusionary Housing Ordinance.

3. Project Description

Figure 3-1 - Regional Location



- County Boundary
- Fountain Valley SOI
- City Boundary

0 3
Scale (Miles)



Source: Generated using ArcMap, 2022

3. Project Description

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3. Project Description

Figure 3-2 - Citywide Aerial



- City Boundary
- Fountain Valley SOI

0 3,300
Scale (Feet)



Source: Generated using ArcMap, 2022.

3. Project Description

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3. Project Description

The General Plan addresses the following topics:

- **Land use:** establishes how land is developed, used, and arranged to ensure compatibility and add value to the community in terms of function, design, and fiscal return.
- **Economic development and fiscal sustainability:** an expansion of an existing topic to grow revenues and reduce costs to offset the sunset of Measure HH, and to position the City to maximize the economic value of its development options in the context of future market conditions.
- **Community design:** an expansion of an existing topic to more directly address neighborhood compatibility and development design guidelines.
- **Governance:** a way to formally memorialize how the City makes decisions and governs, recognizing a stronger connection between long term policies, short-term decisions, and the budget.
- **Housing:** updates in other elements to maintain state certification.
- **Circulation:** coordinates the circulation system with future land use patterns and buildout to satisfy local and subregional mobility needs, access and connectivity among the various neighborhoods, and compliance with Orange County’s Congestion Management Program.
- **Parks and open space:** establishes broad direction for open space and park and recreation programs, emphasizing the vital role parks and recreation play in economic development, land use, housing, community health, infrastructure, and transportation goals.
- **Healthy communities strategies:** augmenting recent “health in all policies” approaches with a focus on partnerships and programs that are more effective and impactful.
- **Conservation:** addresses how resources are managed comprehensively using systems that are environmentally and economically sustainable and meet growth demand in Fountain Valley.
- **Public safety:** addresses how the City protects life, property, and commerce from impacts associated with human-made and natural hazards, disasters, and other threats to public safety; also identifies ways the City can establish strategies to adapt to increased hazard risks and strategies to become more resilient.
- **Air quality:** establishes appropriate policies to achieve progress toward air quality goals as identified by the South Coast Air Quality Management District’s Air Quality Management Plan.
- **Noise:** identifies measures to maintain a noise environment that is compatible for the various neighborhoods and land uses in terms of noise exposure for near-term and long-term growth and traffic activity.

Environmental justice is only a required topic for jurisdictions that contain disadvantaged communities. According to CalEnviroScreen (CES version 4.0), all census tracts in Fountain Valley have a CES composite

3. Project Description

score below the 75th percentile—the threshold above which the City and California Environmental Protection Agency deem a census tract to be a disadvantaged community.

The General Plan is separated into five elements that address all of the required contents of a general plan as defined in State law. While there is some overlap between the subject areas and the State requirements, the law allows the City to organized the topics in any fashion.

The current General Plan consists of 11 chapters, including nine elements, and introduction, and a glossary. The proposed General Plan recommends consolidating the topics into the following five elements:

- Land Use
 - Address compatibility and fiscal impacts more directly
 - Support the revised Land Use Plan and overall Vision
 - Updated economic development policies
- Housing
 - Executive summary format added, but otherwise unchanged from the state-certified element adopted in 2022
- Circulation and Mobility
 - Address new state law (AB 1358) regarding complete streets
 - Reflect changes on how the City measures and mitigates transportation impacts under CEQA (i.e., LOS vs VMT per SB 743)
- Open Space and Conservation
 - More explicitly support ways to enhance recreational opportunities and preserve historical resources
- Public Facilities and Safety
 - Address new state requirements (SB 379) related to climate adaptation and resiliency
 - More explicitly address high quality public education and facilities

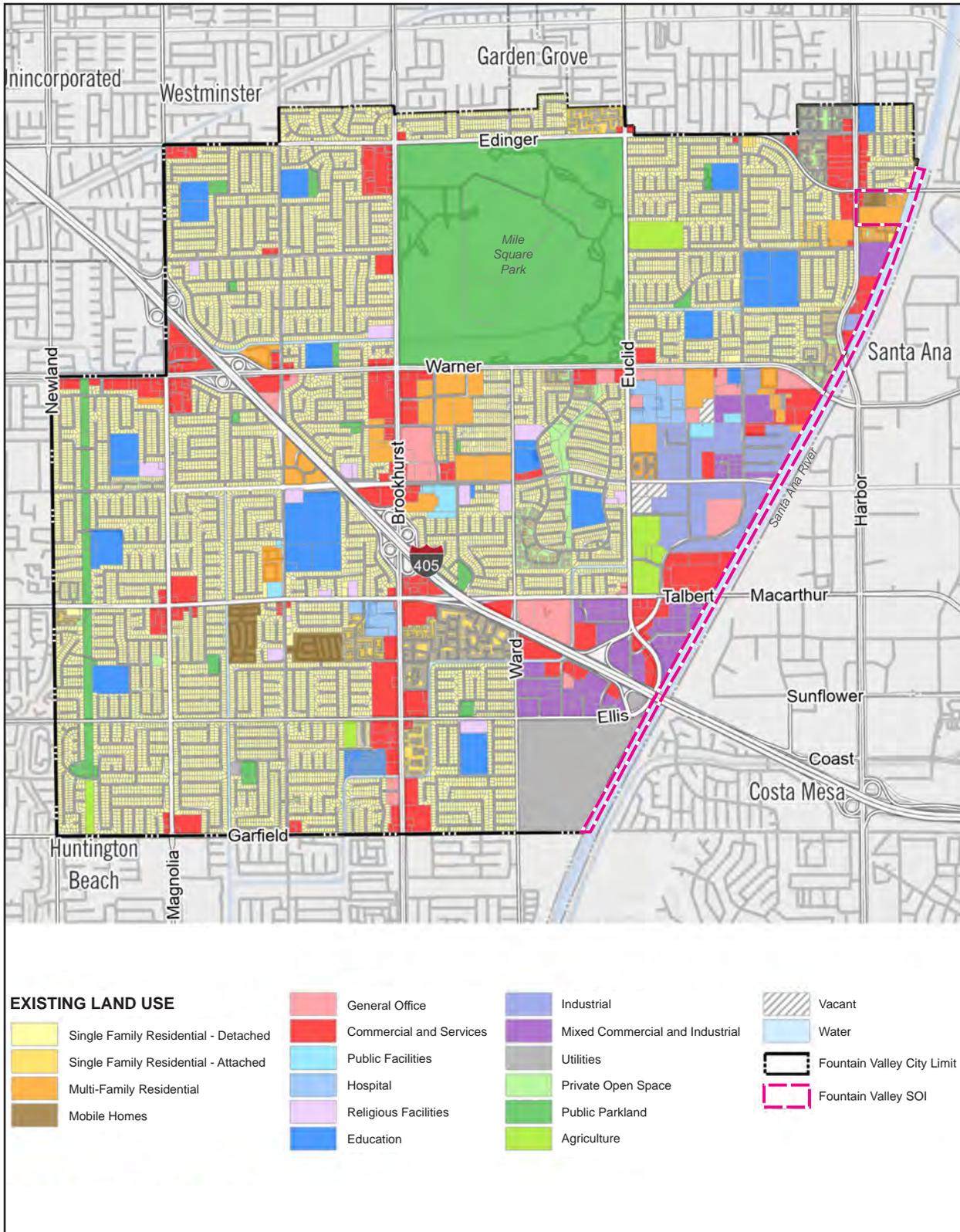
The land use designations in the City of Fountain Valley will largely remain as designated under the current General Plan, with the addition of Very High Density Residential (VHDR), Mixed Use 1 (MU1), and Mixed Use 2 (MU2) designations. Table 3-1, *Buildout Statistical Summary*, provides a statistical summary of the buildout potential associated with the 2045 General Plan compared to existing conditions. Figure 3-3, *Existing Land Use*, and Figure 3-24 *Proposed Land Use Plan*, illustrate existing conditions and the proposed 2045 General Plan land use map, respectively. The City will also amend the Crossings, Southpark, and Warner/Newhope Specific Plans, as well as the Development Code and Zoning Map to be consistent with and implement the updated General Plan.

Table 3-1 Buildout Statistical Summary

Scenario	Acres	Units	Population	Non-res Sq. Feet	Employment
Existing Conditions (2021)	4,612	19,395	57,595	11,925,652	32,485
Proposed GP (2045)	4,612	25,633	73,668	13,231,538	36,542
Potential Growth	--	6,238	16,073	1,305,886	4,057

3. Project Description

Figure 3-3 - Existing Land Use



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Scale (Miles)



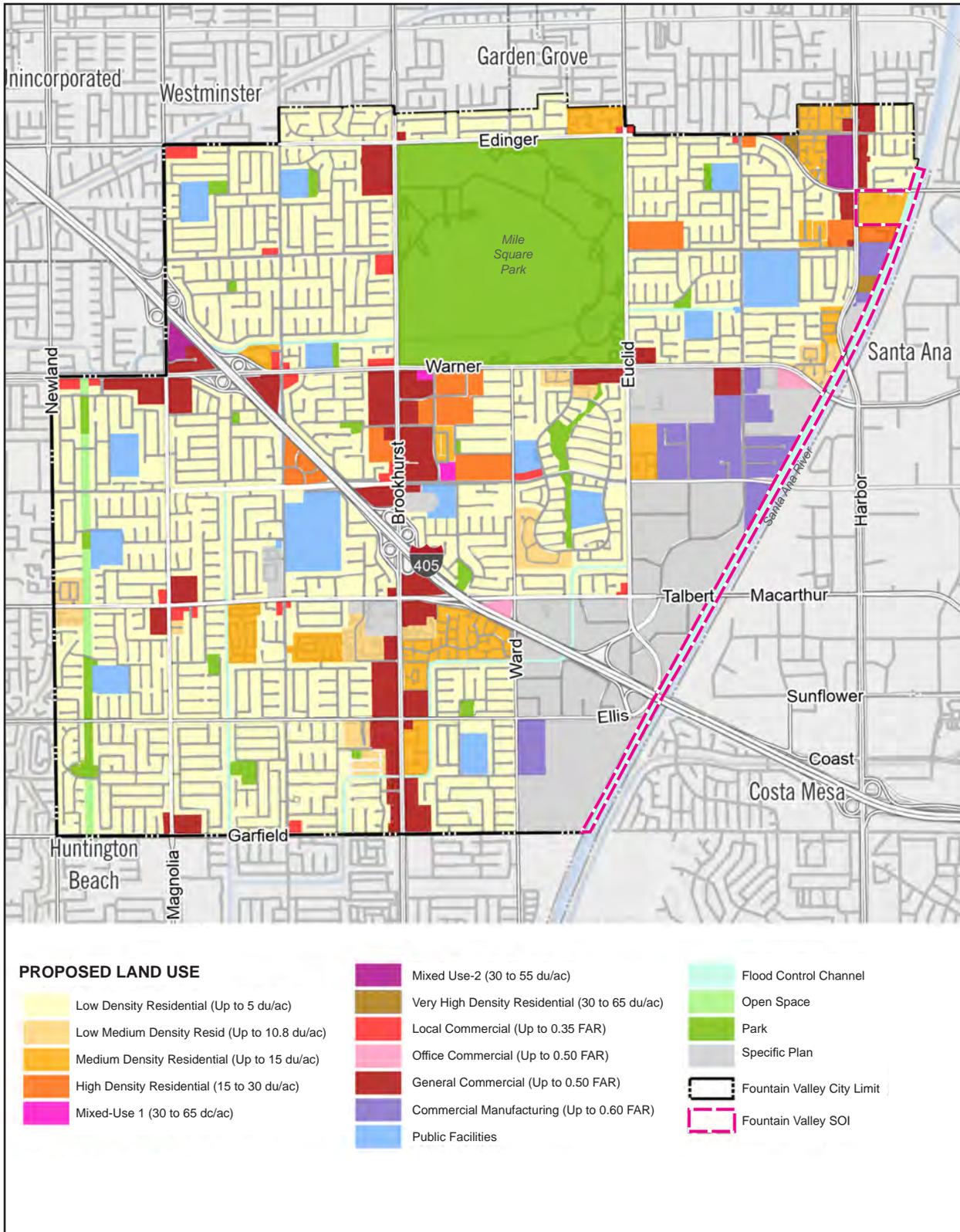
Source: Generated using ArcMap, 2021.

3. Project Description

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3. Project Description

Figure 3-4 - Proposed Land Use Plan



0 0.5
Scale (Miles)



Source: Generated using ArcMap, 2021.

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3. Project Description

3.4 INTENDED USES OF THE EIR

This is a program EIR that examines the potential environmental impacts of the proposed General Plan Update. This DEIR also addresses various actions by the City and others to adopt and implement the General Plan. It is the intent of the DEIR to evaluate the environmental impacts of the proposed project, thereby enabling the City of Fountain Valley, other responsible agencies, and interested parties to make informed decisions with respect to the requested entitlements. The anticipated approvals required for this project are:

Lead Agency	Action
City of Fountain Valley City Council	<ul style="list-style-type: none"> • Certification of the Program EIR • Adoption of the Fountain Valley General Plan • Adoption of the Findings of Fact and Statement of Overriding Considerations (if required) • Adoption of the Mitigation Monitoring Program • Adoption of any ordinances, guidelines, programs, actions, or other mechanisms that implement the Fountain Valley General Plan Update • Update to the Crossings, Southpark, and Warner/Newhope Specific Plans to be consistent with the Housing Element and General Plan

3. Project Description

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4. Environmental Setting

4.1 INTRODUCTION

This section provides a “description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, ... from both a local and a regional perspective” (Guidelines § 15125[a]), pursuant to provisions of the California Environmental Quality Act (CEQA) and the CEQA Guidelines. The environmental setting provides the baseline physical conditions from which the lead agency will determine the significance of environmental impacts resulting from the proposed project.

4.2 REGIONAL ENVIRONMENTAL SETTING

4.2.1 Regional Location

The City of Fountain Valley is in Orange County, and is bounded by the Santa Ana River, City of Huntington Beach, and the City of Westminster. Interstate 405 (I-405) bisects the City, running diagonally northwest to southeast.

4.2.2 Regional Planning Considerations

4.2.2.1 SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

The Southern California Association of Governments (SCAG) is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization for this region, which encompasses over 380,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs.

The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted in September 2020. Major themes in the 2020 RTP/SCS are:

- Integrating strategies for land use and transportation.
- Striving for sustainability.
- Protecting and preserving existing transportation infrastructure.
- Increasing capacity through improved system managements.
- Providing more transportation choices.
- Leveraging technology.

4. Environmental Setting

- Responding to demographic and housing market changes.
- Supporting commerce, economic growth, and opportunity.
- Promoting the links between public health, environmental protection, and economic opportunity.
- Incorporating the principles of social equity and environmental justice into the plan.

The RTP/SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement). The RTP/SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets identified by the California Air Resources Board. However, the RTP/SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to government and developers for consistency.

4.2.2.2 SOUTH COAST AIR BASIN AIR QUALITY MANAGEMENT PLAN

The City of Fountain Valley lies in the southern portion of the South Coast Air Basin (SoCAB), which is managed by the South Coast Air Quality Management District (AQMD). Pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law, and standards are detailed in the SoCAB Air Quality Management Plan (AQMP). Air pollutants for which ambient air quality standards (AAQS) have been developed are known as criteria air pollutants, including ozone (O_3), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide, coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead. VOC and NO_x are criteria pollutant precursors and go on to form secondary criteria pollutants, such as O_3 , through chemical and photochemical reactions in the atmosphere. Air basins are classified as attainment/nonattainment areas for particular pollutants depending on whether they meet AAQS for that pollutant. Based on the SoCAB AQMP, the SoCAB is designated nonattainment for O_3 , $PM_{2.5}$, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for NO_2 under the California AAQS.

4.2.2.3 GREENHOUSE GAS EMISSIONS REDUCTION LEGISLATION

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in a number of State regulations. Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction goals for the State of California:

- 2000 levels by 2010
- 1990 levels 2020
- 80 percent below 1990 levels by 2050

AB 32, the Global Warming Solutions Act (2006), was passed by the State legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 established a legislative target for the year 2020 goal outlined in Executive Order S-03-05. CARB prepared its first Scoping Plan in 2008 that outlined the State's Plan for achieving the 2020 targets of AB 32.

4. Environmental Setting

In 2008, SB 375 was adopted to connect passenger-vehicle GHG emissions reduction targets for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle miles traveled (VMT) and vehicle trips.

In September 2016, Governor Brown signed SB 32, making the Executive Order B-15-30 goal for year 2030 of a 40 percent reduction below 1990 levels by 2030 into a statewide-mandated legislative target. CARB issued an update to its Scoping Plan in 2017, with programs for meeting the SB 32 reduction target.

On August 31, 2022, the California Legislature passed AB 1279, which requires California to achieve net-zero GHG emissions no later than 2045 and to achieve and maintain negative GHG emissions thereafter. Additionally, AB 1279 also establishes a GHG emissions reduction goal of 85 percent below 1990 levels by 2045. CARB will be required to update the scoping plan to identify and recommend measures to achieve the net-zero and GHG emissions-reduction goals.

4.2.2.4 SENATE BILL 743

On September 27, 2013, SB 743 was signed into law and started a process that has fundamentally changed transportation impact analysis for CEQA compliance. With the adoption of SB 375, the state signaled its commitment to encourage land use and transportation planning decisions and investments that reduce VMT and contribute to the reduction of GHG emissions, as required by the California Warming Solutions Act of 2006 (AB 32).

SB 743 generally eliminates auto delay, level of service, and other similar measures of vehicular capacity or traffic congestion as the basis for determining significant impacts under CEQA. Pursuant to the CEQA Guidelines, the new criteria “shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses” (Public Resources Code §21099[b][1]).

Pursuant to SB 743, the Natural Resources Agency adopted revisions to the CEQA Guidelines to implement SB 743 on December 28, 2018. Under the new guidelines, VMT-related metric(s) that evaluate the significance of transportation-related impacts under CEQA for development projects, land use plans, and transportation infrastructure projects, were required beginning July 1, 2020. The legislation does not preclude the application of local general plan policies, zoning codes, conditions of approval, or any other planning requirements for evaluation of level of service, but these metrics can no longer be the basis for determining transportation impacts under CEQA.

4.2.2.5 REGIONAL WATER QUALITY CONTROL BOARD – SANTA ANA RIVER BASIN REGION 8

Under the Porter-Cologne Water Act, California’s water quality control law, the State Water Resources Control Water Resources Control Board has ultimate control over water quality policy and allocation of state water resources. Through its nine Regional Water Quality Control Boards, the State Water Resources Control Board carries out the regulation, protection, and administration of water quality in each region. Each regional board

4. Environmental Setting

is required to adopt a water quality control plan or basin plan. The City of Fountain Valley is in the Santa Ana River Basin, Region 8.

Santa Ana River Basin Plan

The Water Quality Control Plan for the Santa Ana River Basin was last updated in 2019. This Basin Plan gives direction on the beneficial uses of the state waters within Region 8; describes the water quality that must be maintained to support such uses; and provides programs, projects, and other actions necessary to achieve the standards in the Basin Plan.

4.3 LOCAL ENVIRONMENTAL SETTING

The City encompasses 4,612 acres; Figure 3-3, *Existing Land Uses*, shows the existing land uses in the City.

- **Residential.** Residential uses range from low density to high density.
- **Commercial and Industrial.** This includes a range of nonresidential uses primarily oriented to commerce. This includes general commercial, office, and industrial (including manufacturing and warehousing).
- **Public Facilities.** These land uses are essential amenities that contribute to the quality of life in the community. Community amenities include educational facilities, hospitals, fire stations, civic centers, and reservoirs.
- **Open Space and Parks.** This land use designation is for areas designated for recreational purposes, both active and passive, and/or areas which will preserve or enhance the natural environment.

Figure 3-3, *Existing Land Use Map*, shows the land use designations regulating development in the City. Figure 4-1, *Existing Zoning*, and Figure 4-2, *Existing General Plan Land Use*, shows the existing zoning and land use designations in the City.

4.4 ASSUMPTIONS REGARDING CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines states that cumulative impacts shall be discussed when the project's incremental effect is cumulatively considerable. It further states that this discussion shall reflect the level and severity of the impact and the likelihood of occurrence, but not in as great a level of detail as that necessary for the project alone. Section 15355 of the CEQA Guidelines defines cumulative impacts as "...two or more individual effects which, when considered together, as considerable or which compound or increase other environmental impacts." Cumulative impacts represent the changes caused by the incremental impact of a project when added to the proposed or committed projects in the vicinity.

The CEQA Guidelines (§15130[b][1]) state that the information used in an analysis of cumulative impacts should come from one of two sources:

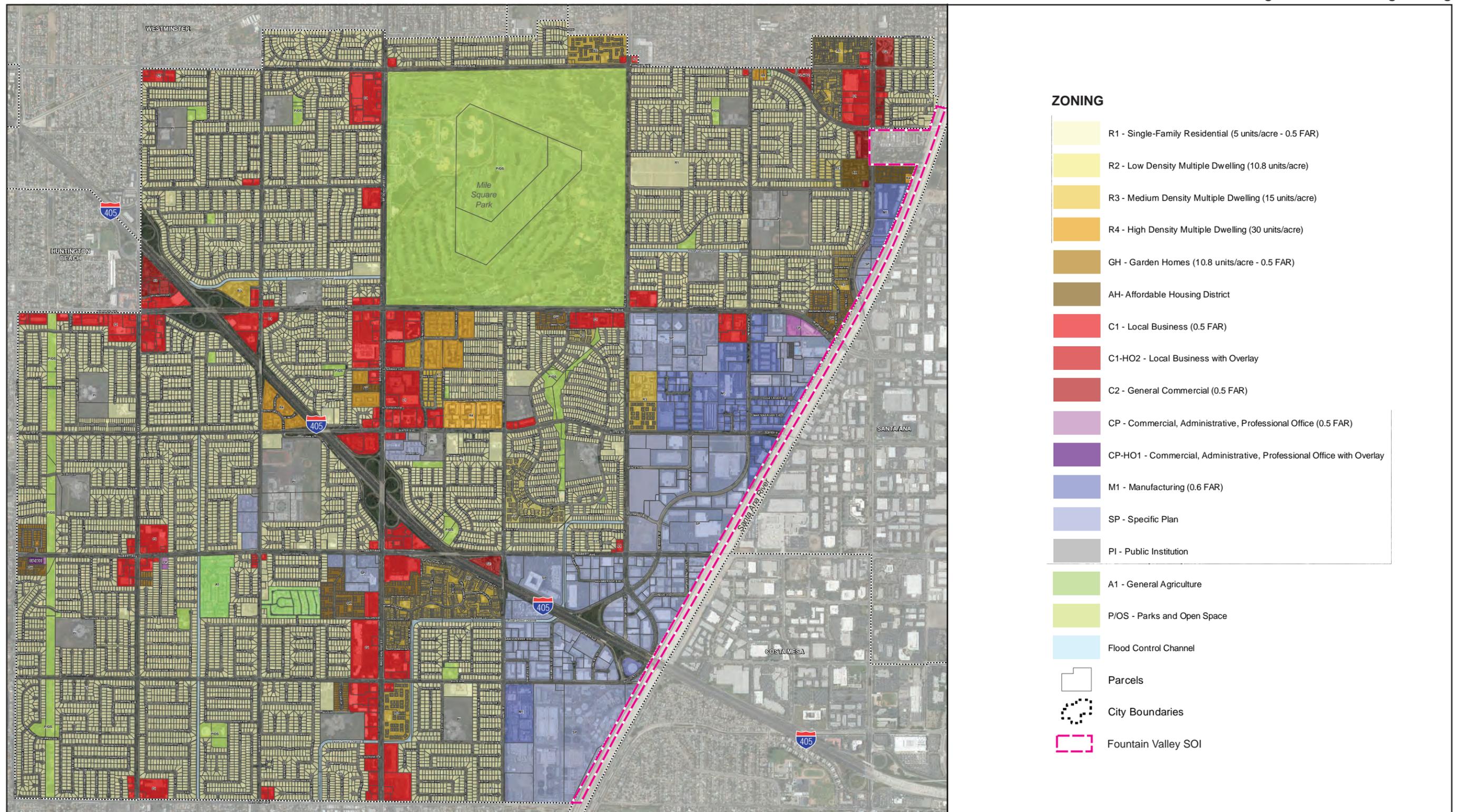
4. Environmental Setting

1. A list of past, present, and probable future projects producing related cumulative impacts, including, if necessary, projects outside the control of the agency; or
2. A summary of projections in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions.

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Figure 4-1 - Existing Zoning



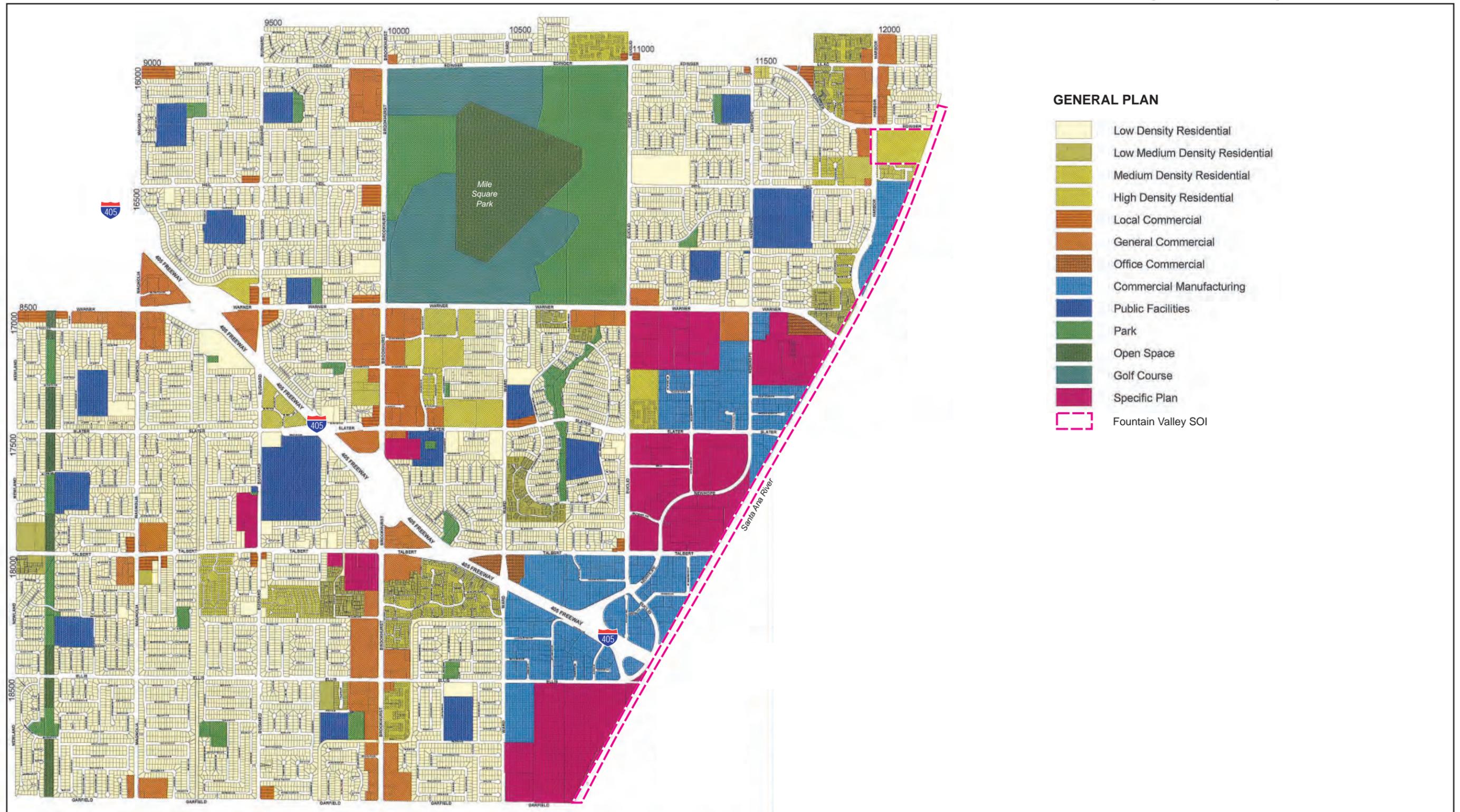
Source: City of Fountain Valley, January 30, 2019.



4. Environmental Setting

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Figure 4-2 - Existing General Plan Land Use



Source: City of Fountain Valley, March 21, 1995.

0 2,000
Scale (Feet)



4. Environmental Setting

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4. Environmental Setting

Depending on the environmental topic, the cumulative impact analysis may use either method 1 or 2. The cumulative impacts analyses in this DEIR use method 2. Consistent with Section 15130(b)(1)(B) of the CEQA Guidelines, this DEIR analyzes the environmental impacts of development in accordance with buildout of the proposed land use plan. As a result, this DEIR addresses the cumulative impacts of development in the City of Fountain Valley and the region surrounding it, as appropriate. In most cases, the potential for cumulative impacts is contiguous with the City boundaries and SOI boundaries. Potential cumulative impacts that have the potential for impacts beyond the City boundaries (e.g., traffic, air quality, noise) have been addressed through cumulative growth in the City and region. Regional growth outside Fountain Valley is accounted for in the traffic, air quality, and noise impacts. The growth projections adopted by the City and surrounding area are used for the cumulative impact analyses of this DEIR. Refer to Chapter 5, *Environmental Analysis*, for a discussion of the cumulative impacts associated with development and growth in the City and region, and Chapter 8, *Impacts Found Not to be Significant*, for a discussion of impacts not found to be significant, for each environmental resource topic. A summary of the extent of cumulative impacts by environmental topic follows:

- Aesthetics: Coterminous with the City of Fountain Valley boundary.
- Agricultural and Forestry Resources: Coterminous with the City of Fountain Valley boundary by considers regional resources.
- Air Quality: Based on the regional boundaries of the South Coast Air Basin.
- Biological Resources: Coterminous with the City of Fountain Valley boundary but considers regional habitat loss in southern California region based on the range of the protected species.
- Cultural Resources: Coterminous with the City of Fountain Valley boundary.
- Energy: Based on energy use within the City boundary.
- Geology and Soils: Within the City boundary.
- Greenhouse Gas Emissions: Worldwide impacts based on the emissions sectors in the Scoping Plan in California (boundary).
- Hazards and Hazardous Materials: Within the City boundary.
- Hydrology and Water Quality: Hydrology and water quality impacts would be within the Santa Ana River Basin, and the flood impacts would be within the City boundary.
- Land Use and Planning: Within the City boundary but considers regional land use planning based on SCAG.
- Mineral Resources: Within the City boundary.
- Noise: Within the City boundary.

4. Environmental Setting

- Population and Housing: Within the City boundary.
- Public Services: Within the service area boundaries of Fountain Valley Fire Department, Fountain Valley Police Department, Fountain Valley School District, Huntington Beach Union High School District, Garden Grove Unified School District, Ocean View School District, and Fountain Valley Library.
- Recreation: Within the City boundary.
- Transportation: Considers regional transportation improvements and regional growth projections identified by SCAG.
- Tribal Cultural Resources: Within the City boundary.
- Utilities and Service Systems: Impacts would be within the service areas of the Orange County Sanitation District, Orange County Water District, Frank Bowerman Sanitary Landfill.
- Wildfire: Within the service area boundary of the Fountain Valley Fire Department.

5. Environmental Analysis

Chapter 5 examines the environmental setting of the proposed project, analyzes its effects and the significance of its impacts, and recommends mitigation measures to reduce or avoid impacts. This Chapter has a separate section for each environmental issue area that was determined to need further study in the EIR. The City determined the scope for this EIR based on review of the proposed General Plan, agency consultation, the Notice of Preparation (NOP), and comments in response to the NOP. Environmental issues and their corresponding sections are:

- 5.1 Aesthetics
- 5.2 Air Quality
- 5.3 Energy
- 5.4 Geology and Soils
- 5.5 Greenhouse Gas Emissions
- 5.6 Hazards and Hazardous Materials
- 5.7 Hydrology and Water Quality
- 5.8 Land Use and Planning
- 5.9 Mineral Resources
- 5.10 Noise
- 5.11 Population and Housing
- 5.12 Recreation
- 5.13 Transportation
- 5.14 Utilities and Service Systems
- 5.15 Wildfire

Sections 5.1 through 5.15 provide a detailed discussion of the environmental setting, impacts associated with the proposed project, and mitigation measures designed to reduce significant impacts where required and when feasible. The residual impacts following the implementation of any mitigation measure are also discussed.

Organization of Environmental Analysis

To assist the reader with comparing information between environmental issues, each section is organized under nine major headings:

- Environmental Setting
- Thresholds of Significance

5. Environmental Analysis

- Plans, Program, and Policies
- Environmental Impacts
- Cumulative Impacts
- Level of Significance Before Mitigation
- Mitigation Measures
- Level of Significance After Mitigation
- References

In addition, Chapter 1, *Executive Summary*, has a table that summarizes all impacts by environmental issue.

Terminology Used in This Draft EIR

The level of significance is identified for each impact in this DEIR. Although the criteria for determining significance are different for each topic area, the environmental analysis applies a uniform classification of the impacts based on definitions consistent with CEQA and the CEQA Guidelines:

- **No impact.** The project would not change the environment.
- **Less than significant.** The project would not cause any substantial, adverse change in the environment.
- **Less than significant with mitigation incorporated.** The EIR includes mitigation measures that avoid substantial adverse impacts on the environment.
- **Significant and unavoidable.** The project would cause a substantial adverse effect on the environment, and no feasible mitigation measures are available to reduce the impact to a less than significant level.

5. Environmental Analysis

5.1 AESTHETICS

This section of the Draft Environmental Impact Report (DEIR) discusses the potential impacts to the visual character of the General Plan Area from future development envisioned under the proposed project.

5.1.1 Environmental Setting

5.1.1.1 REGULATORY BACKGROUND

State Regulations

Caltrans Scenic Highway Program

In 1963, California's Scenic Highway Program was created to preserve and protect the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The state laws governing this program are in the Streets and Highway Code, Sections 260 to 263, and Caltrans oversees the program. Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Suitability for designation as a State Scenic Highway is based on three criteria described in Caltrans' Guidelines for Official Designation of Scenic Highways (2008) (Caltrans 2021):

- **Vividness.** The extent to which the landscape is memorable. This is associated with the distinctiveness, diversity, and contrast of visual elements.
- **Intactness.** The integrity of visual order and the extent to which the natural landscape is free from visual intrusions (e.g., buildings, structures, equipment, grading).
- **Unity.** The extent to which development is sensitive to and visually harmonious with the natural landscape.

Local Regulations

City of Fountain Valley Municipal Code

The Fountain Valley Municipal Code, Title 21, Development Code, identifies the types of permitted land uses on all parcels throughout the various assigned districts. The Development Code identifies applicable use regulations, criteria for site development, performance standards, and design regulations. These criteria, standards, and regulations include specifications for landscaping, parking and loading, residential zoning districts, and commercial and manufacturing zoning districts.

Exterior Lighting

Section 21.18.060, Exterior Lighting, of the Fountain Valley Municipal Code, provides standards for exterior lighting including exterior fixtures, lighting intensity, security lighting, shielding of light sources, and mechanical or chemical processes.

5. Environmental Analysis

AESTHETICS

5.1.1.2 EXISTING CONDITIONS

The aesthetic resources in an urban area such as Fountain Valley consists of unique or architecturally recognized buildings, historic structures or other buildings, street trees, plazas, parks, key vegetation, and important view corridors that contribute to the community identity. In urbanized areas, views and view corridors often extend along City streets and may include foreground views of street trees, architecturally notable or historic structures, plazas and the urban streetscape or more distant backdrop views such as those of mountains, water bodies, parks, and open spaces.

Visual Character and Quality

The City of Fountain Valley is located within a fully urbanized area in Orange County. The City forms part of a continuous urban landscape with the neighboring cities of Westminster, Garden Grove, and Anaheim to the north; Santa Ana to the east; Costa Mesa to the southeast; and Huntington Beach to the southwest.

The City is characterized by primarily suburban residential, commercial, and industrial development served by local roadways and the I-405 travel corridor. Neighborhoods, generally, are visually separated by roads, vegetation, and masonry walls. As the City is fully developed, all areas of the City have been built upon, thereby eliminating all forms of natural vegetation. The Santa Ana River bounds the City to the east; views of the river are generally blocked by earthen and boulder levees and low concrete retaining walls. Portions of the Santa Ana River support patches of vegetation.

Scenic Vistas

The City is a classic residential community, predominantly composed of suburban middle-class residential areas, dotted with shopping centers and well-maintained parks. The Santa Ana and San Gabriel Mountains are north of the City. However, considering the distance and the built-out nature of the City, potential views to these scenic resources are limited. The existing General Plan does not designate scenic views or vista within the City, and there are no unique or unusual features in the region that constitute a dominant portion of a viewshed.

The I-405 freeway is not designated as a Scenic Highway; the nearest officially designated Scenic Highway is a portion of SR-91 approximately 9.25 miles northeast of Fountain Valley and SR-1, which is approximately 2.7 miles south of Fountain Valley, is designated eligible (Caltrans 2021).

5.1.2 Thresholds of Significance

Appendix G of the CEQA Guidelines states that, “except as provided in Public Resources Code Section 21099,” a project would normally have a significant effect on the environment if the project would:

- AE-1 Have a substantial adverse effect on a scenic vista.
- AE-2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

5. Environmental Analysis AESTHETICS

- AE-3 In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.
- AE-4 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

5.1.3 Applicable General Plan Update Policies

Land Use Element

- **Policy LU-1.1: Land Use Compatibility and Viability.** Require that new development is located, scaled, buffered, and designed to minimize negative impacts on existing conforming uses and adjacent neighborhoods. Require that new residential developments are located, scaled, buffered, and designed so as to not hinder the economic viability and continuity of areas planned for nonresidential uses.
- **Policy LU-1.2: Land Use Consistency.** Consider proposed development that is consistent with the Land Use Plan (i.e., it does not require a change in Land Use Designations), to be generally compatible and consistent with surrounding land uses and a community's identity. Other policies in the General Plan and development standards in the Development Code may require additional site, building, and landscape design treatment to ensure compatibility.
- **Policy LU-1.4: Mixed-use Activity Centers.** Encourage and facilitate the creation and maintenance of dynamic activity centers throughout the city that incorporate a mix of uses and public gathering space that promote a sense of place and community identity.
- **Policy LU-2.3: Mixed-use Development.** Require new development in areas planned for mixed use to incorporate high-quality and innovative design with walkable environments, human-scale, gathering spaces, and vibrant businesses that competitively attract consumers and consumer spending in the evolving retail sales and services market.
- **Policy LU-3.1: Pride and Identity.** Enhance the sense of identity and increase the feeling of pride among residents, business owners, employees, and visitors by encouraging excellent physical design and continual property maintenance and improvements.
- **Policy LU-3.2: Scale and Character.** Ensure that all new development is compatible with the scale and character of the surrounding neighborhoods in Fountain Valley.
- **Policy LU-3.3: Quality of Life Uses.** Protect and improve public parks, trails, open space areas, public plazas, historical assets, and public facilities that define and enhance the City's quality of life.
- **Policy LU-3.4: Building Design.** Nonresidential buildings and related improvements should exhibit authentic and enduring design. Although no specific architectural style is required, the City prefers that

5. Environmental Analysis

AESTHETICS

designs for individual buildings stay true to a single architectural style and discourages franchise architecture. Buildings shall present fully finished facades on all sides visible from freeways or streets.

- **Policy LU-3.5: Corridor Design.** Buildings, streetscapes, landscaping, and associated improvements along the City's arterial streets should be attractive and promote a cohesive sense of place.
- **Policy LU-3.6: Parking Design.** Require surface and structured parking lots to be safe and convenient for all users. Parking areas shall also be attractive, particularly when visible from the public realm, with landscaping providing visual relief, buffering, and shade for vehicles and pedestrians.

5.1.4 Environmental Impacts

5.1.4.1 IMPACT ANALYSIS

Impact 5.1-1: Development in accordance with the General Plan Update would not substantially alter or damage scenic vistas or substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. [Thresholds AE-1 and AE-2]

Fountain Valley is highly urbanized, and therefore, views of the City are characterized by an urban landscape. Visual relief of the urban landscape is provided by the parks and limited views of the San Gabriel Mountains. The existing Open Space and Parks land use designation would remain under the General Plan Update. Because the City is urbanized, buildout in accordance with the General Plan Update would consist mainly of infill and redevelopment efforts. Although new development would alter the appearance of the existing conditions, it would not create a substantial adverse impact on scenic vistas or degrade the City's visual character or quality due to the urbanized character of the City. Design standards under the City's Municipal Code, such as height and setback requirements, guide future development characteristics. Therefore, the limited views of scenic resources within the City would not be adversely impacted.

There are no scenic highways in or near the City that would be adversely affected by future development under the General Plan Update; SR-1 is eligible for listing as a designated state scenic highway and is 2.7 miles south of the City. Due to the distance, varying topography, and developed nature of the city, no impacts would occur to SR-1 or SR-91, which is an officially designated scenic highway.

Buildout under the General Plan Update would not have a substantial adverse effect on scenic vistas due to the urbanized nature of the City, and future development of projects consistent with the General Plan Update would be required to comply with the design and development specifications outlined in the Land Use Element and the City's Municipal Code. The City is in the process of updating the zoning code since it is legally required to bring the zoning code in compliance with the General Plan Update, as well as to include the addition of the Very High Density Residential (VHDR), Mixed Use 1 (MU1) and Mixed Use 2 (MU2) designations. Consistency with existing state and local regulations and the General Plan Update policies, such as Policy LU-1.1, Policy LU-3.1, Policy LU-3.2, and Policy LU-3.4, would ensure that development in the City of Fountain Valley would not degrade the views and visual character of the City and would not conflict with

5. Environmental Analysis AESTHETICS

zoning and other regulations that govern scenic quality. Impacts on scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.1-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.1-1 would be less than significant.

Impact 5.1-2: Buildout in accordance with the proposed land use plan would alter the existing visual appearance of the City but would not substantially degrade its existing visual character or quality and would not conflict with applicable zoning and other regulations governing scenic quality. [Threshold AE-3]

Future development and redevelopment facilitated under the General Plan Update would allow development of currently undeveloped parcels and intensification of already developed areas in Fountain Valley. Although new development would alter the visual appearance of the City, because the City is highly urbanized, it would not substantially degrade Fountain Valley's visual character or quality. Buildout proposed under the General Plan Update would occur in areas already developed. Under the implementation of the General Plan Update, areas designated as Open Space and Parks would remain undeveloped.

The General Plan Update goals and policies would ensure that future development and redevelopment would enhance vitality, context, form, and function. These policies support development in the City and seek to establish and/or retain the City's sense of place. Therefore, implementation of the General Plan Update would not introduce a substantial amount of new development or intensify development to the point that it would damage or substantially alter the existing visual character or quality of the City. Development under the General Plan Update would be required to comply with existing City regulations that maintain the City's character, such as the City's Development Code. By complying with the City's existing regulations and the General Plan Update policies, such as Policy LU-1.1, Policy LU-3.1, Policy LU-3.2, and Policy LU-3.4, future development would be built to reflect and maintain Fountain Valley's existing visual character and resources. The proposed project would conflict with applicable zoning and other regulations governing scenic quality.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.1-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.1-2 would be less than significant.

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Impact 5.1-3: Development in accordance with the General Plan would not generate substantial additional light and glare. [Threshold AE-4]

The two major causes of light pollution are glare and spillover light. Spillover light is caused by misdirected light that illuminates areas outside the intended area. Glare is light that shines directly or is reflected from a surface into a viewer's eyes. Spillover light and glare impacts are effects of a project's exterior lighting on adjoining uses and areas.

Light and glare may be caused by street and parking lot lighting, building or landscape lighting, illuminated signs, recreational facilities, and to some extent interior lighting of residential and nonresidential buildings. Materials such as glass, metal, and polished surfaces can contribute to glare. Excessive light and glare can interfere with the scenic quality of an area and contribute to light pollution. In the Planning Area, light and glare are concentrated in the western and central portions where commercial and more densely developed residential areas are located.

Future development in accordance with the General Plan Update would allow for the intensification and redevelopment of existing land uses, which could increase nighttime light and glare in the City. For instance, the conversion of underutilized or vacant areas into residential or commercial uses would introduce new sources of light. However, future development and redevelopment projects in the City would be required to comply with the City Municipal Code Section 21.18.060, Exterior Lighting, which requires outdoor lighting to be shielded to reduce lighting directly visible from any point five feet or more beyond the property line. This would ensure that substantial light and glare does not extend substantially beyond the site where it is generated. Development in accordance with the General Plan would not generate substantial additional light and glare and the impact would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.1-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.1-3 would be less than significant.

5.1.5 Cumulative Impacts

Cumulative aesthetic impacts are based on potential changes to the visual quality in the City and surrounding area. More intense urban development in the City of Fountain Valley and the adjacent cities is expected to accommodate future growth. Future development would alter the visual quality of the city and surrounding areas through the redevelopment of older structures to other land uses or to higher density/intensity uses. However, future development and redevelopment proposed under the General Plan Update would remain consistent with the design standards of the City's current General Plan and would be subject to discretionary review by the Planning Commission and/or City Council. As determined throughout this analysis, all development that adheres to the General Plan Update goals and policies, municipal code, and development

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standards would result in less than significant aesthetic impacts. However, although the visual character of the City would only incrementally change as development intensity increases, when combined with past development in the City, the General Plan's contribution to the visual impact would be cumulatively considerable.

New sources of light and glare, as well as an overall increase in lighting levels, would be introduced with new development and redevelopment in the City. Glass and glazing in new structures would potentially create additional sources of glare in the area. Compliance with the General Plan Update goals and policies, and the municipal code, would prevent light spillover and adverse impacts on adjacent light-sensitive uses, when combined with past and future development in the in Fountain Valley and adjacent cities, the project's contribution to the cumulative impact would be less than cumulatively considerable.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.1-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.1-5 would be less than significant.

5.1.6 References

California Department of Transportation (Caltrans). 2021. <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>.

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5.2 AIR QUALITY

This section of the Draft Environmental Impact Report (EIR) evaluates the potential air quality impacts of the City of Fountain Valley General Plan (proposed project) in a local and regional context. The analysis in this section is based on land uses associated with the proposed project, vehicle miles traveled provided by Fehr & Peers (Appendix 5.13-1), and natural gas use data provided by the Southern California Gas Company (SoCalGas). The air quality model output sheets are included in Appendix 5.2-1.

Terminology

- **AAQS.** Ambient Air Quality Standards
- **CES.** CalEnviroScreen. CES is a mapping tool that helps identify the California communities most affected by sources of pollution and where people are often especially vulnerable to pollution's effects.
- **Concentrations.** Refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- **Criteria Air Pollutants.** Those air pollutants specifically identified for control under the Federal Clean Air Act (currently seven—carbon monoxide, nitrogen oxides, lead, sulfur oxides, ozone, and coarse and fine particulates).
- **DPM.** Diesel particulate matter.
- **Emissions.** Refers to the actual quantity of pollutant, measured in pounds per day or tons per year.
- **ppm.** Parts per million.
- **Sensitive receptor.** Land uses that are considered more sensitive to air pollution than others due to the types of population groups or activities involved. These land uses include residential, retirement facilities, hospitals, and schools.
- **TAC.** Toxic air contaminant.
- **$\mu\text{g}/\text{m}^3$.** Micrograms per cubic meter.
- **VMT.** Vehicle miles traveled.

5.2.1 Environmental Setting

5.2.1.1 REGULATORY BACKGROUND

AAQS have been adopted at the state and federal levels for criteria air pollutants. In addition, both the State and federal government regulate the release of TACs. Fountain Valley is in the South Coast Air Basin (SoCAB) and is subject to the rules and regulations imposed by the South Coast Air Quality Management District

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(AQMD) as well as the California AAQS adopted by California Air Resources Board (CARB) and National AAQS adopted by the United States Environmental Protection Agency (EPA). Federal, State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized in this section.

Federal and State

Ambient Air Quality Standards

The Clean Air Act was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The Clean Air Act allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect “sensitive receptors” most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 5.2-1, *Ambient Air Quality Standards for Criteria Air Pollutants*. These pollutants are ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

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Table 5.2-1 Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standard ¹	Federal Primary Standard ²	Major Pollutant Sources
Ozone (O ₃) ³	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m ³	150 µg/m ³	
Respirable Fine Particulate Matter (PM _{2.5}) ⁴	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m ³	
Lead (Pb)	30-Day Average	1.5 µg/m ³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m ³	
	Rolling 3-Month Average	*	0.15 µg/m ³	
Sulfates (SO ₄) ⁵	24 hours	25 µg/m ³	No Federal Standard	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

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Table 5.2-1 Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standard ¹	Federal Primary Standard ²	Major Pollutant Sources
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H ₂ S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016.

Notes: ppm: parts per million; µg/m³: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.

¹ California standards for O₃, CO (except 8-hour Lake Tahoe), SO₂ (1 and 24 hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

² National standards (other than O₃, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

³ On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

⁴ On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

⁵ On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

California has also adopted a host of other regulations that reduce criteria pollutant emissions.

- **AB 1493: Pavley Fuel Efficiency Standards.** Pavley I is a clean-car standard that reduces emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025.
- **Heavy-Duty (Tractor-Trailer) GHG Regulation.** The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay-verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low-rolling-resistance tires. Sleeper-cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay-verified low-rolling-resistance tires. This rule has criteria air pollutant co-benefits.

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- **SB 1078 and SB 107: Renewables Portfolio Standards.** A major component of California’s Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under this standard, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010.
- **California Code of Regulations (CCR) Title 20: Appliance Energy Efficiency Standards.** The 2006 Appliance Efficiency Regulations (20 CCR secs. 1601–1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. This code reduces natural gas use from appliances.
- **24 CCR, Part 6: Building and Energy Efficiency Standards.** Energy conservation standards for new residential and nonresidential buildings adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977. This code reduces natural gas use from buildings.
- **24 CCR, Part 11: Green Building Standards Code.** Establishes planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. This code reduces natural gas use from buildings.

Tanner Air Toxics Act and Air Toxics Hot Spot Information and Assessment Act

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health” (17 CCR sec. 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code sec. 7412[b]) is a toxic air contaminant. Under State law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an “airborne toxics control measure” for sources that emit that TAC. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate “toxics best available control technology” to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

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Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **13 CCR Chapter 10 Section 2485.: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.** Generally restricts on-road diesel-powered commercial motor vehicles with a gross vehicle weight rating of greater than 10,000 pounds from idling more than five minutes.
- **13 CCR Chapter 10 Section 2480: Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools.** Generally restricts a school bus or transit bus from idling for more than five minutes when within 100 feet of a school.
- **13 CCR Section 2477 and Article 8: Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate.** Regulations established to control emissions associated with diesel-powered TRUs.

Air Pollutants of Concern

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. Of these, CO, SO₂, NO₂, PM₁₀, and PM_{2.5} are “criteria air pollutants,” which means that AAQS have been established for them. VOC and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and nitrogen dioxide (NO₂) are the principal secondary pollutants. Table 5.2-2, *Criteria Air Pollutant Health Effects Summary*, summarizes the potential health effects associated with the criteria air pollutants.

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Table 5.2-2 Criteria Air Pollutant Health Effects Summary

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	Chest pain in heart patients Headaches, nausea Reduced mental alertness Death at very high levels	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Ozone (O ₃)	Cough, chest tightness Difficulty taking a deep breath Worsened asthma symptoms Lung inflammation	Atmospheric reaction of organic gases with nitrogen oxides in sunlight
Nitrogen Dioxide (NO ₂)	Increased response to allergens Aggravation of respiratory illness	Same as carbon monoxide sources
Particulate Matter (PM ₁₀ and PM _{2.5})	Hospitalizations for worsened heart diseases Emergency room visits for asthma Premature death	Cars and trucks (particularly diesels) Fireplaces and woodstoves Windblown dust from overlays, agriculture, and construction
Sulfur Dioxide (SO ₂)	Aggravation of respiratory disease (e.g., asthma and emphysema) Reduced lung function	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, and industrial processes
Lead (Pb)	Behavioral and learning disabilities in children Nervous system impairment	Contaminated soil

Source: CARB 2022d; South Coast AQMD 2005, South Coast AQMD 2022.

A description of each of the primary and secondary criteria air pollutants and its known health effects is presented below.

- **Carbon Monoxide** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (South Coast AQMD 2005; USEPA 2021). The SoCAB is designated in attainment of CO criteria levels under the California and National AAQS (CARB 2022a).
- **Nitrogen Oxides** are a by-product of fuel combustion and contribute to the formation of ground-level O₃, PM₁₀, and PM_{2.5}. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO_x produced by

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combustion is NO, but NO reacts quickly with oxygen to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO₂ is only potentially irritating. NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO₂ exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO₂ exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO₂ concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (South Coast AQMD 2005; USEPA 2021). On February 21, 2019, CARB approved the separation of the area that runs along the State Route 60 corridor through portions of Riverside, San Bernardino, and Los Angeles counties from the remainder of the SoCAB for state nonattainment designation purposes. The board designated this corridor in nonattainment.¹ The remainder of the SoCAB is in attainment for NO₂ (CARB 2022a).

- **Sulfur Dioxide** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO₂. When sulfur dioxide forms sulfates (SO₄) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO₂ is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO₂, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing) at lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (South Coast AQMD 2005; USEPA 2021). The SoCAB is designated attainment under the California and National AAQS (CARB 2022a).
- **Suspended Particulate Matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM₁₀, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤10 millionths of a meter or 0.0004 inch). Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤2.5 millionths of a meter or 0.0001 inch). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The EPA's scientific review concluded that PM_{2.5}, which penetrates deeply into the lungs, is more likely than PM₁₀ to contribute to health effects and at far lower concentrations. These health effects include premature death in people with

¹ CARB is proposing to redesignate SR-60 near-road portion of San Bernardino, Riverside, and Los Angeles counties in the SoCAB as attainment for NO₂ at the February 24, 2022, Board Hearing (CARB 2022b).

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heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (South Coast AQMD 2005). There has been emerging evidence that ultrafine particulates—which are even smaller particulates with an aerodynamic diameter of <0.1 micron or less—have human health implications because their toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (South Coast AQMD 2013). However, the EPA or CARB has yet to adopt AAQS to regulate these particulates. Diesel particulate matter is classified by CARB as a carcinogen (CARB 1998). Particulate matter can also cause environmental effects such as visibility impairment,² environmental damage,³ and aesthetic damage⁴ (South Coast AQMD 2005; USEPA 2021). The SoCAB is a nonattainment area for PM_{2.5} under California and National AAQS and a nonattainment area for PM₁₀ under the California AAQS (CARB 2022a).⁵

- **Ozone**, or O₃, is a key ingredient of “smog” and is a gas that is formed when VOCs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O₃ is a secondary criteria air pollutant. O₃ concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O₃ can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma; reduce lung function; and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O₃ also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O₃ harms sensitive vegetation during the growing season (South Coast AQMD 2005; USEPA 2021). The SoCAB is designated extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2022a).
- **Volatile Organic Compounds** are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources include emissions from evaporating paints and solvents, asphalt paving, and household consumer products such as aerosols (South Coast AQMD 2005). There are no AAQS for VOCs. However, because they contribute to the formation of O₃, South Coast AQMD has established a significance threshold.
- **Lead** is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function,

² PM_{2.5} is the main cause of reduced visibility (haze) in parts of the United States.

³ Particulate matter can be carried over long distances by wind, then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

⁴ Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

⁵ CARB approved the South Coast AQMD’s request to redesignate the SoCAB from serious nonattainment for PM₁₀ to attainment for PM₁₀ under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM₁₀ standards from 2004 to 2007. The EPA approved the State of California’s request to redesignate the South Coast PM₁₀ nonattainment area to attainment of the PM₁₀ National AAQS, effective on July 26, 2013.

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immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (South Coast AQMD 2005; USEPA 2021). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new State and federal standards.⁶ As a result of these violations, the Los Angeles County portion of the SoCAB is designated nonattainment under the National AAQS for lead (South Coast AQMD 2012; CARB 2022a). There are no lead-emitting sources associated with the proposed project, and therefore lead is not a pollutant of concern.

Toxic Air Contaminants

People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (USEPA 2020). By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. There are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most relevant to the proposed project being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified DPM as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. Long-term (chronic) inhalation of DPM is likely a lung cancer risk. Short-term (i.e., acute) exposure can cause irritation and inflammatory symptoms and may exacerbate existing allergies and asthma symptoms (USEPA 2002).

⁶ Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (South Coast AQMD 2012).

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Community Risk

To reduce exposure to TACs, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) to provide guidance regarding the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when siting sensitive receptors near existing pollution sources. CARB's recommendations were based on a compilation of studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies was that proximity substantially increases exposure and the potential for adverse health effects. Three carcinogenic TACs constitute the majority of the known health risks from motor vehicle traffic—DPM from trucks and benzene and 1,3 butadiene from passenger vehicles. CARB recommendations are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

In 2017, CARB provided a supplemental technical advisory to the handbook for near-roadway air pollution exposure, "Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways" (CARB 2017a). Strategies include practices and technologies that reduce traffic emissions, increase dispersion of traffic pollution (or the dilution of pollution in the air), or remove pollution from the air.

Regional

The State is divided into air pollution control districts/air quality management districts. These agencies are county or regional governing authorities that have primary responsibility for controlling air pollution from stationary sources. CARB and local air districts are also responsible for developing clean air plans to demonstrate how and when California will attain AAQS established under both the federal and California Clean Air Acts. For the areas in California that have not attained air quality standards, CARB works with air districts to develop and implement state and local attainment plans. In general, attainment plans contain a discussion of ambient air quality data and trends; a baseline emissions inventory; future year projections of emissions, which account for growth projections and already adopted control measures; a comprehensive control strategy of additional measures needed to reach attainment; an attainment demonstration, which generally involves complex modeling; and contingency measures. Plans may also include interim milestones for progress toward attainment. The SoCAB is managed by the South Coast AQMD.

Air Quality Management Planning

South Coast AQMD is the agency responsible for improving air quality in the SoCAB and ensuring that the National and California AAQS are attained and maintained. South Coast AQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

2016 AQMP

On March 3, 2017, South Coast AQMD adopted the 2016 AQMP, which addresses strategies and measures to attain the following National AAQS:

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- 2008 National 8-hour ozone standard by 2031
- 2012 National annual PM_{2.5} standard by 2025
- 2006 National 24-hour PM_{2.5} standard by 2019
- 1997 National 8-hour ozone standard by 2023
- 1979 National 1-hour ozone standard by year 2022

It is projected that total NO_x emissions in the SoCAB would need to be reduced to 150 tons per day (tpd) by year 2023 and to 100 tpd in year 2031 to meet the 1997 and 2008 federal 8-hour ozone standards. The strategy would also attain the 1979 federal 1-hour ozone standard by year 2022, which requires reducing NO_x emissions to 250 tpd (South Coast AQMD 2017). The strategies in the 2016 AQMP results in approximately 45 percent additional reductions above existing regulations for the 2023 ozone standard and 55 percent additional reductions to above existing regulations to meet the 2031 ozone standard.

Reducing NO_x emissions would also reduce PM_{2.5} concentrations in the SoCAB. However, because the goal is to meet the 2012 federal annual PM_{2.5} standard no later than year 2025, South Coast AQMD is seeking to reclassify the SoCAB from “moderate” to “serious” nonattainment under this federal standard. A “moderate” nonattainment would require meeting the 2012 federal standard by no later than 2021.

Overall, the 2016 AQMP consisted of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources such as aircrafts, locomotives, and ocean-going vessels. Strategies in the 2016 AQMP are implemented in collaboration with CARB and the EPA (South Coast AQMD 2017).

2022 AQMP

South Coast AQMD adopted the 2022 AQMP on December 2, 2022, which serves as an update to the 2017 AQMP. On October 1, 2015, the EPA strengthened the National AAQS for ground-level ozone, lowering the primary and secondary ozone standard levels to 70 parts per billion (ppb) (2015 Ozone National AAQS). The SoCAB is currently classified as an “extreme” nonattainment for the 2015 Ozone National AAQS. Meeting the 2015 federal ozone standard requires reducing NO_x emissions, the key pollutant that creates ozone, by 67 percent more than is required by adopted rules and regulations in 2037. The only way to achieve the required NO_x reductions is through extensive use of zero emission (ZE) technologies across all stationary and mobile sources. South Coast AQMD’s primary authority is over stationary sources which account for approximately 20 percent of NO_x emissions. The overwhelming majority of NO_x emissions are from heavy-duty trucks, ships and other State and federally regulated mobile sources that are mostly beyond the South Coast AQMD’s control. The region will not meet the standard absent significant federal action. In addition to federal action, the 2022 AQMP requires substantial reliance on future deployment of advanced technologies to meet the standard. The control strategy for the 2022 AQMP includes aggressive new regulations and the development of incentive programs to support early deployment of advanced technologies. The two key areas for incentive programs are (1) promoting widespread deployment of available ZE and low-NO_x technologies and (2) developing new ZE and ultra-low NO_x technologies for use in cases where the technology is not currently available. South Coast AQMD is prioritizing distribution of incentive funding in Environmental Justice areas and seeking opportunities to focus benefits on the most disadvantaged communities (South Coast AQMD 2022).

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Lead Implementation Plan

In 2008, the EPA designated the Los Angeles County portion of the SoCAB as a nonattainment area under the federal lead (Pb) classification due to the addition of source-specific monitoring under new federal regulations. This designation was based on two source-specific monitors in the City of Vernon and the City of Industry that exceeded the new standard in the 2007-to-2009 period. The remainder of the SoCAB outside the Los Angeles County nonattainment area remains in attainment of the new 2008 lead standard. On May 24, 2012, CARB approved the State Implementation Plan revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The State Implementation Plan revision was submitted to the EPA for approval.

South Coast AQMD PM_{2.5} Redesignation Request and Maintenance Plan

In 1997, the EPA adopted the 24-hour PM_{2.5} standard of 65 µg/m³. In 2006, this standard was lowered to a more health-protective level of 35 µg/m³. The SoCAB is designated nonattainment for both the 65 and 35 µg/m³ 24-hour PM_{2.5} standards (24-hour PM_{2.5} standards). In 2020, monitored data demonstrated that the SoCAB attained both 24-hour PM_{2.5} standards. The South Coast AQMD developed the “2021 Redesignation Request and Maintenance Plan” for the 1997 and 2006 24-hour PM_{2.5} Standards, demonstrating that the SoCAB has met the requirements to be redesignated to attainment (South Coast AQMD 2021b).

AB 617, Community Air Protection Program

AB 617 (C. Garcia, Chapter 136, Statutes of 2017) requires local air districts to monitor and implement air pollution control strategies that reduce localized air pollution in communities that bear the greatest burdens. In response to AB 617, CARB has established the Community Air Protection Program.

Air districts are required to host workshops to help identify communities that are disproportionately affected by poor air quality. Once the criteria have been set for identifying the highest priority locations and the communities have been selected, new community monitoring systems will be installed to track and monitor community-specific air pollution goals. In 2018 CARB prepared an air monitoring plan (Community Air Protection Blueprint) that evaluates the availability and effectiveness of air monitoring technologies and existing community air monitoring networks. Under AB 617, the Blueprint is required to be updated every five years.

Under AB 617, CARB is also required to prepare a statewide strategy to reduce TACs and criteria pollutants in impacted communities; provide a statewide clearinghouse for best available retrofit control technology; adopt new rules requiring the latest best available retrofit control technology for all criteria pollutants for which an area has not achieved attainment of California AAQS; and provide uniform, statewide reporting of emissions inventories. Air districts are required to adopt a community emissions reduction program to achieve reductions for the communities impacted by air pollution that CARB identifies.

South Coast AQMD Rules and Regulations

All projects are subject to South Coast AQMD rules and regulations in effect at the time of activity, including:

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- **Rule 401, Visible Emissions.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in visible emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere from any single source of emission for a period or periods aggregating more than three minutes in any one hour that is as dark as or darker than designated No. 1 on the Ringelmann Chart, as published by the US Bureau of Mines.
- **Rule 402, Nuisance.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance. Specifically, this rule prohibits any person from discharging quantities of air contaminants or other material from any source such that it would result in an injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health, or safety of any number of persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- **Rule 403, Fugitive Dust.** This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth-moving and grading activities.
- **Rule 445, Wood Burning Devices.** This rule is intended to reduce the emission of particulate matter from wood-burning devices and applies to manufacturers and sellers of wood-burning devices, commercial sellers of firewood, and property owners and tenants that operate a wood-burning device. The rule prohibits new developments from the installation of wood-burning devices.
- **Rule 1113, Architectural Coatings.** This rule serves to limit the VOC content of architectural coatings used on projects in the South Coast AQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the South Coast AQMD must comply with the current VOC standards set in this rule.
- **Rule 1403, Asbestos Emissions from Demolition/Renovation Activities.** The purpose of this rule is to specify work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials. All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

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- **Rule 2305, Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program.** Rule 2305 applies to both the operators and owners of warehouses greater than or equal to 100,000 square feet in size, although most requirements apply to warehouse operators. The rule is being phased in over a three-year period based on warehouse. Under Rule 2305, warehouse operations over 100,000 square feet are required to earn a specified number of WAIRE points using any combination of items from the WAIRE menu, implementation of a custom WAIRE plan, or payment of a mitigation fee. The amount of points every warehouse operator must earn annually depends on the number of truck trips to their warehouse during the 12-month compliance period. The WAIRE menu includes acquisition of or visits from near-zero-emissions (NZE) and zero-emissions (ZE) on-road trucks, acquiring or using ZE yard trucks, installing or using ZE charging/fueling infrastructure, installing or using solar panels, or installing particulate filters for nearby sensitive land uses. Alternatively, an operator may choose to apply for a site-specific custom WAIRE plan that incorporates actions that are not on the WAIRE menu.

5.2.1.2 EXISTING CONDITIONS

South Coast Air Basin Meteorology

The City of Fountain Valley are in the SoCAB, which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (South Coast AQMD 2005).

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November to April.

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of a shallow marine layer. This "ocean effect" is dominant except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds. Periods of heavy fog are frequent, especially along the coast. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (South Coast AQMD 1993).

Wind

Wind patterns across the southern coastal region are characterized by westerly or southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.

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Between periods of wind, periods of air stagnation may occur in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east inhibit the eastward transport and diffusion of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (South Coast AQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two distinct types of temperature inversions control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the “mixing height.” The combination of winds and inversions are critical determinants in the highly degraded air quality in summer and the generally good air quality in the winter in the project area (South Coast AQMD 2005).

SoCAB Nonattainment Areas

The AQMP provides the framework for air quality basins to achieve attainment of the State and federal ambient air quality standards through the State Implementation Plan. Areas are classified as attainment or nonattainment areas for particular pollutants depending on whether they meet the ambient air quality standards. Severity classifications for ozone nonattainment range from marginal, moderate, and serious to severe and extreme.

- **Unclassified.** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment.** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment.** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional.** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 5.2-3, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*.

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Table 5.2-3 Attainment Status of Criteria Air Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM ₁₀	Serious Nonattainment	Attainment
PM _{2.5}	Nonattainment	Nonattainment ²
CO	Attainment	Attainment
NO ₂	Nonattainment (SR-60 Near Road only) ¹	Attainment/Maintenance
SO ₂	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only) ³
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2022a.

¹ On February 21, 2019, CARB's board approved the separation of the area that runs along State Route 60 corridor through portions of Riverside, San Bernardino, and Los Angeles counties from the remainder of the SoCAB for State nonattainment designation purposes. The board designated this corridor as nonattainment. The remainder of the SoCAB remains in attainment for NO₂ (CARB 2019). CARB is proposing to redesignate SR-60 Near-Road Portion of San Bernardino, Riverside, and Los Angeles Counties in the SoCAB as attainment for NO₂ at the February 24, 2022, board hearing (CARB 2022b).

² The SoCAB is pending a resignation request from nonattainment to attainment for the 24-hour federal PM_{2.5} standards. The 2021 PM_{2.5} Redesignation Request and Maintenance Plan demonstrates that the South Coast meets the requirements of the CAA to allow the EPA to redesignate the SoCAB to attainment for the 65 µg/m³ and 35 µg/m³ 24-hour PM_{2.5} standards. CARB will submit the 2021 PM_{2.5} Redesignation Request to the US EPA as a revision to the California SIP (CARB 2021).

³ In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new 2008 federal AAQS as a result of large industrial emitters. Remaining areas in the SoCAB are unclassified.

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the City are best documented by measurements taken by the South Coast AQMD. The City is in Source Receptor Area (SRA) 17.^{7,8} The Anahiem Monitoring Station best represent the ambient air quality in the city. Data from this station is summarized in Table 5.2-4, *Ambient Air Quality Monitoring Summary*. The data show that the area regularly exceeds the State and federal one-hour, eight-hour O₃ standards, state PM₁₀, and federal PM_{2.5} in the last five recorded years.

⁷ Locations of the SRAs and monitoring stations are shown here: <http://www.aqmd.gov/docs/default-source/default-document-library/map-of-monitoring-areas.pdf>.

⁸ South Coast AQMD Rule 701 defines an SRA as: "A source area is that area in which contaminants are discharged and a receptor area is that area in which the contaminants accumulate and are measured. Any of the areas can be a source area, a receptor area, or both a source and receptor area." There are 37 SRAs within the South Coast AQMD's jurisdiction.

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Table 5.2-4 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Thresholds Were Exceeded and Maximum Levels				
	2016	2017	2018	2019	2020
Ozone (O₃)					
State 1-Hour \geq 0.09 ppm (days exceed threshold)	2	0	1	1	6
State & Federal 8-hour \geq 0.070 ppm (days exceed threshold)	4	4	1	1	16
Max. 1-Hour Conc. (ppm)	0.103	0.090	0.112	0.096	0.142
Max. 8-Hour Conc. (ppm)	0.075	0.076	0.071	0.082	0.078
Nitrogen Dioxide (NO₂)¹					
State 1-Hour \geq 0.18 ppm (days exceed threshold)	0	0	0	0	0
Federal 1-Hour \geq 0.100 ppm (days exceed threshold)	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	64.3	81.2	66.0	59.4	70.9
Coarse Particulates (PM₁₀)					
State 24-Hour $>$ 50 $\mu\text{g}/\text{m}^3$ (days exceed threshold)	3	5	2	4	5
Federal 24-Hour $>$ 150 $\mu\text{g}/\text{m}^3$ (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. ($\mu\text{g}/\text{m}^3$)	74.0	95.7	94.6	127.1	74.5
Fine Particulates (PM_{2.5})					
Federal 24-Hour $>$ 35 $\mu\text{g}/\text{m}^3$ (days exceed threshold)	1	8	7	4	12
Max. 24-Hour Conc. ($\mu\text{g}/\text{m}^3$)	45.5	56.2	68.0	37.1	64.8

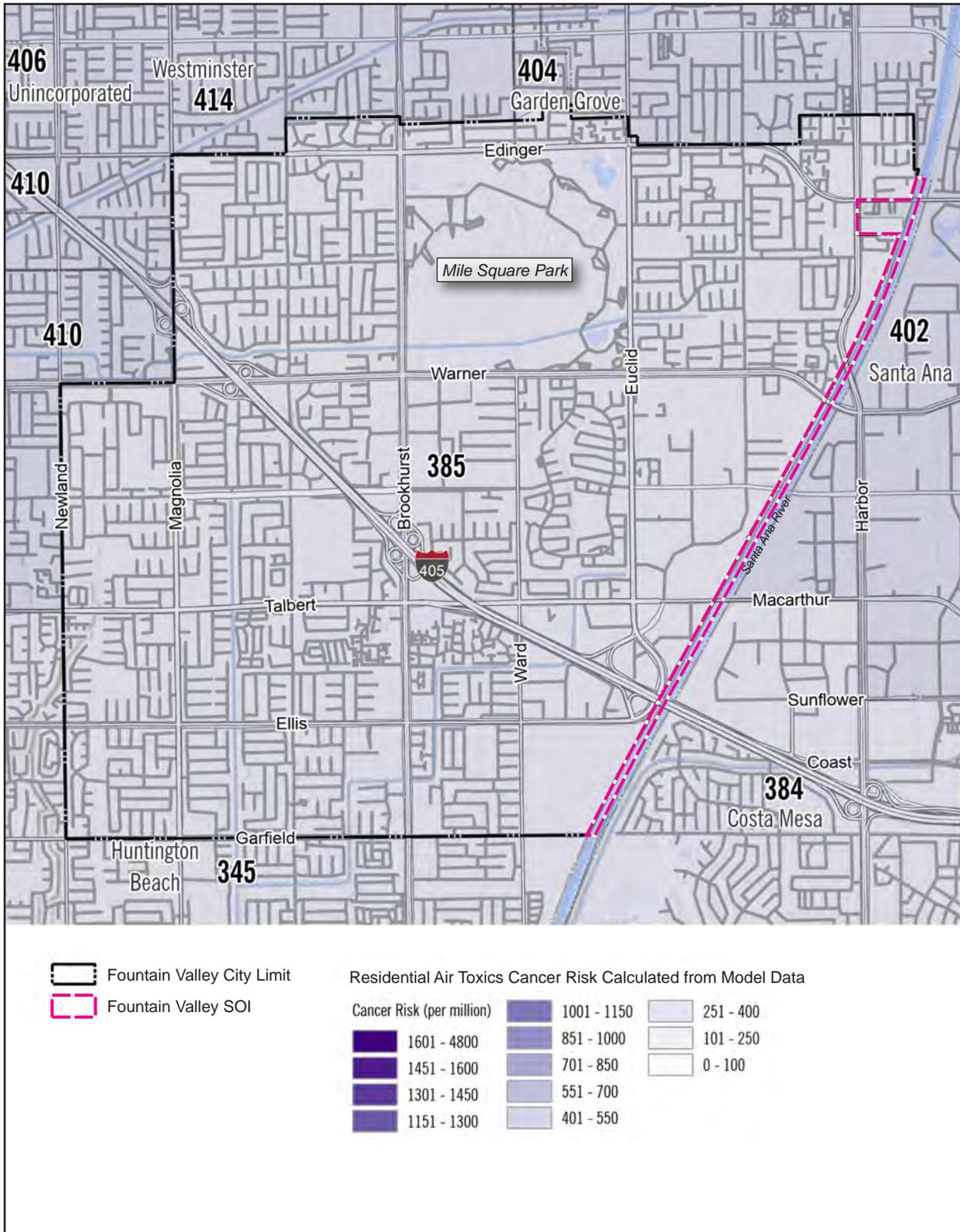
Source: CARB 2022c.
ppm = parts per million; parts per billion, $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
Data for O₃, NO₂, PM₁₀ and PM_{2.5} obtained from the Anaheim Monitoring Station. Data may include exceptional events, like wildfires.

Multiple Air Toxics Exposure Study

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on existing ambient concentrations of TACs and the potential health risks from air toxics in the SoCAB. In April 2021 South Coast AQMD released the latest update to the MATES study, MATES V. The first MATES analysis began in 1986 but was limited due to the technology available at the time. Conducted in 1998, MATES II was the first MATES iteration to include a comprehensive monitoring program, an air toxics emissions inventory, and a modeling component. MATES III was conducted in 2004 to 2006, with MATES IV following in 2012 to 2013.

MATES V uses measurements taken during 2018 and 2019, with a comprehensive modeling analysis and emissions inventory based on 2018 data. The previous MATES studies quantified the cancer risks based on the inhalation pathway only. MATES V includes information on the chronic noncancer risks from inhalation and non-inhalation pathways for the first time. Cancer risks and chronic noncancer risks from MATES II through IV measurements have been re-examined using current Office of Environmental Health Hazards Assessment and CalEPA risk assessment methodologies and modern statistical methods to examine the trends over time. Figure 5.2-1, *South Coast AQMD MATES V Cancer Risk*, shows the results of the inhalation cancer risk from the MATES V study. The potential cancer risk is expressed as the incremental number of potential cancer cases that could be developed per million people, assuming that the population is exposed to the substance at a constant annual average concentration over a presumed 70-year lifetime.

Figure 5.2-1 - South Coast AQMD Mates V Cancer Risk



0 0.5
 Scale (Miles)



Source: Generated using ArcMap, 2022; AQMD, 2022.

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The MATES V study showed that cancer risk in the SoCAB decreased to 454 in a million from the MATES IV study risk of 997 in a million. Overall, air toxics cancer risk in the SoCAB decreased by 54 percent since 2012 when MATES IV was conducted. MATES V showed the highest risk locations near the Los Angeles International Airport and Ports of Long Beach and Los Angeles. DPM continues to be the major contributor to air toxics cancer risk. Goods movement and transportation corridors have the highest cancer risk. Transportation sources account for 88 percent of carcinogenic air toxics emissions, and the remainder is from stationary sources, which include large industrial operations such as refineries and power plants and smaller businesses such as gas stations and chrome-plating facilities. (South Coast AQMD 2021a).

Existing Emissions

The City consists of commercial, retail, industrial, and institutional land uses and single- and multifamily residences. These uses currently generate criteria air pollutant emissions from natural gas use for energy, heating, and cooking; vehicle trips associated with each land use; and area sources such as landscaping equipment and consumer cleaning products.⁹ Table 5.2-5, *City of Fountain Valley Criteria Air Pollutant Emissions Inventory*, shows the average daily emissions inventory currently associated with the existing land uses in the City. The inventory also includes emissions from off-road construction equipment.

Table 5.2-5 City of Fountain Valley Criteria Air Pollutant Emissions Inventory

Sector	Existing Criteria Air Pollutant Emissions (pounds per day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Transportation ¹	91	601	2,779	11	163	71
Energy ²	15	268	156	2	21	21
Area –Off-Road Equipment ³	21	59	699	<1	2	2
Area – Consumer Products ⁴	680	–	–	–	–	–
Total	807	927	3,634	12	186	95

Notes:

¹ EMFAC2021 Version 1.0.3. Based on daily VMT provided by Fehr & Peers (see Appendix 5.2-1).

² Based on natural gas use provided by SoCalGas.

³ OFFROAD2021 V.1.0.3.

⁴ Based on CalEEMod 2022 User's Guide methodology to calculate VOC emissions from use of household consumer cleaning products.

Permitted Sources of Emissions

South Coast AQMD regulates stationary sources of emissions through source-specific rules that have been adopted to reduce criteria air pollutant emissions and TACs. South Coast AQMD maintains the Facility Information Detail (FIND) database of permitted facilities in its region. Permitted sources include smaller sources such as gas stations and chrome-plating facilities as well as large sources such as refineries and power stations. Figure 5.2-2, *South Coast AQMD Permitted Facilities*, identifies permitted sources of emissions in Fountain Valley that are regulated directly by South Coast AQMD. Permitted sources of emissions are generally clustered in industrial areas of the City.

⁹ Emissions from permitted sources are excluded from the existing emissions inventory because the reductions associated with the Industrial sector are regulated separately by South Coast AQMD and are not under the jurisdiction of the City of Fountain Valley.

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Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors are retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, because the majority of the workers tend to stay indoors most of the time. In addition, the workforce is generally the healthiest segment of the population.

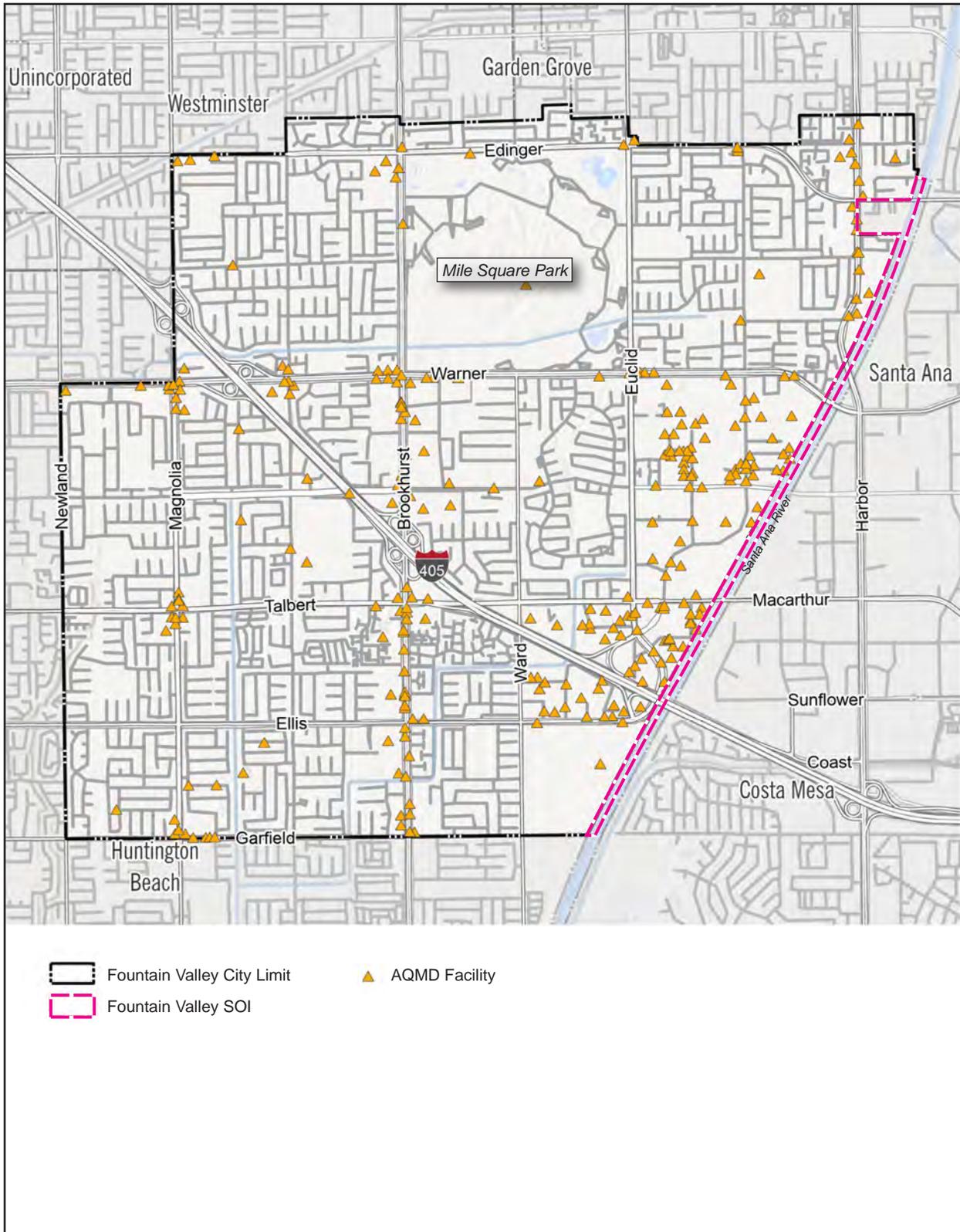
Environmental Justice Communities

The South Coast AQMD region has the worst levels of ground-level ozone (smog) and among the highest levels of PM_{2.5}. The air pollution levels in the region exceed both National and California AAQS for both these air pollutants. The health impacts associated with the high levels of air pollution cause respiratory and cardiovascular disease, exacerbate asthma, and can lead to premature death. Environmental Justice (EJ) communities experience the brunt of the health effects from air pollution. In the 2022 AQMP, EJ communities are defined as census tracts in the top 25 percent in the California Office of Environmental Health Hazard Assessment's (OEHHA) California Communities Environmental Health Screening Tool (CES). Approximately 37 percent of the SoCAB residents and 8 percent of Coachella Valley residents live in EJ communities (South Coast AQMD 2022).

CalEnviroScreen Air Quality Indicators

CalEnviroScreen (CES) is a mapping tool that helps identify the California communities most affected by sources of pollution, and where people are especially vulnerable to pollution's effects. People in environmental justice areas identified by CES4 may be disproportionately affected by and vulnerable to poor air quality. CES's "pollution burden" map identifies communities that are exposed to pollution from human activities, such as air pollution (ozone, PM_{2.5}, DPM), water pollution (drinking water contaminants), hazardous materials (pesticide use, children's lead exposure, toxic releases), and traffic density. Figure 5.2-3, *CES4 Indicator – Pollution Burden*, shows the pollution burden for Fountain Valley relative to California. In CalEnviroScreen, the pollution burden score considers the disproportionate effect of pollution on environmental justice communities, because the score weighs socioeconomic factors (e.g., educational attainment, poverty) and sensitivity of the population (e.g., asthma rates, cardiovascular disease).

Figure 5.2-2 - South Coast AQMD Permitted Facilities



0 0.5
Scale (Miles)



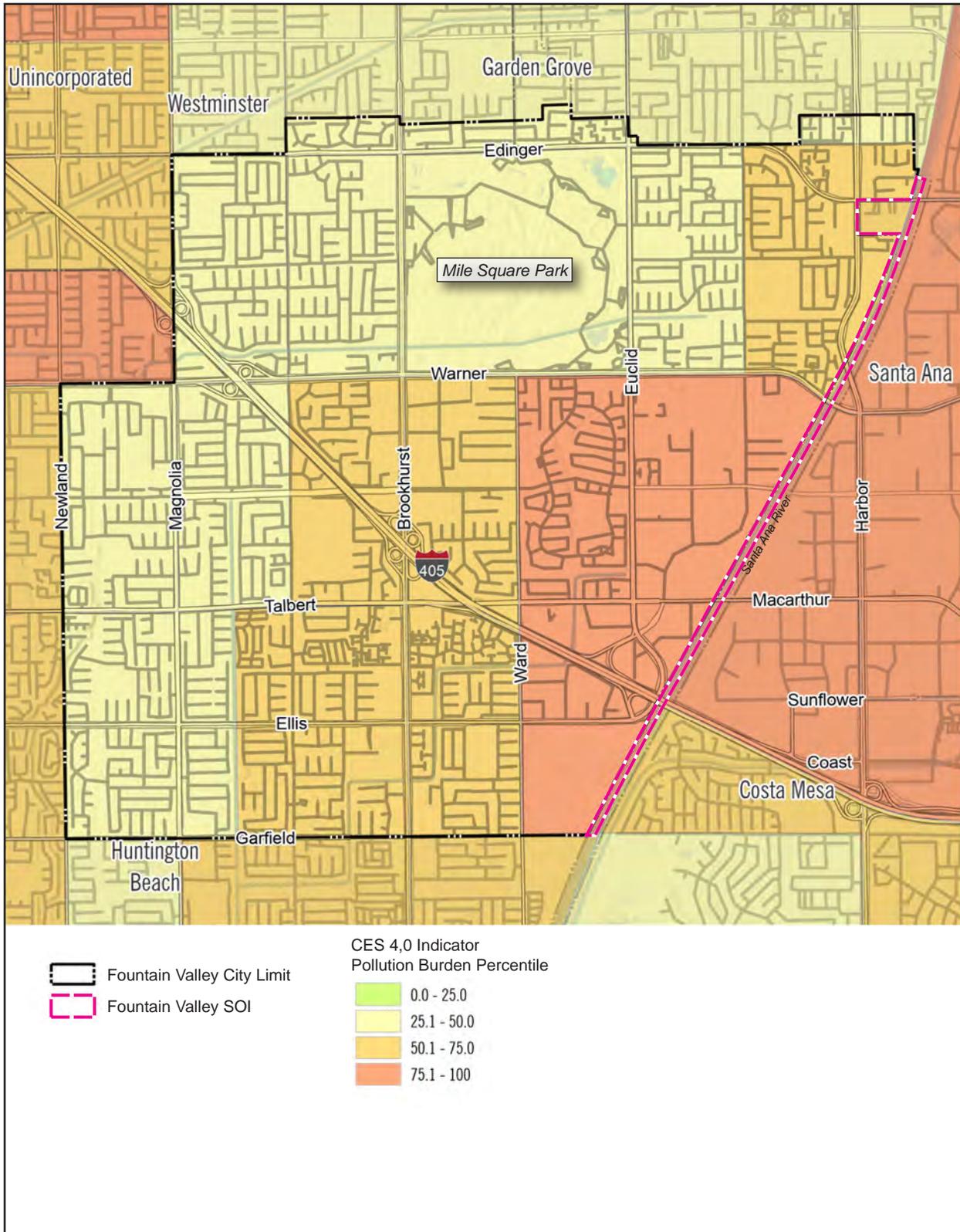
Source: Generated using ArcMap, 2022; AQMD, 2019.

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Figure 5.2-3 - CES4 Indicator – Pollution Burden



0 0.5
Scale (Miles)



Source: Generated using ArcMap, 2022; OEHA, 2021.

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And though the causes of asthma are poorly understood, it is well established that exposure to traffic and outdoor air pollutants can trigger asthma attacks. Children, the elderly, and low-income Californians suffer disproportionately from asthma (CalEPA 2017). Figure 5.2-4, *CES4 Indicator – Asthma Percentile*, shows the asthma percentile for Fountain Valley relative to California.

5.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.
- AQ-2 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- AQ-3 Expose sensitive receptors to substantial pollutant concentrations.
- AQ-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

5.2.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

The analysis of the project's air quality impacts follows the guidance and methodologies recommended in South Coast AQMD's *CEQA Air Quality Handbook* (Handbook) and the significance thresholds on South Coast AQMD's website (South Coast AQMD 1993, 2019). CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. South Coast AQMD has established regional thresholds of significance. In addition to the regional thresholds, projects are subject to the AAQS.

Regional Significance Thresholds

South Coast AQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB, shown in Table 5.2-6, *South Coast AQMD Significance Thresholds*. The table lists thresholds that are applicable for all projects uniformly, regardless of size or scope. There is growing evidence that although ultrafine particulate matter contributes a very small portion of the overall atmospheric mass concentration, it represents a greater proportion of the health risk from PM. However, the EPA and CARB have not adopted AAQS to regulate ultrafine particulate matter; therefore, South Coast AQMD has not developed thresholds for them.

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Table 5.2-6 South Coast AQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROG)	75 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Nitrogen Oxides (NO _x)	100 lbs/day	55 lbs/day
Sulfur Oxides (SO _x)	150 lbs/day	150 lbs/day
Particulates (PM ₁₀)	150 lbs/day	150 lbs/day

Source: South Coast AQMD 2019.

In addition to these daily thresholds, projects are also subject to the ambient air quality standards. These are addressed through an analysis of localized CO impacts. The California 1 hour and 8-hour CO standards are:

- 1 hour = 20 parts per million
- 8 hour = 9 parts per million

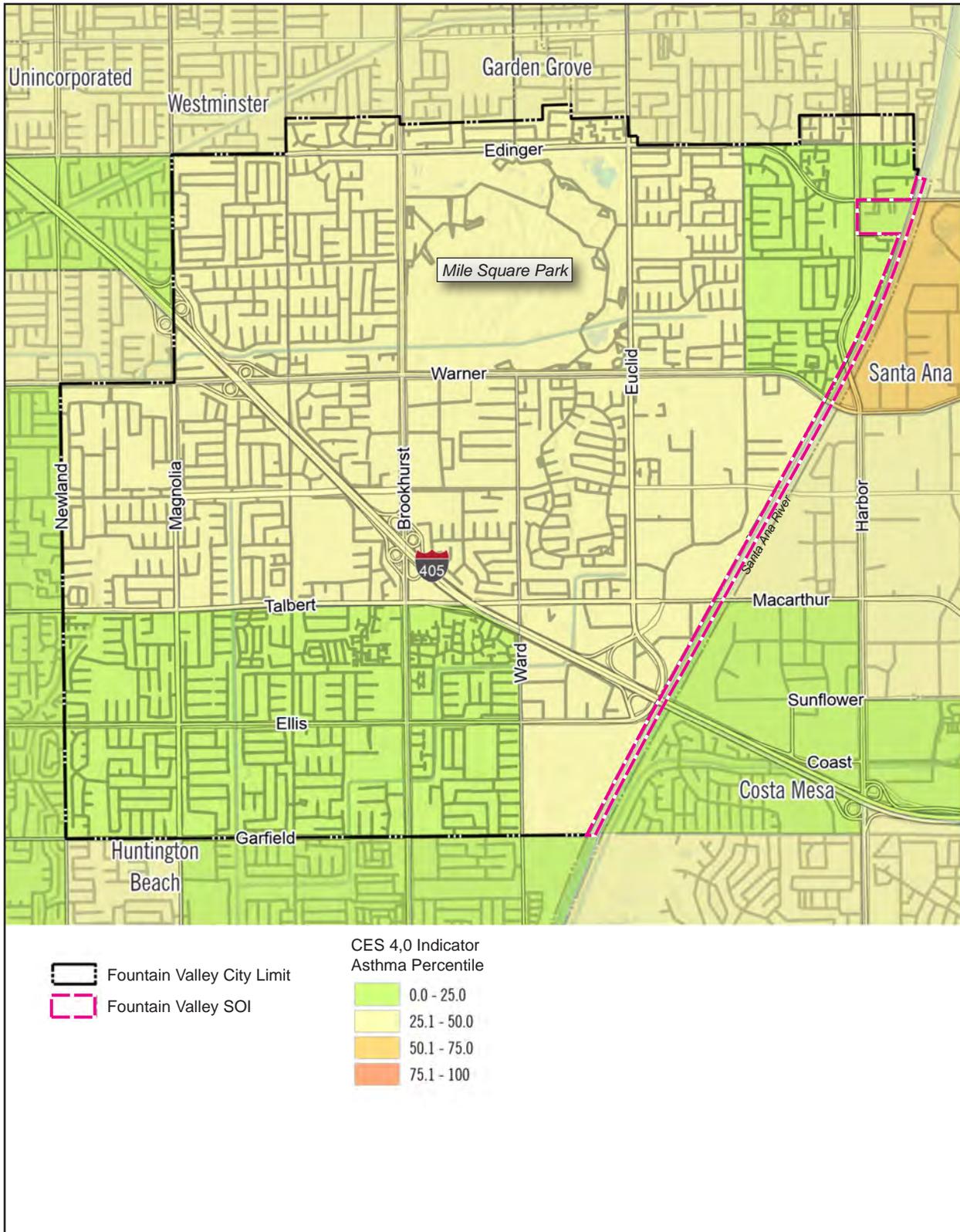
The significance of localized project impacts depends on whether ambient CO levels in the vicinity of the project are above or below state and federal CO standards. If ambient levels are below the standards, a project is considered to have significant impacts if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, project emissions are considered significant if they increase ambient concentrations by a measurable amount. The South Coast AQMD defines a measurable amount as 1.0 ppm or more for the 1-hour CO concentration or 0.45 ppm or more for the 8-hour CO concentration.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health effects. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems.

- Increases cancer risk (PM_{2.5}, TACs)
- Aggravates respiratory disease (O₃, PM_{2.5})
- Increases bronchitis (O₃, PM_{2.5})
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O₃)
- Reduces resistance to infections and increases fatigue (O₃)
- Reduces lung growth in children (PM_{2.5})
- Contributes to heart disease and heart attacks (PM_{2.5})
- Contributes to premature death (O₃, PM_{2.5})
- Contributes to lower birth weight in newborns (PM_{2.5}) (South Coast AQMD 2015a)

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Figure 5.2-4 - CES4 Indicator – Asthma Percentile



0 0.5
Scale (Miles)



Source: Generated using ArcMap, 2022; OEHHA, 2021.

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Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of PM_{2.5} is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of Southern California scientists, in a landmark children's health study, found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (South Coast AQMD 2015b).

South Coast AQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SoCAB and has established thresholds that would be protective of these individuals. To achieve the health-based standards established by the EPA, South Coast AQMD prepares an AQMP that details regional programs to attain the AAQS.

Mass emissions in Table 5.2-6 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. The thresholds are based on the trigger levels for the federal New Source Review Program, which was created to ensure projects are consistent with attainment of health-based federal AAQS. Regional emissions from a single project do not single-handedly trigger a regional health impact, and it is speculative to identify how many more individuals in the air basin would be affected by the health effects listed above. Projects that do not exceed the South Coast AQMD regional significance thresholds in Table 5.2-6 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

If projects exceed the emissions in Table 5.2-6, emissions would cumulatively contribute to the nonattainment status and would contribute to elevating the associated health effects. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants. However, for projects that exceed the emissions in Table 5.2-6, it is speculative to determine how this would affect the number of days the region is in nonattainment—since mass emissions are not correlated with concentrations of emissions—or how many additional individuals in the air basin would be affected.

South Coast AQMD has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health that is needed to address the issue raised in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, Case No. S21978 (known as “Friant Ranch”). Ozone concentrations depend on a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the National AAQS and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. However, if a project in the SoCAB exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standard is met in the SoCAB.

Localized Significance Thresholds

South Coast AQMD identifies localized significance thresholds (LST), shown in Table 5.2-7, *South Coast AQMD Localized Significance Thresholds*. Emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at a project site could expose

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sensitive receptors to substantial concentrations of criteria air pollutants. Off-site mobile-source emissions are not included in the LST analysis. A project would generate a significant impact if it generates emissions that would violate the AAQS when added to the local background concentrations.

Table 5.2-7 South Coast AQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO ₂ Standard (CAAQS)	0.18 ppm
Annual NO ₂ Standard (CAAQS)	0.03 ppm
24-Hour PM ₁₀ Standard – Construction (South Coast AQMD) ¹	10.4 µg/m ³
24-Hour PM _{2.5} Standard – Construction (South Coast AQMD) ¹	10.4 µg/m ³
24-Hour PM ₁₀ Standard – Operation (South Coast AQMD) ¹	2.5 µg/m ³
24-Hour PM _{2.5} Standard – Operation (South Coast AQMD) ¹	2.5 µg/m ³
Annual Average PM ₁₀ Standard (South Coast AQMD) ¹	1.0 µg/m ³

Source: South Coast AQMD 2019.

ppm: parts per million; µg/m³: micrograms per cubic meter

¹ Threshold is based on South Coast AQMD Rule 403. Since the SoCAB is in nonattainment for PM₁₀ and PM_{2.5}, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the State one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles and introduction of cleaner fuels as well as implementation of control technology at industrial facilities, CO concentrations in the SoCAB and the state have steadily declined.

In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hotspot analysis conducted for the attainment by South Coast AQMD did not predict a violation of CO standards at the busiest intersections in Los Angeles during the peak morning and afternoon periods.¹⁰ As identified in South Coast AQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide, peak carbon monoxide concentrations in the SoCAB in the years before redesignation were a result of unusual meteorological and topographical conditions and not of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by

¹⁰ The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning peak hour and LOS F in the evening peak hour.

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more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2017).¹¹

Health Risk Thresholds

Whenever a project would require use of chemical compounds that have been identified in South Coast AQMD Rule 1401, placed on CARB’s air toxics list pursuant to AB 1807, or placed on the EPA’s National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the South Coast AQMD. Table 5.2-8, *South Coast AQMD Incremental Risk Thresholds for TACs*, lists the TAC incremental risk thresholds for operation of a project. The purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project. See *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478). CEQA does not require an analysis of the environmental effects of attracting development and people to an area. However, the environmental document must analyze the impacts of environmental hazards on future users when a proposed project exacerbates an existing environmental hazard or condition. Residential, commercial, and office uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are typically applied to new industrial projects.

Table 5.2-8 South Coast AQMD Incremental Risk Thresholds for TACs

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Hazard Index (project increment)	≥ 1.0
Cancer Burden in areas ≥ 1 in 1 million	> 0.5 excess cancer cases
Source: South Coast AQMD 2019.	

5.2.3 Applicable General Plan Update Policies

Open Space and Conservation Element

- **Policy OSC-3.1 Regional air quality.** Support regional efforts to monitor and reduce air pollution and collaborate with other agencies to improve air quality at the emission source.
- **Policy OSC-3.2 Alternative fueled vehicles.** Support and facilitate the expansion of infrastructure for alternatively fueled public and private automobiles and trucks to reduce vehicle emissions and improve local and regional air quality.

¹¹ The CO hotspot analysis refers to the modeling conducted by the Bay Area Air Quality Management District for its CEQA Guidelines because it is based on newer data and considers the improvement in mobile-source CO emissions. Although meteorological conditions in the Bay Area differ from those in the Southern California region, the modeling conducted by BAAQMD demonstrates that the net increase in peak hour traffic volumes at an intersection in a single hour would need to be substantial. This finding is consistent with the CO hotspot analysis South Coast AQMD prepared as part of its 2003 AQMP to provide support in seeking CO attainment for the SoCAB. Based on the analysis prepared by South Coast AQMD, no CO hotspots were predicted for the SoCAB. As noted in the preceding footnote, the analysis included some of Los Angeles’ busiest intersections, with daily traffic volumes of 100,000 or more peak hour vehicle trips operating at LOS E and F.

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- **Policy OSC-3.3 Energy and water conservation.** Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the City's Municipal Code and the California Building Code.
- **Policy OSC-3.8 Renewable energy.** Promote the use of renewable energy sources to serve public and private sector development to reduce reliance on fossil fuels and increase resiliency during prolonged and excessively high temperatures.
- **Policy OSC-3.9 Public education.** Provide and support public education efforts for residents and businesses about the importance of and proper practices to comply with air and water quality regulations.

Circulation and Mobility Element

- **Policy CM-1.7 Traffic management.** Utilize intelligent transportation systems and research changing trends in mobility to more efficiently and safely move people and vehicles while managing motor vehicle speeds.
- **Policy CM-1.8 Truck routes.** Plan and designate truck routes that support the effective transport of goods while minimizing the negative impacts on local circulation, neighborhoods, and noise-sensitive land uses.
- **Policy CM-2.1 Multimodal and complete network.** Plan, design, and maintain a citywide network of travelways for motorists, bicyclists, pedestrians, and transit riders of all ages and abilities. Create safe, desirable, and convenient linkages between neighborhoods, recreational amenities, schools, and commercial, employment, and activity centers through complete facilities, amenities, and safety features.
- **Policy CM-2.2 Regional network.** Coordinate development of the City's active transportation and transit network with adjacent jurisdictions, OCTA, and other appropriate agencies. Connect bicycle and pedestrian trails to local and regional trails in adjacent jurisdictions.
- **Policy CM-2.3 Design of new facilities.** Balance accommodations for vehicles, transit, bicycles, and pedestrians in the design of new streets and streetscape improvements.
- **Policy CM-2.4 Traffic calming.** Use traffic calming measures in residential areas and activity centers to enhance the safety of pedestrians and bicyclists, provided such measures are warranted, appropriate, and do not impede emergency response access and response.
- **Policy CM-2.5 Site design.** Require new development to incorporate amenities and pathways so that pedestrians and bicyclists can access the site and onsite businesses safely and conveniently from the public right-of-way and parking areas.

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- **Policy CM-2.6 Access management.** Minimize access points and curb cuts along arterials and in the proximity of an intersection to improve traffic flow and safety for vehicles and bicycles. Eliminate and/or consolidate driveways when new development occurs or when traffic operation or safety warrants.
- **Policy CM-2.7 VMT reduction.** Promote new development and transportation demand management (TDM) strategies that will reduce household and employment vehicle miles traveled (VMT). Prioritize the implementation of TDM strategies over the expansion of roadway capacity.
- **Policy CM-2.8 First mile/last mile connectivity.** Support strategies that strengthen first/last mile connectivity to enhance the viability and expand the use of public transit, both to improve quality of life and reduce traffic congestion in the city.
- **Policy CM-2.10 Transit service and stops.** Coordinate with OCTA to increase frequency of bus service and install, improve, and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.

Land Use Element

- **Policy LU-1.3 Mix of land uses.** Maintain a balanced mix of high quality residential, retail, employment, industrial, open space, and public facility land uses to ensure a range of living options, fiscal sustainability, and convenient access to shops, restaurants, services, and well-paid and highly skilled jobs.
- **Policy LU-2.5 Reduced commuting.** Attract and retain businesses that provide jobs suited to the labor force residing in Fountain Valley. Additionally, support and assist the development of housing affordable to the workforce commuting into Fountain Valley.

5.2.4 Environmental Impacts

5.2.4.1 METHODOLOGY

The air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the proposed project. The published South Coast AQMD's *CEQA Air Quality Handbook* and its updates on the South Coast AQMD website are intended to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. It provides standards, methodologies, and procedures for conducting air quality analyses in EIRs that were used in this analysis. Following is a summary by sector of the assumptions used for the City's criteria air pollutant emissions inventory and forecast included in Appendix 5.2-1.

- **Building Energy.** Emissions associated with natural gas use for residential and nonresidential land uses in the city were modeled based on data provided by the Southern California Gas Company (SoCalGas) for years 2016 through 2020. Existing 2021 emissions are based on the five year average to account for

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fluctuations in energy use associated with average annual temperature. Forecasts are adjusted for increases in population for natural gas use and non-residential square footage for non-residential natural gas use in the city.

- **Transportation.** Transportation emissions forecasts were modeled using emissions data from CARB's EMFAC2021 V1.0.3 web database. Model runs were based on daily per-capita VMT data provided by Fehr and Peers (see Appendix 5.13-1) and calendar year 2021 (existing) and 2045 emission rates.¹² The VMT is based on the origin-destination (O-D) using the Orange County Transportation Analysis Model (OCTAM) and includes the full trip length for land uses in the City and a 50 percent reduction in the trip length for external-internal/internal-external trips based on the recommendations of CARB's Regional Targets Advisory Committee (RTCA) under SB 375.¹³ Consistent with CARB's methodology within the Climate Change Scoping Plan Measure Documentation Supplement, daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual emissions.
- **Off-Road Equipment.** OFFROAD is a database of equipment use and associated emissions for each county compiled by CARB. Off-road equipment in the City is based on year 2021 emission rates for Orange County obtained from CARB's OFFROAD V1.0.3 web database. OFFROAD was used to estimate criteria air pollutant emissions from lawn and garden, light commercial, and construction equipment in the City. In order to determine the percentage of emissions attributable to the city, light commercial equipment is estimated based on employment for Fountain Valley as a percentage of Orange County and forecasted based on the change in employment in the city. Construction equipment use is estimated based on building permit data for Fountain Valley and County of Orange from data compiled by the US Census and assumes that construction emissions for the forecast year would be similar to historical levels. Lawn and garden equipment is based on the percentage of population in Fountain Valley compared to Orange County and forecasted based on the change in population in the city.
- **Area Sources.** Area sources are based on CalEEMod defaults for emissions generated from use of consumer products and cleaning supplies (CAPCOA 2022).

¹² The Year 2045 inventory represents the projected emissions that the existing land uses would generate in the future, using year 2045 emission factors for on-road vehicles. To isolate the impacts related to the change in land uses proposed under the General Plan update, emissions related to the update will be based on the difference in emissions generated by the existing and proposed land uses under year 2045 conditions. This approach is taken because existing land uses would be subject to regulations that come into effect in the future that reduce mobile-source emissions. Thus, the level of emissions the existing land uses generate today would not be generated in perpetuity, but would be affected by these state regulations.

¹³ For accounting purposes, there are three types of trips:

Internal-Internal. Vehicle trips that originated and terminated within the City (Internal-Internal, I-I). Using the accounting rules established by RTAC, 100 percent of the length of these trips and their emissions are attributed to the City.

Internal-External/External-Internal. Vehicle trips that either originated or terminated (but not both) in the City (Internal-External or External-Internal, I-X and X-I). Using the accounting rules established by RTAC, 50 percent of the trip length for these trips is attributed to the City.

External-External. Vehicle trips that neither originated nor terminated in the City. These trips are commonly called pass-through trips (External-External, X-X). Using the accounting rules established by RTAC, these trips are not counted toward the City's VMT or emissions.

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Impacts of the Environment on a Project

In 2016, the California Legislature passed Senate Bill 1000 (SB 1000), Planning for Healthy Communities Act, to incorporate Environmental Justice (EJ) into the local land use planning process. SB 1000 requires local governments to address pollution and other hazards that disproportionately impact low-income communities and communities of color in their jurisdictions. SB 1000 mandates that general plans address environmental justice but does not require CEQA analyses to address EJ issues. The proposed project addresses air quality and health risk impacts of implementing the proposed project to sensitive land uses.

Buildout of the proposed land use plan under the proposed project could result in siting sensitive uses (e.g., residential) near sources of emissions (e.g., freeways, industrial uses, etc.). Developing new sensitive land uses near sources of emissions could expose persons that inhabit these sensitive land uses to potential air quality-related impacts. However, the purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project. *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478). Thus, CEQA does not require analysis of the potential environmental effects from siting sensitive receptors near existing sources, and this type of analysis is not provided in Section 5.2.3. However, the proposed project includes policies that would require design features to minimize air quality impacts and to achieve appropriate health standards. The following policy is applicable:

- **Policy LU-1.1. Land use compatibility and viability.** Require that new development is located, scaled, buffered, and designed to minimize negative impacts on existing conforming uses and adjacent neighborhoods. Require that new residential developments are located, scaled, buffered, and designed so as to not hinder the economic viability and continuity of areas planned for nonresidential uses.

5.2.4.2 IMPACT ANALYSIS

The applicable thresholds are identified in brackets after the impact statement.

Impact 5.2-1: Buildout of the General Plan Update, and associated emissions, would exceed the assumptions of the South Coast AQMD's AQMP. [Threshold AQ-1]

The South Coast AQMD is directly responsible for reducing emissions from area, stationary, and mobile sources in the SoCAB to achieve the National and California AAQS and has responded to this requirement by preparing an AQMP. Since the 2010 EIR was certified, the South Coast AQMD Governing Board adopted the 2022 AQMP, which is a regional and multiagency effort (South Coast AQMD, CARB, SCAG, and EPA).

A consistency determination with the AQMP plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the AQMP.

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The two principal criteria for conformance with an AQMP are:

1. Whether the project would exceed the assumptions in the AQMP.
2. Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timeline attainment of air quality standards.

SCAG is South Coast AQMD's partner in the preparation of the AQMP, providing the latest economic and demographic forecasts and developing transportation measures. Regional population, housing, and employment projects developed by SCAG are based, in part, on general plan land use designations. These projections form the foundation for the emissions inventory of the AQMP.

Criterion 1

Table 5.2-9, *Comparison of Population and Employment Forecast*, compares the population and employment growth forecast under the proposed project to the existing conditions. The table shows that the proposed project would result in more VMT as a result of an increase in population; however, VMT per service population would decrease from the existing conditions as well as from the current General Plan. As a result, the proposed project provides a more efficient land use than existing conditions and a more efficient land use plan that reduces VMT per resident and employee. Therefore, the proposed project would be consistent with the AQMP under the first criterion.

Table 5.2-9 Comparison of Population and Employment Forecast

Scenario	Existing	Current General Plan	Proposed General Plan	Change from Existing		Change from the Current General Plan	
				Change	%	Change	%
Population	57,595	59,775	73,668	16,073	28%	13,893	23%
Employment	32,485	38,355	36,542	4,057	12%	-1,813	-5%
Service Population (SP) ¹	90,080	98,130	110,210	20,130	22%	12,080	12%
Daily VMT ²	1,374,016	1,542,393	1,562,196	188,180	14%	19,803	1%
VMT/SP	15.25	15.72	14.17	-1.1	-7%	-1.5	-10%

¹ Service population (SP) consists of the aggregate of total employees and population within the study area.

² Source: Appendix 5.13-1 (Fehr and Peers 2021). See Section 5.13, *Transportation*, based on the origin-destination (O-D) accounting method.)

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Criterion 2

The SoCAB is designated nonattainment for O₃ and PM_{2.5} under the California and National AAQS,¹⁴ nonattainment for NO₂ along State Route 60 under the California AAQS,¹⁵ nonattainment for PM₁₀ under the California AAQS, and nonattainment for lead (Los Angeles County only) under the National AAQS (CARB 2022a). Because the proposed project involves long-term growth associated with buildout of the City, cumulative emissions generated from operation of individual development projects would exceed the South Coast AQMD regional and localized thresholds (see Impact 5.2-2 and Impact 5.2-3). Consequently, emissions generated by development projects in addition to existing sources in the City are considered to cumulatively contribute to the nonattainment designations of the SoCAB. Buildout of the proposed land use plan associated with the proposed project could contribute to an increase in frequency or severity of air quality violations and delay attainment of the AAQS or interim emission reductions in the AQMP, and emissions generated from buildout would result in a significant air quality impact. Therefore, the proposed project would be inconsistent with the AQMP. As identified in Impact 5.2-3, the proposed project would result in a substantial increase in VOC compared to existing conditions.

Summary

Buildout of the proposed project would be consistent with the AQMP under the first criterion. However, air pollutant emissions associated with buildout of the proposed project would cumulatively contribute to the nonattainment designations in the SoCAB. Therefore, the proposed project would be inconsistent with the AQMP.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.2-1 would be potentially significant.

Mitigation Measures

AQ-1 Prior to discretionary approval by the City of Fountain Valley for development projects subject to CEQA (California Environmental Quality Act) review (i.e., nonexempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City of Fountain Valley Planning Department for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the South Coast AQMD-adopted thresholds of significance, the City of Fountain

¹⁴ The SoCAB is pending a resignation request from nonattainment to attainment for the 24-hour federal PM_{2.5} standards. The 2021 PM_{2.5} Redesignation Request and Maintenance Plan demonstrates that the South Coast meets the requirements of the CAA to allow the EPA to redesignate the SoCAB to attainment for the 65 µg/m³ and 35 µg/m³ 24-hour PM_{2.5} standards. CARB will submit the 2021 PM_{2.5} Redesignation Request to the EPA as a revision to the California SIP (CARB 2021).

¹⁵ On February 21, 2019, CARB's board approved the separation of the area that runs along State Route 60 corridor through portions of Riverside, San Bernardino, and Los Angeles counties from the remainder of the SoCAB for State nonattainment designation purposes. The board designated this corridor as nonattainment. The remainder of the SoCAB remains in attainment for NO₂ (CARB 2019a). CARB is proposing to redesignate SR-60 Near-Road Portion of San Bernardino, Riverside, and Los Angeles Counties in the SoCAB as attainment for NO₂ at the February 24, 2022, board hearing (CARB 2022b).

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Valley building department shall require feasible mitigation measures to reduce air quality emissions. Potential measures shall be incorporated as conditions of approval for a project and may include:

- Require fugitive dust control measures that exceed South Coast Air Quality Management District's Rule 403, such as:
 - Requiring use of nontoxic soil stabilizers to reduce wind erosion.
 - Applying water every four hours to active soil disturbing activities.
 - Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Using construction equipment rated by the United States Environmental Protection Agency as having Tier 4 interim or higher exhaust emission limits.
- Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limiting nonessential idling of construction equipment to no more than five consecutive minutes.
- Using Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufactures can be found on the South Coast Air Quality Management District's website at: http://www.aqmd.gov/prdas/brochures/Super-Compliant_AIM.pdf.

These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City's Planning Department.

AQ 2

Prior to discretionary approval by the City of Fountain Valley for development projects subject to CEQA (California Environmental Quality Act) review (i.e., nonexempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project operation-phase-related air quality impacts to the City of Fountain Valley Planning Department for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology in assessing air quality impacts. If operation-related air pollutants are determined to have the potential to exceed the South Coast AQMD-adopted thresholds of significance, the City of Fountain Valley Planning Department shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the conditions of approval. Possible mitigation measures to reduce long-term emissions could include, but are not limited to the following:

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- For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plug-in of the anticipated number of refrigerated trailers to reduce idling time and emissions.
- Applicants for manufacturing and light industrial uses shall consider energy storage and combined heat and power in appropriate applications to optimize renewable energy generation systems and avoid peak energy use.
- Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with California Air Resources Board Rule 2845 (13 CCR Chapter 10 sec. 2485).
- Provide changing/shower facilities as specified in the Nonresidential Voluntary Measures of CALGreen.
- Provide bicycle parking facilities per the Nonresidential Voluntary Measures and Residential Voluntary Measures of CALGreen.
- Provide preferential parking spaces for low-emitting, fuel-efficient, and carpool/van vehicles per the Nonresidential Voluntary Measures of CALGreen.
- Provide facilities to support electric charging stations per the Nonresidential Voluntary Measures and Residential Voluntary Measures of CALGreen.
- Applicant-provided appliances shall be Energy Star–certified appliances or appliances of equivalent energy efficiency (e.g., dishwashers, refrigerators, clothes washers, and dryers). Installation of Energy Star–certified or equivalent appliances shall be verified by the City during plan check.

Level of Significance After Mitigation: Impact 5.2-1 would be less than significant.

Impact 5.2-2: Construction activities associated with future development that would be accommodated under the General Plan Update could generate short-term emissions in exceedance of the South Coast AQMD's threshold criteria. [Threshold AQ-2 and AQ-3]

Construction activities under the proposed project would also temporarily increase PM₁₀, PM_{2.5}, VOC, NO_x, SO_x, and CO regional emissions in the SoCAB. The primary source of NO_x, CO, and SO_x emissions is the operation of construction equipment. The primary sources of particulate matter (PM₁₀ and PM_{2.5}) emissions are activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary sources of VOC emissions are the application of architectural coating and off-gas emissions associated with asphalt paving. A discussion of health impacts associated with air pollutant emissions generated by construction activities is included under “Air Pollutants of Concern” in Section 5.2.1.1, *Regulatory Framework*.

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Construction activities associated with the proposed project would occur over the buildout horizon of the plan, causing short-term emissions of criteria air pollutants. However, information regarding specific development projects, soil types, and the locations of receptors would be needed in order to quantify the level of impact associated with construction activity. Due to the scale of development activity associated with buildout of the proposed project, emissions would likely exceed the South Coast AQMD regional significance thresholds. In accordance with the South Coast AQMD methodology, emissions that exceed the regional significance thresholds would cumulatively contribute to the nonattainment designations of the SoCAB.

Air quality emissions related to construction must be addressed on a project-by-project basis. For the proposed project, which is a broad-based policy plan, it is not possible to determine whether the scale and phasing of individual projects would exceed the South Coast AQMD's short-term regional or localized construction emissions thresholds. In addition to regulatory measures—e.g., South Coast AQMD Rule 403 for fugitive dust control, Rule 1113 for architectural coatings, and CARB's Airborne Toxic Control Measures—mitigation imposed at the project level may include extension of construction schedules and/or use of special equipment.

While individual projects under the proposed project may not exceed the South Coast AQMD regional significance thresholds, the likely scale and extent of construction activities associated with the future development project under the proposed General Plan would likely continue to exceed the relevant South Coast AQMD thresholds for some projects. Construction-related regional air quality impacts of developments that would be accommodated by the proposed project would be potentially significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.2-1 would be potentially significant.

Mitigation Measures

Implement Mitigation Measure AQ-1.

Level of Significance After Mitigation: Impact 5.2-2 would be significant and unavoidable.

Impact 5.2-3: Implementation of the proposed project would generate additional, long-term emissions in exceedance of South Coast AQMD's threshold criteria and cumulatively contribute to the South Coast Air Basin's nonattainment designations. [Threshold AQ-2]

The General Plan Update guides growth and development in the City by designating allowed land uses by parcel and through implementation of its goals and policies. New development would increase air pollutant emissions in the City and contribute to the overall emissions in the SoCAB. A discussion of health impacts associated with air pollutant emissions generated by operational activities is included under “Air Pollutants of Concern” in Section 5.2.1.1, *Regulatory Framework*. The proposed project sets up the framework for growth and development, but does not directly result in development. Before development can occur, it must be analyzed for conformance with the general plan, zoning requirements, and other applicable local and State requirements; comply with the requirements of CEQA; and obtain all necessary clearances and permits.

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Criteria Air Pollutant Emissions Forecast

The emissions forecast for Fountain Valley is shown in Table 5.2-10, *City of Fountain Valley Regional Criteria Air Pollutant Emissions Forecast*. As shown in the table, buildout of the proposed project would result in an increase in long-term emissions that exceed the daily South Coast AQMD thresholds for VOC. Emissions of NO_x, CO, PM₁₀, and PM_{2.5} would slightly decrease compared to the existing land uses in the City in 2045. VOC are a precursor to O₃. The increase in VOC emissions compared to the existing land uses is a result of the increase in residential uses, which result in an increase in consumer product use in the City. Emissions of VOC that exceed the South Coast AQMD regional significance thresholds would contribute to the O₃ nonattainment designation of the SoCAB.

Table 5.2-10 City of Fountain Valley Regional Criteria Air Pollutant Emissions Forecast

Sector	Criteria Air Pollutant Emissions (pounds per day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Existing – 2045 Emission Rates						
Transportation ¹	43	268	1,550	7	156	64
Energy ²	15	268	156	2	21	21
Area –Offroad Equipment ³	21	59	699	<1	2	2
Area – Consumer Products ⁴	680	–	–	–	–	–
Existing Total	759	595	2,405	9	180	87
Proposed Project						
Transportation ¹	49	305	1,762	8	177	73
Energy ²	19	333	188	2	26	26
Area –Offroad Equipment ³	24	62	783	<1	3	2
Area – Consumer Products ⁴	1,003	–	–	–	–	–
Proposed Project Total	1,094	699	2,733	10	206	101
Change						
Transportation ¹	6	37	212	1	21	9
Energy ²	4	65	32	<1	5	5
Area –Offroad Equipment ³	2	3	84	<1	<1	<1
Area – Consumer Products ⁴	323	–	–	–	–	–
Total	335	104	328	1	27	14
South Coast AQMD Regional Significance Threshold	55	55	550	150	150	55
Significant?	Yes	Yes	No	No	No	No

Sources. See Appendix 5.2-1.

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Furthermore, the proposed project includes policies that would reduce operational emissions associated with development projects. Policies OSC-3.1 through OSC-3.8 would reduce air quality pollutant emissions in the City and Policies LU-2.5 and CM-2.1 through CM-2.10 to 8 to reduce VMT.

Despite the policies in the General Plan, the proposed project would exceed the South Coast AQMD regional significance thresholds would contribute to the nonattainment designation of the SoCAB.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.2-3 would be potentially significant.

Mitigation Measures

Implement Mitigation Measure AQ-2.

Level of Significance After Mitigation: Impact 5.2-3 would be significant and unavoidable.

Impact 5.2-4: The proposed project would not expose sensitive receptors to substantial toxic air contaminant concentrations. [Threshold AQ-3]

Development and operation of new land uses accommodated under the proposed project proposed land use plan could generate new sources of localized criteria air pollutant and TACs in the City from area/stationary sources and mobile sources.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hotspot analysis conducted for the attainment by South Coast AQMD did not predict a violation of CO standards at the busiest intersections in Los Angeles during the peak morning and afternoon periods.¹⁶ As identified in South Coast AQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in previous years, prior to redesignation, were a result of unusual meteorological and topographical conditions and not of congestion at a particular intersection (South Coast AQMD 1992; South Coast AQMD 2003).

Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2017). Implementation of the proposed project under horizon year conditions would not result in hourly traffic increases of this magnitude. This net increase would be below the screening criteria. Thus, implementation of the proposed

¹⁶ The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning peak hour and LOS F in the evening peak hour.

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project would not produce the volume of traffic required to generate a CO hotspot, and CO hotspots impacts would be less than significant.

Permitted Stationary Sources

Various industrial and commercial processes (e.g., manufacturing, dry cleaning) allowed under the proposed land use plan would be expected to release TACs. Industrial land uses, such as chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities, have the potential to be substantial stationary sources that would require a permit from South Coast AQMD. Emissions of TACs would be controlled by South Coast AQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under South Coast AQMD Rule 1401, which would ensure less than significant impacts.

Industrial Land Uses

Warehousing or industrial operations generate substantial DPM emissions from off-road equipment use, truck idling, and/or use of transport refrigeration units for cold storage. However, the General Plan Update would not result in a net increase in new industrial or warehousing in Fountain Valley. The proposed project would result in a net reduction of 201,182 square feet of industrial land uses and a net increase of retail (123,511 square feet), and commercial, office, and research and development (531,771 square feet) land uses. Additionally, implementation of the following the proposed General Plan policies would reduce localized impacts from existing and future development in the City:

- **Policy OSC-3.2 Alternative fueled vehicles.** Support and facilitate the expansion of infrastructure for alternatively fueled public and private automobiles and trucks to reduce vehicle emissions and improve local and regional air quality.
- **Policy CM-1.8 Truck routes.** Plan and designate truck routes that support the effective transport of goods while minimizing the negative impacts on local circulation, neighborhoods, and noise-sensitive land uses.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.2-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.2-4 would be less than significant.

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Impact 5.2-5 The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. [Threshold AQ-4]

Growth within the City under the proposed project could generate new sources of odors. Nuisance odors from land uses in the SoCAB are regulated under South Coast AQMD Rule 402, Nuisance, which states:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Industrial Land Uses

Compost facilities, landfills, solid-waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), asphalt batch manufacturing plants, chemical manufacturing, and food manufacturing facilities are typical sources of odors from industrial land uses. Industrial land uses are required to comply with South Coast AQMD Rule 402. As identified above, the General Plan Update would not result in a net increase in new industrial or warehousing in Fountain Valley. The proposed project would result in a net reduction of 201,182 square feet of industrial land uses and a net increase of retail (123,511 square feet), and commercial, office, and research and development (531,771 square feet) land uses. Therefore, impacts from potential odors generated from industrial land uses associated with the proposed project are considered less than significant.

Residential and Other Retail/Commercial Land Uses

Residential and other nonresidential, nonindustrial land uses that would be accommodated by the proposed project could result in the generation of odors such as exhaust from landscaping equipment and from cooking. Unlike industrial land uses, these are not considered potential generators of odor that could affect a substantial number of people. Nuisance odors are regulated under South Coast AQMD Rule 402, which requires abatement of any nuisance generating a verified odor complaint. Therefore, impacts from potential odors generated from residential and other nonresidential land uses associated with the proposed project are considered less than significant.

Construction

During construction activities of development projects that would be accommodated by the proposed project, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. Noxious odors would be confined to the immediate vicinity of the construction equipment in use. By the time such emissions reached any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Short-term construction-related odors are expected to cease upon the drying or hardening of odor-producing materials. Therefore, impacts associated with construction-generated odors are considered less than significant.

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LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.2-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.2-5 would be less than significant.

5.2.5 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: Impact 5.2-4 and Impact 5.2-5.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.2-1** The additional population growth forecast for General Plan Update and the associated emissions would not be consistent with the assumptions of the South Coast AQMD's AQMP.
- **Impact 5.2-2** Construction activities associated with future development that would be accommodated under the proposed project could generate short-term emissions in exceedance of the South Coast AQMD's threshold criteria.
- **Impact 5.2-3** Implementation of the General Plan Update would generate additional, long-term emissions in exceedance of South Coast AQMD's threshold criteria and cumulatively contribute to the South Coast Air Basin's nonattainment designations.

5.2.6 Mitigation Measures

Impact 5.2-1

Implementation of Mitigation Measures AQ-1 and AQ-2.

Impact 5.2-2

AQ-1 Prior to discretionary approval by the City of Fountain Valley for development projects subject to CEQA (California Environmental Quality Act) review (i.e., nonexempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City of Fountain Valley Planning Department for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the South Coast AQMD-adopted thresholds of significance, the City of Fountain Valley building department shall require feasible mitigation measures to reduce air quality

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emissions. Potential measures shall be incorporated as conditions of approval for a project and may include:

- Require fugitive dust control measures that exceed South Coast Air Quality Management District's Rule 403, such as:
 - Requiring use of nontoxic soil stabilizers to reduce wind erosion.
 - Applying water every four hours to active soil disturbing activities.
 - Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Using construction equipment rated by the United States Environmental Protection Agency as having Tier 4 interim or higher exhaust emission limits.
- Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limiting nonessential idling of construction equipment to no more than five consecutive minutes.
- Using Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufactures can be found on the South Coast Air Quality Management District's website at: http://www.aqmd.gov/prdas/brochures/Super-Compliant_AIM.pdf.

These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City's Planning Department.

Impact 5.2-3

AQ 2

Prior to discretionary approval by the City of Fountain Valley for development projects subject to CEQA (California Environmental Quality Act) review (i.e., nonexempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project operation-phase-related air quality impacts to the City of Fountain Valley Planning Department for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology in assessing air quality impacts. If operation-related air pollutants are determined to have the potential to exceed the South Coast AQMD-adopted thresholds of significance, the City of Fountain Valley Planning Department shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the conditions of approval. Possible mitigation measures to reduce long-term emissions could include, but are not limited to the following:

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- For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plug-in of the anticipated number of refrigerated trailers to reduce idling time and emissions.
- Applicants for manufacturing and light industrial uses shall consider energy storage and combined heat and power in appropriate applications to optimize renewable energy generation systems and avoid peak energy use.
- Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with California Air Resources Board Rule 2845 (13 CCR Chapter 10 sec. 2485).
- Provide changing/shower facilities as specified in the Nonresidential Voluntary Measures of CALGreen.
- Provide bicycle parking facilities per the Nonresidential Voluntary Measures and Residential Voluntary Measures of CALGreen.
- Provide preferential parking spaces for low-emitting, fuel-efficient, and carpool/van vehicles per the Nonresidential Voluntary Measures of CALGreen.
- Provide facilities to support electric charging stations per the Nonresidential Voluntary Measures and Residential Voluntary Measures of CALGreen.
- Applicant-provided appliances shall be Energy Star–certified appliances or appliances of equivalent energy efficiency (e.g., dishwashers, refrigerators, clothes washers, and dryers). Installation of Energy Star–certified or equivalent appliances shall be verified by the City during plan check.

5.2.7 Level of Significance After Mitigation

Impact 5.2-1

The proposed project would be inconsistent with the South Coast AQMD AQMP because buildout under the General Plan Update would cumulatively contribute to the nonattainment designations of the SoCAB. Incorporation of Mitigation Measures AQ-1 through AQ-2 into future development projects for the operation phase would reduce criteria air pollutant emissions associated with buildout of the General Plan Update. Additionally, goals and policies in the General Plan would promote increased capacity for alternative transportation modes. However, Impact 5.2-1 would remain *significant and unavoidable*.

Impact 5.2-2

Buildout in accordance with the proposed project would generate short-term emissions that would exceed South Coast AQMD's regional significance thresholds and cumulatively contribute to the nonattainment designations of the SoCAB. Mitigation Measure AQ-1 and the goals and policies of the General Plan Update

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would reduce construction-related air pollutant emissions to the extent feasible. However, individual projects accommodated under the proposed project may exceed the South Coast AQMD regional significance thresholds. Therefore, construction-related regional air quality impacts of developments that would be accommodated by the proposed project under Impact 5.2-2 would remain *significant and unavoidable*.

Impact 5.2-3

Buildout in accordance with the proposed project would generate long-term emissions that would exceed South Coast AQMD’s regional significance thresholds and cumulatively contribute to the nonattainment designations of the SoCAB. Mitigation Measure AQ-2, in addition to the goals and policies of the proposed project, would reduce air pollutant emissions to the extent feasible. The measures and policies covering topics such as expansion of the pedestrian and bicycle networks, promotion of public and active transit, and support to increase building energy efficiency and energy conservation would also reduce criteria air pollutants within the City. Further, as shown in Table 5.2-11, *City of Fountain Valley Regional Criteria Air Pollutant Emissions Forecast – Compared to Existing Conditions*, compared to existing baseline year conditions, emissions of NO_x, CO, and SO_x are projected to decrease from current levels despite growth associated with the General Plan update. However, Impact 5.2-3 would remain significant and unavoidable due to the magnitude of the overall land use development associated with the General Plan update. However, Impact 5.2-3 would remain *significant and unavoidable* due to the increase in VOCs from residential development consumer product use associated with the proposed project.

Table 5.2-11 City of Fountain Valley Regional Criteria Air Pollutant Emissions Forecast – Compared to Existing Conditions

Sector	Criteria Air Pollutant Emissions (pounds per day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Existing – 2021 Emission Rates						
Transportation ¹	91	601	2,779	11	163	71
Energy ²	15	268	156	2	21	21
Area –Offroad Equipment ³	21	58	699	<1	2	2
Area – Consumer Products ⁴	680	–	–	–	–	–
Existing Total	807	927	3,634	12	186	95
Proposed Project						
Transportation ¹	49	305	1,762	8	177	73
Energy ²	19	333	188	2	26	26
Area –Offroad Equipment ³	24	62	783	<1	3	2
Area – Consumer Products ⁴	1,003	–	–	–	–	–
Proposed Project Total	1,094	699	2,733	10	206	101

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Table 5.2-11 City of Fountain Valley Regional Criteria Air Pollutant Emissions Forecast – Compared to Existing Conditions

Sector	Criteria Air Pollutant Emissions (pounds per day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Change						
Transportation ¹	-42	-296	-1,017	-2	15	2
Energy ²	4	65	32	<1	5	5
Area –Offroad Equipment ³	2	3	84	<1	<1	<1
Area – Consumer Products ⁴	323	–	–	–	–	–
Total	287	-228	-901	-2	20	7
South Coast AQMD Regional Significance Threshold	55	55	550	150	150	55
Significant?	Yes	No	No	No	No	No

Sources. See Appendix 5.2-1.

Contributing to the nonattainment status would also contribute to elevating health effects associated to these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants.

It is speculative for this broad-based policy plan to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions, or how many additional individuals in the air basin would be affected by the health effects cited above.

This EIR quantifies the increase in criteria air pollutants emissions in the City. However, at a programmatic level analysis, it is not feasible to quantify the increase in TACs from stationary sources associated with the proposed project or meaningfully correlate how regional criteria air pollutant emissions above the South Coast AQMD significance thresholds correlate with basin-wide health impacts.

To determine cancer and noncancer health risk, the location, velocity of emissions, meteorology and topography of the area, and locations of receptors are equally important as model parameters as the quantity of TAC emissions. The white paper in Appendix 5.2-1 “We Can Model Regional Emissions, But Are the Results Meaningful for CEQA” describe several of the challenges of quantifying local effects—particularly health risks—for large-scale, regional projects, and these are applicable to both criteria air pollutants and TACs. Similarly, the two amicus briefs filed by the air districts on the Friant Ranch case (see Appendix 5.2-1) describe two positions regarding CEQA requirements, modeling feasibility, variables, and reliability of results for determining specific health risks associated with criteria air pollutants. The discussions also include the distinction between criteria air pollutant emissions and TACs with respect to health risks. Additionally, the

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South Coast AQMD's Significance Thresholds and Monitoring demonstrate the infeasibility based on the current guidance/methodologies. The following summarizes major points about the infeasibility of assessing health risks of criteria air pollutant emissions and TACs associated with implementation of a general plan.

To achieve and maintain air quality standards, the South Coast AQMD has established numerical emission indicators of significance for regional and localized air quality impacts for both construction and operational phases of a local plan or project. The South Coast AQMD has established the thresholds based on "scientific and factual data that is contained in the federal and state Clean Air Acts" and recommends "that these thresholds be used by lead agencies in making a determination of significance." The numerical emission indicators are based on the recognition that the air basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health. The thresholds represent the maximum emissions from a plan or project that are expected not to cause or contribute to an exceedance of the most stringent applicable national or state ambient air quality standard. By analyzing the plan's emissions against the thresholds, an EIR assesses whether these emissions directly contribute to any regional or local exceedances of the applicable ambient air quality standards and exposure levels.

South Coast AQMD currently does not have methodologies that would provide the City with a consistent, reliable, and meaningful analysis to correlate specific health impacts that may result from a proposed project's mass emissions.¹⁷ For criteria air pollutants, exceedance of the regional significance thresholds cannot be used to correlate a project to quantifiable health impacts unless emissions are sufficiently high to use a regional model. South Coast AQMD has not provided methodology to assess the specific correlation between mass emissions generated and their effect on health (see Appendix 5.2-1: San Joaquin Valley Air Pollution Control District's amicus brief, and South Coast AQMD's amicus brief).

Ozone concentrations depend on a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Secondary formation of particulate matter (PM) and ozone can occur far from sources as a result of regional transport due to wind and topography (e.g., low-level jet stream). Photochemical modeling depends on all emission sources in the entire domain (i.e., modeling grid). Low resolution and spatial averaging produce "noise" and modeling errors that usually exceed individual source contributions. Because of the complexities of predicting ground-level ozone concentrations in relation to the National Ambient Air Quality Standards (AAQS) and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds.

¹⁷ In April 2019, the Sacramento Metropolitan Air Quality Management District (SMAQMD) published an Interim Recommendation on implementing *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 ("Friant Ranch") in the review and analysis of proposed projects under CEQA in Sacramento County. Consistent with the expert opinions submitted to the court in Friant Ranch by the San Joaquin Valley Air Pollution Control District (SJVAPCD) and South Coast AQMD, the SMAQMD guidance confirms the absence of an acceptable or reliable quantitative methodology that would correlate the expected criteria air pollutant emissions of projects to likely health consequences for people from project-generated criteria air pollutant emissions. The SMAQMD guidance explains that while it is in the process of developing a methodology to assess these impacts, lead agencies should follow the Friant Court's advice to explain in meaningful detail why this analysis is not yet feasible. Since this interim memorandum SMAQMD has provided methodology to address health impacts. However, a similar analysis is not available for projects within the South Coast AQMD region.

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Current models used in CEQA air quality analyses are designed to estimate potential project construction and operation emissions for defined projects. The estimated emissions are compared to significance thresholds, which are keyed to reducing emissions to levels that will not interfere with the region's ability to attain the health-based standards. This serves to protect public health in the overall region, but there is currently no CEQA methodology to determine the impact of emissions (e.g., pounds per day) on future concentration levels (e.g., parts per million or micrograms per cubic meter) in specific geographic areas. CEQA thresholds, therefore, are not specifically tied to potential health outcomes in the region.

The EIR must provide an analysis that is understandable for decision making and public disclosure. Regional-scale modeling may provide a technical method for this type of analysis, but it does not necessarily provide a meaningful way to connect the magnitude of a project's criteria pollutant emissions to health effects without speculation. Additionally, this type of analysis is not feasible at a general plan level because the location of emissions sources and quantity of emissions are not known. However, because cumulative development within the City would exceed the regional significance thresholds, the proposed project could contribute to an increase in health effects in the basin until the attainment standards are met in the SoCAB.

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5.3 ENERGY

This section of the Draft Environmental Impact Report (EIR) evaluates the energy implications of the City of Fountain Valley General Plan (proposed project) in a local and regional context. The analysis in this section is based on the existing electricity and natural gas uses in the City of Fountain Valley provided by reports from Southern California Edison (SCE) and Southern California Gas Company (SoCalGas) (Appendix 5.2-1). In addition, this section analyzes transportation fuels, such as gasoline and diesel fuel, from EMFAC2021 (v. 1.0.2) as well as vehicle miles traveled (VMT) based on VMT data provided by Fehr and Peers (Appendix 5.13-2). The energy model outputs sheets are included in Appendix 5.3-1.

5.3.1 Environmental Setting

Federal, state, and local laws, regulations, plans, or guidelines related to energy that are potentially applicable to the proposed project are summarized herein.

5.3.1.1 REGULATORY BACKGROUND

Federal, state, and local laws, regulations, plans, or guidelines related to energy that are potentially applicable to the General Plan Update are summarized herein.

Federal

Federal Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 was established in response to the 1973 oil crisis. The act created the Strategic Petroleum Reserve, established vehicle fuel economy standards, and prohibited the export of U.S. crude oil (with a few limited exceptions). It also created Corporate Average Fuel Economy (CAFE) standards for passenger cars starting in model year 1978. The CAFE Standards are updated periodically to account for changes in vehicle technologies, driver behavior, and/or driving conditions.

The federal government issued new CAFE standards in 2012 for model years 2017 to 2025 that required a fleet average of 54.5 miles per gallon (mpg) for model year 2025. On March 30, 2020, the Environmental Protection Agency finalized an updated CAFE and greenhouse gas (GHG) emissions standards for passenger cars and light trucks and established new standards, covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021–2026. Under SAFE, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 mpg for model year 2026 vehicles (85 Federal Register 24174 (April 30, 2020)).

On December 21, 2021, under direction of Executive Order (EO) 13990 issued by President Biden, the National Highway Traffic Safety Administration repealed Safer Affordable Fuel Efficient Vehicles Rule Part One, which had preempted state and local laws related to fuel economy standards. In addition, on August 5, 2021, the National Highway Traffic Safety Administration announced new proposed fuel standards in response to EO 13990. Fuel efficiency under the standards proposed would increase 8 percent annually for

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model years 2024 to 2026 and increase estimate fleetwide average by 12 MPG for model year 2026 relative to model year 2021 (NHTSA 2021).

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The act sets increased corporate average fuel economy standards; the renewable fuel standard; appliance energy-efficiency standards; building energy-efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration (USEPA 2022).

Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. This Act includes tax incentives for energy conservation improvements in commercial and residential buildings, fossil fuel production and clean coal facilities, and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

National Energy Policy

Established in 2001 by the National Energy Policy Development Group, the National Energy Policy is designed to help the private sector and state and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the United States Department of Transportation to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration within the Department of Transportation develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6-million-mile pipeline transportation system.

State

Warren-Alquist Act

Established in 1974, the Warren-Alquist Act created the California Energy Commission (CEC) in response to the energy crisis of the early 1970s and the state's unsustainable growing demand for energy resources. The CEC's core responsibilities include advancing State energy policy, encouraging energy efficiency, certifying

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thermal power plants, investing in energy innovation, developing renewable energy, transforming transportation, and preparing for energy emergencies. The Warren-Alquist Act is updated annually to address current energy needs and issues, and its latest edition was in January 2022.

California Public Utilities Commission

In September 2008, the California Public Utilities Commission (CPUC) adopted the Long-Term Energy Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision, as well as goals for each economic sector, identifying specific near-term, mid-term, and long-term strategies to assist in achieving these goals. This Plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020¹;
- All new commercial construction in California will be zero net energy by 2030;
- Heating, ventilation and air conditioning commonly referred to as “HVAC” will be transformed to ensure that its energy performance is optimal for California’s climate; and
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

With respect to the commercial sector, the Long-Term Energy Efficiency Strategic Plan notes that commercial buildings, which include schools, hospitals, and public buildings, consume more electricity than any other end-use sector in California. The commercial sector’s five billion-plus square feet of space accounts for 38 percent of the State’s power use and over 25 percent of natural gas consumption. Lighting, cooling, refrigeration, and ventilation account for 75 percent of all commercial electric use, while space heating, water heating, and cooking account for over 90 percent of gas use. In 2006, schools and colleges were in the top five facility types for electricity and gas consumption, accounting for approximately 10 percent of State’s electricity and gas use.

The CPUC and CEC have adopted the following goals to achieve zero net energy (ZNE) levels by 2030 in the commercial sector:

- **Goal 1.** New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.
- **Goal 2.** 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

¹ Zero net energy buildings are buildings that the total amount of energy used by the building on an annual basis is equal to or less than the amount of renewable energy created on the site.

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- **Goal 3.** Transform the commercial lighting market through technological advancement and innovative utility initiatives.

Renewables Portfolio Standard

Senate Bills 1078, 107, X1-2, and Executive Order S-14-08

The California Renewables Portfolio Standard (RPS) was established in 2002 under SB 1078 and was amended in 2006, 2011, and 2018. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. Initially under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008, which expanded the state's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the California legislature in 2011 (SB X1-2). The California Public Utilities Commission is required to provide quarterly progress reports on progress toward RPS goals. This has accelerated the development of renewable energy projects throughout the state. For year 2020, the three largest retail energy utilities provided an average of 43 percent of its supplies from renewable energy sources. Community choice aggregators provided an average of 41 percent of its supplies from renewable sources (CPUC 2021).

Senate Bill 350

Governor Jerry Brown signed SB 350 on October 7, 2015, which expands the RPS by establishing a goal of 50 percent of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses upon which an energy efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. SB 350 also provides for the transformation of the California Independent System Operator into a regional organization to promote the development of regional electricity transmission markets in the western states and to improve the access of consumers served by the California Independent System Operator to those markets, pursuant to a specified process.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which replaces the SB 350 requirements. Under SB 100, the RPS for public owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill also establishes an overall State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

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Appliance Efficiency Regulations

California's Appliance Efficiency Regulations (Cal. Code Regs. Title 20, Parts 1600–1608) contain energy performance, energy design, water performance, and water design standards for appliances that are sold or offered for sale in California (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings). These standards are updated regularly to allow consideration of new energy efficiency technologies and methods (CEC 2017).

Title 24, Part 6, Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2019 (24 CCR 6). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, went into effect starting January 1, 2020. The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less (CBSC 2019a). The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; and 4) nonresidential lighting requirements (CEC 2018). Under the 2019 standards, nonresidential buildings are generally 30 percent more energy efficient compared to the 2016 standards, and single-family homes are generally 7 percent more energy efficient (CEC 2021).² When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2021).

Furthermore, on August 11, 2021, the CEC adopted the 2022 Energy Code, which was approved by the California Building Standards Commission in December 2021. The 2022 Energy Code includes the 2022 Building Energy Efficiency Standards, which become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).

² California Energy Commission, 2021, Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report. CEC-400-2021-077-D.

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Title 24, Part 11, Green Building Standards

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. It includes mandatory requirements for new residential and nonresidential buildings throughout California. CALGreen is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the governor. The mandatory provisions of CALGreen became effective January 1, 2011. The 2019 CALGreen update became effective on January 1, 2020. In addition, the 2022 CALGreen update, which was approved as part of 2022 Energy Code and becomes effective on January 1, 2023, provides updates to the residential and non-residential voluntary measures.

Overall, the code is established to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impacts during and after construction. CALGreen has requirements for construction site selection, stormwater control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency (CBSC 2019b).

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under *Federal*, above). In January 2012, the California Air Resources Board (CARB) approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions (CARB 2017).

Executive Order N-79-20

On September 23, 2020, Executive Order N-79-20 was issued, which sets a time frame for the transition to zero-emissions (ZE) passenger vehicles and trucks in addition to off-road equipment. It directs CARB to develop and propose the following:

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- Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs (zero-emission vehicles) sold in the California toward the target of 100 percent of in-state sales by 2035.
- Medium- and heavy-duty vehicle regulations requiring increasing volumes of new ZE trucks and buses sold and operated in California toward the target of 100 percent of the fleet transitioning to ZEVs by 2045 everywhere feasible, and for all drayage trucks to be ZE by 2035.

Strategies to achieve 100 percent zero emissions from all off-road vehicles and equipment operations in California by 2035, in cooperation with other State agencies, the EPA, and local air districts.

Local

Fountain Valley 2021-2029 Housing Element

The City's Housing Element was adopted on October 4, 2022, and includes applicable policies regarding energy efficiency including:

- **Policy H-1.4: Transit Proximity.** Locate higher density residential development close to public transportation.
- **Policy H-2.4: Mixed-use Residential.** Promote development of compatible mixed-use projects with residential components at higher densities within commercial designations.

Fountain Valley Municipal Code

Chapter 18.28, Title 18 of the Fountain Valley Municipal Code, California Green Building Standards Code adopted, incorporates the California Green Building Standards Code by reference.

5.3.1.2 EXISTING CONDITIONS

Electricity

Electricity is quantified using kilowatts (kW) and kilowatt-hours (kWh). A kW is a measure of 1,000 watts of electrical power and a kWh is a measure of electrical energy equivalent to a power consumption of 1,000 watts for one hour. The kWh is commonly used as a billing unit for energy delivered to consumers by electric utilities. A gigawatt is equal to one million kilowatts. Overall electricity consumption in California was 288,282 gigawatt-hours (GWh) in 2020 (CEC 2022c)

The City is in SCE's service area, which spans much of southern California from Orange and Riverside counties on the south to Santa Barbara County on the west to Mono County on the north (CEC 2022a). Total electricity consumption in SCE's service area was 103,597 GWh in 2020 (CEC 2022c). Sources of electricity sold by SCE in 2020, the latest year for which data are available, were:

- 30.9 percent renewable, consisting mostly of solar and wind
- 3.3 percent large hydroelectric
- 15.2 percent natural gas

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- 8.4 percent nuclear
- 0.3 percent other
- 42.0 percent unspecified sources—that is, not traceable to specific sources (SCE 2020)³

Total estimated existing electricity demand in Fountain Valley, based on data provided by SCE, is estimated at 264,799,546 kWh per year (264.8 GWh per year), as shown in Table 5.3-1, *Existing Electricity Demand*.

Table 5.3-1 Existing Electricity Demand

Area	Electricity Usage (kWh per year)
Residential	119,257,241
Nonresidential	145,542,305
Total	264,799,546

Source:

¹ Electricity total makes use of a five-year (2016–2020) annual electricity consumption average based on data provided by SCE.

Natural Gas

Gas is typically quantified using the “therm,” which is a unit of heat energy equal to 100,000 British thermal units (BTU) and is the energy equivalent of burning 100 cubic feet of natural gas. Southern California Gas Company (SoCalGas) provides natural gas service in and has facilities throughout the City of Fountain Valley. The service area of SoCalGas spans much of the southern half of California, from Imperial County on the southeast to San Luis Obispo County on the northwest to part of Fresno County on the north to Riverside County and most of San Bernardino County on the east (CEC 2022b). Total natural gas supplies available to SoCalGas for years 2020 through 2022 are 3.175 billion cubic feet per day. Total natural gas consumption in SoCalGas’ service area is forecast to be 2.103 billion cubic feet per day in 2035 (SoCalGas 2020). Total natural gas consumption in the SoCalGas service area was 695,049 million cubic feet for 2020, which is equivalent to 1,899 million cubic feet per day (CEC 2022d).

Existing natural gas demands in the City, based on data provided by SoCalGas, are estimated at 10.4 million therms per year, as shown in Table 5.3-2, *Existing Natural Gas Demand*.

Table 5.3-2 Existing Natural Gas Demand

Sector	Natural Gas Usage (Therms per year)
Residential	6,632,493
Nonresidential	3,733,809
Total	10,366,302

Source:

¹ Natural gas total makes use of a five-year (2016–2020) natural gas consumption average based on data provided by SoCalGas.

³ The electricity sources listed reflect changes after the 2013 closure of the San Onofre Nuclear Generating Station, which is owned by SCE. Numbers are rounded up and may cause the total to not add up to exactly 100%.

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Transportation Fuels

Table 5.3-3, *Existing Operation-Related Annual Fuel Usage*, shows the fuel usage associated with vehicle miles traveled (VMT) currently generated under existing baseline conditions based on fuel usage data obtained from EMFAC2021 (v. 1.0.2) and VMT data provided by Fehr and Peers (see Appendix 5.13-1). VMT is based on vehicle trips beginning and ending in the city boundaries and from external/internal trips (i.e., trips that either begin or end in the city).

Table 5.3-3 Existing Operation-Related Annual Fuel Usage

	Gas		Diesel		Compressed Natural Gas		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	Gallons	VMT	kWh
Existing Baseline	438,953,928	18,508,468	22,520,736	2,415,660	1,010,654	217,510	14,298,235	5,251,990

Source: EMFAC2021, version 1.0.2.

Note: VMTs based on daily VMT provided by Fehr and Peers. VMT per year based on a conversion of VMT x 347 days per year to account for less travel on weekend, consistent with CARB statewide GHG emissions inventory methodology (CARB 2008).

5.3.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- E-1 Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- E-2 Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The analysis also utilizes considerations identified in Appendix F of the CEQA Guidelines, as appropriate, to assist in answering the Appendix G questions. The factors to evaluate energy impacts under Threshold (a) include:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials maybe discussed.
- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the project on peak and base period demands for electricity and other forms of energy.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources.

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- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives

5.3.3 Applicable General Plan Update Policies

Land Use Element

- **Policy LU-1.3: Mix of Land Uses.** Maintain a balanced mix of high quality residential, retail, employment, industrial, open space, and public facility land uses to ensure a range of living options, fiscal sustainability, and convenient access to shops, restaurants, services, and well-paid and highly skilled jobs.
- **Policy LU-2.5: Reduced Commuting.** Attract and retain businesses that provide jobs suited to the labor force residing in Fountain Valley. Additionally, support and assist the development of housing affordable to the workforce commuting into Fountain Valley.

Circulation and Mobility Element

- **Policy CM-1.7: Traffic Management.** Utilize intelligent transportation systems and research changing trends in mobility to more efficiently and safely move people and vehicles while managing motor vehicle speeds.
- **Policy CM-1.8: Truck Routes.** Plan and designate truck routes that support the effective transport of goods while minimizing the negative impacts on local circulation, neighborhoods, and noise-sensitive land uses.
- **Policy CM-2.1: Multimodal and Complete Network.** Plan, design, and maintain a citywide network of travelways for motorists, bicyclists, pedestrians, and transit riders of all ages and abilities. Create safe, desirable, and convenient linkages between neighborhoods, recreational amenities, schools, and commercial, employment, and activity centers through complete facilities, amenities, and safety features.
- **Policy CM-2.2: Regional Network.** Coordinate development of the City's active transportation and transit network with adjacent jurisdictions, OCTA, and other appropriate agencies. Connect bicycle and pedestrian trails to local and regional trails in adjacent jurisdictions.
- **Policy CM-2.3: Design of New Facilities.** Balance accommodations for vehicles, transit, bicycles, and pedestrians in the design of new streets and streetscape improvements.
- **Policy CM-2.5: Site Design.** Require new development to incorporate amenities and pathways so that pedestrians and bicyclists can access the site and onsite businesses safely and conveniently from the public right-of-way and parking areas.
- **Policy CM-2.6: Access Management.** Minimize access points and curb cuts along arterials and in the proximity of an intersection to improve traffic flow and safety for vehicles and bicycles. Eliminate and/or consolidate driveways when new development occurs or when traffic operation or safety warrants.

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- **Policy CM-2.7: VMT Reduction.** Promote new development and transportation demand management (TDM) strategies that will reduce household and employment vehicle miles traveled (VMT). Prioritize the implementation of TDM strategies over the expansion of roadway capacity.
- **Policy CM-2.8: First Mile/Last Mile Connectivity.** Support strategies that strengthen first/last mile connectivity to enhance the viability and expand the use of public transit, both to improve quality of life and reduce traffic congestion in the city.
- **Policy CM-2.10: Transit Service and Stops.** Coordinate with OCTA to increase frequency of bus service and install, improve, and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.

Open Space and Conservation Element

- **Policy OSC-3.3: Energy and Water Conservation.** Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the City's Municipal Code and the California Building Code.
- **Policy OSC-3.8: Renewable Energy.** Promote the use of renewable energy sources to serve public and private sector development to reduce reliance on fossil fuels and increase resiliency during prolonged and excessively high temperatures.

Public Facilities and Safety Element

- **Policy PFS-4.6: Sustainable and Resilient Design.** Require the development or rehabilitation of any public facility or capital improvement to incorporate site design and building practices that promote sustainability, energy efficiency, and resiliency. Encourage and facilitate such designs and practices in the development and rehabilitation of private buildings and facilities.

5.3.4 Environmental Impacts

5.3.4.1 METHODOLOGY

The following is a summary of the assumptions used for the City's energy analysis:

- **On-Road Fuel Use.** Fuel use was based on Origin-Destination Method VMT provided by Fehr and Peers (see Section 5.17, *Transportation*), and modeled using CARB's EMFAC2021 v.1.0.2 web database and calendar year 2021 (existing) and 2045 fuel usage rates. The VMT provided includes the full trip length for land uses in the City (origin-destination approach) and a 50 percent reduction in the trip length for external-internal/internal-external trips, consistent with the recommendations of CARB's Regional Targets Advisory Committee.

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- **Energy (Natural Gas and Electricity).** Emissions associated with natural gas use for residential and nonresidential land uses in the City were modeled based on data provided by SoCalGas, and electricity was modeled based on data provided by SCE (Appendix 5.3-1). Year 2045 forecasts are adjusted for increases in population and employment in the City.

5.3.4.2 IMPACT ANALYSIS

The applicable thresholds are identified in brackets after the impact statement.

Impact 5.3-1: Implementation of the General Plan Update would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. [Threshold E-1]

Short-Term Construction Impacts

Development projects constructed under the General Plan Update would create temporary demands for electricity. Natural gas is not generally required to power construction equipment, and therefore is not anticipated during construction phases. Electricity use would fluctuate according to the phase of construction. Additionally, it is anticipated that most electric-powered construction equipment would be hand tools (e.g., power drills, table saws, compressors) and lighting, which would result in minimal electricity usage during construction activities.

Development projects would also temporarily increase demands for energy associated with transportation. Transportation energy use depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. Energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel or gasoline. The use of energy resources by these vehicles would fluctuate according to the phase of construction and would be temporary. It is anticipated that most off-road construction equipment, such as those used during demolition and grading, would be gas or diesel powered. In addition, all operation of construction equipment would cease upon completion of project construction.

Furthermore, the construction contractors would minimize nonessential idling of construction equipment during construction in accordance with the California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449. Such required practices would limit wasteful and unnecessary energy consumption in development in Fountain Valley. Moreover, future development projects within the City would be similar to the construction processes of any current development projects within Fountain Valley. Therefore, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of fuel use during construction.

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Long-Term Impacts During Operation

Operation of new development projects accommodated under the General Plan Update would create additional demands for electricity and natural gas compared to existing conditions. Operational use of electricity and natural gas would include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems; use of on-site equipment and appliances; and lighting.

Nontransportation Energy

Electrical service to the City is provided by SCE through connections to existing off-site electrical lines and new on-site infrastructure. As shown in Table 5.3-4, *Year 2045 Forecast Electricity Consumption*, by horizon year 2045, electricity use in the City would increase by 39,331,861 kWh/year, or approximately 15 percent, from existing conditions.

Table 5.3-4 Year 2045 Forecast Electricity Consumption

Area	Electricity Usage, kWh per year (Subtotal)		
	Existing Baseline ¹	Horizon Year 2045 Forecast ²	Net Change
Residential	119,257,240	153,047,202	33,789,961
Nonresidential	145,542,305	151,084,205	5,541,900
Total	264,799,546	304,131,407	39,331,861

¹ Electricity usage is provided by SCE.
² Residential energy and nonresidential energy forecasts are adjusted for increases in housing and employment, respectively, in the city and do not account for reductions due to increase in energy efficiency from compliance with the Building Energy Efficiency Standards and CALGreen.

As shown in Table 5.3-5, *Year 2045 Forecast Natural Gas Consumption*, existing natural gas use in the City totals 10,366,302 therms annually. By 2045, natural gas use in the City would increase by 2,021,403 therms annually, or approximately 19 percent, from existing conditions to a total of 12,387,705 therms per year.

Table 5.3-5 Year 2045 Forecast Natural Gas Consumption

Area	Natural Gas Usage, therms per year (Subtotal)		
	Existing Baseline ¹	Horizon Year 2045 Forecast ²	Net Change
Residential	6,632,493	3,875,983	-2,756,509
Nonresidential	3,733,809	8,511,722	4,777,913
Total	10,366,302	12,387,705	2,021,403

¹ Natural gas usage data provided by SoCalGas.
² Residential energy and nonresidential energy forecasts are adjusted for increases in housing and employment, respectively, in the city and do not account for reductions due to increase in energy efficiency from compliance with the Building Energy Efficiency Standards and CALGreen.

While the electricity and natural gas demand for the City would increase compared to existing conditions, development accommodated under the General Plan Update would be required to comply with the current and future updates to the Building Energy Efficiency Standards and CALGreen, which would contribute to reducing the energy demands shown in Tables 5.3-3 and 5.3-4. New and replacement buildings in compliance with these standards would generally have greater energy efficiency than existing buildings. It is anticipated

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that each update to the Building Energy Efficiency Standards and CALGreen will result in greater building energy efficiency and move closer toward buildings achieving zero net energy usage.

In addition to the Building Energy Efficiency Standards and CALGreen, the General Plan Update includes policies to increase energy efficiency and reduce wasteful, inefficient use of energy resources.

- **Policy OSC-3.3 Energy and water conservation.** Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the City's Municipal Code and the California Building Code.
- **Policy OSC-3.8 Renewable energy.** Promote the use of renewable energy sources to serve public and private sector development to reduce reliance on fossil fuels and increase resiliency during prolonged and excessively high temperatures.
- **Policy PFS-4.6 Sustainable and resilient design.** Require the development or rehabilitation of any public facility or capital improvement to incorporate site design and building practices that promote sustainability, energy efficiency, and resiliency. Encourage and facilitate such designs and practices in the development and rehabilitation of private buildings and facilities.

Encouraging sustainable and energy-efficient building practices and using more renewable energy strategies will further reduce energy consumption within the City and move closer toward achieving zero net energy.

Transportation Energy

The growth accommodated under the General Plan Update would consume transportation energy from the use of motor vehicles (e.g., gasoline, diesel, compressed natural gas, and electricity). Table 5.3-6, *Operation-Related Annual Fuel Usage: Net Change from Existing*, shows the net change in VMT, fuel usage, and fuel efficiency under horizon year 2045 General Plan Update conditions from existing baseline year 2021 conditions and existing uses under year 2045 conditions.

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Table 5.3-6 Operation-Related Annual Fuel Usage: Net Change from Existing

Fuel Type	Existing Baseline Year 2021	Existing Year 2045 ¹	Project Horizon Year 2045	Net Change from Existing Baseline Year 2021	Net Change from Existing Year 2045
Gasoline					
VMT ²	438,953,928	444,769,315	450,479,771	11,525,843	5,710,456
Gallons	18,508,468	13,654,870	13,830,186	-4,678,282	175,317
Miles Per Gallon	23.72	32.57	32.57	8.86	0
Diesel					
VMT ²	22,520,736	20,370,173	20,631,708	-1,889,028	261,536
Gallons	2,415,660	1,969,775	1,995,065	-420,595	25,290
Miles Per Gallon	9.32	10.34	10.34	1.02	0
Compressed Natural Gas					
VMT ²	1,010,654	658,040	666,488	-344,165	8,449
Gallons	217,510	61,381	62,169	-155,341	788
Miles Per Gallon	4.65	10.72	10.72	6.07	0
Electricity					
VMT ²	14,298,235	69,412,843	70,304,044	56,005,810	891,201
kWh	5,251,990	19,388,079	19,637,006	14,385,016	248,926
Miles Per kWh	2.72	3.58	3.58	0.86	0
Total VMT	476,783,552	535,210,371	542,082,012	65,298,460	6,871,641

Source: EMFAC2021 Version 1.0.2.

Notes:

¹ Represents existing uses as they currently exist in baseline year 2021 operating under year 2045 conditions.

² Based on daily VMT provided by Fehr and Peers. VMT per year based on a conversion of VMT x 347 days per year to account for less travel on weekend, consistent with CARB statewide GHG emissions inventory methodology (CARB 2008).

As shown in Table 5.3-6, when compared to existing baseline year 2021 conditions, the General Plan Update would result in an increase in VMT for gasoline- and electric-powered vehicles, but not for diesel- and compressed natural gas-powered vehicles. Although annual VMT would increase for gasoline-powered vehicles by 11,525,843 miles, gasoline fuel usage would decrease. For electric-powered vehicles, annual VMT would increase by 56,005,810 miles and annual consumption would increase by 14,385,016 kWh. The decrease in fuel usage for gasoline-powered vehicles and large increase in VMT and fuel usage for electric-powered vehicles are primarily based on the assumption in EMFAC that a greater mix of light-duty automobiles would be electric-powered in future years based on regulatory (e.g., Advanced Clean Cars) and consumer trends. Compared to existing uses under year 2045 conditions, the General Plan Update would result in an increase in VMT and fuel usage for all fuel types (see “Net Change from Existing Year 2045” column). However, the fuel efficiency will be the same, and implementation of the General Plan Update would not result in less efficiency in transportation fuel usage.

The overall VMT as shown in the table would be primarily attributable to the growth associated with the General Plan Update compared to existing conditions. As discussed in Chapter 5.14, *Population and Housing*, the projected growth from the proposed project would exceed the growth projections in SCAG’s RTP/SCS growth forecasts for this region. As shown in Table 5.3-6, while VMT and fuel usage would generally increase from implementation of the General Plan Update when compared to existing uses under horizon year

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conditions, the fuel efficiency would be the same. Additionally, fuel efficiency of vehicles under year 2045 conditions would improve compared to baseline year 2021. The improvement in fuel efficiency would be attributable to regulatory compliance (e.g., CAFE standards), resulting in new cars that are more fuel efficient and the attrition of older, less fuel-efficient vehicles. The CAFE standards are not directly applicable to residents or land use development projects, but to car manufacturers. Thus, residents and employees of Fountain Valley do not have direct control in determining the fuel efficiency of vehicles manufactured and that are made available. However, compliance with the CAFE standards by car manufacturers would ensure that vehicles produced in future years have greater fuel efficiency and would generally result in an overall benefit of reducing fuel usage by providing the population of the City more fuel-efficient vehicle options. Furthermore, while the demand in electricity would increase under the proposed project, in conjunction with the regulatory (i.e., Renewables Portfolio Standard, SB 350, and SB 100) and general trend toward increasing the supply and production of energy from renewable sources, it is anticipated that a greater share of electricity used to power electric vehicles would be from renewable sources in future years (e.g., individual photovoltaic systems, purchased electricity from SCE, and/or purchased electricity from SCE that is generated from renewable sources).

In addition to regulatory compliance that would contribute to more fuel-efficient vehicles and less demand in fuels, the General Plan Update includes policies that will contribute to minimizing overall VMT, and thus fuel usage associated with the City. The following General Plan Update policies focus on minimizing VMT through land use and transportation planning efforts that work in conjunction including:

- **Policy LU-1 Mix of land uses.** Maintain a balanced mix of high quality residential, retail, employment, industrial, open space, and public facility land uses to ensure a range of living options, fiscal sustainability, and convenient access to shops, restaurants, services, and well-paid and highly skilled jobs.
- **Policy LU-2.5 Reduced commuting.** Attract and retain businesses that provide jobs suited to the labor force residing in Fountain Valley. Additionally, support and assist the development of housing affordable to the workforce commuting into Fountain Valley.
- **Policy CM-1.7 Traffic management.** Utilize intelligent transportation systems and research changing trends in mobility to more efficiently and safely move people and vehicles while managing motor vehicle speeds.
- **Policy CM-2.1 Multimodal and complete network.** Plan, design, and maintain a citywide network of travelways for motorists, bicyclists, pedestrians, and transit riders of all ages and abilities. Create safe, desirable, and convenient linkages between neighborhoods, recreational amenities, schools, and commercial, employment, and activity centers through complete facilities, amenities, and safety features.
- **Policy CM-2.2 Regional network.** Coordinate development of the City's active transportation and transit network with adjacent jurisdictions, OCTA, and other appropriate agencies. Connect bicycle and pedestrian trails to local and regional trails in adjacent jurisdictions.
- **Policy CM-2.6 Access management.** Minimize access points and curb cuts along arterials and in the proximity of an intersection to improve traffic flow and safety for vehicles and bicycles. Eliminate and/or consolidate driveways when new development occurs or when traffic operation or safety warrants.

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- **Policy CM-2.7 VMT reduction.** Promote new development and transportation demand management (TDM) strategies that will reduce household and employment vehicle miles traveled (VMT). Prioritize the implementation of TDM strategies over the expansion of roadway capacity.

Collectively, the policies and action listed above would minimize overall VMT, and thus fuel usage associated with potential future development in Fountain Valley. Furthermore, the proposed project would rely on infill development for projected growth in the Fountain Valley region, thus contributing to reduced energy use from the transportation sector. Although population and VMT is projected to grow, the jobs-housing ratio will decrease to be closer to a more equal distribution of employment and housing (see Impact 5.14-1 of this DEIR). Having a jobs-rich City would encourage the creation of more employment opportunities for City's residents and workers commuting to Fountain Valley. Therefore, this could result in shorter distances traveled between where people work and live and to amenities. The proposed project also encourages people to forego vehicle travel altogether and either bike, walk, or take public transportation, which would also contribute to minimizing VMT.

Summary

Compliance with federal, State, and local regulations (e.g., Building Energy Efficiency Standards, CALGreen, Renewable Portfolio Standards, and CAFE standards) will increase building energy efficiency and vehicle fuel efficiency and reduce building energy demand and transportation-related fuel usage. Additionally, the General Plan Update includes policies related to land use and transportation planning and design, energy efficiency, public and active transit, and renewable energy generation that will contribute to minimizing building and transportation-related energy demands overall and demands on nonrenewable sources of energy. Implementation of proposed policies under the General Plan Update in conjunction with and complementary to regulatory requirements, will ensure that energy demand associated with growth under the General Plan Update would not be inefficient, wasteful, or unnecessary. Therefore, energy impacts associated with implementation and operation of land uses accommodated under the General Plan Update would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.3-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.3-1 would be less than significant.

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Impact 5.3-2: The General Plan Update would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. [Threshold E-2]

California Renewables Portfolio Standard Program

The state's electricity grid is transitioning to renewable energy under California's RPS Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. As stated, the RPS goals have been updated since adoption of SB 1078 in 2002. In general, California has RPS requirements of 33 percent renewable energy by 2020 (SB X1-2), 40 percent by 2024 (SB 350), 50 percent by 2026 (SB 100), 60 percent by 2030 (SB 100), and 100 percent by 2045 (SB 100). SB 100 also establishes RPS requirements for publicly owned utilities that consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. The statewide RPS requirements do not directly apply to individual development projects, but to utilities and energy providers such as SCE, whose compliance with RPS requirements would contribute to the State of California objective of transitioning to renewable energy. The land uses accommodated under the General Plan Update would comply with the current and future iterations of the Building Energy Efficiency Standards and CALGreen.

Furthermore, as discussed for Impact 5.3-1, the General Plan Update includes Open Space and Conservation element policies (OSC-3.3, OSC-3.8), and Public Facilities and Safety element policies (PFS-4.6), which would support the statewide goal of transitioning the electricity grid to renewable sources. Therefore, implementation of the General Plan Update would not conflict with or obstruct implementation of California's RPS program, and no impact would occur.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.3-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.3-2 would be less than significant.

5.3.5 Cumulative Impacts

The area considered for cumulative impacts to electricity and natural gas supplies and facilities is SCE and SoCalGas service areas. Other projects in the SCE and SoCalGas service area would be subject to existing regulations, including the CBC which requires new buildings increase energy efficiency. The proposed project includes policies to reduce energy use and measures to align with the state's goals for carbon neutrality. Cumulative impacts would be less than significant, and impacts would not be cumulatively considerable.

5.3.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the impacts would be less than significant: 5.3-1 and 5.3-2.

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5.3.7 Level of Significance After Mitigation

No significant energy impacts were identified, and no mitigation measures are warranted.

5.3.8 References

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5.4 GEOLOGY AND SOILS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the City of Fountain Valley General Plan Project to impact geological and soil resources, paleontological resources, or unique geologic features in the City of Fountain Valley.

5.4.1 Environmental Setting

5.4.1.1 REGULATORY BACKGROUND

Federal Regulations

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 was intended to reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program. Pursuant to this act, the National Earthquake Hazards Reduction Program was established, which designates the Federal Emergency Management Agency as the lead agency of the program. The program provides valuable resources to guide building code requirements and planning efforts such as emergency evacuation responsibilities and seismic code standards.

National Pollutant Discharge Elimination System

Under the National Pollutant Discharge Elimination System (NPDES) program (under Section 402 of the Clean Water Act), all facilities that discharge pollutants from any point into waters of the United States must have a NPDES permit. The term “pollutant” broadly applies to any type of industrial, municipal, and agricultural waste discharged into water. Point sources can be publicly owned treatment works (POTW), industrial facilities, and urban runoff (the NPDES program addresses certain agricultural activities, but the majority are considered nonpoint sources and are exempt from NPDES regulation). Direct sources discharge directly to receiving waters, and indirect sources usually discharge to POTWs, which in turn discharge to receiving waters. Under the national program, NPDES permits are issued only for direct, point-source discharges. The National Pretreatment Program addresses industrial and commercial indirect discharges. Municipal sources include POTWs that receive primarily domestic sewage from residential and commercial customers and municipal stormwater runoff. Specific NPDES program areas applicable to municipal sources are the National Pretreatment Program, the Municipal Sewage Sludge Program, Combined Sewer Overflows, and the Municipal Storm Water Program. Nonmunicipal sources include industrial and commercial facilities. Specific NPDES program areas applicable to these industrial/commercial sources are: Process Wastewater Discharges, Non-process Wastewater Discharges, and the Industrial Storm Water Program. NPDES issues two basic permit types: individual and general. Also, the US Environmental Protection Agency has recently focused on integrating the NPDES program further into watershed planning and permitting.

The NPDES has a variety of measures designed to minimize and reduce pollutant discharges. All counties with storm drain systems that serve a population of 50,000 or more as well as construction sites one acre or more in size must file for and obtain an NPDES permit. New development would be required to implement

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erosion and sediment control plans, including appropriate erosion and sediment control best management practices (BMPs), Storm Water Pollution Prevention Plans (SWPPP), and water quality management plans, as applicable. Further, projects must ensure, to the maximum extent practicable standard, that runoff from development projects does not cause a nuisance to adjoining or downstream properties and stream channels through appropriate control measures to reduce erosion and maintain stream geomorphology. Projects are also required to emphasize implementation of low-impact development principles, where feasible, and that urban runoff conveyance systems from development projects are appropriately maintained.

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Piolo (AP) Earthquake Fault Zoning Act of 1972 was intended to mitigate the hazard of surface rupture by prohibiting the location of structures for human occupancy across the trace of an active fault. The Act delineates “Earthquake Fault Zones” along faults that are “sufficiently active” and “well defined.” The Act also requires that cities and counties withhold development permits for sites within an earthquake zone until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting. Pursuant to this Act, structures for human occupancy are not allowed within 50 feet of the trace of an active fault.

Seismic Hazards Mapping Act

Earthquakes can cause significant damage even if surface ruptures do not occur. The Seismic Hazards Mapping Act of 1990 (Public Resources Code, Chapter 7.8, Sections 2690 to 2699.6) is intended to protect the public from the hazards of nonsurface fault rupture from earthquakes, including strong ground shaking, liquefaction, seismically induced landslides, or other ground failure. The California Geological Survey prepares and provides local governments with seismic hazard zone maps that identify areas susceptible to non-surface fault hazards. Seismic Zone Hazard Maps identify Zones of Required Investigation, which are those with potential seismic hazards. Most developments designed for human occupancy planned within these zones are subject to site-specific geotechnical investigations to identify the hazard. The Act requires responsible agencies to approve projects within seismic hazard zones only after a site-specific investigation to determine if the hazard is present, and the inclusion, if a hazard is found, of appropriate mitigation.

California General Plan Law

State law (Government Code Section 65302) requires cities to adopt a comprehensive long-term general plan that includes a safety element. The safety element is intended to provide guidance for protecting the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; other seismic hazards identified by Public Resources Code Sections 2691 et. seq.; and other geologic hazards known to the legislative body. The safety element must also include mapping of known seismic and geologic hazards from the California Geological Survey and a series of responsive goals, policies, and implementation programs to improve public safety.

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Local Regulations

Erosion Control Ordinance

Section 18.06.100, Erosion Control and Water Quality Requirements Systems, of the Fountain Valley Municipal Code, states that the City has adopted the erosion control provisions imposed by the NPDES permit which requires that a project site be prepared and maintained to control erosion.

Building Codes

Every public agency enforcing building regulations must adopt the provisions of the California Building Codes (CBC), which is Title 24, Part 2 of the California Code of Regulations. The most recent version is the 2019 CBC (effective January 1, 2020). The CBC is updated every three years and provides minimum standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. The CBC also contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock on-site, and the strength of ground shaking with specified probability of occurring at a site. A city may adopt more restrictive codes than state law based on conditions in their community.

Chapter 18.04, Building Code, of the Fountain Valley Municipal Code states that the City has adopted the 2019 edition of the California Building Code.

5.4.1.2 EXISTING CONDITIONS

Geologic Conditions

The City lies within coastal plains of the Peninsular Ranges geomorphic province. The region is bounded to the north by the Coyote and Chino Hills, to the northeast by the Santa Ana Mountains, and to the south by the San Joaquin Hills. Topography within the City consists of a gently southward sloping alluvial plain, ranging from approximately 45 feet above mean sea level (amsl) in the northern portion of the City to approximately 10 feet amsl in the southern portion of the City. The major drainage system of the region is the Santa Ana River which flows through the southeastern Los Angeles Basin into the Pacific Ocean.

Regional Faulting, Seismicity, and Earthquakes

Regional faulting and seismicity in Southern California are dominated by the San Andreas Fault zone, which comprises two of the major tectonic plates that comprise the earth's crust. West of the San Andreas Fault Zone lies the Pacific Plate, which moves in a northwesterly direction relative to the North American Plate that lies east of the San Andreas Fault Zone. This relative movement between the two plates is the driving force of fault ruptures (earthquakes) in western California. The San Andreas Fault generally trends northwest; however, north of the Transverse Ranges Province, the fault trends more in an east-west direction (the Big Bend), causing the fault's right-lateral strike-slip movement to produce north-south compression between the two plates.

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Active and potentially active faults within and near the City include the Newport-Inglewood, San Andreas, Palos Verdes, Whittier-Elsinore, El Modina, San Jacinto, Norwalk, Santa Monica-Raymond Hills Faults. Historically, the City has experienced seismic activity from various regional faults. The strongest, most recent regional seismic event was the March 10, 1933, Long Beach earthquake (magnitude 6.4). There are no Alquist-Priolo Earthquake Zones within the City.

Surface Rupture

Surface rupture involves displacement and cracking of the ground surface along a fault trace. Surface ruptures are visible instances of horizontal or vertical displacement, or a combination of the two, typically confined to a narrow zone along the fault. Surface rupture is more likely to occur in conjunction with active fault segments where earthquakes are large, or where the location of the movement (earthquake hypocenter) is shallow. There are no documented reports of surface rupture within the existing General Plan or the 2018 Local Hazard Mitigation Plan.

Liquefaction

Liquefaction is a form of earthquake-induced ground failure that occurs primarily in relatively shallow, loose, granular, water-saturated soils. Liquefaction is defined as the transportation of a granular material from a solid state into a liquefied state due to increased pore pressure, which results in the loss of grain-to-grain contact. Almost any saturated granular soil can induce an increase in pore water pressures when shaken, and subsequently, these excess pore water pressures can lead to liquefaction if the intensity and duration of earthquake shaking are great enough.

The City has a very high potential for liquefaction due to the high groundwater level throughout the City. Groundwater is within 10 feet of the surface, likely reflecting the historical wetlands that covered the area. The Newport Beach Quadrangle Seismic Hazard Zone map identifies the entire City within an area potentially susceptible to liquefaction. The Public Safety Chapter of the existing General Plan describes the high risk of liquefaction in locations south of the I-405 and along the Santa Ana River channel, with a buffer of about 0.25 mile. The area north of the I-405 is identified by the City as moderate or unknown liquefaction risk.

Landslides and Slope Instability

The stability of slopes is affected by a number of factors including gravity, rock and soil type, amount of water present, and amount of vegetation present. Events that can cause a slope to fail include sudden movements such as those during a seismic event, modification of the slope by nature or humans, undercutting caused by erosion, and changes in hydrologic characteristics, including heavy rains that can saturate the soil. The Newport Beach Seismic Hazard Zones Quadrangle does not identify any area within the City as at risk to landslide or slope instability.

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Subsidence

Subsidence is the downward shift of the ground surface. Subsidence can be caused by mineral dissolution, earth extraction activities, geological faulting, seasonal effects that cause changes in soil moisture content, or the withdrawal of pressurized fluids or gas from subsurface aquifers.

The City is within an area of known subsidence associated with drainage of organic and peat soils and a high water table. The City of Fountain Valley Hazard Mitigation Plan states that subsidence has had a significant impact on numerous public and private properties throughout the City and is considered to be a potential hazard in the future. It can be concluded that most citizens and structures in the City are, or will be, impacted by subsidence; areas at higher risk are those in regions with peat and soft soils (Fountain Valley 2018).

Soils

Prior to the City's incorporation and the channelization of the Santa Ana River, the River meandered freely through this valley area, forming swampland throughout most of the City. Therefore, most of the City is comprised primarily of alluvial sediments with interbedded silts and sands. Areas of the City also contain irregular lenses of peat varying in thickness from a few inches to a few feet. Much of the City has historically been located on a gently sloping flood zone. The soils found within the City are those typically found on slopes which are less than 5 percent and are usually moderately alkaline and to varying degrees, calcareous (Huntington Beach and Fountain Valley 2007). Vegetation found on these soils are typically grasses and forbs. Soil types range from those with poor drainage to those that are excessively drained. All of the soils within the City are good for crops and are also recommended for urban development. These soil conditions, while generally favorable, can lead to difficulties with flood drainage and liquefaction (Huntington Beach and Fountain Valley 2007).

5.4.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- G-1 Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42.)
 - ii) Strong seismic ground shaking.
 - iii) Seismic-related ground failure, including liquefaction.
 - iv) Landslides.
- G-2 Result in substantial soil erosion or the loss of topsoil.

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- G-3 Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- G-4 Be located on expansive soil, as defined in Table 18-1B of the Uniform building Code (1994), creating substantial direct or indirect risks to life or property.
- G-5 Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
- G-6 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

5.4.3 Applicable General Plan Update Policies

Public Facilities and Safety Element

- **Policy PFS-2.1: Disaster Planning and Coordination.** Improve the City's ability to prepare for and respond to large-scale disasters through coordination and sharing data, experience, and strategies with other emergency management agencies and the private sector in state or regional efforts on disaster planning, preparedness, and response.
- **Policy PFS-2.2: Local Hazard Mitigation Plan Implementation.** Require adherence to the goals, objectives and actions in the Local Hazard Mitigation Plan and subsequent amendments to reduce and mitigate damages from hazards in the city.
- **Policy PFS-2.3: Seismic Retrofits.** Encourage seismically vulnerable structures to be retrofitted to withstand seismic hazards based on the latest building code.
- **Policy PFS-2.6: Critical and Public Facilities.** Require that new critical and public facilities be located and designed to operate during and minimize their exposure and susceptibility to flooding, seismic and geological effects, and urban fires. Retrofit existing City facilities and encourage existing private facilities to be retrofitted so that they can remain operational during an emergency.
- **Policy PFS-2.7: Underground Utilities.** Require that underground utilities be designed to withstand seismic forces, accommodate ground settlement, and hardened to fire risk.

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5.4.4 Environmental Impacts

5.4.4.1 IMPACT ANALYSIS

Impact 5.4-1: Project residents and visitors would be subject to potential seismic-related hazards. [Threshold G-1i-iv]

Ground Rupture

As indicated above, there are no Alquist-Priolo Fault Zones in the City. Therefore, the City would not experience ground rupture in the event of an earthquake.

Strong Seismic Ground Shaking

Ground shaking is responsible for most of the damage from earthquakes and can damage or destroy buildings, structures, pipelines, and other infrastructure. The intensity of shaking depends on the type of fault, distance to the epicenter, magnitude of the earthquake, and subsurface geology. Active and potentially active faults within and near the City include the Newport-Inglewood, San Andreas, Palos Verdes, Whittier-Elsinore, El Modina, San Jacinto, Norwalk, Santa Monica-Raymond Hills Faults. The seismic design of buildings within the General Plan Area is governed by the most recent California Building Code (CBC). All structures that would be constructed under the General Plan Update would be designed to meet or exceed current design standards as required in the latest CBC. Therefore, while new structures may suffer damage requiring closure and replacement after a seismic event, compliance with the CBC would reduce potential seismic-related hazards on residents and visitors.

Seismic-Related Ground Failure

Secondary effects of earthquakes are nontectonic processes such as ground deformation, including fissures, settlement, displacement, and loss of bearing strength, and are the leading causes of damage to structures during a moderate to large earthquake. Secondary effects could lead to ground deformation including liquefaction, lateral spreading, seismically induced landslides, and ground lurching.

The City has a very high potential for liquefaction due to the high groundwater level throughout the City. As discussed previously, all structures constructed under the General Plan Update would be designed in accordance with current seismic design standards as found in the CBC. Design measures would be implemented according to the most recent CBC, which would reduce the impacts related to liquefaction.

Landslides

Marginally stable slopes (including existing landslides) may be subject to landslides caused by earthquakes. The landslide hazard depends on many factors, including existing slope stability, shaking potential, and presence of existing landslides. Landslides, debris flows, or any movement of earth or rock are most common in areas of high topographic relief, such as steep canyon walls or steep hillsides. The Newport Beach Seismic Hazard Zones Quadrangle does not identify any area within the City as at risk to landslide or slope instability.

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With the implementation of existing federal, state, and local regulations, as well as the General Plan Update policies, such as Policy PFS-2.1, Policy PFS-2.2, Policy PFS-2.3, Policy PFS-2.6, and Policy PFS-2.7, impacts would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.4-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.4-1 would be less than significant.

Impact 5.4-2: Unstable geologic unit or soils conditions, including soil erosion, could result from development of the General Plan Update. [Thresholds G-2, G-3, and G-4]

The proposed General Plan Update buildout would involve soil disturbance, construction, and operation of developed land uses that could each be subject to unstable soil conditions.

Soil Erosion

Soils are particularly prone to erosion during the grading phase of development, especially during heavy rains. The use of a Storm Water Pollution Prevention Plan (SWPPP), which specifies best management practices for temporary erosion control, would reduce the potential for erosion during construction activities. Standard erosion control measures would be implemented as part of a SWPPP for proposed projects within the General Plan Area to minimize the risk of erosion or sedimentation during construction. The SWPPP must include an erosion control plan that prescribes measures, such as phasing grading, limiting areas of disturbance, designating restricted-entry zones, diverting runoff from disturbed areas, protective measures for sensitive areas, outlet protection, and provisions for revegetation or mulching.

Mandatory compliance with existing regulations, including the preparation and submittal of a SWPPP and a soil engineering evaluation, and compliance with the General Plan Update policies, such as Policy PFS-2.1, Policy PFS-2.2, and Policy PFS-2.6, would reduce impacts to a less than significant level.

Expansive Soils

Most of the City is comprised primarily of alluvial sediments and, therefore, there is some potential for expansive soils throughout the city. Expansive soils are possible wherever clays and elastic silts may be present, including alluvial soils and weathered granitic and fine-grained sedimentary rocks. The presence of expansive soils represents a potential hazard to structures and people.

CBC has been adopted by the City (Chapter 18.04, Building Code,) and compliance requires that structures be designed to mitigate for expansive soils. Methods that could be used to reduce the impact of expansive soils include drainage control devices to limit water infiltration near foundation, over-excavation and recompaction of engineered fill method, or support of the foundation with piles. These methods as well as the General

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Plan Update policies, such as Policy PFS-2.1, Policy PFS-2.2, and Policy PFS-2.6, would reduce the impact related to expansive soils to less than significant.

Settlement and Collapse

Risk of settlement or collapse have the potential to exist in areas with alluvial soils. Areas of large settlement can damage, or in extreme cases, destroy structures. The presence of compressible soils in the city represents a hazard to structures and people.

CBC has been adopted by the City and compliance requires that structures be designed to mitigate compressible soils. Methods that could be used to reduce the impact of compressible soils include transferring the load to underlying non-compressible layers with piles and overexcavation of compressible soil and recompaction with engineered fill. These methods, as well as the General Plan Update policies, such as Policy PFS-2.1, Policy PFS-2.2, and Policy PFS-2.7, would reduce the impact of compressible soils to less than significant.

Subsidence

The city is within an area of known subsidence and is considered a hazard. Approximately 95 percent of the city could be affected by subsidence, and there are multiple instances of subsidence adversely affecting buildings in the city. Because overdraft of groundwater can result in subsidence, groundwater storage by Orange County Water District and statutory commitments to sustainable groundwater management practices would reduce the potential for future land subsidence. Further, ongoing surveying of the ground surface by Orange County Water District provides a way to verify that its efforts in preventing subsidence are effective. The statutorily required sustainable groundwater management practices of the Orange County Water District, as well as the General Plan Update policies, such as Policy PFS-2.1, Policy PFS-2.2, and Policy PFS-2.6, would reduce the impact of subsidence to less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.4-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.4-2 would be less than significant.

Impact 5.4-3: Future development in the General Plan Area would require connection to the City's sewer system. [Threshold G-5]

The City is fully developed and is highly urbanized. Future development would be required to connect to the City's sewer system and the use of septic tanks or alternative wastewater disposal systems would not be required. There would be no impact related to the use of septic tanks or alternative wastewater disposal systems.

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LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.4-3 would have no impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.4-3 would have no impact.

Impact 5.4-4: Future development that would be accommodated by the General Plan Update could impact known and unknown paleontological resources. [Threshold G-6]

Paleontological resources are recognized as nonrenewable and, therefore, receive protection under the California Public Resources Code and CEQA. Adoption of the General Plan Update itself would not directly affect paleontological resources. Long-term implementation of the General Plan Update land use plan would allow development (e.g., infill development, redevelopment, and revitalization/restoration), including grading, of known and unknown sensitive areas. Grading and construction activities of undeveloped areas or redevelopment that required more intensive soil excavation than in the past could potentially disturb paleontological resources. Therefore, future development that would be accommodated by the General Plan Update could potentially unearth previously unrecorded resources. Review and protection of paleontological resources are also afforded by CEQA for individual development projects that would be accommodated by the General Plan Update, subject to discretionary actions that are implemented in accordance with the land use plan of the General Plan Update.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.4-4 would be potentially significant.

Mitigation Measures

GEO-1 **High Sensitivity.** Projects involving ground disturbances in previously undisturbed areas mapped as having “high” paleontological sensitivity shall be monitored by a qualified paleontological monitor during all ground disturbing activities. Monitoring shall include inspection of exposed sedimentary units during active excavations within sensitive geologic sediments. The monitor shall have authority to temporarily divert activity away from exposed fossils to evaluate the significance of the find and, if the fossils are determined to be significant, professionally and efficiently recover the fossil specimens and collect associated data. The paleontological monitor shall use field data forms to record pertinent location and geologic data, measure stratigraphic sections (if applicable), and collect appropriate sediment samples from any fossil localities.

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GEO-2 **Low-to-High Sensitivity.** Prior to issuance of a grading permit for projects involving ground disturbance in previously undisturbed areas mapped with “low-to-high” paleontological sensitivity, the project applicant shall consult with a geologist or paleontologist to confirm whether the grading would occur at depths that could encounter highly sensitive sediments for paleontological resources. If confirmed that underlying sediments may have sensitivity, construction activity shall be monitored by a qualified paleontologist. The paleontologist shall have the authority to halt construction during ground disturbing activities as outlined in Mitigation Measure GEO-3.

GEO-3 **All Projects.** In the event of any fossil discovery, regardless of depth or geologic formation, ground disturbing activities shall halt within a 50-foot radius of the find until its significance can be determined by a qualified paleontologist. Significant fossils shall be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility in accordance with the standards of the Society of Vertebrate Paleontology. The most likely repository is the Natural History Museum of Los Angeles County. The repository shall be identified, and a curatorial arrangement shall be signed prior to collection of the fossils.

Level of Significance After Mitigation: Impact 5.4-4 would be less than significant.

5.4.5 Cumulative Impacts

The geographic context for the analysis of impacts resulting from geologic hazards generally is site-specific rather than cumulative in nature because each project site has a different set of geologic considerations that would be subject to uniform site development and construction standards and unique standards depending on the outcome of a project-specific geotechnical study. Future development would be required to comply with CBC standards. Therefore, the potential for cumulative impacts is limited.

5.4.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.4-1, 5.4-2, and 5.4-3.

Without mitigation, these impacts would be **potentially significant**:

- Impact 5.4-4 Future development could impact paleontological resources.

5.4.7 Mitigation Measures

Impact 5.4-4

GEO-1 **High Sensitivity.** Projects involving ground disturbances in previously undisturbed areas mapped as having “high” paleontological sensitivity shall be monitored by a qualified paleontological monitor during all ground disturbing activities. Monitoring shall include

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inspection of exposed sedimentary units during active excavations within sensitive geologic sediments. The monitor shall have authority to temporarily divert activity away from exposed fossils to evaluate the significance of the find and, if the fossils are determined to be significant, professionally and efficiently recover the fossil specimens and collect associated data. The paleontological monitor shall use field data forms to record pertinent location and geologic data, measure stratigraphic sections (if applicable), and collect appropriate sediment samples from any fossil localities.

GEO-2 **Low-to-High Sensitivity.** Prior to issuance of a grading permit for projects involving ground disturbance in previously undisturbed areas mapped with “low-to-high” paleontological sensitivity, the project applicant shall consult with a geologist or paleontologist to confirm whether the grading would occur at depths that could encounter highly sensitive sediments for paleontological resources. If confirmed that underlying sediments may have sensitivity, construction activity shall be monitored by a qualified paleontologist. The paleontologist shall have the authority to halt construction during ground disturbing activities as outlined in Mitigation Measure GEO-3.

GEO-3 **All Projects.** In the event of any fossil discovery, regardless of depth or geologic formation, ground disturbing activities shall halt within a 50-foot radius of the find until its significance can be determined by a qualified paleontologist. Significant fossils shall be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility in accordance with the standards of the Society of Vertebrate Paleontology. The most likely repository is the Natural History Museum of Los Angeles County. The repository shall be identified, and a curatorial arrangement shall be signed prior to collection of the fossils.

5.4.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.4.9 References

Fountain Valley, City of. 2018, December. Local Hazard Mitigation Plan.

Huntington Beach and Fountain Valley. 2007. Huntington Beach/Fountain Valley Hazard Mitigation Plan.
<https://www.yumpu.com/en/document/read/31383835/huntington-beach-fountain-valley-hazard-mitigation-web-portal>.

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5.5 GREENHOUSE GAS EMISSIONS

This section of the Draft Environmental Impact Report (EIR) evaluates the potential for the City of Fountain Valley General Plan Update (proposed project) to impact the greenhouse gas (GHG) emissions in a local and regional context. Because no single project is large enough to result in a measurable increase in global concentrations of GHG, climate change impacts of a project are considered on a cumulative basis. GHG emissions modeling is based on the emissions inventory and forecast included in Appendix 5.2-1 of this EIR.

Terminology

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a greenhouse gas absorbs relative to a molecule of carbon dioxide (CO₂) over a given period of time (20, 100, and 500 years). CO₂ has a GWP of 1.
- **Carbon dioxide-equivalent (CO₂e).** The standard unit to measure the amount of greenhouse gases in terms of the amount of CO₂ that would cause the same amount of warming. CO₂e is based on the GWP ratios between the various GHGs relative to CO₂.
- **MTCO₂e.** Metric ton of CO₂e.
- **MMTCO₂e.** Million metric tons of CO₂e.

5.5.1 Environmental Setting

5.5.1.1 GREENHOUSE GASES AND CLIMATE CHANGE

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO₂), methane (CH₄), and ozone (O₃)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contributes to global warming to a lesser extent are nitrous oxide (N₂O), sulfur hexafluoride (SF₆),

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GREENHOUSE GAS EMISSIONS

hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).^{1,2} The major GHGs applicable to the proposed project are briefly described.

- **Carbon dioxide (CO₂)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH₄)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N₂O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 5.5-1, *GHG Emissions and Their Relative Global Warming Potential Compared to CO₂*. The GWP is used to convert GHGs to CO₂-equivalence (CO₂e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under the IPCC Fifth Assessment Report (AR5), GWP values for CH₄, 10 MT of CH₄ would be equivalent to 280 MT of CO₂.

Table 5.5-1 GHG Emissions and Their Relative Global Warming Potential Compared to CO₂

GHGs	Second Assessment Report Global Warming Potential Relative to CO ₂ ¹	Fourth Assessment Report Global Warming Potential Relative to CO ₂ ¹	Fifth Assessment Report Global Warming Potential Relative to CO ₂ ¹
Carbon Dioxide (CO ₂)	1	1	1
Methane (CH ₄) ²	21	25	28
Nitrous Oxide (N ₂ O)	310	298	265

Source: IPCC 1995, 2007, 2013.

Notes: The IPCC published updated GWP values in its Fifth Assessment Report (AR5) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO₂. However, GWP values identified in AR4 are used by South Coast AQMD to maintain consistency in statewide GHG emissions modeling. In addition, the 2017 Scoping Plan Update was based on the GWP values in AR4.

¹ Based on 100-year time horizon of the GWP of the air pollutant compared to CO₂.

² The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

¹ Water vapor (H₂O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals); however, water vapor is not considered a pollutant because it is considered part of the feedback loop rather than a primary cause of change.

² Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. The share of black carbon emissions from transportation is dropping rapidly and is expected to continue to do so between now and 2030 as a result of California's air quality programs. The remaining black carbon emissions will come largely from woodstoves/fireplaces, off-road applications, and industrial/commercial combustion (CARB 2022). However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

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Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The recent Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC) summarizes the latest scientific consensus on climate change. It finds that atmospheric concentrations of CO₂ have increased by 50 percent since the industrial revolution and continue to increase at a rate of two parts per million each year. By the 2030s, and no later than 2040, the world will exceed 1.5°C warming (CARB 2022). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. Human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in the frequency of warm spells and heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

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GREENHOUSE GAS EMISSIONS

Potential Climate Change Impacts for California

There is at least a greater than 50 percent likelihood that global warming will reach or exceed 1.5°C in the near-term, even for the very low GHG emissions scenario (IPCC 2022). Climate change is already impacting California and will continue to affect it for the foreseeable future. For example, the average temperature in most areas of California is already 1°F (~0.56°C) higher than historical levels, and some areas have seen average increases in excess of 2°F (~1.1°C; CalOES 2020). The California Fourth Climate Change Assessment identifies the following climate change impacts under a business-as-usual scenario:

- Annual average daily high temperatures in California are expected to rise by 2.7°F by 2040, 5.5°F by 2070, and 8.8°F by 2100 compared to observed and modeled historical conditions. These changes are statewide averages. Heat waves are projected to become longer, more intense, and more frequent.
- Warming temperatures are expected to increase soil moisture loss and lead to drier seasonal conditions. Summer dryness may become prolonged, with soil drying beginning earlier in the spring and lasting longer into the fall and winter rainy season.
- High heat increases the risk of death from cardiovascular, respiratory, cerebrovascular, and other diseases.
- Droughts are likely to become more frequent and persistent through 2100³.
- Climate change is projected to increase the strength of the most intense precipitation and storm events affecting California.
- Mountain ranges in California are already seeing a reduction in the percentage of precipitation falling as snow. Snowpack levels are projected to decline significantly by 2100 due to reduced snowfall and faster snowmelt.
- Marine layer clouds are projected to decrease, though more research is needed to better understand their sensitivity to climate change.
- Extreme wildfires (i.e., fires larger than 10,000 hectares or 24,710 acres) would occur 50 percent more frequently. The maximum area burned statewide may increase 178 percent by the end of the century.
- Exposure to wildfire smoke is linked to increased incidence of respiratory illness.
- Sea level rise is expected to continue to increase erosion of beaches, cliffs, and bluffs. (CalOES 2020)

Global climate change risks to California are shown in Table 5.5-2, *Summary of GHG Emissions Risks to California*, and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

³ Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, and with unprecedented dry years in 2014 and 2015 (OEHHA 2018). Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years occurring from 2012 to 2015 (OEHHA 2018).

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Table 5.5-2 Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snowpack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea-level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pests and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CEC 2006, 2009; CCCC 2012; CNRA 2014; CalEOS 2020

5.5.1.2 REGULATORY BACKGROUND

This section describes the national, state, and local regulations applicable to GHG emissions.

Regulation of GHG Emissions on a National Level

The US Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA’s final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not impose any emission reduction requirements but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (USEPA 2009).

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To regulate GHGs from passenger vehicles, EPA was required to issue an endangerment finding. The finding identified emissions of six key GHGs—CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and SF₆—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the project's GHG emissions inventory because they constitute the majority of GHG emissions and, according to guidance by the South Coast Air Quality Management District (AQMD), are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

US Mandatory Report Rule for GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MT or more of CO₂e per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2017 to 2026)

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. On March 30, 2020, the EPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 to 2026. In response to Executive Order 13990, the National Highway Traffic Safety Administration (NHTSA) announced new proposed fuel standards on August 5, 2021. On December 21, 2021, under the direction of EO 13990, the NHTSA repealed SAFE Vehicles Rule Part One, which had preempted state and local laws related to fuel economy standards. Fuel efficiency under the new standards proposed would increase 8 percent annually for model years 2024 to 2026 and increase estimate fleetwide average by 12 mpg for model year 2026 compared to model year 2021 (NHTSA 2021).

EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the Clean Air Act, the EPA has developed regulations for new, large, stationary sources of emissions such as power plants and refineries. Under former President Obama's 2013 Climate Action Plan, the EPA was directed to develop regulations for existing stationary sources as well. On June 19, 2019, the EPA issued the final Affordable Clean Energy (ACE) rule, which became effective on August 19, 2019. The ACE rule was crafted under the direction of President Trump's Energy Independence Executive Order. It officially rescinded the Clean Power Plan rule issued during the Obama Administration and set emissions guidelines for states in developing plans to limit CO₂ emissions from coal-fired power plants. The Affordable Clean Energy rule was vacated by the United States Court of Appeals for the District of Columbia Circuit on January 19, 2021. The current administration is assessing options on potential future regulations.

Regulation of GHG Emissions on a State Level

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in EO S-03-05, EO B-30-15, EO B-55-18, Assembly Bill 32 (AB 32), AB 1279, Senate Bill 32 (SB 32), and SB 375.

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Executive Order S-03-05

EO S-03-05 was signed June 1, 2005, and set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Assembly Bill 32, the Global Warming Solutions Act (2006)

AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in EO S-03-05. CARB prepared the 2008 Scoping Plan to outline a plan to achieve the GHG emissions reduction targets of AB 32.

Executive Order B-30-15

EO B-30-15, signed April 29, 2015, set a goal of reducing GHG emissions in the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directed CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in EO S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, *Safeguarding California*, in order to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, Governor Brown signed SB 32 and AB 197 into law, making the executive order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

Assembly Bill 1279, the California Climate Crisis Act

AB 1279 declares the state to achieve net zero greenhouse gas emissions by 2045 and maintain a negative greenhouse gas emissions thereafter, and to ensure that by 2045, statewide anthropogenic greenhouse gas emissions are reduced to at least 85 percent below the 1990 levels.

2017 Climate Change Scoping Plan Update

EO B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 24, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update, which outlined potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan established a new emissions limit of 260 MMTCO_{2e} for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030 (CARB 2017c).

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California's climate strategy will require contributions from all sectors of the economy, including an enhanced focus on zero- emission and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning, to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutants and toxic air contaminants emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZE buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZE trucks.
- Implementing the Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from VMT, and direct investments in GHG reductions within the project's region that contribute to potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits (CARB 2017).

Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by

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2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_{2e} from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

2022 Climate Change Scoping Plan Update

CARB adopted the *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) on December 15, 2022, which lays out a path to achieve carbon neutrality by 2045 or earlier and to reduce the State’s anthropogenic GHG emissions. The Scoping Plan was updated to address the carbon neutrality goals of EO B-55-18 and the ambitious GHG reduction target as directed by AB 1279. Previous Scoping Plans focused on specific GHG reduction targets for our industrial, energy, and transportation sectors—to meet 1990 levels by 2020, and then the more aggressive 40 percent below that for the 2030 target. This plan expands upon earlier Scoping Plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. Carbon neutrality takes it one step further by expanding actions to capture and store carbon including through natural and working lands and mechanical technologies, while drastically reducing anthropogenic sources of carbon pollution at the same time (CARB 2022).

The path forward was informed by the recent Sixth Assessment Report (AR6) of the IPCC and the measures would achieve 85 percent below 1990 levels by 2045 in accordance AB 1279. CARB’s 2022 Scoping Plan identifies strategies that would be most impactful at the local level for ensuring substantial process towards the State’s carbon neutrality goals (see Table 5.5-3, *Priority Strategies for Local Government Climate Action Plans*).

Table 5.5-3 Priority Strategies for Local Government Climate Action Plans

Priority Area	Priority Strategies
Transportation Electrification	Convert local government fleets to zero-emission vehicles (ZEV) and provide EV charging at public sites.
	Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans).
VMT Reduction	Reduce or eliminate minimum parking standards.
	Implement Complete Streets policies and investments, consistent with general plan circulation element requirements.
	Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, microtransit, etc.
	Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking.
	Implement parking pricing or transportation demand management pricing strategies.
	Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing allowable density of the neighborhood).
Building Decarbonization	Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert “greenfield” land to urban uses (e.g., green belts, strategic conservation easements).
	Adopt all-electric new construction reach codes for residential and commercial uses.
	Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers).

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Table 5.5-3 Priority Strategies for Local Government Climate Action Plans

Priority Area	Priority Strategies
	Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances.
	Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing).
	Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings).

Source: CARB 2022

For residential and mixed-use development projects, CARB recommends this first approach to demonstrate that these land use development projects are aligned with State climate goals based on the attributes of land use development that reduce operational GHG emissions while simultaneously advancing fair housing. Attributes that accommodate growth in a manner consistent with the GHG and equity goals of SB 32 have all the following attributes:

Transportation Electrification

- Provide EV charging infrastructure that, at a minimum, meets the most ambitious voluntary standards in the California Green Building Standards Code at the time of project approval.

VMT Reduction

- Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).
- Does not result in the loss or conversion of the State's natural and working lands;
- Consists of transit-supportive densities (minimum of 20 residential dwelling units/acre), or is in proximity to existing transit stops (within a half mile), or satisfies more detailed and stringent criteria specified in the region's Sustainable Communities Strategy (SCS);

Reduces parking requirements by:

- Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or
- Providing residential parking supply at a ratio of <1 parking space per dwelling unit; or
- For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.

At Least 20 percent of the units are affordable to lower-income residents;

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Result in no net loss of existing affordable units.

Building Decarbonization

- Use all electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking (CARB 2022).

The second approach to project-level alignment with State climate goals is net zero GHG emissions. The third approach to demonstrating project-level alignment with State climate goals is to align with GHG thresholds of significance, which many local air quality management (AQMDs) and air pollution control districts (APCDs) have developed or adopted (CARB 2022).

Senate Bill 375

SB 375, the Sustainable Communities and Climate Protection Act, was adopted in 2008 to connect the GHG emissions reduction targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle miles traveled (VMT) and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPO). SCAG is the MPO for the Southern California region, which includes Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial counties. Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018, which became effective in October 2018. CARB adopted the updated targets and methodology on March 22, 2018. All SCSs adopted after October 1, 2018, are subject to these new targets. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks compared to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translates into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted sustainable communities strategies (SCS). As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 MMTCO_{2e} in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the SCAG region are an 8 percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent) (CARB 2018).

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SCAG's Regional Transportation Plan / Sustainable Communities Strategy

SB 375 requires each MPO to prepare a sustainable communities strategy in its regional transportation plan. For the SCAG region, the draft 2020-2045 RTP/SCS (Connect SoCal) was adopted on May 7, 2020, for the limited purpose of transportation conformity (SCAG 2020). Connect SoCal was fully adopted in September 2020. In general, the SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce VMT from automobiles and light-duty trucks and thereby reduce GHG emissions from these sources.

Connect SoCal focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land-use strategies in the development of the SCAG region through the horizon year 2045 (SCAG 2020). Connect SoCal forecasts that the SCAG region will meet its GHG per capita reduction targets of 8 percent by 2020 and 19 percent by 2035. It also forecasts that implementation of the plan will reduce VMT per capita in year 2045 by 4.1 percent compared to baseline conditions for that year. Connect SoCal includes a “Core Vision” that centers on maintaining and better managing the transportation network for moving people and goods while expanding mobility choices by locating housing, jobs, and transit closer together and increasing investments in transit and complete streets (SCAG 2020).

Transportation Sector Specific Regulations

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles. (See also the previous discussion in federal regulations under “Update to Corporate Average Fuel Economy Standards [2017 to 2026].”) In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of ZE vehicles into a single package of standards. Under California’s Advanced Clean Car program, by 2025 new automobiles will emit 34 percent less GHG emissions and 75 percent less smog-forming emissions.

Executive Order S-01-07

On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. EO S-01-07 set a declining standard for GHG emissions measured in CO_{2e} gram per unit of fuel energy sold in California. The LCFS required a reduction of 2.5 percent in the carbon intensity of California’s transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applied to refiners, blenders, producers, and importers of transportation fuels, and used market-based mechanisms to allow these providers to choose the most economically feasible methods for reducing emissions during the “fuel cycle.”

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Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). EO B-16-2012 also directed the number of ZE vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The executive order also established a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

Executive Order N-79-20

On September 23, 2020, Governor Newsom signed EO N-79-20, whose goal is that 100 percent of in-state sales of new passenger cars and trucks will be ZE by 2035. Additionally, the fleet goals for trucks are that 100 percent of drayage trucks are ZE by 2035, and 100 percent of medium- and heavy-duty vehicles in the state are ZE by 2045, where feasible. The EO's goal for the state is to transition to 100 percent ZE off-road vehicles and equipment by 2035, where feasible.

Renewables Portfolio: Carbon Neutrality Regulations

Senate Bills 1078, 107, and X1-2 and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. EO S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production decreases indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Senate Bill 350 (de Leon) was signed into law in September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consists of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all

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state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Energy Efficiency Regulations

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for the consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018, and went into effect on January 1, 2020.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require the installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to the exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings are 30 percent more energy efficient than under the 2016 standards, and single-family homes are 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

Furthermore, on August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.⁴ The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen standards became effective on January 1, 2020.

⁴ The green building standards became mandatory in the 2010 edition of the code.

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2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as “business as usual,” they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste Diversion Regulations

AB 939: Integrated Waste Management Act of 1989

California’s Integrated Waste Management Act of 1989 (AB 939, Public Resources Code Section 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the Act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code Section 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

In October of 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings with five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.

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Water Efficiency Regulations

SBX7-7

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed “SBX7-7.” SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of a 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

AB 1881: Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves, to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Short-Lived Climate Pollutant Reduction Strategy

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. Black carbon is the light-absorbing component of fine particulate matter produced during the incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state’s approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use (CARB 2017a). In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020. South Coast AQMD is one of the air districts that requires air pollution control technologies for chain-driven broilers, which reduces particulate emissions from these charbroilers by over 80 percent (CARB 2017b). Additionally, South Coast AQMD Rule 445 limits the installation of new fireplaces in the SoCAB.

Local

There are no local regulations regarding GHG emissions.

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5.5.1.3 EXISTING CONDITIONS

California's GHG Sources and Relative Contribution

In 2021, the statewide GHG emissions inventory was updated for 2000 to 2019 emissions using the GWPs in IPCC's AR4 (IPCC 2013). Based on these GWPs, California produced 418.2 MMTCO_{2e} GHG emissions in 2019. California's transportation sector was the single largest generator of GHG emissions, producing 39.7 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent, and electric power generation made up 14.1 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (10.5 percent), agriculture and forestry (7.6 percent), high GWP (4.9 percent), and recycling and waste (2.1 percent) (CARB 2021).

Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2016, California statewide GHG emissions dropped below the AB 32 target for year 2020 of 431 MMTCO_{2e} and have remained below this target since then. In 2019, emissions from routine GHG-emitting activities statewide were almost 13 MMTCO_{2e} lower than the AB 32 target for year 2020. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 MTCO_{2e} per person to 10.5 MTCO_{2e} per person in 2019, a 25 percent decrease.

Transportation emissions continued to decline in 2019 statewide as they had done in 2018, with even more substantial reductions due to a significant increase in renewable diesel. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2019, solar power generation continued its rapid growth since 2013. Emissions from high-GWP gases comprised 4.9 percent of California's emissions in 2019. This continues the increasing trend as the gases replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product) has declined 45 percent since the 2001 peak, though the state's gross domestic product grew 63 percent during this period (CARB 2021).

Existing Communitywide GHG Emissions

The existing land uses in Fountain Valley consist of single- and multi-family residences and retail, office, commercial, industrial, and institutional uses. Operation of these land uses generates GHG emissions from natural gas used for energy, heating, and cooking; electricity usage; vehicle trips for employees and residents; area sources such as landscaping equipment and consumer cleaning products; water demand; waste generation; and solid waste generation.⁵ Table 5.5-4, *Existing City of Fountain Valley GHG Emissions Inventory*, shows the emissions associated with existing land uses in the city.

⁵ Emissions from water demand and wastewater are emissions associated with electricity used to supply, treat, and distribute water.

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Table 5.5-4 Existing City of Fountain Valley GHG Emissions Inventory

Sector	Existing MTCO ₂ e/year	Percent of Total
Building Electricity	47,167	15%
Building Natural Gas	55,166	17%
On-Road Transportation	171,891	54%
Off-Road Vehicles and Equipment	1,902	1%
Solid Waste/Landfills	5,436	2%
Refrigerants	27,121	9%
Water Use	3,105	1%
Wastewater Treatment	6,845	2%
Total	318,633	100%
Service Population	90,080	NA
MTCO ₂ e/SP	3.5	NA

Source: Appendix 5.2-1.

5.5.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- GHG-2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

5.5.2.1 CONSISTENCY WITH STATEWIDE GHG REDUCTION TARGETS

The Fountain Valley General Plan Update forecasts growth in the city through year 2045; therefore, this EIR analyzes the potential for the proposed project to conflict with statewide GHG reduction goals identified in the CARB Scoping Plan that are applicable to local governments. This includes AB 1279, which requires an 85 percent reduction in GHG emissions by 2045 to stabilize CO₂e emissions and avoid the most catastrophic impacts of climate change as well as substantial progress toward carbon neutrality.⁶ Based on the City’s existing

⁶ The 2022 Scoping Plan includes statewide measures to achieve the state’s carbon neutrality goals under Executive Order B-55-18 such as carbon dioxide removal (CDR) that are not applicable to local governments. Carbon neutrality goals are a “no impact” level and not a “less than significant” impact level for climate change effects. There are presently no reliable means of forecasting how future technological developments related to carbon dioxide removal may affect future emissions in a planning jurisdiction. Therefore, carbon neutrality targets are not directly applicable to local governments and CEQA projects to mitigate GHG emissions impacts of a proposed project. Moreover, AB 1279 GHG reduction targets for 2045 are in line with the scientifically established levels needed in the U.S. to limit global warming below 1.5 to 2.0 degrees Celsius, the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels. For these reason, the targets of AB 1279 are applicable to the EIR. However, the CAP includes measures that align with the state’s carbon neutrality goals under Executive Order B-55-18 and per-capita targets under SB 32.

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inventory in Table 5.5-5, *City of Fountain Valley GHG Emissions Forecast*, a trajectory consistency with the State's GHG emissions targets would be:

- 47,795 MTCO_{2e} by Year 2045

5.5.2.2 MASS EMISSIONS AND HEALTH EFFECTS

On December 24, 2018, in *Sierra Club et al. v. County of Fresno et al.* (Friant Ranch), the California Supreme Court determined that the EIR for the proposed Friant Ranch project failed to adequately analyze the project's air quality impacts on human health. The EIR prepared for the project, which involved a master planned retirement community in Fresno County, showed that project-related mass emissions would exceed the San Joaquin Valley Air Pollution Control District's regional significance thresholds. In its findings, the California Supreme Court affirmed the holding of the Court of Appeal that EIRs for projects must not only identify impacts to human health, but also provide an "analysis of the correlation between the project's emissions and human health impacts" related to each criterion air pollutant that exceeds the regional significance thresholds or explain why it could not make such a connection. In general, the ruling focuses on the correlation of emissions of toxic air contaminants and criteria air pollutants and their impact to human health.

In 2009, the EPA issued an endangerment finding for six GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) in order to regulate GHG emissions from passenger vehicles. The endangerment finding is based on evidence that shows an increase in mortality and morbidity associated with increases in average temperatures, which increase the likelihood of heatwaves and ozone levels. The effects of climate change are identified in Table 5.5-2. Though identified effects such as sea level rise and increased extreme weather can indirectly impact human health, neither the EPA nor CARB has established ambient air quality standards for GHG emissions. The state's GHG reduction strategy outlines a path to avoid the most catastrophic effects of climate change. Yet the state's GHG reduction goals and strategies are based on the state's path toward reducing statewide cumulative GHGs as outlined in AB 32, SB 32, EO S-03-05, and AB 1279.

As mentioned above, the two significance thresholds that the City uses to analyze GHG impacts are based on achieving the statewide GHG reduction goals (GHG-1) and relying on consistency with policies or plans adopted to reduce GHG emissions (GHG-2). Further, because no single project is large enough to result in a measurable increase in global concentration of GHG emissions, climate change impacts of a project are considered on a cumulative basis. Without federal ambient air quality standards for GHG emissions and given the cumulative nature of GHG emissions and the City's significance thresholds, which are tied to reducing the state's cumulative GHG emissions, it is not feasible at this time to connect the project's specific GHG emissions to the potential health impacts of climate change.

5.5.3 Applicable General Plan Update Policies

Open Space and Conservation Element

- **Policy OSC-3.1 Regional air quality.** Support regional efforts to monitor and reduce air pollution and collaborate with other agencies to improve air quality at the emission source.

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- **Policy OSC-3.2 Alternative fueled vehicles.** Support and facilitate the expansion of infrastructure for alternatively fueled public and private automobiles and trucks to reduce vehicle emissions and improve local and regional air quality.
- **Policy OSC-3.3 Energy and water conservation.** Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the City's Municipal Code and the California Building Code.
- **Policy OSC-3.4 Turf replacement.** Continue to encourage and facilitate the replacement of turf grass with native and drought-tolerant plants and/or artificial turf to reduce the use of water for irrigation.
- **Policy OSC-3.5 Groundwater quality and supply.** Support regional efforts to improve the quality and quantity of groundwater sources available to the City.
- **Policy OSC-3.8 Renewable energy.** Promote the use of renewable energy sources to serve public and private sector development to reduce reliance on fossil fuels and increase resiliency during prolonged and excessively high temperatures.
- **Policy OSC-3.9 Public education.** Provide and support public education efforts for residents and businesses about the importance of and proper practices to comply with air and water quality regulations.

Public Facilities and Safety Element

- **Policy PFS-1.3 Irrigation.** Encourage the use of water-efficient and recycled water irrigation systems.
- **Policy PFS-1.7 Waste management.** A waste management system that meets or exceeds state recycling and waste diversion mandates while providing cost-effective disposal of waste for residents, businesses, and institutions.
- **Policy PFS-4.6 Sustainable and resilient design.** Require the development or rehabilitation of any public facility or capital improvement to incorporate site design and building practices that promote sustainability, energy efficiency, and resiliency. Encourage and facilitate such designs and practices in the development and rehabilitation of private buildings and facilities.

Circulation and Mobility Element

- **Policy CM-1.7 Traffic management.** Utilize intelligent transportation systems and research changing trends in mobility to more efficiently and safely move people and vehicles while managing motor vehicle speeds.
- **Policy CM-2.1 Multimodal and complete network.** Plan, design, and maintain a citywide network of travelways for motorists, bicyclists, pedestrians, and transit riders of all ages and abilities. Create safe, desirable, and convenient linkages between neighborhoods, recreational amenities, schools, and commercial, employment, and activity centers through complete facilities, amenities, and safety features.

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- **Policy CM-2.2 Regional network.** Coordinate development of the City’s active transportation and transit network with adjacent jurisdictions, OCTA, and other appropriate agencies. Connect bicycle and pedestrian trails to local and regional trails in adjacent jurisdictions.
- **Policy CM-2.3 Design of new facilities.** Balance accommodations for vehicles, transit, bicycles, and pedestrians in the design of new streets and streetscape improvements.
- **Policy CM-2.4 Traffic calming.** Use traffic calming measures in residential areas and activity centers to enhance the safety of pedestrians and bicyclists, provided such measures are warranted, appropriate, and do not impede emergency response access and response.
- **Policy CM-2.5 Site design.** Require new development to incorporate amenities and pathways so that pedestrians and bicyclists can access the site and onsite businesses safely and conveniently from the public right-of-way and parking areas.
- **Policy CM-2.6 Access management.** Minimize access points and curb cuts along arterials and in the proximity of an intersection to improve traffic flow and safety for vehicles and bicycles. Eliminate and/or consolidate driveways when new development occurs or when traffic operation or safety warrants.
- **Policy CM-2.7 VMT reduction.** Promote new development and transportation demand management (TDM) strategies that will reduce household and employment vehicle miles traveled (VMT). Prioritize the implementation of TDM strategies over the expansion of roadway capacity.
- **Policy CM-2.8 First mile/last mile connectivity.** Support strategies that strengthen first/last mile connectivity to enhance the viability and expand the use of public transit, both to improve quality of life and reduce traffic congestion in the city.
- **Policy CM-2.10 Transit service and stops.** Coordinate with OCTA to increase frequency of bus service and install, improve, and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.

Land Use Element

- **Policy LU-1.3 Mix of land uses.** Maintain a balanced mix of high quality residential, retail, employment, industrial, open space, and public facility land uses to ensure a range of living options, fiscal sustainability, and convenient access to shops, restaurants, services, and well-paid and highly skilled jobs.
- **Policy LU-2.5 Reduced commuting.** Attract and retain businesses that provide jobs suited to the labor force residing in Fountain Valley. Additionally, support and assist the development of housing affordable to the workforce commuting into Fountain Valley.

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5.5.4 Environmental Impacts

5.5.4.1 METHODOLOGY

This GHG evaluation was prepared in accordance with the requirements of CEQA to determine if significant GHG impacts are likely to occur in conjunction with future development that would be accommodated by the General Plan Update. The GHG emissions inventory was compiled using the *United States Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions* (U.S. Community Protocol), which was first developed in 2012 and last updated in 2019. The City's GHG emissions inventory includes the following sectors:

- **Building Energy.** Emissions associated with electricity natural gas use for residential and nonresidential land uses in the city were modeled based on data provided by Southern California Edison (SCE) and the Southern California Gas Company (SoCalGas), respectively, for years 2016 through 2020. Due to the 15/15 Rule electricity use data for industrial land uses was aggregated with the nonresidential land uses in the data provided by SCE.⁷ Existing 2021 emissions are based on the five year average to account for fluctuations in energy use associated with average annual temperature. Forecasts are adjusted for increases in population for residential electricity and natural gas use and non-residential square footage for non-residential electricity and natural gas use in the city. Carbon intensity for year 2021 and 2045 are based on the carbon intensity for SCE identified in the 2022 CalEEMod User's Guide, Appendix G (CAPCOA 2022).
- **Transportation.** Transportation emissions forecasts were modeled using emissions data from CARB's EMFAC2021 V1.0.3 web database. Model runs were based on daily per-capita VMT data provided by Fehr and Peers (see Appendix 5.13-1) and calendar year 2021 (existing) and 2045 emission rates.⁸ The VMT is based on the origin-destination (O-D) using the Orange County Transportation Analysis Model (OCTAM) and includes the full trip length for land uses in the City and a 50 percent reduction in the trip length for external-internal/internal-external trips based on the recommendations of CARB's Regional Targets Advisory Committee (RTCA) under SB 375.⁹ Consistent with CARB's methodology within the Climate

⁷ The 15/15 Rule was adopted by the California Public Utilities Commission in the Direct Access Proceeding (CPUC Decision 97-10-031) to protect customer confidentiality. The 15/15 rule requires that any aggregated information provided by a utility must be made up of at least 15 customers, and a single customer's load must be less than 15 percent of an assigned category. If the number of customers in the compiled data is below 15, or if a single customer's load is more than 15 percent of the total data, categories must be combined before the information is released. The Rule further requires that if the 15/15 Rule is triggered for a second time after the data have been screened once already using the 15/15 Rule, the customer be dropped from the information provided.

⁸ The Year 2045 inventory represents the projected emissions that the existing land uses would generate in the future, using year 2045 emission factors for on-road vehicles. To isolate the impacts related to the change in land uses proposed under the General Plan update, emissions related to the update will be based on the difference in emissions generated by the existing and proposed land uses under year 2045 conditions. This approach is taken because existing land uses would be subject to regulations that come into effect in the future that reduce mobile-source emissions. Thus, the level of emissions the existing land uses generate today would not be generated in perpetuity, but would be affected by these state regulations.

⁹ For accounting purposes, there are three types of trips:

Internal-Internal. Vehicle trips that originated and terminated within the City (Internal-Internal, I-I). Using the accounting rules established by RTAC, 100 percent of the length of these trips and their emissions are attributed to the City.

Internal-External/External-Internal. Vehicle trips that either originated or terminated (but not both) in the City (Internal-External or External-Internal, I-X and X-I). Using the accounting rules established by RTAC, 50 percent of the trip length for these trips is attributed to the City.

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Change Scoping Plan Measure Documentation Supplement, daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual emissions.

- **Off-Road Equipment.** OFFROAD is a database of equipment use and associated emissions for each county compiled by CARB. Off-road equipment in the City is based on year 2021 emission rates for Orange County obtained from CARB's OFFROAD V1.0.3 web database. OFFROAD was used to estimate criteria air pollutant emissions from lawn and garden, light commercial, and construction equipment in the City. In order to determine the percentage of emissions attributable to the city, light commercial equipment is estimated based on employment for Fountain Valley as a percentage of Orange County and forecasted based on the change in employment in the city. Construction equipment use is estimated based on building permit data for Fountain Valley and County of Orange from data compiled by the US Census and assumes that construction emissions for the forecast year would be similar to historical levels. Lawn and garden equipment is based on the percentage of population in Fountain Valley compared to Orange County and forecasted based on the change in population in the city.
- **Refrigerant Leakage.** Refrigerants are based on the statewide 2019 refrigerant use and statewide population based on the 2020 census data in order to derive emissions per person. Emissions from this sector are based on AR4 since the inventory is not available with AR5 GWPs.
- **Solid Waste Disposal.** GHG emissions from solid waste disposed of by residents and employees in the city were quantified based on the waste-in-place method. This method assumes that the degradable organic component in waste decays slowly throughout a few decades, during which CH₄ and biogenic CO₂ are formed. If conditions are constant, the rate of CH₄ production depends solely on the amount of carbon remaining in the waste. As a result, emissions of CH₄ from waste deposited in a disposal site are highest in the first few years, then gradually decline. Significant CH₄ production typically begins one or two years after waste disposal in a landfill and continues for 10 to 60 years or longer. Waste disposal was averaged over several years to account for fluctuations in average annual solid waste disposal. Waste generated was based on data obtained from the California Department of Resources Recycling and Recovery (CalRecycle), to provide an estimate of GHG emissions for existing conditions (2021). GHG emissions from solid waste disposal in the baseline year were modeled using CARB's Landfill Emissions Tool Version 1.9, which includes waste characterization data from CalRecycle. Because the landfill gas captured is not under the jurisdiction of the City of Fountain Valley, the landfill gas emissions from the capture system are not included in the inventory. Only fugitive sources of GHG emissions from landfills are included. Modeling assumes a 75 percent reduction in fugitive GHG emissions from the landfill's Landfill Gas Capture System. The Landfill gas capture efficiency is based on CARB's LGOP, Version 1.1. Total GHG emissions from waste disposal in 2021 were forecasted based on the percent increase in service population for the City. The emissions forecast does not account for reductions from increasing waste diversion.

External-External. Vehicle trips that neither originated nor terminated in the City. These trips are commonly called pass-through trips (External-External, X-X). Using the accounting rules established by RTAC, these trips are not counted toward the City's VMT or emissions.

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- **Water Use and Wastewater Treatment.** GHG emissions from this sector include indirect GHG emissions from the embodied energy associated with water use and wastewater generation and fugitive GHG emissions from processing wastewater. The total annual existing and proposed project water demand and wastewater generation in the city are based on Infrastructure Report prepared by Fuscoe Engineering (see Appendix 5.14-1). Electricity use from water use is estimated using energy rates identified by in the 2022 CalEEMod Users Guide (CAPCOA 2022). Then energy is multiplied by the carbon intensity of energy. Wastewater treatment also results in direct CH₄ emissions from wastewater processing, which are based on the emission rates identified in the 2022 CalEEMod Users Guide (CAPCOA 2022).

Industrial sources of emissions that require a permit from South Coast AQMD are not included in the community inventory. Life-cycle emissions are not included in this analysis because not enough information is available for the proposed General Plan Update; and therefore, they would be speculative.¹⁰ Black carbon emissions are not included in the GHG analysis because CARB does not include this pollutant in the State's GHG emissions inventory and treats this short-lived climate pollutant separately.¹¹

5.5.4.2 IMPACT ANALYSIS

The applicable thresholds are identified in brackets after the impact statement.

Impact 5.5-1: Implementation of the General Plan Update would not result in a substantial increase in emissions but would not place the city on a trajectory to achieve the goals established under Executive Order S-03-05 or progress toward the State's carbon neutrality goal. [Threshold GHG-1]

Development under the General Plan Update would contribute to global climate change through direct and indirect emissions of GHG from land uses within the city. A general plan does not directly result in development without subsequent approvals of development projects. Before any development can occur in the city, it must be analyzed for consistency with the General Plan, zoning requirements, and other applicable local and State requirements; comply with the requirements of CEQA; and obtain all necessary clearances and permits.

¹⁰ Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analysis was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the proposed project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials is also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

¹¹ Particulate matter emissions, which include black carbon, are analyzed in Section 5.3, *Air Quality*. The majority of anthropogenic sources come from transportation—specifically, heavy-duty vehicles. The share of black carbon emissions from transportation is dropping rapidly and is expected to continue to do so between now and 2030 as a result of California's air quality programs. The remaining black carbon emissions will come largely from woodstoves/fireplaces, off-road applications, and industrial/commercial combustion (CARB 2022).

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Horizon Year 2045 Emissions Forecast

Buildout of the proposed project is not linked to a specific development time frame but is assumed over a 25-year horizon. Implementation of the General Plan Update by the horizon year of 2045 would result in a net increase of 16,073 residents and 4,057 employees in the city. Development that would be accommodated by the proposed project would generate a net increase of 188,180 daily VMT at buildout (based on origin-destination methodology and taking into account the CARB RTAC methodology; see Appendix 5.2-1). The community GHG emissions inventory for the proposed project at buildout compared to existing conditions is in Table 5.5-5.

Table 5.5-5 City of Fountain Valley GHG Emissions Forecast

Emissions Sector	GHG Emissions (MTCO _{2e} /Year)					
	Existing		Proposed Project		Net Change	
Building Electricity	47,167	15%	48,276	16%	1,110	2%
Building Natural Gas	55,166	17%	68,694	22%	13,528	25%
On-Road Transportation	171,891	54%	134,279	43%	-37,612	-22%
Off-Road Vehicles and Equipment	1,902	1%	2,009	1%	107	6%
Solid Waste/Landfills	5,436	2%	6,651	2%	1,215	22%
Refrigerants	27,121	9%	34,689	11%	7,569	28%
Water Use	3,105	1%	2,618	1%	-487	-16%
Wastewater Treatment	6,845	2%	13,502	4%	6,657	97%
Total Community Emissions	318,633	100%	310,718	100%	-7,914	-2%
Trajectory to AB 1279 for Year 2045	47,795	-85%	Does Not Achieve Target	—	—	—
Service Population (SP)	90,080		110,210		20,130	22%
MTCO _{2e} /SP	3.5		2.8		-0.7	-20%

Notes: Emissions may not total to 100 percent due to rounding. Based on GWPs in the IPCC Fifth Assessment Report (AR5).
Source: See Appendix 5.2-1

As shown in Table 5.5-5, buildout of the land uses accommodated under the General Plan Update would result in a net decrease GHG emissions from existing conditions. In addition, GHG emissions per service population (SP) would decrease. The primary reason for the decrease in overall community-wide GHG emissions, despite an increase in population and employment in the city, is due to regulations adopted to reduce GHG emissions and turnover of California’s on-road vehicle fleets.

Consistency with the State’s 2045 GHG Reduction Targets and Carbon Neutrality Goals

To determine whether the proposed project would result in a potentially significant impact, the proposed project must demonstrate consistency with the State’s 2045 GHG reduction target of carbon neutrality. Under the proposed project, new growth would be focused on areas of the city where services exist or can be expanded and/or extended to serve additional and more intensive development. As identified in Table 5.5-5, the proposed

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project would result in a substantial increase in emissions but would not achieve an 85 percent reduction in GHG emissions by 2045.

Reduction strategies to meet the long-term 2045 GHG reduction goal would be included in the planned future updates to the Climate Action Plan. Additionally, state strategies to achieve post-2030 targets would be necessary. Therefore, until such time, GHG emissions impacts for the proposed General Plan Update are considered potentially significant regarding meeting the long-term year 2045 reduction goal.

General Plan Policies That May Reduce GHG Emissions

As identified in Table 5.5-5, the majority of emissions are from on-road transportation (43 percent) and building energy use (38 percent). While growth in the city would cumulatively contribute to GHG emissions impacts, implementation of the General Plan Update goals and policies could also help minimize energy and mobile-source emissions.

- **Policy OSC-3.2 Alternative fueled vehicles.** Support and facilitate the expansion of infrastructure for alternatively fueled public and private automobiles and trucks to reduce vehicle emissions and improve local and regional air quality.
- **Policy OSC-3.3 Energy and water conservation.** Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the City's Municipal Code and the California Building Code.
- **Policy OSC-3.8 Renewable energy.** Promote the use of renewable energy sources to serve public and private sector development to reduce reliance on fossil fuels and increase resiliency during prolonged and excessively high temperatures.
- **Policy LU-1.3 Mix of land uses.** Maintain a balanced mix of high quality residential, retail, employment, industrial, open space, and public facility land uses to ensure a range of living options, fiscal sustainability, and convenient access to shops, restaurants, services, and well-paid and highly skilled jobs.
- **Policy LU-2.5 Reduced commuting.** Attract and retain businesses that provide jobs suited to the labor force residing in Fountain Valley. Additionally, support and assist the development of housing affordable to the workforce commuting into Fountain Valley.
- **Policy CM-2.1 Multimodal and complete network.** Plan, design, and maintain a citywide network of travelways for motorists, bicyclists, pedestrians, and transit riders of all ages and abilities. Create safe, desirable, and convenient linkages between neighborhoods, recreational amenities, schools, and commercial, employment, and activity centers through complete facilities, amenities, and safety features.
- **Policy CM-2.2 Regional network.** Coordinate development of the City's active transportation and transit network with adjacent jurisdictions, OCTA, and other appropriate agencies. Connect bicycle and pedestrian trails to local and regional trails in adjacent jurisdictions.

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- **Policy CM-2.7 VMT reduction.** Promote new development and transportation demand management (TDM) strategies that will reduce household and employment vehicle miles traveled (VMT). Prioritize the implementation of TDM strategies over the expansion of roadway capacity.
- **Policy CM-2.8 First mile/last mile connectivity.** Support strategies that strengthen first/last mile connectivity to enhance the viability and expand the use of public transit, both to improve quality of life and reduce traffic congestion in the city.
- **Policy CM-2.10 Transit service and stops.** Coordinate with OCTA to increase frequency of bus service and install, improve, and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.

Summary

While energy sector emissions would increase overall under the General Plan Update due to the forecast growth in population, it is anticipated that policies proposed under the proposed project would reduce energy sector emissions through increasing energy efficiency, energy conservation, and use of renewable energy. Implementation of these policies, in addition to the other proposed policies of the General Plan Update would contribute to minimizing GHG emissions associated with the city to the extent feasible. However, as described and shown in Table 5.5-5, GHG emissions reduction are only two percent less than the CEQA baseline and not the 85 percent necessary to ensure the City is on a trajectory to achieve the long-term reductions goals AB 1279 and substantial progress toward the State's carbon neutrality goals.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.5-1 would be potentially significant.

Mitigation Measures

GHG-1 The City of Fountain Valley shall prepare a Climate Action Plan (CAP) to achieve the GHG reduction targets of Senate Bill 32 and chart a trajectory to achieve the long-term GHG reduction goal set by AB 1279. The CAP shall be completed within 18 months of certification of the General Plan EIR. The CAP shall be updated every five years to ensure the City is monitoring the plan's progress toward achieving the City's greenhouse gas (GHG) reduction target and to require amendment if the plan is not achieving specified level. The update shall consider a trajectory consistent with the GHG emissions reduction goal established under SB 32 for year 2030, AB 1279 for year 2045, and the latest applicable statewide legislative GHG emission reduction that may be in effect at the time of the CAP update. The CAP update shall include the following:

- GHG inventories of existing and forecast year GHG levels.
- Tools and strategies for reducing GHG emissions to achieve the GHG reduction goals of Senate Bill 32 for year 2030.

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- Tools and strategies for reducing GHG emissions to ensure a trajectory with the long-term GHG reduction and carbon neutrality goal for year 2045 of Assembly Bill 1279.
- Plan implementation guidance that includes, at minimum, the following components consistent with the proposed CAP:
 - Administration and Staffing
 - Finance and Budgeting
 - Timelines for Measure Implementation
 - Community Outreach and Education
 - Monitoring, Reporting, and Adaptive Management
 - Tracking Tools.

Level of Significance After Mitigation: Impact 5.5-1 would be significant and unavoidable.

Impact 5.5-2: Implementation of the General Plan Update would not conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions. [Threshold GHG-2])

Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan and SCAG's Connect SoCal. A consistency analysis with these plans is presented below.

CARB Scoping Plan

CARB's Scoping Plan is applicable to state agencies but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require local jurisdictions to adopt its policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the State agencies from the Scoping Plan result in GHG emissions reductions at the local level. So local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that affect a local jurisdiction's emissions inventory from the top down. Statewide strategies to reduce GHG emissions include the low carbon fuel standard, changes in the corporate average fuel economy standards, RPS, and triannual updates to the California building codes.

The GHG emissions shown in Table 5.5-5 includes reductions associated with statewide strategies that have been adopted since AB 32, SB 32, and AB 1279. Development projects accommodated under the proposed project are required to adhere to the programs and regulations identified by the Scoping Plan and implemented by state, regional, and local agencies to achieve the statewide GHG reduction goals of AB 32, SB 32, and AB 1279. Future development projects would be required to comply with these state GHG emissions reduction measures because they are statewide strategies. For example, new buildings associated with land uses accommodated by implementing the proposed project would be required to meet the CALGreen and Building Energy Efficiency Standards in effect at the time when applying for building permits. Furthermore, as discussed under the discussion for Impact 5.5-1, the proposed project includes goals, policies, and programs that would help reduce GHG emissions and therefore help achieve GHG reduction goals. Implementation of the

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proposed project would not obstruct implementation of the CARB Scoping Plan, and impacts would be less than significant.

SCAG's Connect SoCal

Connect SoCal is Southern California's regional transportation plan to achieve the passenger vehicle emissions reductions identified under SB 375. Connect SoCal was adopted in September 2020. Connect SoCal's "core vision" centers on maintaining and better managing the transportation network for moving people and goods while expanding mobility choices by locating housing, jobs, and transit closer together and increasing investment in transit and complete streets. Moreover, Connect SoCal identifies areas in the region that can house near-term and long-term growth and support a diverse economy and workforce. By integrating the Forecast Development Pattern with a suite of financially constrained transportation investments, Connect SoCal can reach the regional target of reducing GHGs from autos and light-duty trucks by 8 percent per capita by 2020, and 19 percent by 2035 (compared to 2005 levels) (SCAG 2020).

As demonstrated in Section 5.11, *Land Use and Planning*, the General Plan Update would be consistent with the Connect SoCal goals (see Table 5.11-1, *SCAG 2020 RTP/SCS Goal Consistency Analysis*). Policies LU-1.3 and LU-2.5 as well as Policies CM-2.1 through CM-2.10 would reduce VMT per service population consistent with the regional goals. Furthermore, as discussed in Section 5.14, *Population and Housing*, implementation of the General Plan Update would bring the City closer to a more equal distribution of employment and housing. Thus, the proposed project would provide for residents to both live and work in the City instead of commuting to other areas, which would contribute to minimizing VMT and reducing VMT per service population. Therefore, the proposed project would not interfere with SCAG's ability to implement the regional strategies in Connect SoCal, and no impact would occur.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.5-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.5-1 would be less than significant.

5.5.5 Level of Significance Before Mitigation

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.5-1** Implementation of the General Plan Update would not result in a substantial increase in emissions but would not place the city on a trajectory to achieve the goals established under AB 1279 or achieve progress toward the State's carbon neutrality goal.

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5.5.6 Mitigation Measures

Impact 5.5-1

GHG-1 The City of Fountain Valley shall prepare a Climate Action Plan (CAP) to achieve the GHG reduction targets of Senate Bill 32 and chart a trajectory to achieve the long-term GHG reduction goal set by AB 1279. The CAP shall be completed within 18 months of certification of the General Plan EIR. The CAP shall be updated every five years to ensure the City is monitoring the plan's progress toward achieving the City's greenhouse gas (GHG) reduction target and to require amendment if the plan is not achieving specified level. The update shall consider a trajectory consistent with the GHG emissions reduction goal established under SB 32 for year 2030, AB 1279 for year 2045, and the latest applicable statewide legislative GHG emission reduction that may be in effect at the time of the CAP update. The CAP update shall include the following:

- GHG inventories of existing and forecast year GHG levels.
- Tools and strategies for reducing GHG emissions to achieve the GHG reduction goals of Senate Bill 32 for year 2030.
- Tools and strategies for reducing GHG emissions to ensure a trajectory with the long-term GHG reduction and carbon neutrality goal for year 2045 of Assembly Bill 1279.
- Plan implementation guidance that includes, at minimum, the following components consistent with the proposed CAP:
 - Administration and Staffing
 - Finance and Budgeting
 - Timelines for Measure Implementation
 - Community Outreach and Education
 - Monitoring, Reporting, and Adaptive Management
 - Tracking Tools.

5.5.7 Level of Significance After Mitigation

Impact 5.5-1

Implementation of Mitigation Measure GHG-1 would ensure that the City prepares a Climate Action Plan to achieve the GHG reduction goals of Senate Bill 32 and chart a trajectory to achieve the long-term year 2045 GHG reduction goal and State's carbon neutrality goal set by AB 1279. Mitigation Measure GHG-1 would also ensure that the City is tracking and monitoring the City's GHG emissions. However, given the growth in population and employment within the City and the magnitude of emissions reductions needed to achieve the GHG reduction target, GHG emissions are considered **significant and unavoidable**.

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5. Environmental Analysis

5.6 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential impacts of the proposed project on human health and the environment due to exposure to hazardous materials or conditions associated with the project site, project construction, and project operations. Potential project impacts and appropriate mitigation measures or standard conditions are included as necessary.

5.6.1 Environmental Setting

Federal Agencies

US Environmental Protection Agency

The EPA is the primary federal agency that regulates hazardous materials and waste. In general, the EPA develops and enforces regulations that implement environmental laws enacted by Congress. The agency is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. EPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing trash. Under the authority of the Resource Conservation and Recovery Act (RCRA) and in cooperation with state and tribal partners, the Waste Management Division manages a hazardous waste program, and underground storage tank program, and a solid waste program, which includes development of waste reduction strategies such as recycling. The EPA has also promulgated regulations for the transport of hazardous wastes. These more stringent requirements include tracking shipments with manifests to ensure that wastes are delivered to their intended destinations.

Occupational Safety and Health Administration

OSHA oversees administration of the Occupational Safety and Health Act, which requires specific training for hazardous materials handlers, provision of information to employees who may be exposed to hazardous materials, and acquisition of material safety data sheets from manufacturers. Material safety data sheets describe the risks associated with particular hazardous materials, and proper handling and procedures. Employee training must include response and remediation procedures for hazardous materials releases and exposures.

US Department of Transportation

The USDOT has developed regulations pertaining to the transport of hazardous materials and hazardous wastes by all modes of transportation. The US Postal Service has developed additional regulations for the transport of hazardous materials by mail. USDOT regulations specify packaging requirements for different types of materials.

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State Agencies

California Environmental Protection Agency

CalEPA was created in 1991 by Governor's Executive Order. Six boards, departments, and offices were placed under the CalEPA umbrella to create a cabinet-level voice for the protection of human health and the environment and to ensure the coordinated deployment of state resources. CalEPA oversees hazardous materials and hazardous waste compliance throughout California. Among those responsible for hazardous materials and waste management are the Department of Toxic Substances Control, Department of Pesticide Regulation, and Office of Environmental Health Hazard Assessment. CalEPA also oversees the unified hazardous waste and hazardous materials management regulatory program (Unified Program), which consolidates and coordinates:

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- Underground Storage Tank Program
- Aboveground Petroleum Storage Tank Act
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs
- California Uniform Fire Code: Hazardous Material Management Plans and Inventory Statements
- California Accidental Release Prevention Program

California Department of Toxic Substances Control

DTSC is the department of CalEPA out the RCRA and CERCLA programs in California to protect people from exposure to hazardous substances and wastes. The department regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Divisions 4 and 4.5). Permitting, inspection, compliance, and corrective action programs ensure that people who manage hazardous waste follow state and federal requirements and other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

State Water Resources Control Board

GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for sites that impact groundwater or have the potential to impact groundwater. The SWRCB identifies sites that require groundwater cleanup (Leaking Underground Storage Tanks, Department of Defense, and Site Cleanup Program) as well as permitted facilities that could impact groundwater (Irrigated Lands, Oil and Gas Production, Operating USTs and Land Disposal sites).

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California Department of Forestry and Fire Protection

CALFIRE is dedicated to the fire protection and stewardship of over 13 million acres of California's wildlands. The Office of State Fire Marshal (OSFM) supports CALFIRE's mission to protect life and property through fire prevention engineering programs, law and code enforcements, and education. OSFM provides for fire prevention by enforcing fire-related laws in state- owned or -operated buildings; investigating arson fires; licensing those who inspect and service fire protection systems; approving fireworks for use in California; regulating the use of chemical flame retardants; evaluating building materials against fire safety standards; regulating hazardous liquid pipelines; and tracking incident statistics for local and state government emergency response agencies. The California Fire Plan is the state's road map for reducing the risk of wildlife through planning and preservation to reduce firefighting costs and property losses, increase firefighter safety, and contribute to ecosystem health. The California Fire Plan is a cooperative effort between the State Board of Forest and Fire Protection and CALFIRE.

5.6.1.1 REGULATORY BACKGROUND

Federal Regulations

Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984

The RCRA of 1976 is the principal federal law enacted by Congress that regulates the generation, management, and transportation of waste. In general, the EPA works to develop and enforce regulations that implement environmental laws enacted by Congress. The agency is responsible for researching and setting national standards for a variety of environmental programs and delegates to states and tribes the responsibility of issuing permits and for monitoring and enforcing compliance. EPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing trash. Hazardous waste management includes the treatment, storage, or disposal of hazardous waste. The RCRA gave the EPA the authority to control hazardous waste from "cradle to grave," that is, from generation to transport, treatment, storage, and disposal. The RCRA also set forth a framework for the management of nonhazardous wastes. The 1986 amendments to the RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. It should be noted that the RCRA focuses only on active future facilities and does not address abandoned or historical sites.

Comprehensive Environmental Response, Compensation, and Liability Act and the Superfund Amendments and Reauthorization Act of 1986

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly known as Superfund, established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986. SARA stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites, required Superfund actions to consider the standards and requirements

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found in other state and federal environmental laws and regulations, provided new enforcement authorities and settlement tools, increased state involvement in every phase of the Superfund program, increased the focus on human health problems posed by hazardous waste sites, encouraged greater citizen participation in site cleanup decisions, and increased the size of trust fund to \$8.5 billion. CERCLA also enabled the revision of the National Contingency Plan, which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priority List of Superfund sites.

Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA), also known as SARA Title III was enacted by Congress as the national legislation on community safety. This law helps local communities protect public health, safety, and the environment from chemical hazards in their areas by requiring businesses to report the locations and quantities of chemicals stored onsite to state and local agencies. These reports help communities prepare to respond to chemical spills and similar emergencies.

Section 3131 of EPCRA requires manufacturers to report releases to the environment (air, soil, and water) of more than 600 designated toxic chemicals, report offsite transfers of waste for treatment or disposal at separate facilities, develop pollution prevention measures and activities, and participate in chemical recycling. These annual reports are submitted to the EPA and state agencies. EPCRA Sections 301 through 312 are administered by the EPA's Office of Emergency Management. The EPA's Office of Information Analysis and Access implements the EPCRA Section 313 program. In California, SARA Title III is implemented through the California Accidental Release Prevention Program.

The EPA maintains and publishes a database that contains information on toxic chemical releases and other waste management activities by certain industry groups and federal facilities. This online, publicly available, national digital database is called the Toxics Release Inventory and was expanded by the Pollution Prevention Act of 1990.

Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 requires state and local governments to prepare mitigation plans that identify hazards, potential losses, mitigation needs, goals, and strategies. It is intended to facilitate cooperation between state and local governments.

Toxic Substances Control Act

The Toxic Substances Control Act of 1976 was enacted by Congress to give the EPA the ability to track the 75,000 industrial chemicals currently produced by or imported into the United States. The EPA repeatedly screens these chemicals and can require reporting or testing of any that may pose an environmental or human health hazard. It can ban the manufacture and import of chemicals that pose an unreasonable risk. Also, the EPA has mechanisms in place to track the thousands of new chemicals that industry develops each year with either unknown or dangerous characteristics. It then can control these chemicals as necessary to protect

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human health and the environment. The Act supplements other federal statutes, including the Clean Air Act and the Toxics Release Inventory under EPCRA.

Hazardous Materials Transportation Act

The USDOT regulates hazardous materials transportation under Title 49 of the Code of Federal Regulations (CFR). State agencies that have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation. These agencies also govern permitting for hazardous materials transportation. Title 49 CFR reflects laws passed by Congress as January 2, 2006.

Federal Response Plan

The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies and the American Red Cross that: 1) provide the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local government overwhelmed by a major disaster or emergency; 2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and 3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a presidential declaration of a major disaster or emergency.

State Regulations

California Health and Safety Code and Code of Regulations

California Health and Safety Code Chapter 6.95 and California Code of Regulations (CCR), Title 19, Section 2729 describe the minimum requirements for business emergency plans and chemical inventory reporting. These regulations require businesses to provide emergency response plans and procedures, training program information, and a hazardous material inventory disclosing hazardous materials stored, used, or handheld on-site. A business that uses hazardous materials, or mixtures containing them, in certain quantities must establish and implement a business plan.

Tanner Act (Assembly Bill 2948)

Although numerous state policies deal with hazardous waste, the most comprehensive is the Tanner Act (California Civil Code § 1793.22), which was adopted in 1986. The Tanner Act governs the preparation of hazardous waste management plans and the siting of hazardous waste facilities in California. To be in compliance with the Tanner Act, local or regional hazardous waste management plans need to include provisions that define: 1) the planning process for waste management, 2) the permit process for new and expanded facilities, and 3) the appeals process to the state available for certain local decisions.

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California Building Code

The state of California provided a minimum standard for building design through California Building Code (CBC), which is in Part of 2 Title 24 of the CCR. The CBC is based on the International Building Code, modified for California conditions. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan checked by City and county building official for compliance with the CBC. Chapter 18.04, Building Code, of the Fountain Valley Municipal Code states that the City has adopted the 2019 edition of the California Building Code.

State Hazardous Waste Management Programs

Underground Storage Tank Program

Releases of petroleum and other products from underground storage tanks (USTs) are the leading source of groundwater contamination in the United States. The RCRA Subtitle I establishes regulations governing the storage of petroleum products and hazardous substances in USTs and the prevention and cleanup of leaks. In EPA Region 9 (California, Arizona, Hawaii, Nevada, Pacific Islands, and over 140 tribal nations) the UST program operates primarily through state agency programs with EPA oversight. In California, the State Water Resources Control Board (SWRCB), under the umbrella of CalEPA, provides assistance to local agencies enforcing UST requirements. The purpose of the UST program is to protect public health and safety and the environment from releases of petroleum and other hazardous substances. The program consists of four elements: leak prevention, cleanup, enforcement, and tank tester licensing. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs, including groundwater analytical data, the surveyed locations of monitoring wells, and other data. The SWRCB's GeoTracker system currently has information submitted by responsible parties for over 10,000 leaking underground storage tank (LUST) sites statewide and has been extended to include all SWRCB groundwater cleanup programs, including the LUST, non-LUST (Spill, Leaks, Investigation, and Cleanup), Department of Defense, and landfill programs.

Hazardous Materials Disclosure Programs

Both the federal government (CFR, EPA, SARA, and Title III) and the state (Health and Safety Code, Division 20, Chapter 6.95, §§ 2500-25520; 19 CCR, Chapter 2, Subchapter 3, Article 4 §§ 2729-2734) require all businesses that handle more than specified amount of hazardous materials or extremely hazardous materials, termed a reporting quantity, to submit a hazardous materials emergency/contingency plan (also known as a hazardous materials business plan) to their local Certified Unified Program Agency (CUPA). County and City Fire Agencies within Orange County have joined in partnership with the CUPA as Participating Agencies. In most Orange County cities, the Environmental Health Division administers all programs, with the exception of La Habra, Fullerton, Huntington Beach, Orange, and Fountain Valley, in which case the local Fire Agencies are responsible for the Hazardous Materials and Business Emergency Plan Programs.

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The hazardous business plan includes the business owner/operator identification page, hazardous materials inventory chemical description page, and an emergency response plan and training plan. Business plans must include an inventory of the hazardous materials at the facility. The entire hazardous materials business plan needs to be reviewed and recertified every three years. Business plans are required to include emergency response plans and procedures to be used in the event of a significant or threatened significant release of a hazardous material. These plans need to identify the procedures to follow for immediate notification to all appropriate agencies and personnel of a release, identification of local emergency medical assistance appropriate for potential accident scenarios, contact information for all emergency coordinators of the business, a listing and location of emergency equipment at the business, and evacuation plan, and a training program for business personnel. All facilities must keep a copy of their plan onsite.

Hazardous Materials Incident Response

Under Title III of SARA, the Local Emergency Planning Committee (LEPC) is responsible for developing an emergency plan for and responding to chemical emergencies in that community. The State Emergency Response Commission (SERC) established six emergency planning districts. The SERC appointed a LEPC for each planning district and supervises and coordinates their activities.

The emergency plan developed by the LEPCs must include:

- An identification of local facilities and transportation routes where hazardous materials area present.
- The procedures for immediate response in case of an accident (this must include a community-wide evacuation plan).
- A plan for notifying the community that an incident has occurred.
- The names of response coordinators at local facilities.
- A plan for conducting exercise to test the plan.

The plan is reviewed by the SERC and publicized throughout the community. The LEPC is required to review, test, and update the plan each year.

Hazardous Materials Spill/Release Notification Guidance

All significant spills, releases, or threatened releases of hazardous materials must be immediately reported. Federal and state emergency notification are required for all significant releases of hazardous materials. Requirements for immediate notification of all significant spills or threatened releases cover owners, operators, persons in charge, and employers. Notification is required regarding significant releases from facilities, vehicles, vessels, pipelines, and railroads. The following state statutes require emergency notification of a hazardous chemical release:

- Health and Safety Codes, Sections 25270.7, 25270.8, and 25507
- Vehicle Code, Section 23112.5
- Public Utilities Code, Section 7673 (PUC General Orders #22-b, 161)
- Government Code, Sections 51018, 8670.25.5(a)
- Water Code, Sections 13271, 13272

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- California Labor Code, Section 6409.1(b)10.

In addition, all releases that result in injuries or workers harmfully exposed must be immediately reported to California OSHA (California Labor Code, Section 6409.1[b]). Additional reporting requirements are in the Safe Drinking Water and Toxic Enforcement Act of 1986, better known as Proposition 65, and Section 9030 of the California Labor Code.

California Accidental Release Prevention Program

The CalARP became effective on January 1, 1997, in response to Senate Bill 1889. CalARP replaced the California Risk Management and Prevention Program. Under CalARP, the Governor's Office of Emergency Services must adopt implementing regulations and seek delegation of the program from the EPA. CalARP aims to be proactive and, therefore, requires businesses to prepare risk management plans, which are detailed engineering analyses of the potential accident factors present at a business and the measures that can be implemented to reduce this accident potential. In most cases, local governments will have the lead role for working directly with businesses in this program.

Regional Regulations

Local Hazard Mitigation Plan

The Local Hazard Mitigation Plan (LHMP) serves to reduce injury, loss of life, property damage, and loss of services from natural disasters. This LHMP provides a comprehensive analysis of the natural and human-caused hazards that threaten the city, with a focus on mitigation, allowing the city to remain eligible to receive additional federal and state funding to assist with emergency response and recovery, as permitted by the federal Disaster Mitigation Act of 2000 and California Government Code Sections 8685.6 and 65302.6; and it complements the efforts undertaken by the Safety Element. The LHMP complies with all requirements set forth under the federal Disaster Mitigation Act of 2000 and received approval from the Federal Emergency Management Agency (FEMA) in 2021.

Local Regulations

Solid Waste Ordinance

The purpose of Section 6.08, Solid Waste, of the Fountain Valley Municipal Code is to provide for the collection and disposition of solid waste within the city in compliance with all laws and to facilitate the recycling of materials and otherwise reduce waste going to the landfills. No person shall set out for collection of hazardous wastes and materials in the City.

Emergency Preparedness Ordinance

The purposes of Chapter 2.57, Emergency Preparedness, of the Fountain Valley Municipal Code, are to provide for the preparation and carrying out of plans for the protection of persons and property for the coordination of the emergency functions of this city with all other public agencies and affected private persons, corporations, and organizations. Any expenditures made in connection with such emergency

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activities, including mutual aid activities, shall be deemed conclusively to be for the direct protection and benefit of the inhabitants and property of the City.

Emergency Response Systems and Hazardous Materials Ordinance

Chapter 17.06, Emergency Response Systems and Hazardous Materials, of the Fountain Valley Municipal Code states that all new buildings shall have approved radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems utilized by the jurisdiction, measured at the exterior of the building. This section shall not require improvement of the existing public safety communication systems. The Emergency Responder Radio Coverage System shall comply with the Orange County Sheriff's Department, Communications and Technology Division guidelines and specifications and, where the functionality or performance requirements in the California Fire Code are more stringent, this code. Additionally, no person shall use or store any amount of extremely hazardous substances (EHS) in excess of the disclosable amounts in a residential zoned or any residentially developed property.

5.6.1.2 EXISTING CONDITIONS

Hazardous Materials and Waste Background

Hazardous wastes are hazardous substances that no longer have practical use, such as materials that have been discarded, discharged, spilled, or contaminated or are being stored until they can be disposed of properly (CCR Title 22, Chapter 11, Article 2, Section 66261.10). Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific CCR Title 22 criteria.

Past industrial or commercial activities on a site could have resulted in spills or leaks of hazardous materials to the ground, resulting in soil and/or groundwater contamination. Hazardous materials may also be present in building materials of older structures and released during building demolition activities. If improperly handled, hazardous materials and wastes can cause public health hazards when released to the soil, groundwater, or air. The four basic exposure pathways through which an individual can be exposed to a chemical agent include inhalation, ingestion, bodily contact, and injection. Exposure can come as a result of an accidental release during transportation, storage, or handling of hazardous materials. Disturbance of subsurface soil during construction can also lead to exposure of workers or the public from stockpiling, handling, or transportation of soils contaminated by hazardous materials or waste from previous spills or leaks.

Potential Hazardous Building Materials

Some buildings in the City were built between the 1960s and 1970s; based on the ages of these buildings, there is a potential for building materials to contain asbestos or lead-based paint (LBP). A potential release of hazardous materials could occur when asbestos-containing material (ACM) or LBP are disturbed during renovation or demolition activities. This disturbance could be harmful to human health. Typical hazardous materials of concern for existing older structures in the City include the following:

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HAZARDS AND HAZARDOUS MATERIALS

- **Asbestos** is a mineral fiber that is carcinogenic and harmful to respiratory health. Because of its fiber strength and heat resistance, it was widely used in a variety of building construction materials for insulation and as a fire-retardant, as well as in friction and heat-resistant products. Use of asbestos in the manufacturing of these products was common throughout California, until 1977, when it was banned. Older buildings constructed prior to 1978 could contain ACM. Asbestos can be released when ACMs are disturbed by cutting, sanding, drilling, or other remodeling activities. Improper attempts to remove these materials can release asbestos fibers into the air, increasing asbestos levels and affecting indoor air quality.
- **Lead** is a recognized harmful environmental pollutant that can pose a hazard when exposed through air, drinking water, food contaminated soil, deteriorating paint, and dust. Lead was widely used in paint, gasoline, water pipes, and many other products prior to documentation of its health hazards. The use of LBP was banned in California in 1978, and therefore, buildings constructed prior to 1978 could contain LBP. IF LBP is improperly removed from surfaces by dry scraping or sanding, LBP can be absorbed into the body and could pose a potential public health risk.
- **Mold** can impair indoor air quality. The presence of visible water damage, damp materials, visible mold, or mold odor in buildings increases the potential risks of respiratory disease of occupants. According to the California Department of Public Health, known health risks include the development of asthma, allergies, and respiratory infections, the triggering of asthma attacks, and increased wheezing, coughing, difficulty breathing, and other symptoms.
- **Polychlorinated Biphenyls (PCBs)** are synthetic chemicals that were manufactured for use in various industrial and commercial applications—including oil in electrical and hydraulic equipment, and plasticizers in paints, plastics, and rubber products—because of their non-flammability, chemical stability, high boiling point, and electrical insulation properties. When released into the environment, PCBs persist for many years and bioaccumulate in organisms. The USEPA has classified PCBs as probable human carcinogens. In 1979, the USEPA banned the use of PCBs in most new electrical equipment and began a program to phase out certain existing PCB-containing equipment.
- **Radon** is a naturally-occurring odorless, tasteless, and invisible gas produced from the decay of uranium in soil and water. Structures placed on native soils with elevated levels of radon can be impacted by the intrusion of radon gas into breathing spaces of the overlying structures, which can cause lung cancer. Orange County is listed as Zone 3 County with a predicted average indoor radon screening level of less than 2 picocuries per liter (pCi/L). This is considered a low level by the USEPA. The USEPA recommends remedial action for areas with levels above 4 pCi/L. The City is designated to be in a low potential zone with levels between 0 and 2 pCi/L.

Hazardous Sites

Table 5.6-1, *Hazardous Sites in the City of Fountain Valley*, lists sites that have been identified by EnviroStor and GeoTracker as hazardous, and provides the status of each site.

5. Environmental Analysis HAZARDS AND HAZARDOUS MATERIALS

Table 5.6-1 Hazardous Sites in the City of Fountain Valley

ID	Site Name	Address	Site Type	Status
SITES LISTED ON ENVIROSTOR				
60002975	Euclid/Condor Retail Center	18155 – 18191 Euclid St & 11045 Condor Ave	Voluntary Cleanup	Active
71003582	A&G Electropolish/Division of Lakin	18330 Ward St	Tiered Permit	No Further Action
30720025	Bonded Cleaners	16540 Harbor Blvd, #C	Evaluation	Refer: 1248 Local Agency
CAD094718590	CIBA-GEIGY Corp	18435 Bandilier Cir	Non-Operating	Protective Flier
CAD000089722	CIBA-GEIGY Corp Composite Materials Department	10910 Talbert Ave	Non-Operating	Protective Flier
60002715	Former Red Door Cleaners	18888 Brookhurst St	Voluntary Cleanup	Active
30820025/ 30820026	Fountain Valley High School Non-UST Area	17816 Bushard St	School Investigation	No Further Action
60002891	Fred Moiola School Site	9790 Finch Ave	Voluntary Cleanup	Active
60003012	French Cleaners	10130 Warner Ave, Suite B	Voluntary Cleanup	Active
30970008	MCAS Holmfield Field	N/A	Military Evaluation	No Further Action
80000545	MCAS Holmfield Field	N/A	Military Evaluation	Inactive – Needs Evaluation
71002330	Omni Metal Finishing, Inc.	11665 Coley River Cir	Tiered Permit	Inactive – Needs Evaluation
71003255	Price Club #411	17900 Newhope St	Tiered Permit	Inactive – Needs Evaluation
71003056	Pro-Tech	11164 Young River Ave	Tiered Permit	No Action Required
71004104	Rigid-Flex International	17282 Mt. Wynne Cir	Tiered Permit	Inactive – Needs Evaluation
30010018	Smith Farms	15872 Harbor Blvd	School Cleanup	Certified
60002073	Trico (Former Unite Circuit Technologies)	18101-18111 Mt. Washington St	Tiered Permit	Certified
SITES LISTED ON GEOTRACKER				
T0605900078	3 Star Nursery Inc	17235 Newhope	Lust Cleanup Site	Completed - Case Closed
T0605900033	Arco #1905	18025 Magnolia	Lust Cleanup Site	Open - Eligible For Closure
T0605900032	Arco #1912	18480 Brookhurst	Lust Cleanup Site	Open - Remediation
T0605900371	Arco #1964	9520 Warner Ave	Lust Cleanup Site	Completed - Case Closed
T0605900632	Arco #6116	17520 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605900955	Beacon Bay Auto Wash	10035 Ellis	Lust Cleanup Site	Completed - Case Closed
T0605901730	Burke Comp/ Aluma System	11140 Talbert Ave	Lust Cleanup Site	Completed - Case Closed
T0605913280	Chevron	10020 Warner	Lust Cleanup Site	Completed - Case Closed
SI0605937550	Carriage Trade Cleaners - Brookhurst Plaza	17209 Brookhurst Street	Cleanup Program Site	Completed - Case Closed
T0605901477	Chevron #4360	10020 Warner	Lust Cleanup Site	Completed - Case Closed
T0605930283	Chevron #4360	10020 Warner	Lust Cleanup Site	Completed - Case Closed
T0605900949	Chevron #7842	11025 Warner	Lust Cleanup Site	Completed - Case Closed
T0605901892	Chevron #9-7347	17971 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605901203	Chevron Station #9-3167	17980 Magnolia	Lust Cleanup Site	Completed - Case Closed
T0605900524	City Of Fountain Valley	10200 Slater Ave	Lust Cleanup Site	Completed - Case Closed
SI8r0643948	Crown Cleaners	18583 Brookhurst Street	Cleanup Program Site	Completed - Case Closed
T0605964297	David L. Baker Golf Course	10410 Edinger	Lust Cleanup Site	Completed - Case Closed
T0605901175	Diamond Cab Inc	17300 Mt Herrmann	Lust Cleanup Site	Completed - Case Closed
SI0605910930	Edinger Plaza	9064-9138 Edinger Avenue	Cleanup Program Site	Completed - Case Closed
T0605997412	Exxon	15980 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605949011	Exxon	16225 Harbor	Lust Cleanup Site	Completed - Case Closed
T0605980458	Exxon #7-3062	18020 Magnolia	Lust Cleanup Site	Completed - Case Closed
T0605900670	Exxon #7-3236	16225 Harbor	Lust Cleanup Site	Completed - Case Closed
T0605901317	Exxon #7-3561	15980 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605901523	Exxon #7-3738	17474 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605901535	Exxon #7-4283	8980 Warner	Lust Cleanup Site	Open - Remediation
T0605902225	Family Fun Center	9063 Recreation	Lust Cleanup Site	Completed - Case Closed
T0605900487	Former Marie Vanderupwich Prop	9025 Warner	Lust Cleanup Site	Completed - Case Closed

5. Environmental Analysis HAZARDS AND HAZARDOUS MATERIALS

Table 5.6-1 Hazardous Sites in the City of Fountain Valley

ID	Site Name	Address	Site Type	Status
T0605902233	Fountain Valley City Yard	18240 Ward	Lust Cleanup Site	Completed - Case Closed
T0605900580	Fountain Valley Community Hospital	11160 Warner	Lust Cleanup Site	Completed - Case Closed
T0605901457	Fountain Valley Fire Station #2	16767 Newhope	Lust Cleanup Site	Completed - Case Closed
T0605900786	Fountain Valley High School	17816 Bushard St	Lust Cleanup Site	Completed - Case Closed
SlI8r0653949	Fountain Valley Industrial Park	Talbert Avenue At Euclid Avenue	Cleanup Program Site	Completed - Case Closed
SlI8r2163994	Fountain Valley Plaza Shopping Center	18120 Brookhurst Street	Cleanup Program Site	Completed - Case Closed
T10000015916	Fountain Valley Promenade	18449 Brookhurst	Cleanup Program Site	Open - Remediation
T0605900090	Fountain Valley Regional Hospital	17100 Euclid	Lust Cleanup Site	Open - Eligible For Closure
T0605902108	Fountain Valley Sch.Dist.Maint	17890 Newland St	Lust Cleanup Site	Completed - Case Closed
T0605901424	Grand Auto Store #110	16031 Harbor Blvd	Lust Cleanup Site	Completed - Case Closed
T0605900140	Heitman Properties	10870 Kalama River	Lust Cleanup Site	Completed - Case Closed
T0605999151	Willard Boats	11200 Condor	Lust Cleanup Site	Completed - Case Closed
T0605900349	Valley Center	15167 Edinger Ave	Lust Cleanup Site	Completed - Case Closed
T0605901651	Unocal Cop #5915	9020 Edinger	Lust Cleanup Site	Open - Site Assessment
T0605900911	Ilt Cannon	10550 Talbert	Lust Cleanup Site	Completed - Case Closed
T1000000926	Kodak Professional Laboratory	18250 Euclid Street,	Cleanup Program Site	Completed - Case Closed
T0605900783	Lusk Interiors	17371 Mt Wynne	Lust Cleanup Site	Completed - Case Closed
SlO605953051	Magnolia Plaza	9043 Garfield Avenue	Cleanup Program Site	Open - Remediation
T0605901389	Mile Square Golf Course	10401 Warner	Lust Cleanup Site	Completed - Case Closed
T0605900856	Mobil	17025 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605901037	Mobil #18-668	16230 Harbor	Lust Cleanup Site	Completed - Case Closed
T0605900760	Mobil #18-G6b	9024 Warner	Lust Cleanup Site	Completed - Case Closed
T0605901495	National Growers	17742 Magnolia	Lust Cleanup Site	Completed - Case Closed
SlI8r2173995	Newport Adhesives And Composites	17390 Mt. Cliffwood Circle	Cleanup Program Site	Completed - Case Closed
T0605900589	Newport Research Corporation	18203 Mt Baldy	Lust Cleanup Site	Completed - Case Closed
T0605900358	Newt Withers Goodyear	16142 Harbor	Lust Cleanup Site	Completed - Case Closed
T0605938718	Ocsd Auto Shop	10844 Ellis	Lust Cleanup Site	Open - Remediation
T0605950055	Orange County Sanitation	10844 Ellis	Lust Cleanup Site	Completed - Case Closed
T0605900243	Orange County Sanitation District	10844 Ellis	Lust Cleanup Site	Completed - Case Closed
T0605901822	Orange County Water District	10500 Ellis	Lust Cleanup Site	Completed - Case Closed
T0605901874	Price Less Fuel	11520 Edinger	Lust Cleanup Site	Completed - Case Closed
T0605900250	Quality Gas	9880 Warner	Lust Cleanup Site	Completed - Case Closed
T0605900265	Shell Oil	18976 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605900445	Shell Oil	17975 Magnolia	Lust Cleanup Site	Completed - Case Closed
T0605902133	Shell Oil	16969 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605900729	Shell Service Station	Warner Ave	Lust Cleanup Site	Completed - Case Closed
T0605900927	St Michael Oil Co	11470 Edinger	Lust Cleanup Site	Completed - Case Closed
T0605900320	Texaco	8520 Warner	Lust Cleanup Site	Completed - Case Closed
T0605902005	Texaco	9475 Warner	Lust Cleanup Site	Open - Remediation
T0605901615	Texaco	9475 Warner	Lust Cleanup Site	Completed - Case Closed
T0605900314	Texaco	17966 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605963393	Texaco Oil	8520 Warner	Lust Cleanup Site	Completed - Case Closed
T0605977932	Texaco Oil	17966 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605937708	Texaco Oil	9475 Warner	Lust Cleanup Site	Completed - Case Closed
T0605900328	Thrifty Oil #085	17475 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605900650	Thrifty Oil #383	18520 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605900510	Thrifty Oil #384	18975 Magnolia	Lust Cleanup Site	Completed - Case Closed

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Table 5.6-1 Hazardous Sites in the City of Fountain Valley

ID	Site Name	Address	Site Type	Status
T0605900969	Tosco - 76 #5274	9025 Garfield	Lust Cleanup Site	Completed - Case Closed
T0605900123	U S Post Office	17227 Newhope	Lust Cleanup Site	Completed - Case Closed
T0605900886	Unocal #4928	18025 Brookhurst	Lust Cleanup Site	Completed - Case Closed
T0605901015	Unocal #5399	9525 Warner	Lust Cleanup Site	Completed - Case Closed
T0605901483	Unocal #5607	11970 Edinger	Lust Cleanup Site	Completed - Case Closed
T0605901443	Unocal #5612	10975 Edinger	Lust Cleanup Site	Completed - Case Closed

Source: DTSC 2021 and SWRCB 2021

5.6.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- H-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- H-2 Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- H-3 Emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school.
- H-4 Be located on a site which is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
- H-5 For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would result in a safety hazard or excessive noise for people residing or working in the project area.
- H-6 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- H-7 Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

5.6.3 Applicable General Plan Update Policies

Public Facilities and Safety Element

- **Policy PFS-2.1: Disaster Planning and Coordination.** Improve the City's ability to prepare for and respond to large-scale disasters through coordination and sharing data, experience, and strategies with other emergency management agencies and the private sector in state or regional efforts on disaster planning, preparedness, and response.

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HAZARDS AND HAZARDOUS MATERIALS

- **Policy PFS-2.2: Local Hazard Mitigation Plan Implementation.** Require adherence to the goals, objectives and actions in the Local Hazard Mitigation Plan and subsequent amendments to reduce and mitigate damages from hazards in the city.
- **Policy PFS-2.4: Stormwater Drainage Improvements.** Support the Orange County Flood Control District's effort to collaborate with US Army Corps of Engineers to improve the East Garden Grove-Wintersburg Channel to reduce or eliminate the FEMA Flood Hazard Zone A in Fountain Valley.
- **Policy PFS-2.5: Flood Levees.** Prohibit construction near levees that would adversely affect the integrity of a levee or would impede maintenance, inspection, or planned levee expansion.
- **Policy PFS-2.6: Critical and Public Facilities.** Require that new critical and public facilities be located and designed to operate during and minimize their exposure and susceptibility to flooding, seismic and geological effects, and urban fires. Retrofit existing City facilities and encourage existing private facilities to be retrofitted so that they can remain operational during an emergency.
- **Policy PFS-3.1: Police and Fire Service.** Maintain staffing, facilities, and training activities to effectively respond to emergency and general public service calls.
- **Policy PFS-3.2: Interagency Support.** Continue to participate in mutual aid system and automatic aid agreements to back up and supplement capabilities to respond to emergencies.
- **Policy PFS-3.3: Hazardous Materials.** Ensure that the use and storage of hazardous materials comply with applicable federal, state, county, and local laws and management plans to prevent and mitigate hazardous materials releases.
- **Policy PFS-4.1: Resiliency Infrastructure.** Establish and maintain a local system of public and private resilience hubs, cooling centers, and emergency shelters that provide safe places for residents during hazard events or emergency conditions.
- **Policy PFS-4.2: Expediting Public Services.** Coordinate with local, state, and federal agencies to reestablish and expedite public services to assist affected residents and businesses and accelerate the short- and long-term recovery process after hazard events or emergency conditions.
- **Policy PFS-4.3: Vulnerable Populations.** Coordinate with and encourage the use of community-based networks to aid vulnerable populations in preparing for emergencies and provide assistance with evacuation and recovery.
- **Policy PFS-4.5: Regional and Local Flood Control.** Collaborate with Orange County Flood Control District and evaluate the need to expand the capacity of local flood control facilities to minimize flood hazards based on changing weather conditions associated with climate change.

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- Policy PFS-4.6: Sustainable and Resilient Design.** Require the development or rehabilitation of any public facility or capital improvement to incorporate site design and building practices that promote sustainability, energy efficiency, and resiliency. Encourage and facilitate such designs and practices in the development and rehabilitation of private buildings and facilities.

5.6.4 Environmental Impacts

5.6.4.1 IMPACT ANALYSIS

Impact 5.6.1: Project construction and/or operations would involve the transport, use, and/or disposal of hazardous materials. [Thresholds H-1, H-2, and H-3]

Table 5.6-1, *Hazardous Sites in the City of Fountain Valley*, indicates which hazardous sites in the City are still open or active.

Separate and independent of the CEQA process, federal and State laws and regulations require measures to reduce human exposure to hazardous materials. For known or potential contaminated sites, prior to issuing a grading or building permit, the City would require an assessment of potential hazards. If the development project could pose a human health or environmental risk, the City would require that such hazards be managed appropriately. This could include, but would not be limited to, actions such as removal of the contaminants (remediation), site controls to reduce exposure (e.g., capping soils, installation of soil vapor barriers), or administrative mechanisms (deed restrictions).

Construction

During construction of future projects throughout the City, new development would potentially involve the use of hazardous materials, such as fuels, lubricants, paints, solvents, and greases in construction equipment and coatings used in construction. The release of hazardous materials is a type of human-caused hazard that could impact residents and businesses. Numerous types of hazardous materials and chemicals are transported and used throughout residences and businesses within the City. However, future construction activities would be short-term in nature, and the materials used would not require use or storage of hazardous materials in quantities that would pose a substantial safety hazard. Additionally, the use, transport, and disposal of construction-related hazardous materials would be required to conform with existing laws and regulations. Compliance with applicable laws and regulations governing the use, storage, and transportation of hazardous materials would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts to occur; and all contaminated waste would be required to be collected and disposed of at an appropriate licensed disposal or treatment facility.

Grading and excavation in infill areas may expose construction workers and the public to known or potentially unknown hazardous materials in the soil or groundwater. As shown in Table 5.6-1, there are various sites throughout the City that have been identified as containing hazardous materials, which have the potential to pose health hazards. However, contaminated areas on construction sites would be required to be remediated prior to construction activities. Under the General Plan Update, the City would encourage and facilitate the adequate and timely cleanup of existing and future contaminated sites and the compatibility of

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future land uses. Remediation would be required to satisfy the appropriate responsible agency and would prevent exposure of people and the environment to these hazards.

New development would potentially involve the demolition of older buildings, which may contain ACM or LBP and could result in potential exposure of workers or residents living near these project sites to these hazardous materials. However, demolition of structures throughout the City for future development would be required to comply with the California Health and Safety Code, Occupational Safety and Health Administration (OSHA), and South Coast Air Quality Management District Rule 1403 related to removal of ACM and LBP. These requirements include the preparation of ACM and LBP surveys and appropriate remediation measures for removal of LBP and ACM during demolition activities; asbestos and lead abatement performed and monitored by certified contractors; and proper labeling, safety training, hazardous materials exposure warnings, and emergency action and fire prevention plan preparation. Additionally, implementation of the General Plan Update policies, such as Policy PFS-3.3, which is intended to ensure that the use and storage of hazardous materials comply with applicable federal, state, county, and local laws and management plans to prevent and mitigate hazardous materials releases, would reduce potentially significant impacts. Therefore, implementation of the General Plan Update would not result in substantial hazards to the public due to the transport, use, and/or disposal of hazardous material. Impacts would be less than significant.

Operation

Operation of projects developed pursuant to the General Plan Update would involve hazardous materials used in industrial and commercial land uses as well as hazardous materials used for cleaning and maintenance purposes in almost all developed land uses: cleaners, solvents, paints, pesticides, and fertilizers. The amounts of hazardous materials used would vary by land use type: amounts would be small for residential, school, institutional, and many office uses. Amounts would be larger for industrial uses; businesses selling hazardous materials, such as gasoline stations; and service businesses using hazardous materials in their operations, such as construction contractors, painters, cleaners, and printers. The General Plan Update buildout is expected to result in an increase in the number of hazardous waste generators. Hazardous wastes would be required to be stored, transported, and disposed of in conformance with existing regulations of the EPA, US Department of Transportation, CalRecycle, and other agencies. Additionally, implementation of the General Plan Update policies, such as Policy PFS-3.3, would reduce potentially significant impacts. Therefore, implementation of the General Plan Update would not result in substantial hazards to the public due to the transport, use, and/or disposal of hazardous material. Impacts would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.6-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.6-1 would be less than significant.

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Impact 5.6-2: The Plan Area is on a list of hazardous materials sites that could create a significant hazard to the public or the environment. [Threshold H-4]

As shown in Table 5.6-1, various hazardous sites in the City are listed as open or active according to the GeoTracker and/or EnviroStor databases. Any development, redevelopment, or reuse on or next to any of these sites would require environmental site assessment by a qualified professional to ensure that future development would not disturb hazardous materials on any of the hazardous materials sites or plumes of hazardous materials diffusing from one of the hazardous materials sites, and that any proposed development, redevelopment, or reuse would not create a substantial hazard to the public or the environment. Phase I Environmental Site Assessments are required for land purchasers to qualify for the Innocent Landowner Defense under CERCLA and to minimize environmental liability under other laws, such as RCRA, and for lenders as a prerequisite to extend a loan for purchase of land. Additionally, implementation of the General Plan Update policies, such as Policy PFS-3.3, would reduce potentially significant impacts. Impacts would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.6-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.6-2 would be less than significant.

Impact 5.6-3: The project site is not located in the vicinity of an airport, nor is it within the jurisdiction of an airport land use plan. [Threshold H-5]

The closest airport, John Wayne Airport in Santa Ana, is approximately 4.3 miles east of the City of Fountain Valley. Therefore, the proposed project would not result in a safety or noise hazard for people residing or working within the Plan Area.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.6-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.6-3 would be less than significant.

5. Environmental Analysis

HAZARDS AND HAZARDOUS MATERIALS

Impact 5.6-4: Project development would not affect the implementation of an emergency responder or evacuation plan. [Threshold H-6]

Future development under the proposed project would result in construction activities that could temporarily affect roadways as a result of lane closures or narrowing for roadway and/or utility improvements. This could affect emergency response times or evacuation routes. The proposed General Plan Update would allow development of increases of square footage and dwelling units in the city. By increasing the population, traffic congestion may increase in these areas as well. Therefore, in the event of an accident or natural disaster, evacuation plans and routes could be adversely affected by the increased traffic.

The buildout of the General Plan Update would not result in substantial changes to the circulation patterns or emergency access routes, and would not block or otherwise interfere with use of evacuation routes. Buildout would not interfere with operations of emergency response agencies or with coordination and cooperation between such agencies. The General Plan Update includes policies that would ensure emergency access is not affected, such as Policy PFS-2.1 and Policy PFS-2.2; therefore, impacts to emergency response planning would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.6-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.6-4 would be less than significant.

Impact 5.6-5: Fountain Valley is not in a designated fire hazard zone, and implementation of the General Plan Update will not expose structures and/or residences to wildland fire danger. [Threshold H-7]

The Plan Area is not within a fire hazard severity zone, nor is it surrounded by a fire severity hazard zone. The nearest fire hazard severity zone to the Plan Area is over 5 miles away to the southeast. Therefore, development pursuant to the General Plan Update would not pose wildland fire hazards. Nonetheless, the General Plan Update includes policies governing fire protection such as Policy PFS-2.1, Policy PFS-2.2, and Policy PFS-3.1. Impacts would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.6-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.6-5 would be less than significant.

5. Environmental Analysis HAZARDS AND HAZARDOUS MATERIALS

5.6.5 Cumulative Impacts

Past, existing, and planned development in the City could pose risks to public health and safety related to the use, storage, handling, generation, transport, and disposal of hazardous materials and wastes. For the cumulative hazards and hazardous materials impact analysis, the cumulative setting is the City and surrounding region. Hazardous materials contamination impacts, including remediation activities to protect public health and safety, are site specific and do not combine with the effects on other sites to result in a cumulative effect. No further analysis of this impact is necessary. In addition, as discussed above, there is a substantial regulatory framework that has been promulgated at the federal, state, and regional level that would also apply to construction and operation of uses in the City. Therefore, the proposed General Plan's contribution to any potential cumulative impact related to hazards or hazardous materials would be less than considerable and less than significant.

5.6.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.6.7 Mitigation Measures

No mitigation measures are required.

5.6.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.6.9 References

Department of Toxic Substances Control (DTSC). 2021. EnviroStor.
<https://www.envirostor.dtsc.ca.gov/public/>.

State Water Resources Control Board (SWRCB). 2021. GeoTracker. <https://geotracker.waterboards.ca.gov/>.

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5.7 HYDROLOGY AND WATER QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts of the proposed City of Fountain Valley General Plan Update (GPU) to hydrology and water quality conditions in the City of Fountain Valley. Hydrology deals with the distribution and circulation of water, both on land and underground. Water quality deals with the quality of surface- and groundwater. Surface water includes lakes, rivers, streams, and creeks; groundwater is under the earth's surface. The analysis in this section is based in part on the following technical report(s), and is included as Appendix 5.13-1:

- Existing Conditions Infrastructure Technical Report for Hydrology, Sewer, Water, and Water Quality, Fuscoe Engineering, Inc., May 31, 2022

5.7.1 Environmental Setting

5.7.1.1 REGULATORY BACKGROUND

Federal Regulations

Clean Water Act

The federal Water Pollution Control Act (or Clean Water Act [CWA]) is the principal statute governing water quality. It establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives the US Environmental Protection Agency (EPA)—or in the Case of California, the State Water Board and Regional Water Quality Control Boards—authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to completely end all discharge and to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates direct and indirect discharge of pollutants; sets water quality standards for all contaminants in surface waters; and makes it unlawful for any person to discharge any pollutant from a point source into navigable waters unless a permit is obtained under its provisions. The CWA mandates permits for wastewater and stormwater discharges; requires states to establish site-specific water quality standards for navigable bodies of water; and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The CWA funds the construction of sewage treatment plants and recognizes the need for planning to address nonpoint sources of pollution. Section 402 of the CWA requires a permit for all point-source discharges of any pollutant (except dredge or fill material) into waters of the United States.¹

National Pollutant Discharge Elimination System

Under the National Pollutant Discharge Elimination System (NPDES) program (CWA Section 402), all facilities that discharge pollutants from any point source into a water of the United States must have a NPDES permit. The term "pollutant" broadly applies to any type of industrial, municipal, and agricultural waste discharged into water. Point sources can be publicly owned treatment works (POTW), industrial facilities, and urban runoff (the NPDES program addresses certain agricultural activities, but the majority are considered nonpoint sources

¹ A "point source" is a discernible, confined, and discrete conveyance, such as pipe, ditch, or channel.

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and are exempt from NPDES regulation). Direct sources discharge directly to receiving waters, and indirect sources discharge to POTWs, which in turn discharge to receiving waters. Under the national program, NPDES permits are issued only for direct, point-source discharges. The National Pretreatment Program addresses industrial and commercial indirect discharges. Municipal sources are POTWs that primarily receive domestic sewage from residential and commercial customers. Specific NPDES program areas applicable to municipal sources are the National Pretreatment Program, the Municipal Sewage Sludge Program, Combined Sewer Overflows, and the Municipal Storm Water Program. Nonmunicipal sources include industrial and commercial facilities. Specific NPDES program areas applicable to these industrial/commercial sources are: Process Wastewater Discharges, Non-process Wastewater Discharges, and the Industrial Storm Water Program. NPDES issues two basic permit types: individual and general. Also, the EPA has recently focused on integrating the NPDES program further into watershed planning and permitting.

The NPDES has a variety of measures designed to minimize and reduce pollutant discharges. All municipalities with storm drain systems that serve a population of 50,000 or more, construction sites one acre or more in size, and any other source discharges of pollutants to jurisdictional waters must file for and obtain an NPDES permit. New development would be required to implement erosion and sediment control plans, including appropriate erosion and sediment control BMPs, Storm Water Pollution Prevention Plans (SWPPP), and water quality management plans (WQMP), as applicable. Further, projects must ensure, to the maximum extent practicable standard, that runoff from development projects does not cause a nuisance to adjoining or downstream properties and stream channels and that appropriate control measures are taken to reduce erosion and maintain stream geomorphology. Projects are also required to emphasize implementation of low-impact development (LID) principles, where feasible, and appropriately maintain urban runoff conveyance systems from development projects.

Safe Drinking Water Act

The federal Safe Drinking Water Act regulates drinking water quality nationwide and gives the authority to set drinking water standards, such as the National Primary Drinking Water regulations, or “primary standards.” The primary standards protect drinking water by limiting the levels of specific contaminants that can adversely affect public health. All public water systems that provide service to 25 or more individuals must meet these standards. Water purveyors must monitor for contaminants on fixed schedules and report to the EPA when a maximum contaminant level (MCL) is exceeded. MCL is the maximum permissible level of a contaminant in water that is delivered to any use of a public water system. Contaminants include organic and inorganic chemicals (e.g., minerals), substances that are known to cause cancer, radionuclides (e.g., uranium and radon), and microbial contaminants (e.g., coliform and E. coli). The MCL list typically changes every three years as the EPA adds new contaminants or revises MCLs. The California Department of Public Health’s Division of Drinking Water and Environmental Management is responsible for implementation of the Safe Drinking Water Act in California.

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Federal Urban Flooding Awareness Act

In 2015, Congress passed the Urban Flooding Awareness Act of 2015. Under this bill, the National Academy of Sciences will conduct a study on urban flooding. It defines “urban flooding” as the inundation of property in a built environment, particularly in more densely populated areas, caused by rain falling on increased amounts of impervious surface and overwhelming the capacity of drainage systems. The bill directs the National Academy of Sciences to evaluate the capacity of drainage systems. The bill directs the National Academy of Sciences to evaluate the latest research, laws, regulations, policies, best practices, procedures, and institutional knowledge regarding urban flooding. The findings from this assessment will direct future federal policies on identifying, preventing, and mitigating urban flooding.

National Flood Insurance Program

The National Flood Insurance Act of 1968 and the Flood Disaster Protection of 1973 mandate the Federal Emergency Management Agency (FEMA) to evaluate flood hazards. FEMA provides Flood Insurance Rate Maps (FIRMs) for local and regional planners to promote sound land use and floodplain development, identifying potential flood areas based on the current conditions. To delineate a FIRM, FEMA conducts engineering studies called Flood Insurance Studies. Using information gathered in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas on FIRMs.

The Flood Disaster Protection Act requires owners of all structures in identified Special Flood Hazard Areas to purchase and maintain flood insurance as a condition of receiving federal or federally related financial assistance, such as mortgage loans from federally insured lending institutions. Community members within designated areas are able to participate in the National Flood Insurance Program afforded by FEMA. The program is required to offer federally subsidized flood insurance to property owners in those communities that adopt and enforce floodplain management ordinances that meet minimum criteria established by FEMA. The National Flood Insurance Reform Act of 1994 further strengthened this program by providing a grant program for state and community flood mitigation projects. The act also established the Community Rating System, a system for crediting communities that implement measures to protect the natural and beneficial functions of their flood plains, as well as managing erosion hazards.

State Regulations

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act (Water Code sections 13000 et seq.) is the basic water quality control law for California. Under this Act, the State Water Resources Control Board (SWRCB) has ultimate control over state water rights and water quality policy. In California, the EPA has delegated authority to issue NPDES permits to the SWRCB and the nine Regional Water Quality Control Boards (RWQCB).

Safe Water Drinking Act

The Safe Water Drinking Act of 1974 regulates public drinking supplies to protect public health and safety. The law is designed to protect drinking water and water sources such as rivers, lakes, reservoirs, springs, and groundwater wells.

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Storm Water Pollution Prevention Plans

Pursuant to the CWA, in 2001, the SWRCB issued a statewide general NPDES Permit for stormwater discharges from construction sites (NPDES No. CAS000002). Under this Statewide General Construction Activity permit, discharges of stormwater from construction sites with a distributed area of one or more acres are required to either obtain individual NPDES permits for stormwater discharges or to be covered by the General Permit. Coverage by the General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB and developing and implementing a SWPPP. Each applicant under the General Construction Activity Permit must ensure that a SWPPP is prepared prior to grading and is implemented during construction. The SWPPP must list BMPs implemented on the construction site to protect stormwater runoff and must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a monitoring plan if the site discharges directly to a water body listed on the state’s 303(d) list of impaired waters.

Sustainable Groundwater Management Act

The California Sustainable Groundwater Management Act (“SGMA”), a three-bill package signed into law in 2014, creates a framework for the management of groundwater sources throughout the state. Under SGMA, local agencies form Groundwater Sustainability Agencies (“GSAs”) and create Groundwater Sustainability Plans (GSPs). If a GSA is not formed, special act districts, such as OCWD, can submit “Alternative Plans” to GSPs. Timelines and requirements are based upon basin priority. Under SGMA, the Orange County Groundwater Basin (Basin 8-1) is considered a medium-priority basin.

Under the Alternative Plan, four management areas have been created for the Orange County Groundwater Basin. Each of these management areas has slightly different management goals and strategies based on the government bodies that serve them. The management areas are as follows:

- La Habra-Brea Management Area – Includes the northern portion of the Basin located outside of the OCWD service area.
- OCWD Management Area – Includes OCWD’s service area, covering approximately 89% of the Basin.
- South East Management Area – Includes the southern and southeastern portions of the Basin that are outside of OCWD’s service area.
- Santa Ana Canyon Management Area – Includes the eastern portion of the Basin outside of OCWD’s service area.

Regional Regulations

Water Quality Control Plan for the Santa Ana River Basin

The Water Quality Control Plan for the Santa Ana River Basin (or Basin Plan) seeks to preserve and enhance water quality and to protect the beneficial uses of water bodies in the Santa Ana River watershed. The Basin Plan discusses the existing water quality, beneficial uses of the groundwater and surface waters, and local water

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quality conditions and problems within the Santa Ana River watershed. The Basin Plan provides water quality standards for water resources in the Santa Ana River and its watershed and includes an implementation plan to maintain these standards. The standards serve as the basis for the basin's regulatory programs.

Basin Plan implementation occurs primarily through issuance of individual Waste Discharge Requirements (WDRs); discharge prohibitions; water quality certifications; programs for salt management, nonpoint sources, and stormwater; and monitoring and regulatory enforcement actions, as necessary.

County of Orange MS4 Permit, Drainage Area Management Plan, & Local Implementation Plans

In May 2009, the Santa Ana RWQCB re-issued the North Orange County MS4 Storm Water Permit as WDR Order R8-2009-0030 (NPDES Permit No. CAS618030) to the County of Orange, the incorporated cities of Orange County, and the Orange County Flood Control District (OCFCD) within the Santa Ana Region. Pursuant to this "Fourth-Term" MS4 Permit, the Co-permittees were required to update and implement a Drainage Area Management Plan (DAMP) for its jurisdiction, as well as Local Implementation Plans (LIPs), which describe the Co-permittees' urban runoff management programs for their local jurisdictions.

Local Regulations

Floodplain Overlay Zoning District

Section 21.14.040, Floodplain (-FP) Overlay Zoning District—Flood Damage Prevention, of the Fountain Valley Municipal Code, states that the purpose of the section is to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions.

Stormwater Regulations

Chapter 14.40, Stormwater Regulations, of the Fountain Valley Municipal Code, states that the federal Clean Water Act requires that various state and local agencies implement regulations to control stormwater pollution. The city establishes these regulations as a co-permittee pursuant to its National Pollution Discharge Elimination System Permit.

5.7.1.2 EXISTING CONDITIONS

The City is located in the Santa Ana River watershed and the Anaheim Bay-Huntington Harbor watershed and falls within the Santa Ana Regional Water Quality Control Board and its respective Basin Plan. The Santa Ana River watershed encompasses the southern portion of the City and the Anaheim Bay-Huntington Harbor watershed encompasses the northern portion of the City see Figure 5.7-1, *City of Fountain Valley Watersheds*. The Santa Ana River begins 75 miles northeast in the San Bernardino Mountains, crossing through San Bernardino County and central Orange County, where it is then channelized at Prado Dam before flowing through the heavily urbanized coastal Orange County and emptying into the Pacific Ocean. The river serves as the main tributary to both watersheds, with Santiago Creek acting as the largest tributary to the river within Orange County. The Santa Ana River watershed and the Anaheim Bay-Huntington Harbor watershed drains into the Talbert Channel, Fountain Valley Channel, East Garden Grove Wintersburg Channel and the Ocean View Channel. The channels are owned and maintained by OCFCD.

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Encompassing over 3,200 square miles, the Santa Ana River watershed is the largest watershed in Southern California. Since 1989, the U.S. Army Corps of Engineers (USACE) has significantly reduced flood risks along the Santa Ana River by completing the construction of concrete-lined levees and flood control channels along much of the river and its tributaries.

According to the Fountain Valley Hazard Mitigation Plan, a dam failure threat to the City is considered moderate (Fountain Valley 2018). The majority of the City is within Flood Zone X, and the northwestern portion of the City is within Flood Zone A (CDWR 2023). Zone X is defined as the area is determined to be within the 500-year flood area and with minimal or 0.2 percent chance of flooding, but protected by levee from 100-year flood risks. The northwestern portion of the City designated Zone A, represents areas within the 100-year flood areas that have a 1 percent annual chance of flooding. The City is flat and built out with a storm drain system comprised of catch basins, storm drain lines and pump stations. The City monitors and maintains stormwater pumping stations to prevent significant flooding during storm events. The City improved the Sandal wood pump station in 2017 and the Walnut pump station in 2019, by replacing pumps with increased horsepower. Large amounts of water from other parts of Orange County flow through Fountain Valley and Huntington Beach on the way to the ocean. These regional water flows are carried through flood control channels owned and operated by the County of Orange (Fusco 2022).

5.7.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- HYD-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- HYD-2 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- HYD-3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - i) Result in a substantial erosion or siltation on- or off-site.
 - ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.
 - iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
 - iv) Impede or redirect flood flows.
- HYD-4 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

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HYD-5 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

5.7.3 Applicable General Plan Update Policies

Open Space and Conservation Element

- **Policy OSC-3.3: Energy and Water Conservation.** Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the City's Municipal Code and the California Building Code.
- **Policy OSC-3.4: Turf Replacement.** Continue to encourage and facilitate the replacement of turf grass with native and drought-tolerant plants and/or artificial turf to reduce the use of water for irrigation.
- **Policy OSC-3.5: Groundwater Quality and Supply.** Support regional efforts to improve the quality and quantity of groundwater sources available to the City.
- **Policy OSC-3.6: Stormwater Pollution.** Minimize non-point source pollutants and stormwater runoff to comply with and, where feasible, exceed regional, state, and federal standards.
- **Policy OSC-3.7: Low Impact Techniques.** Encourage the use of low impact development techniques that retain or mimic natural features for stormwater management.

Public Facilities and Safety Element

- **Policy PFS-2.4: Stormwater Drainage Improvements.** Support the Orange County Flood Control District's effort to collaborate with US Army Corps of Engineers to improve the East Garden Grove-Wintersburg Channel to reduce or eliminate the FEMA Flood Hazard Zone A in Fountain Valley.
- **Policy PFS-2.5: Flood Levees.** Prohibit construction near levees that would adversely affect the integrity of a levee or would impede maintenance, inspection, or planned levee expansion.

5.7.4 Environmental Impacts

5.7.4.1 IMPACT ANALYSIS

Impact 5.7-1: Development pursuant to the General Plan would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. [Threshold HYD-1]

Urban runoff from storms or nuisance flows (runoff during dry periods) from development projects can carry pollutants to receiving waters. Runoff can contain pollutants such as oil, fertilizers, pesticides, trash, soil, and animal waste. This runoff can flow directly into local streams or lakes or into storm drains and continue through pipes until it is released untreated into a local waterway and eventually the ocean. Untreated stormwater runoff

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degrades water quality in surface waters and groundwater and can affect drinking water, human health, and plant and animal habitats; if left unregulated and unmitigated.

Construction Phase

Clearing, grading, excavation, and construction activities associated with development under the GPU could impact water quality due to erosion of exposed soils and subsequent deposition of particulates in local drainages. Grading activities lead to exposed areas of loose soil and sediment stockpiles that are susceptible to uncontrolled sheet flow. Although erosion occurs naturally in the environment, primarily from weathering by water and wind action, improperly managed construction activities can lead to substantially accelerated rates of erosion that are considered detrimental to the environment.

Both state and local regulations effectively mitigate construction stormwater runoff impacts from the proposed land use changes under the GPU. Standard erosion control practices shall be implemented for all construction within the city. Chapter 14.40, Stormwater Regulations, of the Fountain Valley Municipal Code states that the City is a co-permittee pursuant to the National Pollution Discharge Elimination System Permit and adheres to the regulations of the Federal Clean Water Act. Development of projects with one acre or greater of soil disturbance are required to comply with the Statewide Construction General Permit, associated local NPDES regulations to ensure that the potential for soil erosion is minimized on a project-by-project basis and is subject to oversight by the Santa Ana Regional Water Quality Control Board.

Construction sites will be required to prepare and implement SWPPPs in accordance with the site-specific sediment risk analyses based on the grading plans. The SWPPP must describe construction BMPs that address pollutant source reduction and provide measures/controls to mitigate potential pollutant sources. These include, but are not limited to:

- Pollutant source reduction
- Erosion controls
- Sediment controls
- Tracking controls
- Nonstorm water management
- Materials and waste management
- Good housekeeping practices

Operational Phase

Development resulting from the City of Fountain Valley GPU may result in long-term impacts to the quality of stormwater and urban runoff, subsequently impacting downstream water quality. Development pursuant to the GPU could potentially create new sources for runoff contamination. Consequently, implementation of the GPU may have the potential to increase the post-construction pollutant loadings of certain constituent pollutants associated with the proposed land uses and their associated features, such as landscaping, and parking and plaza areas.

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As stated in the Infrastructure Technical Report (Appendix 5.14-1), to prevent long-term impacts associated with land use changes and in accordance with requirements of the City of Fountain Valley LIP and consistency with OC DAMP and Fourth-Term MS4 permit, new development and significant redevelopment projects must incorporate LID/site design and source control BMPs to address post-construction stormwater management (Fuscoe 2022). Projects Identified as Priority Projects are required to implement site design/LID and source control BMPs applicable to their specific priority project categories, and implement treatment control BMPs where necessary. Priority and Non-Priority projects must develop a project-specific Water Quality Management Plan (WQMP) which describes BMPs chosen for the project, as well as include operation and maintenance requirements for all structural and any treatment control BMPs.

As part of the statewide mandate to reduce trash in receiving waters, the City of Fountain Valley is required to adhere to the requirements of the amended trash total maximum daily load (TMDL). The requirements include the installation and maintenance of trash screening devices at all public curb inlets, grate inlets, and catch basin inlets. The trash screening devices must be approved by the local agency and consistent with the minimum standards of the trash TMDL. New industrial uses (manufacturing and processing) are also required to file a General Industrial Permit with the state and prepare a SWPPP that addresses operational features to control stormwater pollutants and monitoring and reporting requirements.

Conclusion

With the implementation of federal, state, and local regulations, runoff from the construction and operational phases of development pursuant to the GPU would not violate any water quality standards or waste discharge requirements. In terms of post-construction related impacts, the incorporation of site design, LID features and BMPs as required under the North Orange County MS4 Permit, the individual development and redevelopment projects within the GPU will effectively retain or treat the 85th percentile 24-hour storm water runoff for pollutants such as bacteria, metals, nutrients, oil & grease, organics, pesticides, sediment, trash, and oxygen demanding substances prior to discharge off their property (Fuscoe 2022). As the properties within the City undergoes redevelopment existing properties will be replaced with properties incorporating LID BMPs; therefore, surface water quality from the GPU area would be expected to improve over existing conditions with more LID BMPs implemented. Additionally, implementation of the GPU policies, such Policy OSC-3.5 and Policy OSC-3.6, would maintain water quality. Therefore, impacts to surface water and ground water quality would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.7-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.7-1 would be less than significant.

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Impact 5.7-2: Buildout of the General Plan would generate a substantial increase in water demand but would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin. [Threshold HYD-2]

Water supplies are from local groundwater aquifers managed by Orange County Water District (OCWD) that is pumped from the City-owned wells and imported water from Metropolitan Water District of Southern California that is provided by the Municipal Water District of Orange County (MWDOC).

According to the 2020 Urban Water Management Plan (UWMP), the City relied on 88 percent groundwater, 12 percent recycled water, and 0 percent imported water in the fiscal year 2019-2020, and it is projected that by 2045, the water supply portfolio will shift to 73 percent groundwater, 14 percent recycled water, and 13 percent imported water (Fountain Valley 2021). In 2020, the total water supply was 9,870 acre-feet (AF) and the total water demand was 8,686 AF. The UWMP indicates that the water supply would be the same as the water demand for normal, single dry, and multiple dry years from 2025 through 2045. The 2020 UWMP projects a population of 58,873 in 2045, which is less than the 2045 population proposed in GPU (73,668). In 2023, OCWD anticipates the final expansion to the Groundwater Replenishment System (GWRS) will be operational and increase water supply production into the groundwater basin by 31,000 acre feet per year (AFY), significantly boosting the groundwater resources that serve Fountain Valley and far more than the 1,096 AFY of demand anticipated from the GPU, though it is recognized that the increased water resources will also serve other jurisdictions (Fusco, 2022).

Additionally, OCWD oversees groundwater recharge and groundwater levels and has multiple mechanisms to prevent groundwater overdraft. OCWD actively participates in reviewing land development projects, which are required to show they will not impact recharge facilities. The basin is covered by Alternative Plan 8-1, and the groundwater management strategies laid out in the Alternative Plan have been approved by DWR. The Alternative Plan will be updated and resubmitted every five years as part of SGMA requirements. Additionally, because Fountain Valley is a built-out City, any proposed land use changes and development will occur within areas that are already builtout and will not interfere with groundwater recharge. The GPU includes policies such as, Policy OSC-3.3 and Policy OSC-3.5, which call for the conservation of water resources. Impacts related to the depletion of groundwater would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.7-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.7-2 would be less than significant.

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Figure 5.7-1 City of Fountain Valley Watersheds

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Impact 5.7-3: Development pursuant to the General Plan Update would increase the amount of pervious surfaces in the Plan Area and therefore could alter drainage patterns, but would not increase the potential for erosion and siltation on- or off-site, or create runoff water that would exceed the capacity of storm drain systems, or provide substantial additional sources of polluted runoff, or impede or redirect flood flows. [Threshold HYD-3 (i) – (iv)]

The City is largely built-out except for three vacant parcels and will likely be developed under buildout conditions. Therefore, peak flows would be decreased overall due to the implementation of landscaping requirements as well as LID features associated with water quality regulations. These LID features would allow water to pass through gradually which lessen stormwater runoff peak flows compared to areas that would be developed into higher intensity uses. Therefore, areas of higher intensity use proposed under the General Plan would introduce new impervious surfaces that could result in increases of stormwater runoff peak flow rates.

With new development, drainage patterns would largely be maintained; new development would use the existing drainage facilities within the public right-of-way. Current runoff is captured and conveyed by existing storm drain infrastructure in the City before discharging to County drainage channels and to the Pacific Ocean. Standard flood control requirements for new development would minimize impacts of increased flows and volumes on downstream receiving waters. On-site storm drain systems would likely change with the individual project components but would still use the existing City facilities within the public right-of-way. Implementation of proposed land uses in future redevelopment areas would not result in substantial increases in surface water peak flows or volumes over the existing conditions and would likely result in reduced discharges due to onsite water quality and LID features and BMPs.

Future development in the General Plan Area would involve construction activities that could increase the potential for erosion and/or siltation. Standard erosion control measures would be implemented as part of the SWPPP for any proposed project to minimize the risk of erosion or sedimentation during construction. The SWPPP must include an erosion control plan that prescribes measures such as phased grading, limiting areas of disturbance, designating restricted-entry zones, diverting runoff from disturbed areas, protective measures for sensitive areas, outlet protection, and provisions for revegetation or mulching. The erosion control plan would also include treatment measures to trap sediment, including inlet protection, straw bale barriers, straw mulching, straw wattles, silt fencing, check dams, terracing, and siltation or sediment ponds.

In addition, the majority of streams and channels that collect runoff within the City are concrete lined and not susceptible to scour or erosion. For those areas that are tributary to streams that may be susceptible to scour, hydromodification requirements as part of the regional MS4 permit will ensure that impacts are minimized. There is only one area within the Green Valley neighborhood in the southeast corner of the City that is susceptible to hydromodification requirements. The Green Valley neighborhood drains entirely to the Fountain Valley Channel which is concrete-lined and it does not overlap with any of the Opportunity Sites.

The majority of the City is within Flood Zone X, and the northwestern portion of the City is within Flood Zone A (CDWR 2023). Zone X is determined to be within the 500-year flood area with minimal or 0.2 percent chance of flooding, but protected by levee from 100-year flood risks, (CDWR 2023). The northwestern portion of the City designated Zone A, represents areas within the 100-year flood areas that have a 1 percent annual chance of flooding. Flooding hazards have the potential to impact a portion of the community. Section

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21.14.040, Floodplain (-FP) Overlay Zoning District—Flood Damage Prevention, of the Fountain Valley Municipal Code was created to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions. Development within flood hazard areas would comply with flood protection standards that reduce vulnerability to flood impacts and ensure safe use and occupation of structures.

With the implementation of applicable measures during the construction and operational phases of future development; the implementation of federal, state, and local regulations, as well as the GPU policies, such as Policy OSC-3.7, on any erosion, siltation, polluted runoff, or flood hazard impacts would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.7-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.7-3 would be less than significant.

Impact 5.7-4: The proposed project would not result in flood hazards associated with flood zones, tsunami, or seiche zones, or due to dam inundation. [Threshold HYD-4]

Flood Hazards

As discussed in Impact 5.7-3, the City is within Flood Zone X and A and have a low percentage of flooding; with the implementation of federal, state, and local regulations, future development pursuant to the GPU would not increase flood hazards associated with flood zones. The City of Fountain Valley has a policy to avoid placing new housing within 100-year flood hazard area based on FEMA floodplain maps, and all existing homes within Flood Zone A's and AE's require flood insurance (Fusco 2022). The City and County regularly maintain and improve storm drain and flood control infrastructure based on priority. Additionally, implementation of the GPU policies, such as Policy OSC-3.5 and Policy PFS-2.4, would ensure impacts would be less than significant.

Tsunami

The General Plan Area is approximately 2.6 miles northwest of the Pacific Ocean and therefore, the chances of a tsunami impacting the Plan Area are negligible.

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Seiches

A seiche is a surface wave created when an inland water body is shaken, usually by an earthquake or due to a change in atmospheric pressure. Inland water bodies near the Plan Area include Irvine Lake, Prado Dam, and the Santiago Creek Recharge Basins. Due to the distance and varying topography, seiche impacts would be less than significant.

Dam Inundation

The City is adjacent to the Santa Ana River and is likely subject to inundation in the event of failure or collapse of the Prado Dam. However, due to the distance from Prado Dam and current emergency procedures that address dam failure or flooding, the likelihood of dam failure is low, and impacts are anticipated to be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.7-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.7-4 would be less than significant.

Impact 5.7-5: Development pursuant to the General Plan Update would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. [Threshold HYD-5]

New development and redevelopment pursuant to the GPU would adhere to regulatory requirements that ensure surface water and groundwater quality are not adversely impacted during construction and operational activities pursuant to the GPU. As a result, new site development or redevelopment would not obstruct or conflict with the implementation of local or regional water quality control plans or sustainable groundwater management plans. All development within the City will follow the North Orange County MS4 Permit and the Santa Ana River Basin Water Quality Control Plan. Proposed development will be connected to the City's public water supply, and there would be no onsite wells for use of groundwater. OCWD manages groundwater levels and reviews development projects to be compatible with OCWD's groundwater management goals. Increased demand due to development pursuant to the GPU would not adversely impact the sustainable management of the Basin. Therefore, the proposed project would not obstruct or conflict with the Basin 8-1 Alternative Plan. Additionally, implementation of the GPU policies, such as Policy OSC-3.5, would ensure impacts would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.7-5 would be less than significant.

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Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.7-5 would be less than significant.

5.7.5 Cumulative Impacts

Construction and operation of future projects under the GPU could result in increased flows within water and sewer infrastructure over existing conditions while maintain existing runoff conditions. Future projects would comply with their respective SWPPPs and regulations for water quality standards established by the UWMP and the City. Future projects both individually and cumulatively could potentially increase the volume of storm drain system with eventual discharge to waterways. Future projects would be required to comply with drainage and grading regulations, such as with water quality requirements in the Statewide General Permit; the NPDES; and Section 21.14.040, Floodplain (-FP) Overlay Zoning District—Flood Damage Prevention, and Chapter 14.40, Stormwater Regulations, of the Fountain Valley Municipal Code.

In addition, based on the existing built out condition of the City and the proposed land use changes under the GPU including the implementation of LID features, no substantial additional sources of pollutants or significant Citywide increases in runoff for the 85th percentile storm event are anticipated. Based on the findings of this technical report, the incorporation of site design/LID features, and infiltration/biotreatment BMPs as required under the MS4 Permit and local LID requirements, the individual projects will adequately reduce project related impacts to hydrology and water quality to a level less than significant. In consideration of the preceding factors, the proposed project's contribution to cumulative water impacts would be less than cumulatively considerable.

5.7.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.7.7 Mitigation Measures

No mitigation measures are required.

5.7.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.7.9 References

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5.8 LAND USE AND PLANNING

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts to land use in the City of Fountain Valley from implementation of the proposed Fountain Valley General Plan project.

Land use impacts can be either direct or indirect. Direct impacts are those that result in land use incompatibilities, division of neighborhoods or communities, or interference with other land use plans. This section focuses on direct land use impacts. Indirect impacts are secondary effects resulting from land use policy implementation, such as an increase in demand for public utilities or services, or increased traffic on roadways. Indirect impacts are addressed in other sections of this DEIR.

5.8.1 Environmental Setting

5.8.1.1 REGULATORY BACKGROUND

Regional Regulations

Southern California Association of Governments

SCAG is a council of governments representing Imperial, Los Angeles, Orange, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization (MPO) for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the southern California region's MPO, SCAG cooperates with the South Coast Air Quality Management District, the California Department of Transportation, and other agencies in preparing regional planning documents. SCAG has developed regional plans to achieve specific regional objectives. The plans most applicable to the proposed project are discussed below.

Regional Transportation Plan/Sustainable Communities Strategy

On September 3, 2020, SCAG adopted the 2020-2045 RTP/SCS, Connect SoCal, which encompasses four principles—mobility, economy, healthy/complete communities, and environment—that are important to the region's future. Connect SoCal explicitly lays out goals related to housing, transportation technologies, equity, and resilience in order to adequately reflect the increasing importance of these topics in the region.

Regional Regulations

Local Agency Formation Commission for County of Orange

The Local Agency Formation Commission (LAFCO) was created to discourage urban sprawl and encourage the orderly formation and development of local government agencies. There is a LAFCO in each county in California. One of the LAFCO's roles is its regulatory function. By law, any proposal to add land to a city or

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LAND USE AND PLANNING

special district (incorporation or formation), remove land from a city or special district (detachment), consolidate, merge, or dissolve cities or special districts must be reviewed and approved by the LAFCO.

Local Regulations

Development Code

The implementation of the General Plan is generally managed by the Development Code (Title 21 of the Fountain Valley Municipal Code). The Development Code includes zoning districts consistent with the General Plan and applies prescriptive development standards to each zoning district that guide the site layout and intensity. The Development Code also contains design standards for use types (residential, office, commercial, and industrial) that guide staff and the development community on the high-quality design aesthetics required within the City.

Specific Plans

Specific plans allow for flexibility in design and customized development standards tailored to specific needs and conditions. The Specific Plan is one of the most creative tools available for guiding and regulating development, but also requires considerable attention to detail and may be too involved for some situations. As specified by the California Government Code, a specific plan must be consistent with the General Plan and must respond to all the required General Plan topics to the extent that they apply to the area in question. The following are the existing specific plans in the City:

- Civic Center
- Fountain Valley Crossings
- Fountain Valley Medical Center
- Fountain Valley Senior Campus
- Harbor Boulevard South Island
- Orange Coast Memorial Medical Center
- Sanitation District Plant
- Southpark
- Warner/Newhope

Overlays

Overlay districts establish unique use and/or development regulations for certain geographic areas of the city to address special site conditions, protect resources, and/or address land use needs opportunities in combination with the base zoning districts of the same parcels. Regulations for overlay zoning districts supplement the regulations that apply to the corresponding base zoning district. The following list identifies overlay districts currently applied in the City. As part of the project, the City is proposing to sunset the Housing opportunity overlay, due to changes made through the Housing Element adopted in 2022:

- Affordable housing (-AH) overlay zoning district
- Floodplain (-FP) overlay zoning district – Flood damage prevention

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- Seismic hazard (-SH) overlay zoning district
- Planned development (-PD) overlay zoning district
- Housing opportunity overlay (-HO) zoning district

5.8.1.2 EXISTING CONDITIONS

The City of Fountain Valley is located within the northern Orange County, approximately 30 miles southeast of downtown Los Angeles and 4 miles inland of the Pacific Ocean, and is bordered by the cities of Huntington Beach to the south and west, Westminster and Garden Grove to the north, Santa Ana to the northeast, and Costa Mesa to the southeast. The City occupies approximately 9 square miles, the majority of which is developed with established residential, commercial, industrial, recreational, and institutional uses. The City is largely developed around a grid system of streets providing a high level of connectivity within the City and to adjacent communities. Both the City and this grid system is divided by I-405, a major 12-lane regional transportation corridor approximately 250 feet in width, which bisects the City diagonally in a northwest to southeast direction. The I-405 transportation corridor establishes an existing physical divide, bisecting areas in the City.

Existing Land Uses and Buildout

Figure 3-1, *Existing Land Uses*, and Table 3-1, *Buildout Statistical Summary*, show the existing land uses and buildout within the City.

5.8.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- LU-1 Physically divide an established community.
- LU-2 Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

5.8.3 Applicable General Plan Update Policies

Land Use Element

- **Policy LU-1.1: Land Use Compatibility and Viability.** Require that new development is located, scaled, buffered, and designed to minimize negative impacts on existing conforming uses and adjacent neighborhoods. Require that new residential developments are located, scaled, buffered, and designed so as to not hinder the economic viability and continuity of areas planned for nonresidential uses.
- **Policy LU-1.2: Land Use Plan Consistency.** Consider proposed development that is consistent with the Land Use Plan (i.e., it does not require a change in Land Use Designations), to be generally compatible and consistent with surrounding land uses and a community's identity. Other policies in the

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General Plan and development standards in the Development Code may require additional site, building, and landscape design treatment to ensure compatibility.

- **Policy LU-1.3: Mix of Land Uses.** Maintain a balanced mix of high quality residential, retail, employment, industrial, open space, and public facility land uses to ensure a range of living options, fiscal sustainability, and convenient access to shops, restaurants, services, and well-paid and highly skilled jobs.
- **Policy LU-1.4: Mixed-use Activity Centers.** Encourage and facilitate the creation and maintenance of dynamic activity centers throughout the city that incorporate a mix of uses and public gathering space that promote a sense of place and community identity.
- **Policy LU-1.5: Reuse of Public Land.** Prioritize the reuse of land that is owned by non-city public agencies for public uses such as civic buildings, parks, or recreation facilities.
- **Policy LU-1.6: School Planning.** Coordinate with school districts on facility improvements, expansion, and contraction planning and activities.
- **Policy LU-1.7: New Elementary School.** Coordinate with school districts and development applicants to plan and provide expanded or new elementary school facilities near the Southpark and Crossings properties.
- **Policy LU-2.1: Fiscal Impacts.** Require proposed new development to demonstrate that it can and will be adequately served by public facilities without negatively impacting existing capacities and levels of service. Require new development and changes in use requiring discretionary City approval to be fiscally neutral or beneficial.
- **Policy LU-2.2: Fair Share Contributions.** Require new development to pay its fair share of the cost for on- and off-site capital improvements.
- **Policy LU-2.3: Mixed-Use Development.** Require new development in areas planned for mixed use to incorporate high-quality and innovative design with walkable environments, human-scale, gathering spaces, and vibrant businesses that competitively attract consumers and consumer spending in the evolving retail sales and services market.
- **Policy LU-2.4: Crossings Specific Plan.** Stay engaged with property owners, developers, brokers, and other stakeholders to facilitate development that makes progress toward the vision of the Crossings Specific Plan.
- **Policy LU-2.5: Reduced Commuting.** Attract and retain businesses that provide jobs suited to the labor force residing in Fountain Valley. Additionally, support and assist the development of housing affordable to the workforce commuting into Fountain Valley.

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- **Policy LU-3.1: Pride and Identity.** Enhance the sense of identity and increase the feeling of pride among residents, business owners, employees, and visitors by encouraging excellent physical design and continual property maintenance and improvements.
- **Policy LU-3.2: Scale and Character.** Ensure that all new development is compatible with the scale and character of the surrounding neighborhoods in Fountain Valley.
- **Policy LU-3.3: Quality of Life Uses.** Protect and improve public parks, trails, open space areas, public plazas, historical assets, and public facilities that define and enhance the City's quality of life.
- **Policy LU-3.4: Building Design.** Nonresidential buildings and related improvements should exhibit authentic and enduring design. Although no specific architectural style is required, the City prefers that designs for individual buildings stay true to a single architectural style and discourages franchise architecture. Buildings shall present fully finished facades on all sides visible from freeways or streets.
- **Policy LU-3.5: Corridor Design.** Buildings, streetscapes, landscaping, and associated improvements along the City's arterial streets should be attractive and promote a cohesive sense of place.
- **Policy LU-3.6: Parking Design.** Require surface and structured parking lots to be safe and convenient for all users. Parking areas shall also be attractive, particularly when visible from the public realm, with landscaping providing visual relief, buffering, and shade for vehicles and pedestrians.

5.8.4 Environmental Impacts

5.8.4.1 IMPACT ANALYSIS

Impact 5.8-1: Project implementation would not divide an established community. [Threshold LU-1]

Division of an established community commonly occurs because of development and construction of physical features that constitute a barrier to easy and frequent travel between two or more constituent parts of a community. For example, a large freeway structure with few crossings could effectively split a community.

The design direction for the General Plan is to improve access and mobility for existing and future residents by providing vehicular connections and non-motorized transportation options. The land use pattern proposed in the General Plan Update increases building intensity throughout the City. The City provides access through major roadways, and transit and pedestrian pathways.

No aspect of the proposed General Plan Update would divide the existing City. In addition, the updated General Plan includes provisions that directly address land use connectivity, compatibility, and encroachment of new development on existing neighborhoods and land uses. The General Plan Update includes policies aimed at improving connectivity, such as Policy LU-1.1, Policy LU-1.2, and Policy LU-3.2. Therefore, the General Plan Update would not result in any impact regarding division of an established community or land use compatibility issues.

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LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.8-1 would not be significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.8-1 would not be significant.

Impact 5.8-2: Project Implementation would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect. [Threshold LU-2]

SCAG Connect SoCal Consistency

The 2045 population projection for Fountain Valley in the RTP/SCS is 59,000, which is less than the projected population for the planning period buildout of the General Plan Update of 73,668. Because the proposed General Plan may result in the City's population exceeding the 2045 population forecast for the City this could be considered a conflict. However, the General Plan is both consistent with the goals of the RTP/SCS and would further State goals through emphasis on design and reduction in VMT, as discussed in Table 5.8-1, *SCAG 2020 RTP/SCS Goal Consistency Analysis*.

Table 5.8-1 SCAG 2020 RTP/SCS Goal Consistency Analysis

RTP/SCS Goal	Consistency Analysis
G1: Encourage regional economic prosperity and global competitiveness.	Consistent. This RTP/SCS goal focuses on adopting policies and investments in regional infrastructure in support of improving regional economic development and competitiveness. For this reason, this goal is not directly applicable to any individual planning project such as the proposed General Plan Update. Nonetheless, the General Plan Update would not adversely affect the ability of SCAG to align plan investments and policies with economic development and competitiveness and would contribute towards achieving this goal by advancing the other RTP/SCS goals, as discussed below. Moreover, the General Plan Update would further a compact development pattern by expanding land uses and intensity within the City. This planning effort is compatible with the RTP/SCS goal of implementing regional infrastructure that supports sound regional economic development and competitiveness.
G2: Improve mobility, accessibility, reliability, and travel safety for people and goods.	Consistent. The proposed vehicular, bicycle, and pedestrian circulation system defined in the General Plan Update would be designed, developed, and maintained to meet local and regional transportation needs and would ensure efficient mobility and access. The General Plan Update supports the development of regional transportation facilities and would plan, design, and maintain a citywide network of travelways for motorists, bicyclists, pedestrians, and transit riders of all ages and abilities. Project implementation would ensure travel safety and reliability for people and goods by adding important links to the city's circulation system.
G3: Enhance the preservation, security, and resilience of the regional transportation system.	Consistent. Project implementation would ensure reliable and safe transit within the City, which would lead to enhancing the regional transportation system.
G4: Increase person and goods movement and travel choices within the transportation system.	Consistent. See response to G-2.

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Table 5.8-1 SCAG 2020 RTP/SCS Goal Consistency Analysis

RTP/SCS Goal	Consistency Analysis
G5: Reduce greenhouse gas emissions and improve air quality.	Consistent. See response Section 5.2, <i>Air Quality</i> , and Section 5.8, <i>Greenhouse Gas Emissions</i> , of this DEIR which discuss air quality and greenhouse gas emissions, and how the General Plan Update would reduce emissions and improve air quality.
G6: Support healthy and equitable communities.	Consistent. The General Plan Update improve the network of bicycle and pedestrian facilities which would encourage active nonmotorized transportation modes. The availability and use of alternative transportation systems would reduce air pollutant and GHG emissions from vehicle use and would promote an active lifestyle.
G7: Adapt to a changing climate and support an integrated regional development pattern and transportation network.	Consistent. See response to G-5. Section 5.6, <i>Energy</i> , of this DEIR discusses energy conservation and how the General Plan would avoid and reduce inefficient, wasteful, and unnecessary consumption of energy during construction and operation.
G8: Leverage new transportation technologies and data-driven solutions that result in more efficient travel.	Consistent. See responses to G-2 and G-6.
G9: Encourage development of diverse housing types in areas that are supported by multiple transportation options.	Consistent. The General Plan Update would encourage the intensity of housing within the City. The General Plan Update supports a variety of housing types including very high-density housing and mixed-use development to encourage better connectivity to jobs.
G10: Promote conservation of natural and agricultural lands and restoration of habitats.	Consistent. The General Plan Update would encourage intensification which would ensure natural and agricultural lands are conserved.

Source: SCAG 2020

Consistency with City Land Use Plans and Regulations

The proposed General Plan will require an update to the City’s Development Code and Zoning Map to ensure consistency. Other than updates to specific plans, the Development Code amendments are being processed concurrently with the General Plan Update and are a part of the proposed project. The Crossings, Southpark, and Warner/Newhope specific plans will be updated at a later date to conform to the City’s currently adopted Housing Element and the proposed General Plan Update. The specific plan amendments will be needed to ensure that they implement the General Plan as updated. The changes to the land use intensity that will be reflected in the specific plans later, are evaluated in this EIR as part of the proposed project.

The City is responsible for ensuring that any outstanding zoning changes occur within a reasonable time after adoption of the General Plan. The land use designations in the City of Fountain Valley will largely remain as designated under the current General Plan, with the addition of Very High Density Residential, Mixed-Use 1, and Mixed-Use 2 designations. The impacts of the increase in intensification are analyzed throughout the DEIR.

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Following the amendments to the zoning code, if zoning and General Plan land use designations are not identical, General Plan policies would be consulted for guidance in amending the Development Code for consistency with the updated General Plan during consideration of any development project. The update to the zoning code would follow this project and bring the code into consistency with the General Plan and will tier from this EIR. Once the Development Code and specific plans are amended, there will be no inconsistency between the General Plan and the Development Code.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.8-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.8-2 would be less than significant.

5.8.5 Cumulative Impacts

The cumulative setting is Orange County; land uses within the area are regulated by individual agencies through their respective adopted general plans and development ordinances. Jurisdictional boundaries limit implementation of regional mitigation by any one city, and therefore, coordination of development for road connectivity and adjacent development is important.

Future land and transportation development associated with the proposed General Plan includes homes, residents, employment, industry, and connectivity to important transportation and employment centers in the region. This EIR evaluates projected development, along with future development in surrounding municipalities, which will result in impacts to the region. The overarching impact is one of traffic and the indirect impacts associated with more vehicles on the roadway. As the region grows, the increase in traffic will result in more noise, air pollution, and greenhouse gas emissions. All the cities within the County are required to address these issues in their respective general plans and development procedures. The City will work with OCTA to update the current RTP/SCS on the four-year cycle. While implementation of the General Plan Update would increase the development intensity in the City and region, it would not combine with other development in the region to physically divide a community or result in inconsistencies with plans adopted to avoid or mitigate an environmental effect. Therefore, the General Plan Update's contribution to a cumulative effect would be less than considerable.

5.8.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.8.7 Mitigation Measures

No mitigation measures are required.

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5.8.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.8.9 References

Southern California Association of Governments (SCAG). 2020, May 7, 20120–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).
<https://www.connectsoocal.org/Documents/Adopted/fConnectSoCal-Plan.pdf>This page intentionally left blank.

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5.9 NOISE

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Fountain Valley General Plan (proposed project) to result in noise impacts in the City of Fountain Valley. This section discusses the fundamentals of sound; examines federal, state, and local noise guidelines, policies, and standards; reviews noise levels at existing receptor locations; evaluates potential noise and vibration impacts associated with the proposed project; and provides mitigation to reduce noise and vibration impacts at sensitive locations. Noise monitoring and modeling data is included as Appendix 5.9-1.

Glossary

The following are brief definitions of terminology used in this section:

- **Sound:** A disturbance created by a vibrating object, which when transmitted by pressure waves through a medium such as air, is capable of being detected by the human ear or a microphone.
- **Noise:** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Continuous Noise Level (L_{eq}).** The mean of the noise level, energy averaged over the measurement period.
- **L_{max} .** The maximum root-mean-square noise level during a measurement period.
- **Statistical Sound Level (L_n).** The sound level that is exceeded “n” percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period), which is half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the “median sound level.” The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the “intrusive sound level.” The L_{90} is the sound level exceeded 90 percent of the time and is often considered the “effective background level” or “residual noise level.”
- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 pm to 7:00 am.
- **Community Noise Equivalent Level (CNEL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the levels occurring during the period from 7:00 pm to 10:00 pm, and 10 dB added to the sound levels occurring during the period from 10:00 pm to

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7:00 am. Note: For general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent/interchangeable and are treated therefore in this assessment.

- **Peak Particle Velocity (PPV).** The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration.
- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

5.9.1 Environmental Setting

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are “felt” more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by weighting frequencies in a manner approximating the sensitivity of the human ear.

Changes of 1 to 3 dBA are detectable under quiet, controlled conditions and changes of less than 1 dBA are usually indiscernible. A 3 dBA change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dBA is readily discernible to most people in an exterior environment whereas a 10 dBA change is perceived as a doubling (or halving) of the sound.

Noise is defined as unwanted sound, and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

Sound Measurement

Sound pressure is measured through the A-weighted measure to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear’s de-emphasis of these frequencies.

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. On a logarithmic scale, an increase of 10 dBA is 10 times more intense than 1 dBA, 20 dBA is 100 times more intense, and 30 dBA is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dBA. The decibel system of measuring sound gives a rough

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connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as “spreading loss.” For a single point source, sound levels decrease by approximately 6 dBA for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dBA for each doubling of distance in a hard-site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases by 4.5 dBA for each doubling of distance.

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2 , L_8 and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time, or 1, 5, and 15 minutes per hour. These “ L_n ” values are typically used to demonstrate compliance for stationary noise sources with a city’s noise ordinance, as discussed below. Other values typically noted during a noise survey are the L_{min} and L_{max} . These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law and the City require that, for planning purposes, an artificial dBA increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment of 5 dBA be added to the actual noise level for the hours from 7:00 pm to 10:00 pm and 10 dBA for the hours from 10:00 pm to 7:00 am. The L_{dn} descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 pm and 10:00 pm. Both descriptors give roughly the same 24-hour level (i.e., typically within 1 dBA of each other), with the CNEL being only slightly more restrictive (i.e., higher); therefore, they are used interchangeably in this assessment.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure, functions of the heart, and the nervous system. Extended periods of noise exposure above 90 dBA can result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation becomes painful. This is called the threshold of pain. Table 5.9-1 shows typical noise levels from familiar noise sources.

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Table 5.9-1 Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Onset of physical discomfort	120+	
	110	Rock Band (near amplification system)
Jet Flyover at 1,000 feet	100	
Gas Lawn Mower at 3 feet	90	
Diesel Truck at 50 feet, at 50 mph	80	Food Blender at 3 feet Garbage Disposal at 3 feet
Noisy Urban Area, Daytime	70	Vacuum Cleaner at 10 feet Normal speech at 3 feet
Commercial Area Heavy Traffic at 300 feet	60	Large Business Office Dishwasher Next Room
Quiet Urban Daytime	50	Theater, Large Conference Room (background)
Quiet Urban Nighttime Quiet Suburban Nighttime	40	Library Bedroom at Night, Concert Hall (background)
Quiet Rural Nighttime	30	Broadcast/Recording Studio
	20	
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans 2013a.

Vibration Fundamentals

Vibration is an oscillating motion in the earth. Like noise, vibration is transmitted in waves, but through the earth or solid objects. Unlike noise, vibration is typically of a frequency that is felt rather than heard.

Vibration can be natural—such as earthquakes, volcanic eruptions, or landslides—or man-made, such as explosions, heavy machinery, or trains. Both natural and man-made vibration may be continuous, such as from operating machinery, or impulsive, as from an explosion.

As with noise, vibration can be described by both its amplitude and frequency. Amplitude can be characterized in three ways—displacement, velocity, and acceleration. Particle displacement is a measure of the distance that a vibrated particle travels from its original position; for the purposes of soil displacement, is typically measured in inches or millimeters. Particle velocity is the rate of speed at which soil particles move in

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inches per second or millimeters per second. Table 5.9-2 presents the human reaction to various levels of peak particle velocity (PPV).

Table 5.9-2 Human Reaction to Typical Vibration Levels

Vibration Level Peak Particle Velocity (in/sec)	Human Reaction	Effect on Buildings
0.006–0.019	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibration begins to annoy people	Virtually no risk of “architectural” (i.e., not structural) damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk to “architectural” damage to normal dwelling—houses with plastered walls and ceilings
0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause “architectural” damage and possibly minor structural damage

Source: Caltrans 2013b.

Vibrations also vary in frequency, and this affects perception. Typical construction vibrations fall in the 10 to 30 Hz range and usually occur around 15 Hz. Traffic vibrations exhibit a similar range of frequencies; however, due to their suspension systems, buses often generate frequencies around 3 Hz at high vehicle speeds. It is less common, but possible, to measure traffic frequencies above 30 Hz.

The way in which vibration is transmitted through the earth is called propagation. As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

5.9.1.1 REGULATORY BACKGROUND

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, and local governments have established standards and ordinances to control noise.

Federal Regulations

US Environmental Protection Agency

The US Environmental Protection Agency (EPA) has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an L_{eq} of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an L_{eq} of 55 dBA and interior levels at or below 45 dBA. These levels are relevant to planning and design and useful

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for informational purposes, but they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community; therefore, they are not mandated.

The EPA also set 55 dBA L_{dn} as the basic goal for exterior residential noise intrusion. However, other federal agencies, in consideration of their own program requirements and goals, as well as the difficulty of actually achieving a goal of 55 dBA L_{dn} , have settled on the 65 dBA L_{dn} level as their standard. At 65 dBA L_{dn} , activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

US Department of Housing and Urban Development

The US Department of Housing and Urban Development (HUD) has set the goal of 65 dBA L_{dn} as a desirable maximum exterior standard for residential units developed under HUD funding. (This level is also generally accepted within the State of California.) Although HUD does not specify acceptable interior noise levels, standard construction of residential dwellings typically provides 20 dBA or more of attenuation with the windows closed. Based on this premise, the interior L_{dn} should not exceed 45 dBA.

Occupational Health and Safety Administration

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise limitations would apply to the operation of construction equipment and could also apply to any proposed industrial land uses. Noise exposure of this type is dependent on work conditions and is addressed through a facility's Health and Safety Plan, as required under OSHA, and is therefore not addressed further in this analysis.

State Regulations

General Plan Guidelines

The State of California, through its General Plan Guidelines, discusses how ambient noise should influence land use and development decisions and includes a table of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels, expressed in CNEL. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements. The general plan guidelines provide cities with recommended community noise and land use compatibility standards that can be adopted or modified at the local level based on conditions and types of land uses specific to that jurisdiction.

California Building Code

The California Building Code (CBC) is Title 24 of the California Code of Regulations. CBC Part 2, Volume 1, Chapter 12, Section 1206.4, Allowable Interior Noise Levels, requires that interior noise levels attributable to exterior sources not exceed 45 dBA in any habitable room. The noise metric is evaluated as either the day-

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night average sound level (L_{dn}) or the community noise equivalent level (CNEL), whichever is consistent with the noise element of the local general plan.

The State of California’s noise insulation standards for non-residential uses are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 11, California Green Building Standards Code (CALGreen). CALGreen noise standards are applied to new or renovation construction projects in California to control interior noise levels resulting from exterior noise sources. Proposed projects may use either the prescriptive method (Section 5.507.4.1) or the performance method (5.507.4.2) to show compliance. Under the prescriptive method, a project must demonstrate transmission loss ratings for the wall and roof-ceiling assemblies and exterior windows when located within a noise environment of 65 dBA CNEL or higher. Under the performance method, a project must demonstrate that interior noise levels do not exceed 50 dBA $L_{eq(1hr)}$.

Local Regulations

City of Fountain Valley Municipal Code

Chapter 6.28, Noise Control, of the Fountain Valley Municipal Code (FVMC) provides criteria for ambient noise measurements as well as stationary noise standards for residential zone districts. These standards are codified in Section 6.28.050 of the FVMC and summarized in Table 5.9-3, *Exterior Noise Standards*.

Table 5.9-3 Exterior Noise Standards for Residential Zone Districts

Time Period	Noise Level (dBA)				
	L_{50}	L_{25}	L_8	L_2	L_{max}
7:00 a.m.–10:00 p.m.	55	60	65	70	75
10:00 p.m.–7:00 a.m.	50	55	60	65	70

Source: City of Fountain Valley Municipal Code, Section 6.28.050.

Note: A 5 dBA penalty shall be applied in the event of an alleged offensive noise such as impact noise, simple tones, speech, music, or any combination of thereof. If the measured ambient level exceeds any of the noise limit categories (L_{50} , L_{25} , L_8 , L_2 , L_{max}), the allowable noise exposure standard shall be increased to reflect the ambient noise level.

Leaf blowers are a specific source of noise nuisance and Chapter 6.10, Leaf Blowers, of the FVMC provides the following regulations to mitigate leaf blower noise:

- Leaf blowers within a residential zone or within 100 feet of a residential zone shall not operate between the hours of 6:00 p.m. and 8:00 p.m. of the following day, Monday through Friday and 6:00 p.m. Friday to 9:00 a.m. the following Saturday, and at no time on Sundays.
- Leaf blowers shall not operate within a horizontal distance of 10 feet of any operable window, door, or mechanical air intake opening or duct.
- Leaf blowers shall not be operated for more than fifteen minutes per hour on parcels less than one-half acre and no more than thirty minutes per hour on parcels greater than one-half acre.
- No person shall operate more than one leaf blower per parcel.
- Leaf blowers shall not exceed 70 dBA at a distance of 10 feet.

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Section 6.28.070, Special Provisions, exempts noise sources associated with the construction, repair, remodeling or grading of any real property, provided said activities take place between the hours of 7:00 a.m. and 8:00 p.m. Monday through Friday, 9:00 a.m. through 8:00 p.m. on Saturday and at no time on Sunday or any legal holiday. This also includes the use of saws, buffers, sanders, drills, and sprayers and similar activity.

5.9.1.2 EXISTING CONDITIONS

Ambient Noise Measurements

To determine a baseline noise level at different environments in the planning area, ambient noise monitoring was conducted by PlaceWorks in May of 2022. Six short-term (15-minute) measurements were made on Tuesday, May 3 between the hours of 3:00 p.m. to 6:00 p.m., except for ST-2 which was conducted mid-day at Mile Square Park, and four Long-term (24-48-hours) measurements were made throughout the plan area. All measurements were conducted on a weekday between Tuesday, May 3, through Tuesday, May 10, 2022.

The primary noise source at all measurement locations is traffic. Urban and residential activity (such as people talking, birds chirping, and aircraft overflights) also contributed to the overall noise environment. Meteorological conditions during the measurement period were favorable for outdoor sound measurements and were noted to be representative of the typical conditions for the season. Generally, conditions included clear skies with temperatures of 70 degrees Fahrenheit (°F) with winds averaging 5 miles per hour (mph) or less. All sound level meters were equipped with a windscreen during measurements.

All noise level meters used (Larson Davis LxT and Larson Davis 820) for noise monitoring satisfy the American National Standards Institute (ANSI) standard for Type 1 instrumentation.¹ The long-term sound level meters were set to “slow” response and “A” weighting (dBA). The meters were calibrated prior to and after the monitoring period. All measurements were at least 5 feet above the ground and away from reflective surfaces. Long-term and short-term noise measurement locations are described below and shown in Figure 5.9-1, *Approximate Noise Monitoring Locations*. Monitoring results are summarized in Table 5.9-4, *Long-Term Noise Measurement Results* and Table 5.9-5, *Short-Term Noise Measurements Results*.

- **Long-Term Location 1 (LT-1)** was mounted along Edinger Avenue, east of Ward Street and approximately 35 feet south from the nearest eastbound travel lane centerline. A 48-hour noise measurement was conducted, beginning at 1:00 p.m. on Tuesday, May 3, 2022. The noise environment is characterized primarily by Edinger Avenue vehicle traffic.
- **Long-Term Location 2 (LT-2)** was mounted along Brookhurst Street, next to 18461 Brookhurst Street (business) and approximately 30 feet west from the nearest southbound travel lane centerline. Initially a noise measurement was conducted Tuesday, May 3, 2022. However, due to meter malfunction/public tampering, the measurement was repeated on Monday, May 9, 2022. A 24-hour noise measurement was conducted, beginning at 4:00 p.m. on Monday, May 9, 2022. The noise environment is characterized primarily by Brookhurst Street vehicle traffic.

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- **Long-Term Location 3 (LT-3)** was mounted along Magnolia Street, next to 9032 Lemongrass Court (residence) and approximately 25 feet east from the nearest northbound travel lane centerline. A 48-hour noise measurement was conducted, beginning at 11:00 a.m. on Tuesday, May 3, 2022. The noise environment is characterized primarily by Magnolia Street vehicle traffic.
- **Long-Term Location 4 (LT-4)** was mounted along Talbert Avenue, next to 17984 Los Prados Street (residence) and approximately 12 feet north from the nearest westbound travel lane centerline. A 48-hour noise measurement was conducted, beginning at 10:00 a.m. on Tuesday, May 3, 2022. The noise environment is characterized primarily by Talbert Avenue vehicle traffic.

Table 5.9-4 Long-Term Noise Measurement Results

Monitoring Location	Description	48-hour Noise Level, dBA		
		CNEL	Lowest L _{eq} (1hr)	Highest L _{eq} (1hr)
LT-1	Edinger Avenue, next to 10688 Morning Glory Avenue (residence) 05/3/2022 – 5/5/2022	73	57.9	73.9
LT-2	Brookhurst Street, next to 18461 Brookhurst Street (business) 05/9/2022 – 5/10/2022	72	70.8	58.2
LT-3	Magnolia Street, next to 9032 Lemongrass Court (residence) 05/3/2022 – 5/5/2022	74	58.2	79.3
LT-4	Talbert Avenue, next to 17984 Los Prados Street (residence) 05/3/2022 – 5/5/2022	79	66.8	79.4

- **Short-Term Location 1 (ST-1)** was along Brookhurst Street next to the Mile Square Park tennis courts. The measurement location was approximately 22 feet east of the nearest northbound travel lane centerline. A 15-minute noise measurement began at 3:00 p.m. on Tuesday, May 3, 2022. The noise environment is characterized primarily by vehicle traffic along Brookhurst Street. Traffic noise levels generally ranged from 63 dBA to 78 dBA depending on traffic flow.
- **Short-Term Location 2 (ST-2)** was within Mile Square Park by the ball fields west of Euclid Street. A 15-minute noise measurement began at 1:12 p.m. on Tuesday, May 3, 2022. The noise environment is characterized primarily by distant traffic noise from Euclid and people talking. Secondary noise sources included aircraft overflights and leaves rustling. Noise levels were generally between 48 dBA and 52 dBA. Aircraft overflights noise levels measured between 60 dBA to 67 dBA.
- **Short-Term Location 3 (ST-3)** was along Brookhurst Street next to Los Amigos High School approximately 20 feet east of the northbound travel lane centerline. A 15-minute noise measurement began at 3:32 p.m. on Tuesday, May 3, 2022. The noise environment is characterized primarily by vehicle traffic from Brookhurst Street. Traffic noise generally ranged from 67 dBA to 75 dBA.
- **Short-Term Location 4 (ST-4)** was next to 11630 Warner Avenue approximately 15 feet south of the nearest eastbound travel lane centerline. A 15-minute noise measurement began at 4:12 p.m. on Tuesday, May 3, 2022. The noise environment is characterized primarily by vehicle traffic from Warner Avenue. Traffic flow generally ranged from 71 dBA to 78 dBA. Noise levels would reduce at red lights.

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- Short-Term Location 5 (ST-5)** was along Bushard Street next to 9514 Robin Avenue (residence). The measurement location was approximately 15 feet east of the nearest northbound travel lane centerline. A 15-minute noise measurement began at 5:26 p.m. on Wednesday, May 3, 2022. The noise environment is characterized primarily by vehicle traffic from Bushard Street. Traffic flow generally ranged from 75 dBA to 80 dBA.
- Short-Term Location 6 (ST-6)** was next to 10583 Ellis Avenue (business). The measurement location was approximately 15 feet south of the nearest eastbound travel lane centerline. A 15-minute noise measurement began at 4:57 p.m. on Wednesday, March 30, 2022. The noise environment is characterized primarily by vehicle traffic along Ellis Avenue. Traffic noise generally ranged from 72 dBA to 80 dBA.

Table 5.9-5 Short-Term Noise Measurements Results

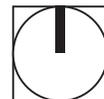
Monitoring Location	Description	15-minute Noise Level, dBA						
		L _{eq}	L _{max}	L _{min}	L ₂	L ₈	L ₂₅	L ₅₀
ST-1	Brookhurst Street, next to Mile Square Park tennis courts 05/3/2022, 3:00 p.m.	72.9	83.2	50.2	77.7	76.6	74.6	72.1
ST-2	Within Mile Square Park Avenue 05/3/2022, 1:12 p.m.	52.0	68.0	46.5	58.2	54.0	51.5	50.3
ST-3	Newhope Street, next to Los Amigos High School 05/3/2022, 3:32 p.m.	72.4	93	47.1	76.9	75.0	72.7	69.4
ST-4	Warner Avenue, next to 11630 Warner Avenue (Manor Health Services) 05/3/2022, 4:12 p.m.	65.5	74.7	39.9	79.4	77.2	72.8	69.5
ST-5	Bushard Avenue, next to 9514 Robin Avenue (residence) 05/3/2022, 5:26 p.m.	73.9	90.2	45.9	80.4	78.3	75.2	70.5
ST-6	Ellis Road, next to 10583 Ellis Avenue (business) 05/30/2022, 4:57 p.m.	72.9	81.9	55.2	79.1	76.9	74.1	71.4

Figure 5.9-1 - Approximate Noise Monitoring Locations



- City Boundary
- **ST-X** Short-Term Noise Measurement Locations (6)
- Fountain Valley SOI
- **LT-X** Long-Term Noise Measurement Locations (4)

0 3,300
 Scale (Feet)



Source: Generated using ArcMap, 2022.

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Existing Traffic Noise

On-road vehicles are the most prominent source of noise in the plan area. Figure 5.9-2, *Existing Traffic Noise Contours*, illustrate the modeled roadways and existing noise contours for 60 dBA CNEL, 65 dBA CNEL, and 70+ dBA CNEL. Appendix 5.9-1 contains the inputs and outputs used in existing traffic noise modeling.

Aircraft Noise

Aircraft noise is typically characterized as “occasional” throughout the plan area but is not intrusive to receptors as there is no airport within the City and the nearest airport is John Wayne Airport approximately 3.8 miles southeast of the Fountain Valley’s border.

Railroad Noise

Rail noise is typically considered a substantial noise source in cities. However, the City of Fountain Valley does not have any existing rail lines within its city limits. The nearest rail line to Fountain Valley is in the City of Santa Ana approximately 0.6 mile to the east of the Santa Ana River/Santa Ana border.

Stationary Source Noise

Stationary sources of noises occur on all types of land uses. Residential uses generate noise from landscaping, maintenance activities, and air conditioning systems. Commercial uses generate noise from heating, ventilation, and air conditioning (HVAC) systems; loading docks; and other sources. Industrial uses may generate noise from HVAC systems, loading docks, and possibly machinery. Noise generated by residential or commercial uses is generally short and intermittent. Industrial uses may generate noise on a more continual basis. Nightclubs, outdoor dining areas, gas stations, car washes, fire stations, drive-throughs, swimming pool pumps, school playgrounds, athletic and music events, and public parks (such as at the Mile Square Regional Park) are other common noise sources.

Existing Vibration

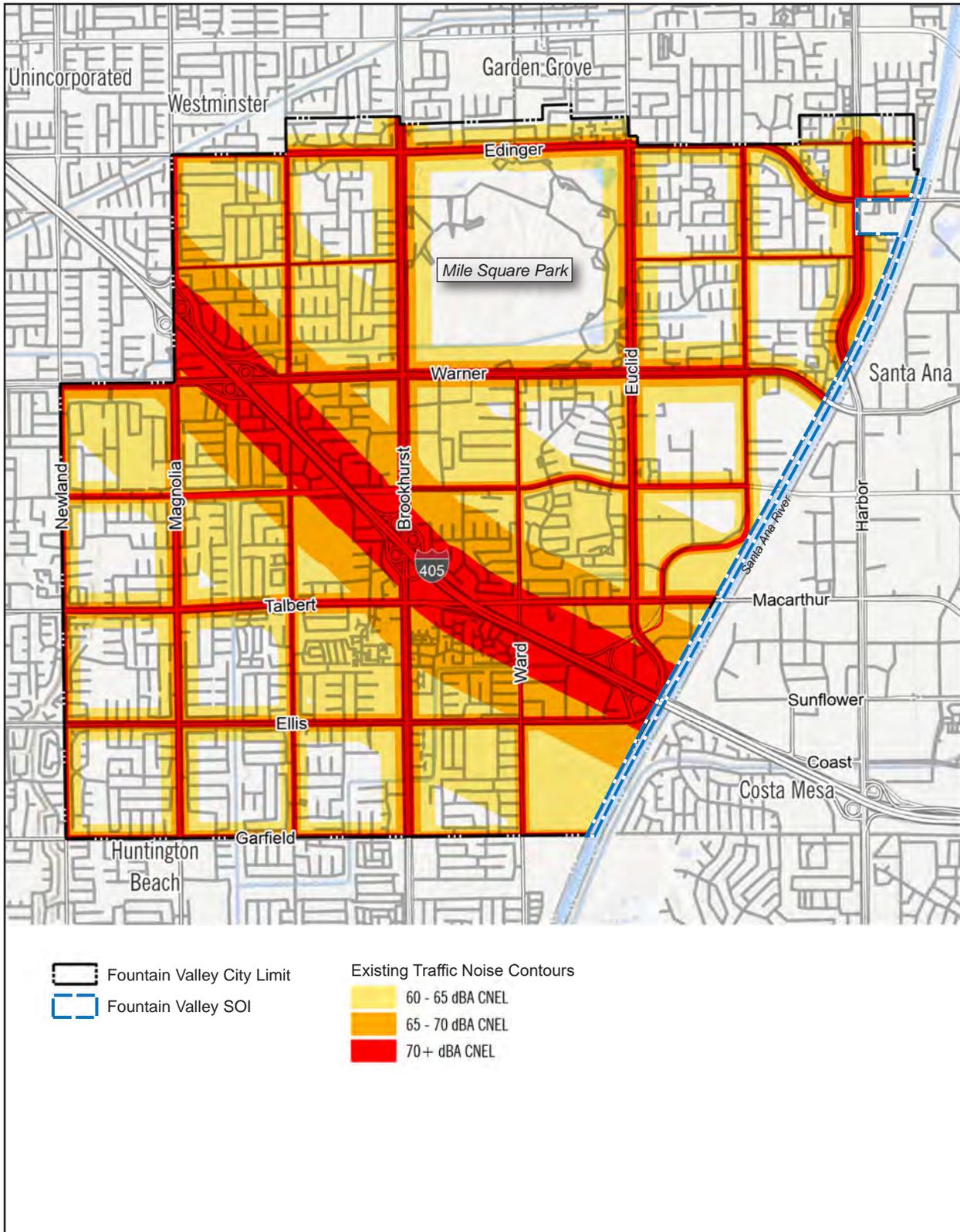
Commercial and industrial operations in the plan area can generate varying degrees of ground vibration, depending on the operational procedures and equipment. Such equipment-generated vibrations spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the vibration source varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels.

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Figure 5.9-2 - Existing Traffic Noise Contours



Source: Generated using ArcMap, 2022; OEHHA, 2021.

0 0.5
Scale (Miles)



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5.9.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would result in:

- N-1 Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- N-2 Generation of excessive groundborne vibration or groundborne noise levels.
- N-3 For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

5.9.2.1 THRESHOLD OF SIGNIFICANCE CRITERIA

Construction Noise Thresholds

The City of Fountain Valley noise ordinance exempts noise from construction activities that occur during the daytime. No construction is permitted outside of the hours specified in Section 6.28.070 of the Fountain Valley Municipal Code, which restricts construction activities to the hours of 7:00 am to 8:00 pm Monday through Friday, 9:00 am through 8:00 pm on Saturday and at no time on Sunday or any legal holiday.

The City of Fountain Valley does not have quantified construction noise thresholds. Therefore, adopted thresholds for temporary construction noise based on the Federal Transit Administration (FTA) criterion published in the Transit Noise and Vibration Impact Assessment Manual (FTA 2018) is used to determine impact significance at sensitive receptors. The FTA criterion for construction noise exposure to noise-sensitive receptors, including residential uses, is 80 dBA $L_{eq(8hr)}$

Stationary Noise Thresholds

The Municipal Code provides noise standards for stationary sources that would be analyzed at the project level in Section 6.28.050 and summarized in Table 5.9-3. Additional limitations and noise standards specifically for leaf blowers also apply and are found in Chapter 6.10 of the Fountain Valley Municipal Code.

Transportation Noise Thresholds

A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA are detectable under quiet, controlled conditions. Changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernible to most people in an exterior environment. Based on this, the following thresholds of significance are used to assess traffic noise impacts at sensitive receptor locations:

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- For Project-related traffic noise, the Project causes the ambient noise levels measured at the property line of affected uses to increase by 3 dBA CNEL to or within the “normally unacceptable” or “clearly unacceptable” categories; or the Project causes the ambient noise levels measured at the property line of affected uses to increase by 5 dBA CNEL or more within the “normally acceptable” or “conditionally acceptable” categories.

Vibration Thresholds

The City of Fountain Valley does not have quantified groundborne vibration thresholds. Therefore, adopted thresholds for vibration induced architectural damage based on the FTA building category criteria is used to determine impact significance. FTA criteria for vibration damage is summarized in Table 5.9-6.

Table 5.9-6 Building Architectural Damage Limits

Building Category	PVV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Nonengineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: FTA 2018.

5.9.3 Applicable General Plan Update Policies

Noise policies found in the Circulation and Mobility Element and in the Public Facilities and Safety Element aims to establish measures that address current and future noise problems. The proposed GPU includes goals and policies intended to avoid or reduce noise-related impacts. In most cases, no one goal or policy itself is expected to completely avoid or reduce an identified potential environmental impact. However, the collective, cumulative mitigating benefits of the policies listed below are intended to reduce noise-related impacts. Specific goals and policies are discussed in Section 5.9.4, *Environmental Impacts*, to demonstrate how the policy would avoid or reduce the impact.

Circulation and Mobility Element

- **Policy CM-1.8: Truck Routes.** Plan and designate truck routes that support the effective transport of goods while minimizing the negative impacts on local circulation, neighborhoods, and noise-sensitive land uses.

Public Facilities and Safety Element

- **Policy PFS-5.1: Land Use Compatibility.** Approve development and require mitigation measures to ensure existing and future land use compatibility as shown in the City’s Noise Control Ordinance, the land use and noise compatibility matrix, and state interior and exterior noise standards.

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- **Policy PFS-5.2: New Residential.** When new residential development is proposed adjacent to land designated for industrial or commercial uses, require the developer to assess the potential noise impacts and fund feasible noise-related mitigation measures.
- **Policy PFS-5.3: New Nonresidential.** When new nonresidential development is proposed adjacent to land designated for residential uses, require the developer to assess the potential noise impacts and fund feasible noise-related mitigation measures.
- **Policy PFS-5.4: Transportation Noise.** Minimize potential transportation noise through proper roadway design, coordination of commercial vehicle routing, and other traffic control or abatement measures.
- **Policy PFS-5.5: Noise from Businesses and Events.** Minimize persistent, periodic, or impulsive noise impacts of business operations as well as special events to reduce and avoid noise impacts on surrounding neighborhoods.

5.9.4 Environmental Impacts

5.9.4.1 METHODOLOGY

Traffic noise levels for existing and proposed conditions were estimated using the FHWA traffic noise prediction model methodology. The FHWA model predicts noise levels through a series of adjustments to a reference sound level. These adjustments account for distances from the roadway, traffic volumes, vehicle speeds, car/truck mix, number of lanes, and road width. Traffic volumes and number of lanes were provided by Fehr and Peers in addition to recommendations for vehicle mix (auto, medium-duty truck, heavy-duty truck), time of day split (day, evening, night). Roadway speeds limits were used based on data published in the City's Municipal Code Section 10.24.010, Changes to Prima Facie Local Speed Limits. The complete distances to the 70, 65, and 60 dBA CNEL noise contours for roadway segments in the City are included in Appendix 5.9-1.

As a result of the Supreme Court decision regarding the assessment of the environment's impacts on projects (*California Building Industry Association (CBLA) v. Bay Area Air Quality Management District (BAAQMD)*, 62 Cal. 4th 369 (No. S 213478) issued December 17, 2015), it is generally no longer the purview of the CEQA process to evaluate the impact of existing environmental conditions on any given project. As a result, while the noise from existing sources is taken into account as part of the baseline, the direct effects of exterior noise from nearby noise sources relative to land use compatibility of a future project as a result of General Plan buildout is typically no longer a required topic for impact evaluation under CEQA. Generally, no determination of significance is required except for certain school projects, projects affected by airport noise, and project's that would exacerbate existing conditions (i.e., projects that would have a significant operational impact). As required by Policy PFS-5.1 and PFS-5.2 noise levels will be considered in land use planning decisions to prevent future noise and land use incompatibilities. At the discretion of the Fountain Valley Planning and Building Agency, considerations may include, but not necessarily be limited to, standards that specify acceptable noise limits for various land uses, noise-reduction features, acoustical design in new

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construction, and enforcement of the California Uniform Building Code and City provisions for indoor and outdoor noise levels.

5.9.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.9-1: Construction activities associated with the buildout of the plan area would result in temporary noise increases at sensitive receptors. [Threshold N-1]

As part of implementation of the proposed project, various individual land use development projects would be constructed over the duration of the General Plan buildout. Construction is performed in distinct steps, each of which has its own mix of equipment, and, consequently, its own noise characteristics. Table 5.9-7 lists typical construction equipment noise levels recommended for noise-impact assessments, based on a distance of 50 feet between the equipment and noise receptor.

Table 5.9-7 Construction Equipment Noise Emission Levels

Construction Equipment	Typical Max Noise Level (dBA L _{max}) ¹	Construction Equipment	Typical Max Noise Level (dBA L _{max}) ¹
Air Compressor	80	Pile-Driver (Impact)	101
Backhoe	80	Pile-Driver (Sonic)	95
Ballast Equalizer	82	Pneumatic Tool	85
Ballast Tamper	83	Pump	77
Compactor	82	Rail Saw	90
Concrete Mixer	85	Rock Drill	95
Concrete Pump	82	Roller	85
Concrete Vibrator	76	Saw	76
Crane, Derrick	88	Scarifier	83
Crane, Mobile	83	Scraper	85
Dozer	85	Shovel	82
Generator	82	Spike Driver	77
Grader	85	Tie Cutter	84
Impact Wrench	85	Tie Handler	80
Jack Hammer	88	Tie Inserter	85
Loader	80	Truck	84
Paver	85		

Source: FTA 2018.

¹ Measured 50 feet from the source

As shown, construction equipment generates high levels of noise, with maximums ranging from 71 to 101 dBA. Construction of individual developments associated with implementation of the proposed project would temporarily increase the ambient noise environment and would have the potential to affect noise-sensitive land uses in the vicinity of an individual project. According to Fountain Valley Municipal Code

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Section 6.280.070, construction noise is prohibited between the hours of 8:00 pm and 7:00 am, Monday through Friday, 8:00 pm to 9:00 am Friday going into Saturday, and all day Sundays and legal holidays.

Implementation of the project would result in an increase in development intensity or redevelopment to accommodate populations and employment growth. Construction noise levels are highly variable and dependent upon the specific locations, site plans, and construction details of individual projects. Significant noise impacts may occur from operation of heavy earth-moving equipment and truck-haul operations that would occur with construction of individual development projects, which have not yet been developed, particularly if construction techniques, such as impact or vibratory pile driving, are proposed. The time of day that construction activity is conducted would also determine the significance of each project, particularly during the more sensitive nighttime hours. However, construction would be localized and would occur intermittently for varying periods of time.

Because specific project-level information is inherently not available at this time, it is not possible nor appropriate to quantify the construction noise impacts at specific sensitive receptors. In most cases, construction of individual developments associated with implementation of the project would temporarily increase the ambient noise environment in the vicinity of each individual project, potentially affecting existing and future nearby sensitive uses. However, because construction activities associated with any individual development may occur near noise-sensitive receptors and because, depending on the project type, equipment list, time of day, phasing, and overall construction durations, noise disturbances may occur for prolonged periods of time or during the more sensitive nighttime hours, construction noise impacts associated with implementation of the project are considered potentially significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.9-1 would be potentially significant.

Mitigation Measures

N-1 Prior to issuance of demolition, grading and/or building permits on sites adjacent to sensitive receptors, a note shall be provided on construction plans indicating that during grading, demolition, and construction, the project applicant shall be responsible for requiring contractors to implement the following measures to limit construction-related noise:

- During the entire permitted activity, equipment and trucks used for the project shall utilize the best available noise control techniques (e.g., improved mufflers, intake silencers, ducts, engine enclosures, and acoustical attenuation), wherever feasible.
- Require impact tools (e.g., jack hammers and hoe rams) that are hydraulically or electrically powered whenever feasible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools.
- Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses.

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- Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors.
- Prior to the start of construction activities, a sign shall be posted at the job site, clearly visible to the public, that includes permitted construction days and hours, as well as contact information for the City’s Building Inspection Supervisor and contractor’s authorized representative. If the authorized contractor’s representative receives a noise or vibration complaint, they shall investigate, take appropriate corrective action, and report the action to the City.
- Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes.
- During the entire active construction period, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall be responsible for adjusting alarms based on the background noise level, or to utilize human spotters when feasible and in compliance with all safety requirements and laws.
- Erect temporary noise barriers, where feasible, when construction noise is predicted to exceed the established noise standards and when the anticipated construction duration is greater than is typical (e.g., two years or greater).

Level of Significance After Mitigation: Impact 5.9-1 would be significant and unavoidable.

Impact 5.9-2 Buildout of the plan area would cause substantial operational noise increases at sensitive receptors in the plan area that exceed established noise standards. [Threshold N-1]

Buildout of the GPU would result in an increase in traffic along local roadways proximate to existing sensitive receptors. Figure 5.9-2 and Figure 5.9-3, *Future Traffic Noise Contours*, illustrate the existing and future 2045 noise contours for 60 dBA CNEL, 65 dBA CNEL, and 70 dBA CNEL. The complete distances to the 70, 65, and 60 dBA CNEL noise contours for roadway segments in the City are included in Appendix 5.9-1. Table 5.9-8, *Traffic Noise Increases Along Study Roadway Segments*, shows the estimated traffic noise increase along study roadway segments. The traffic noise increases along roadways are the difference between the projected future traffic noise levels and the existing traffic noise levels. As shown in Table 5.9-8, *Traffic Noise Increases Along Study Roadway Segments*, none of the Project-related traffic noise would cause the ambient noise levels increase by 3 dBA CNEL to or within the “normally unacceptable” or “clearly unacceptable” categories; or the Project causes the ambient noise levels measured at the property line of affected uses to increase by 5 dBA CNEL or more within the “normally acceptable” or “conditionally acceptable” categories. Policy CM-1.8 and Policy PFS-5.4 would help minimize and mitigate traffic noise impacts. Therefore, traffic noise would result in less than significant impact.

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In addition to traffic noise, other operational noise can include railroad and airport noise, however the City of Fountain Valley does not have any rail lines or airport within its city limits, nor are there any future plans to build or develop them. However, residences of Fountain Valley are on occasion exposed to aircraft overflight noise from surrounding airports and railroad noise from neighboring city rail lines. However, these are adjacent uses and do not expose residences to excessive noise levels. Therefore, railroad noise and airport noise would not affect future noise-sensitive land uses.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.9-2 would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance After Mitigation: Impact 5.9-2 would be less than significant.

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Table 5.9-8 Traffic Noise Increases Along Study Roadway Segments

Roadway	Segment	ADT		dBA CNEL		
		Exiting Volumes	Future 2045 Volumes	Existing Traffic Noise Level at 50 feet	Future 2045 Traffic Noise Level at 50 feet	Traffic Noise Increase
Magnolia Street	Garfield Avenue to Ellis Avenue	24,200	24,200	74.1	74.1	0.0
Magnolia Street	Ellis Avenue to Talbert Avenue	26,800	27,000	74.5	74.6	0.0
Magnolia Street	Talbert Avenue to Slater Avenue	30,100	30,200	75.0	75.1	0.0
Magnolia Street	Slater Avenue to Warner Avenue	31,400	31,400	75.2	75.2	0.0
Bushard Street	Garfield Avenue to Ellis Avenue	15,100	15,500	72.0	72.2	0.1
Bushard Street	Ellis Avenue to Talbert Avenue	15,900	16,300	72.3	72.4	0.1
Bushard Street	Talbert Avenue to Slater Avenue	16,200	16,200	72.3	72.3	0.0
Bushard Street	Slater Avenue to Warner Avenue	18,600	18,900	72.9	73.0	0.1
Bushard Street	Warner Avenue to Heil Avenue	18,100	18,900	72.8	73.0	0.2
Bushard Street	Heil Avenue to Edinger Avenue	15,900	15,900	72.3	72.3	0.0
Brookhurst Street	Garfield Avenue to Ellis Avenue	39,300	42,500	76.4	76.8	0.3
Brookhurst Street	Ellis Avenue to Talbert Avenue	37,100	40,400	76.2	76.6	0.4
Brookhurst Street	Talbert Avenue to Slater Avenue	50,100	52,600	77.5	77.7	0.2
Brookhurst Street	Slater Avenue to Warner Avenue	48,000	48,600	77.3	77.4	0.1
Brookhurst Street	Warner Avenue to Heil Avenue	45,200	45,200	77.0	77.0	0.0
Brookhurst Street	Heil Avenue to Edinger Avenue	44,100	44,100	76.9	76.9	0.0
Brookhurst Street	Edinger Avenue to Mango Lane	40,800	40,800	76.6	76.6	0.0
Ward Street	Garfield Avenue to Ellis Avenue	17,400	20,900	72.7	73.5	0.8
Ward Street	Ellis Avenue to Talbert Avenue	11,600	17,900	70.9	72.8	1.9
Ward Street	Talbert Avenue to Slater Avenue	10,200	10,300	70.3	70.4	0.0
Ward Street	Slater Avenue to Warner Avenue	7,900	8,400	69.2	69.5	0.3
Euclid Street	I-405 NB to Talbert Street	34,700	37,900	75.9	76.3	0.4
Euclid Street	Talbert Avenue to Slater Avenue	30,800	30,800	75.4	75.4	0.0
Euclid Street	Slater Avenue to La Warner Avenue	32,400	33,900	75.6	75.8	0.2
Euclid Street	Warner Avenue to Heil Avenue	40,800	43,800	76.6	76.9	0.3
Euclid Street	Heil Avenue to Edinger Avenue	40,300	41,500	76.4	76.5	0.1
Harbor Boulevard	Warner Avenue to Heil Avenue	44,700	44,700	77.0	77.0	0.0
Harbor Boulevard	Heil Avenue to Edinger Avenue	43,200	43,200	76.8	76.8	0.0

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Table 5.9-8 Traffic Noise Increases Along Study Roadway Segments

Roadway	Segment	ADT		dBA CNEL		
		Existing Volumes	Future 2045 Volumes	Existing Traffic Noise Level at 50 feet	Future 2045 Traffic Noise Level at 50 feet	Traffic Noise Increase
Harbor Boulevard	Edinger Avenue to Lilac Avenue	45,000	46,300	77.0	77.1	0.1
Garfield Avenue	Newland Street to Magnolia Street	15,900	15,900	72.3	72.3	0.0
Garfield Avenue	Magnolia Street to Bushard Street	17,900	18,000	72.8	72.8	0.0
Garfield Avenue	Bushard Street to Brookhurst Street	16,500	16,500	72.4	72.4	0.0
Garfield Avenue	Brookhurst Street to Ward Street	9,400	9,400	70.0	70.0	0.0
Ellis Avenue	Newland Street to Magnolia Street	20,200	20,700	73.3	73.4	0.1
Ellis Avenue	Magnolia Street to Bushard Street	22,100	22,200	73.7	73.7	0.0
Ellis Avenue	Bushard Street to Brookhurst Street	25,900	26,100	74.4	74.4	0.0
Ellis Avenue	Brookhurst Street to Ward Street	21,500	21,900	73.6	73.7	0.1
Ellis Avenue	Ward Street to I-405 SB Off-Ramp	30,500	31,100	75.1	75.2	0.1
Talbert Avenue	Newland Street to Magnolia Street	22,400	23,100	73.8	73.9	0.1
Talbert Avenue	Magnolia Street to Bushard Street	28,400	29,100	74.8	74.9	0.1
Talbert Avenue	Bushard Street to Brookhurst Street	31,100	33,200	75.3	75.6	0.3
Talbert Avenue	Brookhurst Street to Ward Street	22,600	22,900	73.8	73.9	0.1
Talbert Avenue	Ward Street to Euclid Street	28,700	29,500	75.1	75.2	0.1
Slater Avenue	Newland Street to Magnolia Street	18,500	19,200	72.9	73.1	0.2
Slater Avenue	Magnolia Street to Bushard Street	18,300	18,800	72.9	73.0	0.1
Slater Avenue	Bushard Street to Brookhurst Street	20,000	20,100	73.3	73.3	0.0
Slater Avenue	Brookhurst Street to Ward Street	21,100	21,100	72.5	72.5	0.0
Slater Avenue	Ward Street to Euclid Street	17,600	18,500	71.7	71.9	0.2
Slater Avenue	Euclid Street to New Hope Street	16,600	19,800	72.5	73.2	0.8
Warner Avenue	Magnolia Street to Bushard Street	33,600	33,600	75.8	75.8	0.0
Warner Avenue	Bushard Street to Brookhurst Street	39,800	40,300	76.5	76.5	0.1
Warner Avenue	Brookhurst Street to Ward Street	42,400	42,400	76.8	76.8	0.0
Warner Avenue	Ward Street to Euclid Street	41,800	42,700	76.7	76.8	0.1
Warner Avenue	Euclid Street to New Hope Street	47,700	47,700	77.3	77.3	0.0
Warner Avenue	New Hope Street to Harbor Boulevard	19,500	20,200	73.4	73.5	0.2
Heil Avenue	Magnolia Street to Bushard Street	5,600	5,600	67.7	67.7	0.0
Heil Avenue	Bushard Street to Brookhurst Street	6,200	6,800	68.2	68.6	0.4

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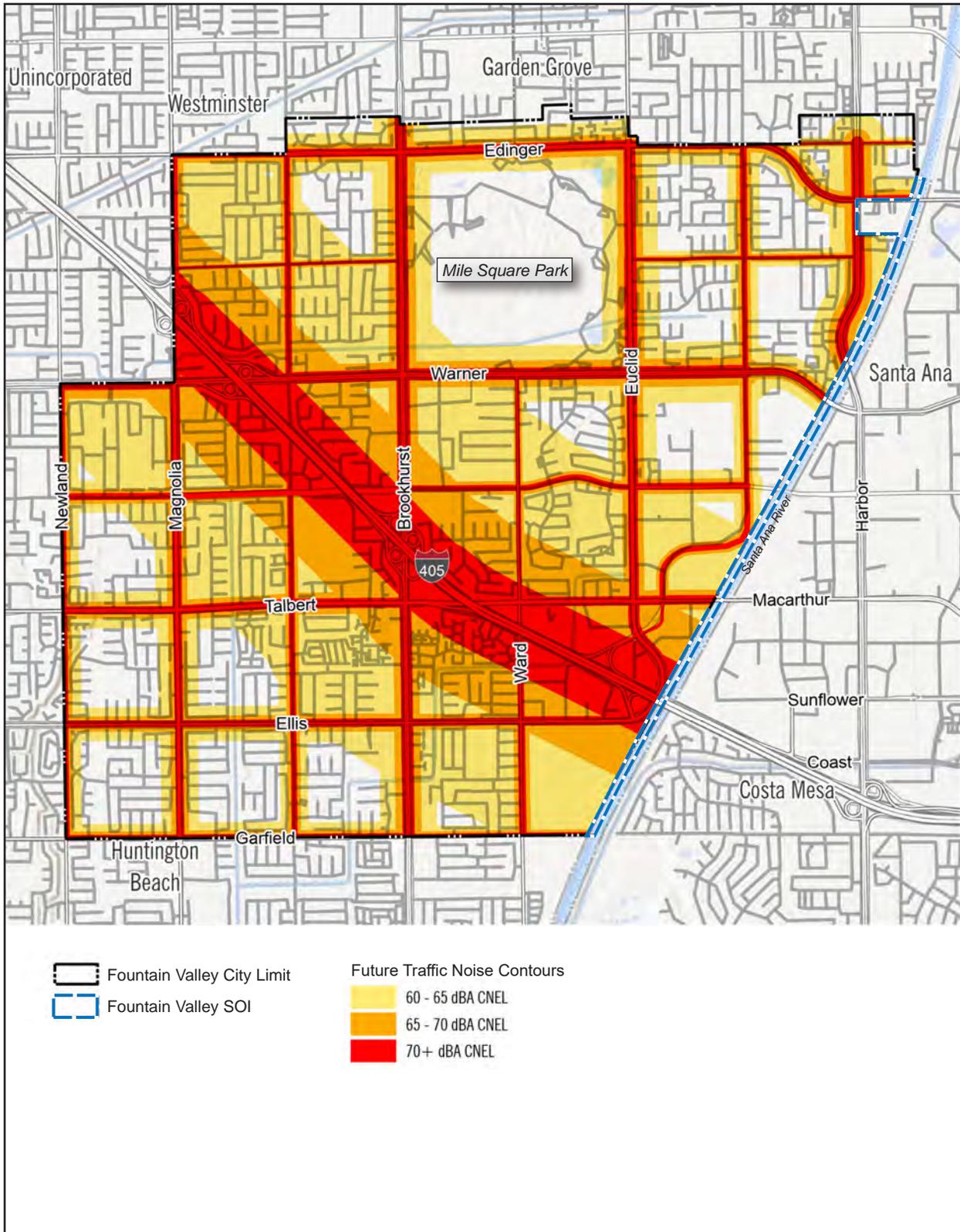
NOISE

Table 5.9-8 Traffic Noise Increases Along Study Roadway Segments

Roadway	Segment	ADT		dBA CNEL		
		Exiting Volumes	Future 2045 Volumes	Existing Traffic Noise Level at 50 feet	Future 2045 Traffic Noise Level at 50 feet	Traffic Noise Increase
Heil Avenue	Euclid Street to Newhope Street	5,500	7,400	67.7	68.9	1.3
Heil Avenue	Newhope Street to Harbor Boulevard	6,600	8,000	68.4	69.3	0.8
Edinger Avenue	Bushard Street to Brookhurst Street	25,100	26,300	74.3	74.5	0.2
Edinger Avenue	Brookhurst Street to Ward Street	28,600	31,600	74.8	75.3	0.4
Edinger Avenue	Ward Street to Euclid Street	33,300	33,300	75.5	75.5	0.0

Source: Based on FHWA's traffic noise prediction model methodology using public data and data provided by Feher and Peers 2022.
 Note: **Bold** values = significant traffic noise increase.

Figure 5.9-3 - Future Traffic Noise Contours



Source: Generated using ArcMap, 2022; OEHA, 2021.

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Impact 5.9-3: Buildout of the individual land uses and projects for implementation of the GPU may expose sensitive uses to excessive levels of groundborne vibration. [Threshold N-2]

Construction Vibration Impacts

Construction activity at projects within the plan area would generate varying degrees of ground vibration, depending on the construction procedures and equipment. Operation of construction equipment generates vibrations that spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can damage structures but can achieve the audible and perceptible ranges in buildings close to the construction site. Table 5.9-9, Vibration Levels for Construction Equipment, lists reference vibration levels for construction equipment.

Table 5.9-9 Vibration Levels for Construction Equipment

Equipment	Approximate PPV Vibration Level at 25 Feet (in/sec)
Pile Driver, Impact (Upper Range)	1.518
Pile Driver, Impact (Typical)	0.644
Pile Driver, Sonic (Upper Range)	0.734
Pile Driver, Sonic (Typical)	0.170
Vibratory Roller	0.210
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003

Source: FTA 2018.
PPV = peak particle velocity.

As shown in Table 5.9-9, vibration generated by construction equipment has the potential to be substantial, since it has the potential to exceed the FTA criteria for architectural damage (e.g., 0.12 inches per second [in/sec] PPV for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). Construction details and equipment for future project-level developments under the GPU are not known at this time but may cause vibration impacts. As such, this would be a potentially significant impact.

Operational Vibration Impacts

Commercial and industrial operations within the plan area would generate varying degrees of ground vibration, depending on the operational procedures and equipment. Such equipment-generated vibrations would spread through the ground and diminish with distance from the source. The effect on buildings in the

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vicinity of the vibration source varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels.

Because specific project-level information is not available at this time, it is not possible to quantify future vibration levels at vibration-sensitive receptors that may be near existing and future vibration sources. However, the City will have the opportunity to review and require new development that is vibration sensitive or a source that generate substantial vibration to mitigate or modify its vibration sources. Therefore, the potential for sensitive uses within the plan area to be exposed to annoying and/or interfering levels of vibration from commercial or industrial operations, operations-related vibration impacts associated with implementation of the GPU would be reduced to a level that is considered less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.9-3 would be potentially significant.

Mitigation Measures

- N-2 Prior to issuance of a building permit for a project requiring pile driving during construction within 135 feet of fragile structures, such as historical resources, 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster); or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration (FTA) architectural damage thresholds (e.g., 0.12 inches per second [in/sec] peak particle velocity [PPV] for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If vibration levels would exceed this threshold, alternative uses such as drilling piles as opposed to pile driving and static rollers as opposed to vibratory rollers shall be used. If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded.
- N-3 During the project-level CEQA process for industrial developments under the General Plan Update or other projects that could generate substantial vibration levels near sensitive uses, a noise and vibration analysis shall be conducted to assess and mitigate potential noise and vibration impacts related to the operations of that individual development. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer and shall follow the latest CEQA guidelines, practices, and precedents.

Level of Significance After Mitigation: Impact 5.9-3 would be less than significant.

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Impact 5.9-4: The proximity of the project area to an airport or airstrip would not result in exposure of future residents and/or workers to new airport-related noise. [Threshold N-3]

There are no airports within the City of Fountain Valley. The nearest airport is the John Wayne Airport, in the City of Santa Ana. Though the Fountain Valley residents may be exposed to periodic aircraft overflights from airports at other neighboring cities, the City of Fountain Valley is entirely outside the 60 dBA CNEL noise contour from any surrounding airport including the nearest airport of John Wayne in Santa Ana. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: Impact 5.9-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.9-4 would be less than significant.

5.9.5 Cumulative Impacts

The above analysis of the proposed GPU addresses cumulative impacts with regard to operational and construction noise as well as groundborne noise and vibration in the project area. The General Plan Update proposes the long-term buildout and operation of many different uses. Although multiple simultaneous nearby noise sources may, in combination, result in higher overall noise levels, this effect is captured and accounted for by the community noise level metrics that form the basis of the standards of significance for noise analysis. To specifically estimate the GPU's contribution to traffic noise, existing noise levels were compared to those projected with completion of the plan. As demonstrated above, the proposed project's contribution to increases in ambient noise levels results in a significant impact.

Additionally, construction activities may occur simultaneously and close to noise-sensitive receptors, resulting in significant impacts. Since details of individual development projects in the plan area are currently unknown, it cannot be determined whether Mitigation Measure N-1, listed below, would reduce potentially significant impacts to less than significant. The GPU would therefore contribute to cumulatively considerable construction-related noise, and the cumulative impact would be significant and unavoidable.

5.9.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.9-2 and 5.9-4.

Without mitigation, the following impacts would be **potentially significant**:

- Impact 5.9-1 Because construction activities associated with any individual development may occur near noise-sensitive receptors and because, depending on the project type, equipment list, time of day, phasing and overall construction durations, noise disturbances may occur for prolonged periods of time or during the more sensitive

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nighttime hours, construction noise impacts associated with implementation of the GPU are considered potentially significant.

- Impact 5.9-3 The potential for sensitive receptors within the plan area to be exposed to excessive levels of vibration from temporary construction and operational commercial or industrial operations are considered potentially significant.

5.9.7 Mitigation Measures

Impact 5.9-1

N-1 Prior to issuance of demolition, grading and/or building permits on sites adjacent to sensitive receptors, a note shall be provided on construction plans indicating that during grading, demolition, and construction, the project applicant shall be responsible for requiring contractors to implement the following measures to limit construction-related noise:

- During the entire permitted activity, equipment and trucks used for the project shall utilize the best available noise control techniques (e.g., improved mufflers, intake silencers, ducts, engine enclosures, and acoustical attenuation), wherever feasible.
- Require impact tools (e.g., jack hammers and hoe rams) that are hydraulically or electrically powered whenever feasible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools.
- Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses.
- Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors.
- Prior to the start of construction activities, a sign shall be posted at the job site, clearly visible to the public, that includes permitted construction days and hours, as well as contact information for the City's Building Inspection Supervisor and contractor's authorized representative. If the authorized contractor's representative receives a noise or vibration complaint, they shall investigate, take appropriate corrective action, and report the action to the City.
- Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes.

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- During the entire active construction period, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall be responsible for adjusting alarms based on the background noise level, or to utilize human spotters when feasible and in compliance with all safety requirements and laws.
- Erect temporary noise barriers, where feasible, when construction noise is predicted to exceed the established noise standards and when the anticipated construction duration is greater than is typical (e.g., two years or greater).

Impact 5.9-3

- N-2 Prior to issuance of a building permit for a project requiring pile driving during construction within 135 feet of fragile structures, such as historical resources, 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster); or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration (FTA) architectural damage thresholds (e.g., 0.12 inches per second [in/sec] peak particle velocity [PPV] for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If vibration levels would exceed this threshold, alternative uses such as drilling piles as opposed to pile driving and static rollers as opposed to vibratory rollers shall be used. If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded.
- N-3 During the project-level CEQA process for industrial developments under the General Plan Update or other projects that could generate substantial vibration levels near sensitive uses, a noise and vibration analysis shall be conducted to assess and mitigate potential noise and vibration impacts related to the operations of that individual development. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer and shall follow the latest CEQA guidelines, practices, and precedents.

5.9.8 Level of Significance After Mitigation

Impact 5.9-1

Implementation of Mitigation Measure N-1 would reduce potential noise impacts during construction to the extent feasible. However, due to the potential for proximity of construction activities to sensitive uses, the number of construction projects occurring simultaneously, and the potential duration of construction activities, Impact 5.9-1 (construction noise) could result in a temporary substantial increase in noise levels above ambient conditions. Therefore, impacts would remain *significant and unavoidable*. It should be

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noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects analyzed at the project level.

Impact 5.9-3

Impact 5.9-3 would be less than significant with Mitigation Measures N-2 and N-3 coupled with adherence to associated performance standards, Impact 5.9-3 would be reduced to **less than significant levels**. Specifically, Mitigation Measure N-2 would reduce potential vibration impacts during construction below the pertinent thresholds, and Mitigation Measures N-3 (operations-related vibration) would reduce potential vibration impacts from commercial/industrial uses and facilities to **less than significant levels**. No significant vibration impacts would remain.

5.9.9 References

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5.10 POPULATION AND HOUSING

This section of the Draft Environmental Impact Report (DEIR) examines the potential for socioeconomic impacts of the proposed City of Fountain Valley General Plan Update on the City of Fountain Valley, including changes in population, employment, and demand for housing, particularly housing cost/rent ranges defined as “affordable.”

5.10.1 Environmental Setting

5.10.1.1 REGULATORY BACKGROUND

State Regulations

California Government Code

California Government Code Section 65300 describes the scope and authority of local jurisdictions to prepare, adopt, and amend general plans. Communities prepare general plans to guide the long-term physical development of the jurisdiction and any land within the jurisdiction’s sphere of influence. At a minimum, the California Government Code requires general plans to address land use, circulation, housing, noise, conservation, open space, and safety issues.

Additionally, the California Government Code assigns equal importance to each general plan element and requires general plan elements to be internally and externally consistent, meaning that policies between elements should not be in conflict with one another, nor should subsequent plans or implementation programs, such as the zoning ordinance, capital improvement plan, or specific plans, conflict with general plan policies.

The housing portion of the general plan is expected to analyze existing and protected housing needs, examine special housing needs, evaluate the effectiveness of current goals and policies, identify constraints to providing affordable housing, identify land available in the jurisdiction to accommodate the jurisdiction to accommodate the jurisdiction’s share of the regional housing need, and identify opportunities to incorporate energy and conservation measures into the housing stock. The housing element is the only portion of the general plan that has a statutory requirement to be reviewed and certified by a state agency and must be updated within a specified time period (an 8-year cycle for jurisdictions in the SCAG region).

California Health and Safety Code

In addition to the regulations set forth in the California Government Code, provisions related to housing and local policy are set forth in the California Health and Safety Code under Division 13, Housing, and Division 24, Community Development and Housing. Division 13 provides rules and regulations related to employee housing, manufactured housing, mobile home parks, elderly housing, access for physically handicapped persons, and building standards for new, existing, and historic structures to ensure the health, safety, and welfare of all California residents.

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Regional Regulations

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the metropolitan planning organization (MPO) that represents 6 counties and 191 cities in Southern California. As the MPO for the region, SCAG is responsible for analyzing the region's transportation system, the future of growth in the region, and potential funding sources to address housing, transportation, and livability issues for the 18 million residents that call Southern California home.

As part of the Regional Transportation Planning (RTP) process that occurs every 4 years, SCAG is responsible for determining the growth in housing, employment, and population across the region and for identifying efficient and effective methods to accommodate that growth. As the agency charged with identifying population, housing, and employment projections and trends, SCAG also leads the Regional Housing Needs Allocation (RHNA) process to identify the amount of growth, at a variety of income levels, that each jurisdiction in the region will need to accommodate within the housing element planning period and assist jurisdiction in analyzing the existing and future housing needs of their community.

Local Regulations

Fountain Valley Municipal Code

Title 21, Development Code, of the Fountain Valley Municipal Code includes development standards within the various zoning districts in the City.

Fountain Valley 2021-2029 Housing Element

The City of Fountain Valley's Cycle Housing Element was adopted on October 4, 2022. The Housing Element includes policies that guide housing throughout the City:

- **Policy H-1.1:** Promote the construction of additional dwelling units to accommodate Fountain Valley's share of regional housing needs in accordance with adopted land use policies.
- **Policy H-1.2:** Provide a variety of housing opportunities for all income levels through different land uses and densities.
- **Policy H-1.3:** Coordinate new residential development with the provision of infrastructure and public services.
- **Policy H-1.4:** Locate higher density residential development close to public transportation.
- **Policy H-2.1:** Promote infill housing development through the adaptive reuse of underutilized parcels.
- **Policy H-2.2:** Promote and encourage the use of innovative construction methods, design standards, lot configurations, and energy conservation techniques that will facilitate the production of quality, affordable, and attractive new housing which varies in type, design, form of ownership, and size, and is compatible with abutting development.

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- **Policy H-2.3:** Encourage new housing construction for rental and ownership housing in a mixture of price ranges.
- **Policy H-2.4:** Promote development of compatible mixed-use projects with residential components at higher densities within commercial designations.
- **Policy H-2.5:** Continue to utilize planned unit developments and specific plans to allow and promote a variety of lot sizes and housing types in new development.
- **Policy H-3.1:** Encourage regulatory incentives that streamline the development and maintenance of housing, with additional incentives to develop and retain affordable housing.
- **Policy H-3.2:** Adopt new City requirements with the intent of reducing costs for housing. When new City requirements would increase costs, seek alternative options, and provide exemptions for affordable housing.
- **Policy H-3.3:** Implement the City's Development Code to permit the development of single room occupancy units, accessory dwelling units, and transitional, supportive, and emergency housing (including low barrier navigation centers) in specified zones.
- **Policy H-4.1:** Concentrate proactive code enforcement and rehabilitation efforts in areas with deteriorated housing conditions.
- **Policy H-4.2:** Encourage private efforts to rehabilitate the existing housing stock.
- **Policy H-4.3:** Provide rehabilitation assistance to ensure maintenance of the older housing stock.
- **Policy H-4.4:** Continue to enforce health, safety, and development codes to eliminate conditions that are detrimental to the health, safety, and general welfare of residents.
- **Policy H-4.5:** Provide public services and improvements that enhance and create neighborhood stability.
- **Policy H-5.1:** Promote and expand affordable home ownership opportunities for lower and moderate income households in the City.
- **Policy H-5.2:** Pursue available housing funds provided by federal, state, private, and/or local sources to preserve affordable housing.
- **Policy H-5.3:** Continue to support innovative public, private, and non-profit housing development organizations' efforts in the provision of affordable housing, particularly for special needs groups.
- **Policy H-5.4:** Address the long and short-term needs of those who are experiencing homelessness through continued support of local private and non-profit groups that provide shelter and services.
- **Policy H-5.5:** Conserve the existing stock of affordable rental housing. Limit the proportion of multifamily housing units permitted to convert to owner-occupied status.
- **Policy H-6.1:** Promote fair housing practices throughout the City.

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- **Policy H-6.2:** Promote a variety of housing types to meet the special needs of persons with disabilities, elderly households, and others who may need assisted living.
- **Policy H-6.3:** Minimize the displacement of lower income and special needs households.
- **Policy H-6.4:** Continue to require compliance with the Americans with Disabilities Act standards in all new residential developments and continue to enforce the building code provisions requiring accessible design.
- **Policy H-6.5:** Continue working with various organizations and agencies that assist those with special needs, such as persons experiencing homelessness, persons with disabilities, low income households, and elderly persons.
- **Policy H-6.6:** Monitor, on an annual basis, the effectiveness of current City regulations that permit emergency shelters/homeless services and adjust development standards, incentives, and approval processes, as appropriate, to ensure existing policies continue to provide opportunities for homeless and transitional housing in Fountain Valley.

5.10.1.2 EXISTING CONDITIONS

Population

Table 5.10-1, *Population Trends in the City of Fountain Valley and Orange County*, indicates the population growth in the City of Fountain Valley and Orange County, from 2010 to 2019.

Table 5.10-1 Population Trends in the City of Fountain Valley and Orange County

Year	City of Fountain Valley		Orange County	
	Population	Percent Change	Population	Percent Change
2010	54,961	N/A	2,965,525	N/A
2011	55,209	0.45%	2,989,948	0.82%
2012	55,595	0.70%	3,021,840	1.07%
2013	55,611	0.03%	3,051,771	0.99%
2014	56,440	1.49%	3,086,331	1.13%
2015	56,696	0.45%	3,116,069	0.96%
2016	56,670	-0.05%	3,132,211	0.52%
2017	56,640	-0.05%	3,155,816	0.75%
2018	56,372	-0.47%	3,164,182	0.27%
2019	56,026	-0.61%	3,168,044	0.12%

Source: US Census Bureau 2019a ACS.

Housing

Housing Trends

As shown in Table 5.10-2, *Historical Housing Growth Trends in the City of Fountain Valley and Orange County*, the rate of housing growth has varied over the years.

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Table 5.10-2 Historical Housing Growth Trends in the City of Fountain Valley and Orange County

Year	City of Fountain Valley		Orange County	
	Total Housing Units	Percent Change	Total Housing Units	Percent Change
2010	19,170	N/A	1,042,254	N/A
2011	19,195	0.13%	1,046,323	0.39%
2012	18,971	-1.17%	1,049,031	0.26%
2013	19,128	0.83%	1,052,959	0.37%
2014	19,244	0.61%	1,058,466	0.52%
2015	19,292	0.25%	1,064,642	0.58%
2016	19,333	0.21%	1,072,121	0.70%
2017	19,023	-1.60%	1,081,701	0.89%
2018	19,019	-0.02%	1,091,376	0.89%
2019	18,948	-0.37%	1,100,449	0.83%

Source: US Census Bureau 2019b ACS.

Regional Housing Needs Assessment

As shown in Table 5.10-3, *City of Fountain Valley 2021–2029 Regional Housing Needs Assessment*, the City of Fountain Valley’s RHNA allocation for the 2021–2029 planning period is 4,839 units, including 2,093 lower income units (Fountain Valley 2021).

Table 5.10-3 City of Fountain Valley 2021–2029 Regional Housing Needs Assessment

Income Category (% of County AMI)	Number of Units	Percentage
Very Low (<50%)	1,307	27%
Low (50% to 80%)	786	16%
Moderate (80% to 120%)	834	17%
Above Moderate (>120%)	1,912	40%
Total	4,839	100%

Source: Fountain Valley 2021
Note: AMI = Area Median Income

Employment and Jobs

Employment Trends

According to the California Employment Development Department, the growth rate of employment in the City of Fountain Valley and Orange County increased throughout 2011 to 2020. The City of Fountain Valley and Orange County employment and annual employment change percentages are shown in Table 5.10-4, *City of Fountain Valley and Orange County Employment Trends*.

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Table 5.10-4 City of Fountain Valley and Orange County Employment Trends

Year	City of Fountain Valley		Orange County	
	Employment (Persons)	Percent Change	Employment (Persons)	Percent Change
2011	25,600	N/A	1,400,883	N/A
2012	26,100	1.95%	1,433,517	2.33%
2013	26,400	1.15%	1,455,308	1.52%
2014	26,700	1.14%	1,478,483	1.59%
2015	27,100	1.50%	1,513,067	2.34%
2016	27,300	0.74%	1,532,708	1.30%
2017	27,300	0.00%	1,549,008	1.06%
2018	27,400	0.37%	1,568,275	1.24%
2019	27,300	-0.36%	1,571,267	0.19%
2020	24,900	-8.79%	1,426,975	-9.18%

Source: EDD 2021

Existing Jobs

Table 5.10-5, *City of Fountain Valley; Industry by Occupation (2010 and 2020)*, shows the total number of jobs per industry in the City in 2010 and 2020. According to the estimates calculated by the US Census, the City of Fountain Valley had 29,822 jobs in 2010 and 29,937 jobs in 2020. The three largest occupational categories during 2010 were Health Care and Social Services; Retail Trade; and Professional, Scientific, and Technical Services; and in 2020 the three largest occupational categories were Health Care and Social Assistance, Retail Trade, and Accommodation and Food Services (U.S. Census Bureau 2020).

Table 5.10-5 City of Fountain Valley; Industry by Occupation (2010 and 2020)

Industry/Occupation	Number of Jobs in 2010	Number of Jobs in 2020
Agriculture, Forestry, Fishing, Hunting	33	10
Mining, Quarrying, and Oil and Gas Extraction	7	1
Utilities	672	898
Construction	686	992
Manufacturing	2,580	2,360
Wholesale Trade	1,728	1,405
Retail Trade	3,430	3,037
Transportation and Warehousing	195	320
Information	340	147
Finance and Insurance	1,141	710
Real Estate and Rental and Leasing	449	428
Professional, Scientific, and Technical Services	2,766	2,116
Management of Companies and Enterprises	191	1,766
Administration and Support, Waste Management and Remediation	1,081	1,741
Educational Services	2,503	2,204
Health Care and Social Assistance	7,213	7,728
Arts, Entertainment, and Recreation	568	402
Accommodation and Food Services	2,371	2,521
Other Services (Excluding Public Administration)	1,435	845
Public Administration	433	306
Total	29,822	29,937

Source: US Census Bureau 2020

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Growth Projections

Southern California Association of Governments

SCAG undertakes comprehensive regional planning with an emphasis on transportation, producing a Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) provides projections of population, households, and total employment for both the City of Fountain Valley and Orange County. These projections are summarized in Table 5.10-6, *SCAG Growth Projections for the City of Fountain Valley and Orange County*.

Table 5.10-6 SCAG Growth Projections for the City of Fountain Valley and Orange County

	City of Fountain Valley				Orange County			
	2020	2035	2040	2045	2020	2035	2040	2045
Population	57,800	59,400	59,300	59,900	3,271,100	3,431,200	3,461,500	3,402,700
Households	19,300	19,800	19,900	19,400	1,074,700	1,135,300	1,146,200	1,154,100
Housing Units ¹	18,335	18,810	18,905	18,430	1,020,965	1,078,535	1,088,890	1,096,395
Employment	33,300	34,600	34,900	34,200	1,730,100	1,870,500	1,896,300	1,980,500
Jobs-Housing Ratio	1.82	1.84	1.85	1.86	1.69	1.73	1.74	1.81

Source: SCAG 2016 and SCAG 2020

¹ Housing units in SCAG projections are estimated based on number of households and a vacancy rate of 5 percent.

Jobs-Housing Ratio

The jobs-housing ratio is a general measure of the number of jobs versus housing in a defined geographic area, without regard to economic constraints or individual preferences. The jobs-housing ratio, as well as the type of jobs versus the price of housing, has implications for mobility, air quality, and the distribution of tax revenues. A project's effect on the jobs-housing ratio is one indicator of how it will affect growth and quality of life in the General Plan Area. SCAG applies the jobs-housing ratio at the regional and subregional levels in order to analyze the fit between jobs, housing, and infrastructure. A main focus of SCAG's regional planning efforts has been to improve this balance; however, jobs-housing goals and ratios are only advisory. There is no ideal jobs-housing ratio adopted in state, regional, or city policies. The American Planning Association is an authoritative resource for community planning best practices, including recommendations for assessing jobs-housing ratios. Although it recognizes that an ideal jobs-housing ratio will vary across jurisdictions, it recommends a target of 1.5 and a range 1.3 to 1.7 (Weitz 2003).

As shown in Table 5.10-6, based on SCAG's projections, Fountain Valley is projected to be a jobs-rich City, with the number of jobs increasing at a faster rate than the number of housing units.

5.10.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

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- P-1 Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- P-2 Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

5.10.3 Applicable General Plan Update Policies

Land Use Element

- **Policy LU-1.3: Mix of Land Uses.** Maintain a balanced mix of high quality residential, retail, employment, industrial, open space, and public facility land uses to ensure a range of living options, fiscal sustainability, and convenient access to shops, restaurants, services, and well-paid and highly skilled jobs.
- **Policy LU-4.1: Economic Development Objectives.** Invest in economic development through the City’s economic development program to maintain and enhance the attractiveness of Fountain Valley for private investment, to increase local job opportunities for residents, and to facilitate growth in the local economy that contributes to and enhances Fountain Valley’s premier quality of life.

Environmental Impacts

5.10.3.1 IMPACT ANALYSIS

Impact 5.10-1: The proposed project would directly induce substantial unplanned population growth. [Threshold P-1]

Table 5.10-7, *Comparison of 2045 SCAG and General Plan Update Buildout Projections*, shows the buildout projections in accordance with the General Plan Update buildout in comparison to the SCAG 2045 projections.

Table 5.10-7 Comparison of 2045 SCAG and General Plan Update Buildout Projections

	Existing Conditions	2045 SCAG Projections	General Plan Update Buildout Projections (2045)
Population	57,595	59,900	73,668
Employment	32,485	34,200	36,542
Housing Units	19,395	19,400 ¹	25,633
Jobs-Housing Ratio	1.67	1.76	1.43

Source: SCAG 2016 and SCAG 2020

¹ SCAG projections are stated in terms of number of households and assume a vacancy rate of 5 percent. The 19,400 figure reflects SCAG’s forecast of 18,430 households and applies the 5 percent vacancy rate to arrive at a comparable number in terms of Housing Units.

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Population and Employment

Under existing conditions, the City has approximately 57,595 residents and 32,485 jobs. Upon buildout of the proposed project in 2045, there would be approximately 73,668 residents and 36,542 jobs, which is an increase of 28 percent and 12 percent, respectively, compared to existing conditions.

The SCAG population and employment projections for Fountain Valley in 2045 are 59,900 residents and 34,200 jobs, respectively. The population and employment projections under the General Plan Update would be 23 percent and 7 percent greater than the SCAG 2045 projections, respectively. Therefore, the population and employment anticipated in the Plan Area at full buildout of the General Plan Update would be substantial and potentially significant.

Housing

There are currently 19,395 housing units in the City and at full buildout there would be 25,633 units, which is an increase of 32 percent from existing conditions. The estimated forecast for housing units under the General Plan Update would exceed the 2045 SCAG projections (see Table 5.10-7) by 32 percent. It should be noted that the State of California has a shortage of housing. In 2019, Governor Newsom signed several bills aimed at addressing the need for more housing, including the Housing Crisis Act of 2019 (Senate Bill 330). While the RTP may not forecast substantial growth, the RTP was prepared prior to California Department of Housing and Community Development (HCD)'s regional RHNA allocation to SCAG of 1.34 million units, which led SCAG to ultimately assigned a RHNA allocation for the 2021–2029 planning period of 4,839 units. This RHNA allocation is magnitudes larger than the City's previous RHNA allocation (358 units) and larger than the relatively flat growth forecast in the RTP, indicating that SCAG's RTP is out of sync with SCAG's RHNA allocation and that both HCD and SCAG do forecast substantial growth for Fountain Valley that is not yet reflected in the RTP. The City adopted its Housing Element and obtained state certification in 2022, including several policies that support a variety of housing types and densities to accommodate the requirements of the RHNA as well as to ensure the provision of housing units, such as Policy H-1.1, Policy H-1.2, and Policy H-6.2. However, even with a statewide shortage in housing and the requirements of the RHNA, exceeding SCAG's housing projection by approximately 32 percent would be a potentially significant impact.

Jobs-Housing Ratio

According to Table 5.10-7, the 2045 SCAG jobs-housing ratio would be 1.76. Under the General Plan Update, development based on the land use designations would result in a jobs-housing ratio of 1.43, which is less than the City's existing ratio of 1.67. A ratio of 1.43 would bring the City closer to a more equal distribution of employment and housing. Therefore, the population resulting directly from the proposed General Plan Update would be offset by the level of employment opportunities provided to the City's residents and workers commuting to Fountain Valley.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.10-1 would be potentially significant.

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Mitigation Measures

There are no feasible mitigation measures.

Level of Significance After Mitigation: Impact 5.10-1 would be significant and unavoidable.

Impact 5.10-2: The proposed project would not displace people and/or housing. [Threshold P-2]

The purpose of the General Plan Update is to provide orderly growth in the City of Fountain Valley through the distribution, location, balance, and extent of land uses. The General Plan Update proposes new land use designations—Very High Density Residential (VHDR), Mixed-Use 1 (MU1), and Mixed-Use 2 (MU2)—which would allow for intensification within the City. The proposed project would include a variety of housing types and provide for additional residential opportunities within the City.

Government Code Section 66300(d)(2) requires that any project that would demolish residential units must create at least as many units as will be demolished. Additionally, the General Plan Update provides policies that ensure the rehabilitation of existing housing, provision of new housing, and minimization of displacement, such as Policy H-1.1, Policy H-1.2, Policy H-3.3, and Policy H-6.3. Finally, all of the sites proposed for new development either contain property owners who are actively redeveloping the site, are vacant, or are nonresidential in nature and therefore do not contain any residents. Therefore, the General Plan Update would not displace any people and would provide more housing opportunities than currently exists, and there would be no impact.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.10-2 would not be significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.10-2 would not be significant.

5.10.4 Cumulative Impacts

The context considered for cumulative impacts is the region covered by SCAG. As discussed above, development under the proposed General Plan would not displace housing within the City. Because the City of Fountain Valley has no control over development in other areas in the region, it would not contribute to the displacement of housing on other sites within the region. The proposed project would encourage intensification within the City and rely on infill development for projected growth rather than the annexation of land for development. The projected change in the jobs-housing ratio is intended to encourage the creation of jobs for more of the City's residents who currently commute elsewhere for employment. Development under the General Plan would be balanced to include employment opportunities as well as residential options for residents at various income levels. However, as discussed above, the proposed General Plan would exceed the growth projections in SCAG's RTP/SCS growth forecasts. Therefore, the proposed

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project could combine with other projects in the region to directly result in a cumulatively considerable contribution to growth in the region. The proposed project's impact would be significant and unavoidable.

5.10.5 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.10-2.

Without mitigation, the following impacts would be **potentially significant**:

- Impact 5.10-1 The proposed project would directly induce unplanned population growth.

5.10.6 Mitigation Measures

Impact 5.10-1

Full buildout of the General Plan Update would result in a population of 73,668 residents and create 34,200 jobs, which is 23 percent and 7 percent greater than the SCAG 2045 projections, respectively. Furthermore, the City's housing units at buildout would be 25,633 units which would exceed the SCAG 2045 projections by 39 percent. There are no feasible mitigation measures to mitigate the population and housing growth for the buildout of the General Plan Update.

5.10.7 Level of Significance After Mitigation

There are no feasible mitigation measures and impacts would be significant and unavoidable at full buildout of the proposed project.

5.10.8 References

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5.11 RECREATION

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the City of Fountain Valley General Plan Update to impact public parks and recreational facilities in the City. Cumulative impacts related to recreation would be within the City.

5.11.1 Environmental Setting

5.11.1.1 REGULATORY BACKGROUND

State Regulations

Quimby Act

The Quimby Act was established by the California Legislature in 1965 to provide parks for the growing communities in California. The act authorizes cities to adopt ordinances addressing parkland and/or fees for residential subdivisions for the purpose of providing and preserving open space and recreational facilities and improvements and requires the provision of three acres of park area per 1,000 persons residing within a subdivision, unless the amount of existing neighborhood and community park area exceeds that limit, in which case the city may adopt a higher standard not to exceed five acres per 1,000 residents. The Quimby Act also specifies acceptable uses and expenditures of such funds.

Mitigation Fee Act

The California Mitigation Fee Act (Government Code §§ 66000 et seq.) allows cities to establish fees that will be imposed upon development projects for the purpose of mitigating the impact that the development projects have upon city's ability to provide specified public facilities. In order to comply with the Mitigation Fee Act, the City must follow four primary requirements: 1) Make certain determinations regarding the purpose and use of a fee and establish a nexus or connection between a development project or class of project and the public improvement being financed with the fee; 2) Segregate fee revenue from the General Fund in order to avoid commingling of capital facilities fees and general funds; 3) Make findings each fiscal year describing the continuing need for fees that have been in the possession of the City for five years or more and that have not been spent or committed to a project; and 4) Refund any fees with interest for developer deposits for which the findings noted above cannot be made.

California Public Park Preservation Act

The primary instrument for protecting and preserving parkland is California's Public Park Preservation Act of 1971. Under the Public Resource Code, cities and counties may not acquire any real property that is in use as a public park for any nonpark use unless compensation, land, or both are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

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Local Regulations

Parks and Recreational Facilities

Chapter 12.08, Parks and Recreational Facilities, of the Fountain Valley Municipal Code, provides provisions for all people using city parks and facilities to comply with, such as prohibiting unauthorized disposal, glass beverage containers, the consumption of alcohol and use of tobacco, and so on.

Park Land Dedications and Fees

The purposes of Chapter 21.79, Parkland Dedications, Reservations, and Fees, of the Fountain Valley Municipal Code, are to preserve, enhance, and improve the quality of the physical environment; provide a procedure for the acquisition, development, and rehabilitation of local park and recreational facilities; secure for the citizens the social and physical advantages resulting from the provision of orderly park, recreation, and open space facilities; establish conditions which will allow park and recreational facilities to be provided and to exist in harmony with surrounding and neighborhood land uses; ensure adequate park and recreational facilities will be provided; provide regulations requiring three usable acres, or the proportionate share thereof for each one thousand persons residing within the city to be supplied by persons proposing residential subdivisions; and to provide that unsubdivided residential property shall also contribute to park and recreational facilities.

5.11.1.2 EXISTING CONDITIONS

The City of Fountain Valley has over 460 acres of regional, community, and neighborhood parks, activity buildings, and athletic facilities. Parks with a joint-use agreement between the School District and Parks Department include Allen Park, Monroe Park, and Plavan Park. The Courreges, Fulton, Harper, and Westmont parks are within the Southern California Edison (SCE) easements. The City has 19 parks with a total of approximately 96 acres of parkland, as follows:

- Allen Park (3.2 acres)
- Colony Park (0.6 acre)
- Cordata Park (6.2 acres)
- Courreges Park (18.8 acres)
- Ellis Park (2.7 acres)
- Fulton Park (20.7 acres)
- Harper Park (8.5 acres)
- Helm Park (2.9 acres)
- Heritage Park, including Veteran's Park (2.2 acres)
- La Capilla (2.3 acres)
- Los Alamos Park (3.9 acres)
- McDowell Park (1.0 acre)
- Moiola Park (1.1 acre)
- Monroe Park (2.5 acres)

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- Nieblas Park (1.0 acre)
- Plavan Park (1.9 acres)
- Stonecress Park (2.3 acres)
- Vista View Park (3.1 acres)
- Westmont Park (11.2 acres)

The City also operates a Recreation Center and Sports Park on the Orange County Mile Square Facility. The City's 78.2-acre multi-purpose facility serves as a regional park and offers a variety of amenities such as a gym, play area, ball fields, soccer/utility field, handball courts, and tennis courts. This facility also includes a senior center and a tennis center, and the City offers recreational events and classes for toddlers, youth, teens/adults, and seniors (Fountain Valley 2021). Outside of park facilities, the City operates the Center at Founders Village at 17967 Bushard Street, which features event space, kitchen facilities, and audio visual capabilities for rent and use by the community.

Mile Square Regional Park is a 286.4-acre facility that is operated by Orange County Parks and abuts the City's Recreation Center and Sports Park on the Mile Square Facility. The balance of the Mile Square Facility consists of the 169.5-acre Mile Square Golf Course and the 73.6-acre David Baker Golf Course.

5.11.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

- R-1 Would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- R-2 Includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

5.11.3 Applicable General Plan Update Policies

Land Use Element

- **Policy LU-1.5: Reuse of Public Land.** Prioritize the reuse of land that is owned by non-city public agencies for public uses such as civic buildings, parks, or recreation facilities.
- **Policy LU-3.3: Quality of Life Uses.** Protect and improve public parks, trails, open space areas, public plazas, historical assets, and public facilities that define and enhance the City's quality of life.

Open Space and Conservation

- **Policy OSC-1.1: Parks Standards.** Require developers of new residential or mixed-use residential projects to provide or pay fees equivalent to a ratio of three acres of park lands and recreation space facilities for every 1,000 residents added.

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- **Policy OSC-1.2: Maintain and Improve Existing Parks.** Maintain and improve neighborhood and community parks, as well as special facilities such as sports fields and bicycle, hiking, and nature trails.
- **Policy OSC-1.3: Accessibility and Interests.** Design and program parks and recreational facilities for people of all ages and abilities. Monitor the needs and interests of the surrounding neighborhoods and overall community to improve and adapt park facilities and programming.
- **Policy OSC-1.4: Mile Square Park.** Coordinate with the County to maximize the amount of programmed and unprogrammed recreational and open space, year-round activities, and special events that are available to all residents of Fountain Valley.
- **Policy OSC-1.6: Multipurpose Open Space.** Maximize the use of public utility easements, flood control channels, school grounds, and other quasi-public areas for recreational uses and playfields.
- **Policy OSC-1.7: Trail Linkages.** Establish and maintain pedestrian and bicycle trails as linkages between open space and recreation facilities within the community.

Public Facilities and Safety Element

- **Policy PFS-6.5: Landscaping in Public Spaces.** Maintain and enhance landscaping in parks, parkways, and medians to beautify spaces while using native and drought-tolerant species to ensure healthy and resilient vegetation. Incorporate and preserve mature and specimen trees at key gateways, landmarks, and public facilities.

5.11.4 Environmental Impacts

5.11.4.1 IMPACT ANALYSIS

Impact 5.11-1: The proposed project would generate additional residents that would increase the use of existing park and recreational facilities. [Threshold R-1]

Buildout of the proposed project would result in an estimated population of 73,668 residents by 2045, increasing the existing population from 57,595 residents. This increase in population would increase the use of existing park and recreational facilities.

Each jurisdiction determines the appropriate park standard based on the guidance provided by Section 666477 of the California Government Code, commonly referred to as the Quimby Act, which requires a standard of three acres of parkland per 1,000 residents. The City's park standard, as indicated in Chapter 21.79, Parkland Dedications, Reservations, and Fees, of the Fountain Valley Municipal Code, is three acres of parkland per 1,000 residents.

With an existing population of 57,595 residents, the parkland requirements at three acres per thousand would be approximately 173 acres. Using the same three acres per thousand metric, the buildout population of 73,668 residents would result in a need for 221 acres of parkland. The City's 460.5 acres of existing regional, community, and neighborhood parklands within the City (excluding golf course facilities) far exceed parkland

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requirements for both existing and buildout populations: 8.0 acres per thousand residents for existing conditions and 6.2 acres per thousand residents under buildout conditions.

Future development in accordance with the General Plan Update would be required to dedicate land or pay in-lieu impact fees per Chapter 21.79, Parkland Dedications, Reservations, and Fees, of the Fountain Valley Municipal Code, as well as the Quimby Act. Collected park development impact fees would fund park maintenance, acquisition, and development and assist the City in maintaining the parkland standard of at least three acres per 1,000 residents. Accordingly, the potential increase in population growth related to the General Plan Update and would not result in a significant impact.

At the General Plan level of analysis, it is speculative and infeasible to evaluate project-specific environmental impacts associated with the specific construction of future recreational facilities since specific sites and time frames for development are unknown. When specific projects are necessitated and subsequently undertaken to meet the growth demands from buildout of the General Plan Update, the appropriate level of analysis required under CEQA would be conducted by the City. Additionally, the General Plan Update provides policies that pertain to the protection and creation of parks and recreational facilities, such as Policy LU-1.5, Policy LU-3.3, Policy OSC-1.1, and Policy OSC-1.2. Therefore, impacts would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.11-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.11-1 would be less than significant.

Impact 5.11-2: Project implementation would result in environmental impacts to provide new and/or expanded recreational facilities. [Threshold R-2]

The proposed General Plan Update guides growth and development within the City and is not a development project. As the population of the City grows, recreational facilities may be developed and/or improved to provide residents with additional recreational opportunities and to adhere to the City's parkland standard of three acres per 1,000 residents. Parks are also a permitted use under other land use designations (e.g., residential land uses), which could result in the development of recreational facilities outside of park-designated parcels.

Development and operation of new or expanded recreational facilities may have an adverse physical effect on the environment, including impacts related to air quality, biological resources, lighting, noise, and traffic. As this Draft EIR assumes construction would occur on all areas designated for development, the physical environmental impacts associated with the construction of new and/or expansions of existing recreational facilities in accordance with the proposed land use plan are addressed throughout this Draft EIR. Similarly, potentially adverse impacts to the environment that may result from the expansion of parks, recreational facilities, and multiuse trails pursuant to buildout of the proposed project are also addressed throughout this

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Draft EIR. Subsequent environmental review for individual recreational developments would also be required. Consequently, impacts from the General Plan Update relating to new and/or expanded recreational facilities would not result in additional impacts than disclosed in this Draft EIR and the impact would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.11-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.11-2 would be less than significant.

5.11.5 Cumulative Impacts

While some of the City's recreational facilities could be used by people not residing in Fountain Valley, the geographic area for the cumulative analysis of recreational facilities and parks is the City of Fountain Valley. Currently, there are 96 acres of parkland in the City, excluding the regional parks on the Mile Square Facility. The regional parks (both the Recreation Center and Sports Park operated by the City and the Mile Square Regional Park operated by the County) are used by people from throughout the surrounding area. However, these are existing facilities and no new parkland must be built to satisfy the City's potential buildout population of 73,668 residents with the City and the proposed General Plan Update's contribution to park and recreational facilities would not, therefore, be cumulatively considerable and would be less than significant.

5.11.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.11.7 Mitigation Measures

No mitigation measures are required.

5.11.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.11.9 References

Fountain Valley, City of. 2021. Parks and Recreation. <https://www.fountainvalley.org/624/Parks-Recreation>.

5. Environmental Analysis

5.12 TRANSPORTATION

This section of the draft environmental impact report (DEIR) evaluates the potential for implementation of the City of Fountain Valley's General Plan to result in transportation and traffic impacts in the City of Fountain Valley and its sphere of influence (SOI). The analysis in this section is based in part on the following technical report(s):

- *Draft Existing Conditions Report*, Fehr and Peers, May 2019
- *Fountain Valley General Plan Vehicle Miles Traveled (VMT) Impact Assessment*, Fehr and Peers, September 2021
- *Transportation Impact Assessment Guidelines for Land Use Projects in CEQA and for General Plan Consistency*, Fehr and Peers, June 2020

Complete copies of these studies are included as Appendix 5.12-1, Appendix 5.12-2, and Appendix 5.12-3 to this DEIR.

5.12.1 Environmental Setting

5.12.1.1 REGULATORY BACKGROUND

This section describes federal, State, regional, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process for transportation.

State Regulations

AB 1358 (Complete Streets)

The California Complete Streets Act (Assembly Bill [AB] 1358) was signed into law on September 30, 2008. Since January 1, 2011, AB 1358 has required circulation element updates to address the transportation system from a multi-modal perspective. The act states that streets, roads, and highways must “meet the needs of all users in a manner suitable to the rural, suburban, or urban context of the general plan.” The act requires a circulation element to plan for all modes of transportation where appropriate, including walking, biking, car travel, and transit. In addition, the act requires circulation elements to consider the multiple users of the transportation system, including children, adults, seniors, and the disabled.

AB 32 (Global Warming Solutions Act)

The Global Warming Solutions Act (AB 32) was signed into law on September 27, 2006. AB 32 established a comprehensive program to reduce greenhouse gas emissions to combat climate change. This bill requires the California Air Resources Board (CARB) to develop regulations to reduce greenhouse gas emissions to 1990 levels by 2020. On January 1, 2012, the greenhouse gas rules and market mechanisms, adopted by CARB, took effect and became legally enforceable.

The reduction goal for 2020 is to reduce greenhouse gas emissions by 25 percent of the current rate in order to meet 1990s level, and a reduction of 80 percent of current rates by 2050. The AB 32 Scoping Plan contains the main strategies California will use to reduce greenhouse gases. The scoping plan has a range of

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greenhouse gas reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms (such as a cap-and-trade system), and an AB 32 program implementation regulation to fund the program.

CARB recognizes cities as “essential partners” in reducing greenhouse gas emissions. The Air Resources Board has developed a Local Government Toolkit with guidance for GHG reduction strategies such as improving transit, developing bicycle/pedestrian infrastructure, increasing city fleet vehicle efficiency, and other strategies.

SB 375 (Sustainable Communities and Climate Protection Act)

The Sustainable Communities and Climate Protection Act, or Senate Bill (SB) 375, provides incentives for cities and developers to bring housing and jobs closer together and to improve public transit. The goal is to reduce the number and length of automobile commuting trips, helping to meet the statewide targets for reducing greenhouse gas emissions set by AB 32.

SB 375 requires each Metropolitan Planning Organization to add a broader vision for growth, called a Sustainable Communities Strategy (SCS), to its transportation plan. The SCS must lay out a plan to meet the region’s transportation, housing, economic, and environmental needs in a way that enables the area to lower greenhouse gas emissions. The SCS would integrate transportation, land-use, and housing policies to plan for achievement of the emissions target for their region. The Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) and SCS were adopted in 2016.

SCAG has identified several actions that will be incorporated into the General Plan Update. Applicable components of the SCS include:

- Support infill housing development and redevelopment as identified in the General Plan Update
- Improve jobs-to-housing-ratio
- Apply Transportation System Management (TSM) and Complete Streets practices to arterials to maximize efficiency
- Improve modes through enhanced service, frequency, convenience, and choices
- Expand and enhance Transportation Demand Management (TDM) practices to reduce barriers to alternative travel modes and attract commuters away single occupant vehicle travel

SB 743 – General CEQA Reform, VMT

SB 743 was signed into law on September 27, 2013, and has fundamentally changed the traditional transportation impact analyses conducted as part of the CEQA process. According to this bill, parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area will not be considered significant impacts. Also, residential, mixed-use, and employment center projects meeting specific criteria would be exempt from CEQA.

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Furthermore, this bill eliminates measures such as auto delay, level of service (LOS) and other vehicle-based measures of capacity in many parts of California. Instead, Vehicle Miles Traveled (VMT) is preferred metric for assessing passenger vehicle-related impacts.

The purpose of SB 743 is to balance the needs of congestion management, infill development, public health, and greenhouse gas reductions. As mentioned, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package and released a Technical Advisory on Evaluating Transportation Impacts in CEQA, in December 2018.

Regional Regulations

Orange County Congestion Management Program (CMP)

The passage of Proposition 111 in June 1990 established a process for each metropolitan county in California, including Orange County, to prepare a Congestion Management Plan (CMP). The CMP was prepared by the Orange County Transportation Authority (OCTA) in consultation with the County of Orange, cities within Orange County, Caltrans, and the South Coast Air Quality Management District (SCAQMD). It is an effort to align land use, transportation, and air quality management efforts to promote reasonable growth management programs that effectively use statewide transportation funds, while ensuring that new development pays its fair share of needed transportation improvements. The CMP contains a number of policies designed to monitor and address system performance issues.

The process for developing the CMP is also meant to be a systematic procedure that enables consistent and effective integrated monitoring and management of the multimodal transportation system. This process entails:

- Creating congestion management goals
- Developing metrics for multimodal transportation system performance
- Collecting data on these metrics
- Preparing and implementing congestion management recommendations
- Assessing the effectiveness of the recommendations

OC Go (also known as Measure M) – Orange County Half-Cent Sales Tax

In 1990, Orange County voters approved Measure “M1;” a one-half cent increase in sales tax over a twenty-year period to be used for transportation purposes. Between 1990 and 2011, Measure M1 provided \$4 billion worth of transportation improvements. In November 2006, Orange County community members launched Measure M2 by renewing the half-cent sales tax for another 30 years. In 2017, Measure M2 was rebranded as “OC Go.” The OC Go Transportation Investment Plan outlines strategies to provide more than \$13 billion worth of transportation enhancement to Orange County by the year 2041. The plan includes major improvement projects for the County’s freeways, streets and roads, transit and environmental programs. While OC Go is successful, it can only fund a fraction of the transportation improvements necessary to prevent a potential breakdown of the regional transportation system. Among the approved OC Go projects, the I-405 widening between SR-73 and I-605 and improvements to freeway entrances, exists and bridges fall

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in the jurisdiction of Fountain Valley. The Senior Mobility Program in Fountain Valley is also funded by OC Go. The latest Traffic Synchronization Program by OC Go that was implemented in Fountain Valley was Brookhurst Street in 2016.

Transit Priority Area (TPA) and High Quality Transit Area (HQTA) – SCAG

Southern California Association of Governments (SCAG) has designated an area within one-half mile of an existing or planned major transit stop as Transit Priority Areas (TPAs) that include a rail transit station, a ferry terminal, or the intersection of two or more major bus routes with a headway of 15 minutes or less during the morning and afternoon peak commute periods. Parts of Euclid Street and Harbor Boulevard in Fountain Valley are designated as a TPA. Similarly, a High Quality Transit Corridors (HQTC) that are either existing or identified in 2040 Regional Transportation Plan (RTP). The HQTCs identified in Fountain Valley are Euclid Street, Harbor Boulevard and Edinger Avenue, and the HQTA is half-mile around the corridors.

The TPA designation also will matter for transportation impact assessment per SB 743 as most projects within a TPA will not be required to conduct VMT analysis for CEQA. Fountain Valley will need to evaluate potential positive and negative implications of increased development as state law continues to focus and streamline development along HQTAs.

5.12.1.2 EXISTING CONDITIONS

Roadway System

The City of Fountain Valley is connected regionally and bisected by the I-405. The freeway provides north-south connectivity to surrounding metropolitan areas. According to the Circulation Element of 1995 Fountain Valley General Plan (which was last updated in 2008) there are nine functional systems that make up the roadway system, which include the following: freeway, major arterial, primary arterial, secondary arterial, collector roadway, local street, augmented roadway, enhanced intersection, and right-of-way reserve. The street classification is based on a functional hierarchy defined by the number of travel lanes, roadway width (curb to curb), right-of-way (public property line to public property line), and traffic volumes. The network of streets provides connectivity within the City of Fountain Valley and to neighboring communities.

Roadway Classifications

Functional classification refers to how a road accommodates two characteristics: first, the extent to which the roadway prioritizes through movement of traffic; and second, the level of access provided to adjacent properties. Based on these generalized characteristics, roadways often vary in term of right-of-way, roadway, width, number of lanes, intersection and traffic signal spacing, speed, and other factors. Functional classification is generally determined in the Circulation Element of the City's General Plan, in which the functional classification is assigned to a particular roadway based on the criteria above. Table 5.12-1, *Fountain Valley 2008 Circulation Element Roadway Functional Classifications*, identifies roadway types for the City of Fountain Valley, based on the 2008 Circulation Element and provides the general characteristics of each.

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Table 5.12-1 Fountain Valley 2008 Circulation Element Roadway Functional Classifications

Roadways Type	Description	Number of Lanes and Division	Capacity	Right-of-Way
Freeway	Limited access, high-speed travelways. Carry regional traffic. Access is provided at interchanges.	6+ Lane, Divided. ¹	N/A	N/A
Major Arterial	Carry a large volume of regional traffic not handled by freeway	6 Lane, Divided.	56,300 ADT, 5,630 peak-hour	120', 104' curb-to-curb
Primary Arterial	Similar function to that of a Major Arterial but with less capacity.	4 Lane, Divided.	37,500 ADT, 3,750 peak-hour	100', 84' curb-to-curb
Secondary Arterial	Distribute traffic between local streets and arterials	4 Lane, Undivided.	25,000 ADT, 2,500 peak-hour	80', 64' curb-to-curb
Collector Roadway ²	Similar function to that of a Secondary Arterial but with less capacity.	2 Lane, Undivided	N/A	N/A
Local Street ²	Provides direct access to abutting properties	2 Lane	N/A	N/A
Augmented Roadway ³	Any of the three arterial street categories can be designated as augmented, to allow for improvements to be made related to increased capacity, alignment with local conditions, and increased efficiency of right-of-way use.	N/A	N/A	N/A
Enhanced Intersection ³	This overlay enables intersections to receive improvements to increase capacity, alignment with local conditions, and enhance operations.	N/A	N/A	N/A
Right-of-Way Reserve	This is a unique designation that preserves the right-of-way for the Garfield-Gisler bridge and assumes it to be that of a primary arterial.	N/A	N/A	N/A

Source: Fehr and Peers 2019

Notes:

¹ This facility is under Caltrans' jurisdiction

² Not included in the General Plan circulation system

³ Detailed engineering studies necessary

Freeway

Interstate 405 (I-405) Freeway

The I-405 freeway is a north-south facility in Southern California. It covers roughly 70 miles, beginning in San Fernando Valley in Los Angeles County and terminating in south Irvine in Orange County. Most of the I-405 traversing Fountain Valley has 10 lanes, including a high occupancy vehicle (HOV) lane in each direction, with a posted speed limit of 65 miles per hour (mph). The I-405 is the only freeway through Fountain Valley.

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Major Arterial

Brookhurst Street

Brookhurst Street is classified as a six-lane divided major arterial between Edinger Avenue and Garfield Avenue. The roadway is a north-south facility that is surrounded by single family, multifamily, and commercial land uses. The roadway has a 45-mph posted speed limit and offers access to Fountain Valley Recreation Center and Sports Park, both golf courses on the Mile Square Facility, and the I-405.

Harbor Boulevard

Harbor Boulevard is classified as a six-lane major arterial between Gloxinia Avenue and the Santa Ana River. The roadway is a north-south regional facility connecting multiple cities including La Habra, Fullerton, Anaheim, Garden Grove, Santa Ana Fountain Valley, and Costa Mesa. It connects single-family, multifamily, and commercial land uses, and has a 45-mph posted speed limit.

Warner Avenue

Warner Avenue is classified as a six-lane major arterial between Newland Street and the Santa Ana River. The east-west roadway provides access from the City of Fountain Valley to the I-405 and surrounding cities such as Westminster and Santa Ana. It also offers access to Mile Square Regional Park and Mile Square Golf Course. The roadway has a speed limit of 45 mph and provides access to single-family, multi-family, and commercial land uses.

Primary Arterials

Euclid Street

Euclid Street is a north-south facility that is classified as a primary arterial from West Lenhardt Avenue to Edinger Avenue, an augmented primary arterial from Edinger Avenue to Talbert Avenue, and then a primary arterial from Talbert Avenue to Ellis Avenue. Through most of Fountain Valley it is a six-lane divided roadway with a posted speed limit of 45 mph. Euclid Street provides access to Mile Square Regional Park, Mile Square Golf Course, several residential areas, and some industrial and commercial areas.

Talbert Avenue

Talbert Avenue is an east-west facility that is classified as a primary arterial from Newland Street to Euclid Street, and an augmented primary arterial from Euclid Street to the Santa Ana River. Through most of Fountain Valley, it is a four-lane divided roadway with a posted speed limit of 45 mph. Talbert Avenue connects through residential and commercial areas, and provided access to the I-405.

Edinger Avenue

Edinger Avenue is an east-west, four-lane divided roadway, and is classified as a primary arterial from Magnolia Street to the Santa Ana River. It has a posted speed limit of 45 mph. As a major thoroughfare along the northern edge of the City, Edinger Avenue provides access to residential areas and Mile Square Regional Park.

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Magnolia Street

Magnolia Street is a north-south, four-lane divided roadway, and is classified as a primary arterial from Edinger Avenue to Garfield Avenue. It has a posted speed limit of 45 mph and connects mostly residential and commercial areas.

Garfield Avenue

Garfield Street is an east-west, four-lane divided roadway, that is classified as a primary arterial from Newland Street to the Santa Ana River. As mentioned, the segment that is the Garfield-Gisler bridge is classified as a right-of-way reserve overlay. It has a posted speed limit of 45 mph and is connected through residential and commercial areas.

Secondary Arterials

Ward Street

Ward Street is a north-south facility classified as a secondary arterial between Margarita Avenue and Garfield Avenue. Through most of Fountain Valley it is an undivided four lane facility. From Edinger Avenue to Warner Avenue, Ward Street is interrupted by the Mile Square Regional Park. Segments of Ward Street have a Class II bike lane in each direction and a posted speed limit of 45 mph. Ward Street provides access to residential areas and schools, as well as the David L. Baker Golf Course at the north-east corner of Mile Square Regional Park.

Ellis Avenue

Ellis Avenue is classified as a secondary arterial between Newland Street and Euclid Street according to the City of Fountain Valley Circulation Element and is an east-west facility. Throughout most of Fountain Valley Ellis Avenue is an undivided four lane facility with a posted speed limit of 45 mph. It connects commercial and residential areas and provides access to the I-405.

Heil Avenue

Heil Avenue is an east-west facility classified as a secondary arterial between Magnolia Street and Harbor Boulevard. Between Brookhurst Street and Euclid Street, Heil Avenue is interrupted by the Mile Square Regional Park. Throughout most of Fountain Valley, Heil Avenue is an undivided four lane facility with a posted speed limit of 45 mph, except as limited along Los Amigos High School during school hours. It provides access to mostly residential areas.

Slater Avenue

Slater Avenue is an east-west facility that is classified as a secondary arterial between Newland Street and the Santa Ana River, except for the segment between the I-405 and Ward Street, which is classified as a primary arterial. Throughout most of Fountain Valley, Slater Avenue is an undivided four lane facility with a posted speed limit of 45 mph. It connects through residential and industrial areas.

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Newland Street

Newland Street is a north-south facility that is classified as a secondary arterial between Warner Avenue and Garfield Avenue. It is an undivided four lane facility with a posted speed limit of 45 mph. It provides access to residential areas on the west side of the City.

Bushard Street

Bushard Street is a north-south facility that is classified as secondary arterial between Edinger Avenue and Garfield Avenue. Throughout most of Fountain Valley it is an undivided four lane facility with a posted speed limit of 45 mph. It provides access to school facilities and residential areas.

Newhope Street

Newhope Street is a north-south facility that is classified as a secondary arterial between Edinger Avenue and Euclid Street. Throughout most of Fountain Valley it is an undivided four lane facility with a posted speed limit of 40 mph. It connects through residential, commercial, and industrial areas.

Enhanced Intersections

According to Fountain Valley's 2008 Circulation Element, the enhanced intersection overlay provides flexibility from implementing the standard intersection capacity. Reasons for deviating from the standard include offering increased capacity, enhanced operations, and alignment with local conditions. To meet these objectives, the following types of improvements could be made, after detailed engineering studies have been completed: additional lanes, decreased median width, increased right-of-way width, removal of bike lanes, or decrease in parkway width.

The following intersections are considered enhanced according to the 2008 Circulation Element:

- Warner Avenue and Magnolia Street
- Warner Avenue and Bushard Street
- Warner Avenue and Brookhurst Street
- Newhope Street and Slater Avenue
- Talbert Avenue and Brookhurst Street
- Ellis Avenue and Brookhurst Street
- Newhope Street and Euclid Street

Pedestrian Network

The existing Circulation Element of the General Plan calls for the implementation of the Fountain Valley Trails Plan, to offer access to employment and educational centers, and nearby communities. The plan also states that trails can be a recreational resource. In general, active mode of transportation are environmentally friendly alternatives to motor vehicles that enhance both personal and social well-being.

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Safe, convenient, attractive, and well-designed pedestrian and bicycle facilities are essential if these modes are to be properly accommodated and encouraged. Inadequate facilities discourage users and use valuable resources on underused facilities.

Pedestrian Facilities

The suburban tract housing layout, major through streets, and separation of land uses that comprise a notable portion of the city has resulted in an automobile-oriented community. Six factors that affect walkability and the pedestrian experience in the City at large have been analyzed, including:

1. Sidewalk Continuity – Communities are more walkable if sidewalks do not end abruptly and are present on the entire segment and both sides of a roadway. This is especially important for mobility-impaired users or those pushing small children in strollers.
2. Sidewalk Conditions – This refers to the physical condition of sidewalk surfaces. Sidewalks that are broken or cracked can deter walkability and pose a safety hazard; particularly for mobility-impaired users, such as those in wheelchairs, persons using walkers, or strollers.
3. Shading – Persons are more inclined to walk in areas where there is shade present, particularly in Southern California with its relatively warm weather and limited rainfall, as compared to other locations. Additionally, shade trees create an aesthetic value that is pleasing to the pedestrian.
4. Grade- Persons are more inclined to walk in areas that are relatively flat or have limited grade changes.
5. Amenities – All else being equal, persons are more inclined to walk in areas that are interesting environments with shopping, retail, restaurants, and other similar uses. Pedestrian-friendly amenities include street furniture, attractive paving, high visibility crosswalks, frequent crossings, slower vehicle speeds, way-finding signage, enhanced landscaping, and pedestrian-level lighting.
6. Buffers- A more walkable environment includes some degree of separation between the pedestrian and the motorist. This typically includes wider sidewalks, street parking, and sidewalk bulb-outs at intersections where feasible. Crosswalks with appropriate signage serve as an important buffer as well. A general evaluation of the pedestrian environment in Fountain Valley is provided in Table 5.12-2, *Existing Pedestrian Facilities*.

Table 5.12-2 Existing Pedestrian Facilities

Sidewalk Continuity	Most major roadways in Fountain Valley have continuous sidewalks on one or both sides. Most residential streets also have continuous sidewalks on both sides of the street.
Sidewalk Conditions	Throughout the City, sidewalks are generally in good condition, free of cracks, fissures, or uplift. The City of Fountain Valley has also made improvements to sidewalks in older neighborhoods that previously lacked accessibility. Sidewalks are generally wide enough to accommodate multiple users, though in some cases there are obstructions due either to various utility boxes, streetlights or overgrown landscaping.

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Table 5.12-2 Existing Pedestrian Facilities

Shading	Generally, shading on Fountain Valley sidewalks is extensive. Most shading is providing along the Mile Square Regional Park. Several major roadways including Brookhurst Avenue, Euclid Street, Warner Avenue, Slater Avenue have medians with shading for beautification purpose. Some shade is provided by trees on private properties adjacent to sidewalks. In few cases, there is no shading whatsoever.
Grade	Most of the major arterials in Fountain Valley have limited slopes. The roadways passing over I-405 and Santa Ana River have significant grade. Land areas with limited slope can encourage more active forms of transportation.
Amenities Offered	Most major roadways in Fountain Valley have crosswalks with pedestrian crossing signals. Most residential neighborhoods do not have crosswalks. In general, the crosswalks are in good condition, but some need restriping. In the Fountain Valley Crossings area, most roadways are missing a sidewalk on one or both sides. A significant portion of the bus stops in Fountain Valley offer pedestrian-oriented amenities such as a bench or shaded bus shelter. There are also a number of bus stops aging facilities or no shade. The City has few traffic calming amenities on neighborhood streets which can make walking less attractive, especially for children and older adults.
Buffers	No curbside parking facilities such as parking meters, signage or striping were observed along the major arterials of Fountain Valley. Vehicles were observed to be parked along the Mile Square Regional Park. The existing buffers consist of bike lanes and some landscaping, such as trees or parkways, between sidewalks and automobile travel lanes. Bike lanes do not have a buffer between sidewalks and moving vehicle traffic. There is a multi-use path with buffer along the Mile Square Regional Park. On most City sidewalks, sidewalks lack a buffer between the pedestrian right-of-way and vehicle travel lane.

Source: Fehr and Peers 2019

Bicycle Network

The 2008 Circulation Element states that City of Fountain Valley has adopted three bikeway standards that parallel those included in the 2009 OCTA Commuter Bikeway Strategic Plan. The bicycle system classifications in Fountain Valley are:

- Class I (Path) – Paved facilities designated for bicycle use that are physically separated from roadways by space or a physical barrier. Class I bikeways are found at the following locations:
 - The Santa Ana River and Mile Square Regional Park

- Class II (Bike Lane) – Lanes on the outside edge of roadways reserved for the exclusive use of bicycles and designated with special signing and pavement markings. Class II bikeways are found at the following locations:
 - Edinger Avenue, from Magnolia Street to Brookhurst Street
 - Heil Avenue, from Magnolia Street to Brookhurst Street
 - Heil Avenue, from Euclid Street to Newhope Street
 - Slater Avenue, from the City limit to Santa Ana River
 - Talbert Avenue, from the City limit to Bushard Street
 - Ellis Avenue, from the City limit to Ward Street
 - Garfield Avenue, from the City limit to Santa Ana River
 - Warner Avenue, from Newhope Street to Santa Ana River

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- Newland Street, from Warner Avenue to Garfield Avenue
 - From Warner Avenue to Bluebird Avenue connecting the Westmont Park, Fulton Park, Courreges Park and Harper Park
 - Magnolia Street, from Slater Avenue to Garfield Avenue
 - Bushard Street, from the City limit to Garfield Avenue
 - Ward Street, from Warner Avenue to Garfield Avenue
 - Ward Street, from Edinger Avenue to the City limit
 - Newhope Street, from City limit to Slater Avenue
- Class III (Route) – Roadways recommended for bicycle use and often connected to bike lanes and bike paths. Routes are designated with signs only and may not include additional pavement width. There are no Class III bikeways in Fountain Valley.

Table 5.12-3, *Completed and Planned Trails in Fountain Valley (Centerline Miles)*, summarizes the total number of centerline miles currently existing and the total number of planned miles. Improving walking and bicycling facilities can improve their desirability for short distance trips, school trips, and recreational activities, while also enhancing the City’s urban environment. Bicyclists were observed to ride on sidewalks where bike lanes were not provided. By shifting mode share to include higher rates of active travel, the City can reduce greenhouse gas emissions, promoting a healthy lifestyle, consistent with AB 32.

Table 5.12-3 Completed and Planned Trails in Fountain Valley (Centerline Miles)

Facility Type	Completed (Miles)	Planned (Miles)	Total
Class I (Path)	5.6	0	5.6
Class II (Bike Lane)	16.2	2.9	19.1
Class III (Route)	0	0	0
Total Bicycle Facilities	21.8	2.9	24.7
TOTAL	27.2	2.9	24.7
Pedestrian Trails	1.8	0	0
Equestrian Trails	3.6	0	0

Source: Fehr and Peers 2019

Transit Facilities

The City of Fountain Valley has a circulation system along its major arterials. The walking distance between the transit routes is a quarter-mile, which is conducive to walking. OCTA provides intercity buses, local buses, and demand-responsive service; all of which help people move. Currently, there is no Metrolink station or transit center in Fountain Valley.

Orange County Transportation Authority (OCTA)

Fountain Valley is closely tied to the surrounding cities, the Los Angeles County and the Inland Empire jobs market, which creates a demand for transit service. OCTA operates the Huntington Beach to Irvine Express that uses the I-405 freeways to connect several cities. Routes 37 and 70 run on 15-minute frequency on weekday rush hours. The Bravo 543 route down Harbor Boulevard operates every day from the Fullerton

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Transportation Center to MacArthur Boulevard in Costa Mesa with fewer stops. OCTA facilitates easy transfers by accepting the same bus fare on the same route. In addition to the cash fares on boarding, OCTA also provides different types of passes for both local and express routes. OCTA has undertaken the I-405 improvement project in collaboration with Caltrans which will improve the bus flow on express lanes.

Paratransit

Paratransit is an alternative mode of flexible passenger transportation that does not follow fixed routes or schedules. Vans, mini-buses, and taxis are typically used to provide paratransit service. Paratransit services vary considerably on the degree of flexibility they provide their customers. At their simplest, they may consist of a taxi or small bus that will run along a more or less defined route and then stop to pick up or discharge passengers on request. At the other end of the spectrum (fully demand-responsive transport), the most flexible paratransit systems offer on-demand call-up door-to-door service from any origin to any destination in a service area.

The Senior Transportation “Hop-On” Program, which is operated by the City of Fountain Valley, is an on-demand, shared-ride transit system. The service provides mobility to the seniors of 60 years of age and older. Riders register to participate in the program and call ahead to schedule their trip and can receive curb-to-curb service in the City and neighboring county areas. Currently, “Hop On” offers service seven days a week, with a two-dollar one-way adult fare, and free rides to the accompanying caregivers.

Roadway Segment Analysis

Using the City’s latest data (2016) for average daily traffic on roadway segments, 63 roadway segments were selected for analysis. Table 5.12-4, *Roadway Segment Analysis of Major Arterials*, displays the roadway segments, classifications, roadway capacity, existing daily volumes, V/C ratios, and LOS. Street segments were chosen based on their significance, in terms of use. Roadway segments that were analyzed operate acceptable, except:

- One segment at an LOS of E on Euclid Street from I-405 NB to Talbert Street, and two segments at an LOS of F from Warner Avenue to Heil Avenue and from Heil Avenue to Edinger Avenue.
- Two segments at an LOS F on Ellis Avenue from Bushard Street to Brookhurst and from Ward Street to I-405 SB Off-Ramp.

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Table 5.12-4 Roadway Segment Analysis of Major Arterials

Roadway	Classification	Capacity	ADT	V/C	LOS
<i>Magnolia Street</i>					
Garfield Ave to Ellis Ave	Primary Arterial (4 lane)	37,500	24,200	0.65	C or better
Ellis Ave to Talbert Ave	Primary Arterial (4 lane)	37,500	26,800	0.71	C or better
Talbert Ave to Slater Ave	Primary Arterial (4 lane)	37,500	30,100	0.80	C or better
Slater Ave to Warner Ave	Primary Arterial (4 lane)	37,500	31,400	0.54	D
<i>Bushard Street</i>					
Garfield Ave to Ellis Ave	Secondary Arterial (4 lane)	25,000	15,100	0.60	C or better
Ellis Ave to Talbert Ave	Secondary Arterial (4 lane)	25,000	15,900	0.64	C or better
Talbert Ave to Slater Ave	Secondary Arterial (4 lane)	25,000	16,200	0.65	C or better
Slater Ave to Warner Ave	Secondary Arterial (4 lane)	25,000	18,600	0.74	C or better
Warner Ave to Heil Ave	Secondary Arterial (4 lane)	25,000	18,100	0.72	C or better
Heil Ave to Edinger Ave	Secondary Arterial (4 lane)	25,000	15,900	0.64	C or better
<i>Brookhurst Street</i>					
Garfield Ave to Ellis Ave	Major Arterial (6 lane)	56,300	39,300	0.70	C or better
Ellis Ave to Talbert Ave	Major Arterial (6 lane)	56,300	37,100	0.66	C or better
Talbert Ave to Slater Ave	Major Arterial (6 lane)	56,300	50,100	0.89	D
Slater Ave to Warner Ave	Major Arterial (6 lane)	56,300	48,000	0.85	D
Warner Ave to Heil Ave	Major Arterial (6 lane)	56,300	45,200	0.80	C or better
Heil Ave to Edinger Ave	Major Arterial (6 lane)	56,300	44,100	0.78	C or better
Edinger Ave to Mango Lane	Major Arterial (6 lane)	56,300	40,800	0.72	C or better
<i>Ward Street</i>					
Garfield Ave to Ellis Ave	Secondary Arterial (4 lane)	25,000	17,400	0.70	C or better
Ellis Ave to Talbert Ave	Secondary Arterial (4 lane)	25,000	11,600	0.46	C or better
Talbert Ave to Slater Ave	Secondary Arterial (4 lane)	25,000	10,200	0.41	C or better
Slater Ave to Warner Ave	Secondary Arterial (4 lane)	25,000	7,900	0.32	C or better
<i>Euclid Street</i>					
I-405 NB to Talbert Street	Primary Arterial (4 lane)	37,500	34,700	0.93	E
Talbert Ave to Slater Ave	Augmented Primary Arterial (4 lane)	37,500	30,800	0.82	D
Slater Ave to La Ameda Ave	Augmented Primary Arterial (4 lane)	37,500	32,400	0.86	D
Warner Ave to Heil Ave	Augmented Primary Arterial (4 lane)	37,500	40,800	1.09	F
Heil Ave to Edinger Ave	Augmented Primary Arterial (4 lane)	37,500	40,300	1.07	F
<i>Harbor Boulevard</i>					
Warner Ave to Heil Ave	Major Arterial (6 lane)	56,300	44,700	0.79	C or better
Heil Ave to Edinger Ave	Major Arterial (6 lane)	56,300	43,200	0.77	C or better
Edinger Ave to Lilac Ave	Major Arterial (6 lane)	56,300	45,000	0.80	C or better
<i>Garfield Avenue</i>					
Newland Street to Magnolia Street	Primary Arterial (4 lane)	37,500	15,900	0.42	C or better
Magnolia Street to Bushard Street	Primary Arterial (4 lane)	37,500	17,900	0.48	C or better
Bushard Street to Brookhurst Street	Primary Arterial (4 lane)	37,500	16,500	0.44	C or better
Brookhurst Street to Ward Street	Primary Arterial (4 lane)	37,500	9,400	0.25	C or better
<i>Ellis Avenue</i>					
Newland Street to Magnolia Street	Secondary Arterial (4 lane)	25,000	20,200	0.81	D
Magnolia Street to Bushard Street	Secondary Arterial (4 lane)	25,000	22,100	0.88	D
Bushard Street to Brookhurst Street	Secondary Arterial (4 lane)	25,000	25,900	1.04	F
Brookhurst Street to Ward Street	Secondary Arterial (4 lane)	25,000	21,500	0.86	D
Ward Street to I-405 SB Off-Ramp	Secondary Arterial (4 lane)	25,000	30,500	1.22	F

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Table 5.12-4 Roadway Segment Analysis of Major Arterials

Roadway	Classification	Capacity	ADT	V/C	LOS
Talbert Avenue					
Newland Street to Magnolia Street	Primary Arterial (4 lane)	37,500	22,400	0.60	C or better
Magnolia Street to Bushard Street	Primary Arterial (4 lane)	37,500	28,400	0.76	C or better
Bushard Street to Brookhurst Street	Primary Arterial (4 lane)	37,500	31,100	0.83	D
Brookhurst Street to Ward Street	Primary Arterial (4 lane)	37,500	22,600	0.60	C or better
Ward Street to Euclid Street	Primary Arterial (4 lane)	37,500	28,700	0.77	C or better
Slater Avenue					
Newland Street to Magnolia Street	Secondary Arterial (4 lane)	25,000	18,500	0.74	C or better
Magnolia Street to Bushard Street	Secondary Arterial (4 lane)	25,000	18,300	0.73	C or better
Bushard Street to Brookhurst Street	Secondary Arterial (4 lane)	25,000	20,000	0.80	C or better
Brookhurst Street to Ward Street	Primary Arterial (4 lane)	37,500	21,100	0.56	C or better
Ward Street to Euclid Street	Secondary Arterial (4 lane)	25,000	17,600	0.70	C or better
Euclid Street to New Hope Street	Secondary Arterial (4 lane)	25,000	16,600	0.66	C or better
Warner Avenue					
Magnolia Street to Bushard Street	Major Arterial (6 lane)	56,300	33,600	0.60	C or better
Bushard Street to Brookhurst Street	Major Arterial (6 lane)	56,300	39,800	0.71	C or better
Brookhurst Street to Ward Street	Major Arterial (6 lane)	56,300	42,400	0.75	C or better
Ward Street to Euclid Street	Major Arterial (6 lane)	56,300	41,800	0.74	C or better
Euclid Street to Newhope Street	Major Arterial (6 lane)	56,300	47,700	0.85	C or better
New Hope Street to Harbor Blvd	Major Arterial (6 lane)	56,300	19,500	0.35	C or better
Heil Avenue					
Magnolia Street to Bushard Street	Secondary Arterial (4 lane)	25,000	5,600	0.22	C or better
Bushard Street to Brookhurst Street	Secondary Arterial (4 lane)	25,000	6,200	0.25	C or better
Euclid Street to Newhope Street	Secondary Arterial (4 lane)	25,000	5,500	0.22	C or better
Newhope Street to Harbor Blvd	Secondary Arterial (4 lane)	25,000	6,600	0.26	C or better
Edinger Avenue					
Bushard Street to Brookhurst Street	Primary Arterial (4 lane)	37,500	25,100	0.67	C or better
Brookhurst Street to Ward Street	Primary Arterial (4 lane)	37,500	28,600	0.76	C or better
Ward Street to Euclid Street	Primary Arterial (4 lane)	37,500	33,300	0.89	D

Source: Fehr and Peers 2019

Planned Improvements

I-405 Improvements

A current major construction project in Fountain Valley is known as the I-405 Improvement Project. The purpose of the project is to improve freeway capacity, traffic and interchange operations, and road safety, in order to meet state and federal standards in this heavily congested freeway. OCTA and Caltrans are collaborating on widening the I-405 between State Route 73 (SR-73) and Interstate 605 (I-605). The project will improve 16 miles of the I-405 and includes the addition of one regular lane in each direction from Euclid Street to I-605, as well as improvements to freeway entrances, exits, and bridges. It will also include the construction of the I-405 Express Lanes, which will incorporate the existing carpool lanes and consist of two lanes in each direction from SR-73 to I-605. These changes will impact the entire section of the I-405 that is located in Fountain Valley (Fehr and Peers 2019).

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As part of this project, several bridges over the I-405 in Fountain Valley on the following streets will receive improvements:

- **Ward Street:** Two new travel lanes and a northbound sidewalk
- **Talbert Avenue:** Two new travel lanes and bikes lanes on booth sides of the bridge
- **Brookhurst Street:** New bike lanes on both sides of the bridge
- **Warner Avenue:** New westbound sidewalk
- **Magnolia Street:** Two new lanes of travel, northbound sidewalk, and bike lanes on both sides of the bridge

Fountain Valley Crossings Specific Plan Improvements

A transportation impact analysis was undertaken for the proposed Fountain Valley Crossings Specific Plan in 2017. The project site is bordered by Ellis Avenue to the south, Talbert Avenue to the north, Ward Street to the west, and the Santan Ana River Trail to the east. The project proposes to improve the following three intersections in order to ensure that these intersections will operate at LOS D or better, consistent with the 2008 Circulation Element level of service policy:

- **Talbert Avenue and Mt. Washington Street:** Capacity improvements by either modifying the westbound approach or limiting the southbound movement.
- **Euclid Street and Newhope Street/Northbound I-405 Ramps:** Optimization of the PM traffic signal cycle lengths and splits within the coordinated signal timing plan
- **Ellis Avenue and Ward Street:** Capacity improvements by neither modifying the northbound approach or adjusting the signal phasing

Capital Improvements Program (CIP)

The Fountain Valley 10-year Capital Improvement Program identifies several transportation improvements in its 2018-2019 report:

- **Talbert Avenue and Mt. Washington Street-Costco Way.** New traffic signal.
- **Brookhurst Street and Magnolia Street (City limit to City limit).** Traffic signal timing and equipment improvements.
- **Warner Avenue and Greenleaf Street.** New traffic signal.
- **Edison Easement Road Improvement from Northern City limit to Southern City limit.**

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- **Arterial Median Landscape Improvements at the following locations:**
 - Brookhurst Street
 - Edinger Avenue
 - Euclid Street
 - Slater Avenue
 - Warner Avenue
 - Magnolia Street
 - Talbert Avenue
 - Newhope Street

- **Protected/Permitted Left-Turn (PPLT) Improvement Project at the following locations:**
 - Edinger Avenue at Ward Street
 - Brookhurst Street at Heil Avenue
 - Harbor Boulevard at Lilac Avenue
 - Magnolia Street at Slater Avenue
 - Euclid Street at Slater Avenue
 - Warner Avenue at Los Jardines West
 - Ellis Avenue at Bushard Street
 - Ellis Avenue at Ward Street

Safety – Collisions

From 2015 to 2017, there were a total of 826 collisions, with a total of 7 fatalities and 38 people severely injured. The top three cited factors contributing to collisions are right-of-way violations (36 percent), unsafe speed (26 percent), and violation of traffic signals and signs (12 percent).

The number of vehicle collisions of any type during the three-year period between 2015 and 2017 ranged from 256 to 296 per year. During the same time period, the number of collisions involving a pedestrian or bicyclist ranges from 25 to 30. The number of pedestrian collisions has been on the rise from 2015 to 2017, with 12 collisions in 2015, 11 in 2016, and staying the same to 11 in 2017.

The City has been proactive in reducing the number collisions that occur around the school zone in the City. In partnership with Los Amigos High School, Fountain Valley Police Department has been conducting “Every 15 Minutes,” a two-day program focusing on high school Juniors and Seniors, every other year since 1998. The program focuses on traffic safety issues involving drinking, personal safety, driving habits and the drivers’ responsibility to make mature decisions. The Fountain Valley Police Department Strategic Plan (2015) outlines the City’s targeted enforcement in the locations and times where traffic collisions or safety concerns have been identified previously.

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5.12.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- T-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- T-2 Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b).
- T-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- T-4 Result in inadequate emergency access.

5.12.3 Applicable General Plan Update Policies

Land Use Element

- **Policy LU-2.1: Fiscal Impacts.** Require proposed new development to demonstrate that it can and will be adequately served by public facilities without negatively impacting existing capacities and levels of service. Require new development and changes in use requiring discretionary City approval to be fiscally neutral or beneficial.
- **Policy LU-2.2: Fair Share Contributions.** Require new development to pay its fair share of the cost for on- and off-site capital improvements.
- **Policy LU-2.3: Mixed-use Development.** Require new development in areas planned for mixed use to incorporate high-quality and innovative design with walkable environments, human-scale, gathering spaces, and vibrant businesses that competitively attract consumers and consumer spending in the evolving retail sales and services market.
- **Policy LU-2.5: Reduced Commuting.** Attract and retain businesses that provide jobs suited to the labor force residing in Fountain Valley. Additionally, support and assist the development of housing affordable to the workforce commuting into Fountain Valley.

Circulation and Mobility Element

- **Policy CM-1.1: Level of Service.** Maintain a citywide level of service (LOS) not exceeding LOS D for intersections during the peak hours. Require new development projects to mitigate off-site traffic impacts to the maximum extent feasible to maintain the City's LOS standard within three years of the issuance of the first building permit for a development project or within five years of the first grading permit, whichever occurs first.

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- **Policy CM-1.2: Local Traffic Mitigation Fee.** Regularly review and update the mitigation fee. Development contributing measurable impacts to intersections on the Deficient Intersection List and projects contributing cumulatively, or individually, 10 % or more of the traffic using any intersection will be assessed a mitigation fee determined by the City and other involved jurisdictions and administered as part of the City's Capital Improvement Program.
- **Policy CM-1.3: Mitigation Fees for Projects Outside the City.** Coordinate with other jurisdictions to determine minimally acceptable impact fee levels for development applications' fair share contribution, provided it is done so in a reciprocal manner.
- **Policy CM-1.4: Measure M Revenue.** Prohibit Measure M sales tax revenues from replacing private developer funding that has been committed for any project.
- **Policy CM-1.5: Regional Network.** Support the development of regional transportation facilities that ensure the safe and efficient movement of people and goods between the city and outside areas, accommodating regional travel demands while minimizing impacts on Fountain Valley residents and businesses.
- **Policy CM-1.6: Interagency Coordination.** Coordinate with adjacent cities and agencies on long-term plans, proposed development projects, and capital improvements while minimizing adverse traffic impacts on Fountain Valley residents and businesses.
- **Policy CM-1.7: Traffic Management.** Utilize intelligent transportation systems and research changing trends in mobility to more efficiently and safely move people and vehicles while managing motor vehicle speeds.
- **Policy CM-1.8: Truck Routes.** Plan and designate truck routes that support the effective transport of goods while minimizing the negative impacts on local circulation, neighborhoods, and noise-sensitive land uses.
- **Policy CM-2.1: Multimodal and Complete Network.** Plan, design, and maintain a citywide network of travelways for motorists, bicyclists, pedestrians, and transit riders of all ages and abilities. Create safe, desirable, and convenient linkages between neighborhoods, recreational amenities, schools, and commercial, employment, and activity centers through complete facilities, amenities, and safety features.
- **Policy CM-2.2: Regional Network.** Coordinate development of the City's active transportation and transit network with adjacent jurisdictions, OCTA, and other appropriate agencies. Connect bicycle and pedestrian trails to local and regional trails in adjacent jurisdictions.
- **Policy CM-2.3: Design of New Facilities.** Balance accommodations for vehicles, transit, bicycles, and pedestrians in the design of new streets and streetscape improvements.

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- **Policy CM-2.4: Traffic Calming.** Use traffic calming measures in residential areas and activity centers to enhance the safety of pedestrians and bicyclists, provided such measures are warranted, appropriate, and do not impede emergency response access and response.
- **Policy CM-2.5: Site Design.** Require new development to incorporate amenities and pathways so that pedestrians and bicyclists can access the site and onsite businesses safely and conveniently from the public right-of-way and parking areas.
- **Policy CM-2.6: Access Management.** Minimize access points and curb cuts along arterials and in the proximity of an intersection to improve traffic flow and safety for vehicles and bicycles. Eliminate and/or consolidate driveways when new development occurs or when traffic operation or safety warrants.
- **Policy CM-2.7: VMT Reduction.** Promote new development and transportation demand management (TDM) strategies that will reduce household and employment vehicle miles traveled (VMT). Prioritize the implementation of TDM strategies over the expansion of roadway capacity.
- **Policy CM-2.8: First Mile/Last Mile Connectivity.** Support strategies that strengthen first/last mile connectivity to enhance the viability and expand the use of public transit, both to improve quality of life and reduce traffic congestion in the city.
- **Policy CM-2.9: Safe Routes to Schools and Parks.** Facilitate the implementation of safe routes to schools and parks by partnering with the school districts, residents, property owners, and community stakeholders.
- **Policy CM-2.10: Transit Service and Stops.** Coordinate with OCTA to increase frequency of bus service and install, improve, and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.

Open Space and Conservation Element

- **Policy OSC-1.7: Trail Linkages.** Establish and maintain pedestrian and bicycle trails as linkages between open space and recreation facilities within the community.

5.12.4 Environmental Impacts

5.12.4.1 METHODOLOGY

The following is a summary of the assumptions used for the City's transportation analysis:

VMT

A General Plan Vehicle Miles Traveled (VMT) Impact Assessment was prepared in September 2021 by Fehr and Peers that analyzed the City's VMT under the Existing Baseline (2019), the Adopted General Plan (2045), and proposed General Plan Update (see Appendix 5.12-2). Below is a description of different methodologies available to analyze VMT:

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- **Production/Attraction VMT.** This metric sums all weekday VMT generated by trips with at least one trip end in the study area and while trips are still tracked by trip purpose. Productions are land use types that generate trips, such as residences, and attractions are land use types that attract trips, such as employment areas. To calculate VMT, production and attractions are converted from person trips to vehicle trips. This method allows project VMT to be evaluated based on trip purpose which is consistent with OPR recommendations in the Technical Advisory and the City's guidelines. However, this metric does not include external trips that have one trip end outside of the model boundary. By not including these trips in the VMT estimates, this method is not consistent with the OPR recommendations that suggest full accounting of VMT should be completed (Fehr and Peers 2021).
- **Origin/Destination VMT.** This method sums all weekday VMT generated by trips with at least one trip end in the study area, and then tracks those trips to their estimated origins/destinations. This metric is completed after the final loops of assignment in the travel demand model after person trips are converted to total vehicle trips. Origins are all vehicle trips that start in a specific traffic analysis zone, and destinations are all vehicle trips that end in a specific traffic analysis zone. This method accounts for external and truck trips, and therefore, provides a more complete estimate of all VMT within the study area. This method, however, does not separate trips by trip purpose, and therefore, VMT cannot be calculated by home-based-work (HBW) attraction VMT per employee or home-based (HB) production VMT per resident, but only by total VMT.
- **Boundary Method.** The boundary method is the sum of all weekday VMT on a roadway network within a designated boundary. This approach includes all trips, including those trips that do not begin or end in the designated boundary and is another way to summarize VMT. This is the only VMT method that captures the effect of cut-through and/or displaced traffic.

The City of Fountain Valley Traffic Impact Analysis Guidelines of May 2020 defined project specific VMT (see Appendix 5.12-3). Fountain Valley selected the following thresholds concurrent with updating the City's General Plan (Fehr and Peers 2020):

A project would result in a significant project-generated VMT impact if either of the following conditions occur:

1. The baseline project-generated VMT per service population exceeds the City's General Plan Build-Out average VMT per service population, or
2. The cumulative project-generated average VMT per service population exceeds the City's General Plan Build-Out average VMT per service population.

The project's effect on VMT would be considered significant if it result in the following:

- The cumulative link-level boundary Citywide VMT per service population increases under the plus project condition compared to the no project condition.

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5.12.4.2 IMPACT ANALYSIS

Impact 5.12-1: The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. [Threshold T-1]

The proposed project includes multiple policies, such as Policy CM-1.7, Policy CM-2.1, Policy CM-2.2, Policy CM-2.9, and Policy OSC-1.7, as well as a redesign for Heil Avenue that would provide multimodal facilities in the City; connect bicycle and pedestrian trails to local and regional trails; accommodate vehicles, transit, bicycles, and pedestrians; enhance the safety of pedestrians and bicyclists; incorporate amenities and pathways so that pedestrians and bicyclists; and provide safe routes to schools. With implementation of these policies, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.17-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.17-1 would be less than significant.

Impact 5.12-2: The proposed project would conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b). [Threshold T-2]

CEQA Guidelines Section 15064.3 describes how transportation impacts are to be analyzed after SB 743. It eliminates auto delay, LOS, and similar measures of vehicular capacity or traffic congestion as the sole basis for determining significant impacts:

Generally, VMT is the most appropriate measure of transportation impacts. For the purposes of this section, VMT refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) ... [regarding roadway capacity], a project's effect on automobile delay shall not constitute a significant environmental impact.

Table 5.12-5, *VMT Summary*, provides the estimates performed by Fehr and Peers for each scenario of VMT for the Existing Baseline (2019), the currently Adopted General Plan, and the proposed General Plan Update.

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Table 5.12-5 VMT Summary

Land Use	2019 Existing	Currently Adopted General Plan in Year 2045	2045 Proposed General Plan
Population	57,595	59,775	73,668
Employment	32,485	38,355	36,542
Service Population	90,080	98,130	110,210
Total OD VMT	2,748,031	3,084,785	3,124,392
OD VMT/SP ³	30.1	31.44	28.35
HBP VMT ¹	853,643	870,481	1,040,670
HBP VMT/Resident	14.83	14.56	14.13
HBWA VMT ²	707,767	902,060	842,388
HBWA VMT/Employee	21.79	23.52	23.05
City Boundary VMT	1,464,650	1,606,725	1,608,530
City Boundary VMT/SP	16.26	16.37	14.60

Source: Fehr and Peers 2021

Notes:

¹ HBP VMT = Home-based production VMT; VMT generated by trips originating or ending at homes in Fountain Valley

² HBWA VMT = Home-based-work attraction VMT; VMT generated by trips originating or ending at employment centers in Fountain Valley.

³ SP = Service Population the sum of population and employment

As shown in Table 5.12-5:

- Proposed General Plan Update compared to Existing Baseline (2019)
 - OD VMT/SP, HBP VMT/Resident, and Boundary VMT/SP are forecast to be lower in the proposed General Plan Update in year 2045 than in the Existing Baseline, indicating that the lower employment-to-household ratio proposed is beneficial from a VMT perspective for total VMT per person and home-based VMT per person.
 - HBWA VMT/Emp increases from the Existing Baseline to the proposed General Plan Update, indicating that the proposed General Plan Update land use mix and its relation to other cities will result in longer commute VMT into the City.
- Proposed General Plan Update compared to the currently Adopted General Plan:
 - The Total VMT and HBP VMT are forecast to be higher in the proposed General Plan Update than the currently Adopted General Plan in year 2045, which is due to the higher number of residences in the proposed General Plan Update. Alternatively, the HBWA VMT generated is lower in the proposed General Plan Update as there is higher employment forecast in the currently Adopted General Plan.
 - While some total VMT is higher in both future scenarios, the proposed General Plan Update land use mix is forecast to be more efficient from a VMT perspective as the OD VMT/SP, HBP VMT/Resident, and HBWA VMT/Employee are all lower in the proposed General Plan Update than the currently Adopted General Plan.
 - The HBP VMT/Resident and HBWA VMT/Employee being lower in the proposed General Plan Update indicates a more efficient mix of jobs and households in the proposed General Plan Update as residents and employees are forecast to have shorter commutes on average.

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- While the total boundary VMT is higher under the proposed General Plan Update as compared to the currently Adopted General Plan within the Fountain Valley City boundary, the boundary VMT/SP is lower under the proposed General Plan Update indicating a more efficient land use mix on a per person basis.

Though the proposed General Plan Update results in many benefits from a VMT efficiency perspective, since there would be a net increase in Total VMT and HBWA VMT/Employee from Existing Baseline to the proposed General Plan Update, the proposed plan is anticipated to result in a **significant and unavoidable** transportation impact related to VMT.

Level of Significance Before Mitigation: Impact 5.12-2 would be potentially significant.

Mitigation Measures

While General Plan Update Policy CM-2.7 aims to reduce VMT through the implementation of TDM strategies, they are not guaranteed to completely reduce the HBWA VMT/Employee metric that makes this impact significant. As such, there are no applicable mitigation measures to further reduce VMT; this impact would be **significant and unavoidable**.

Level of Significance After Mitigation: Impact 5.12-2 would be significant and unavoidable.

Impact 5.12-3: The proposed project would not result in a substantial increase in hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or result in inadequate emergency access. [Thresholds T-3 and T-4]

All future development under the proposed project would undergo an extensive review process at the City to ensure consistency with the City's development standards and roadway design standards. Additionally, the fire department reviews all development applications to ensure that adequate emergency accessibility is provided based on local and state guidance. Since all future projects would undergo such reviews and requirements, this impact is considered less than significant.

Level of Significance Before Mitigation: Impact 5.12-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.12-3 would be less than significant.

5.12.5 Cumulative Impacts

Compliance with local and state standards would ensure that all cumulative development in the City has adequate emergency access and does not result in roadway hazards. However, as discussed above, the proposed project would result in a net increase in Total VMT and HBWA VMT/Employee from Existing

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Baseline. While the proposed project would result in many benefits from a VMT efficiency perspective, implementation of TDM strategies is not guaranteed. Therefore, cumulative impacts are **significant and unavoidable**.

5.12.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.12-1, 5.12-3, and 5.12-4.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.12-2:** The proposed project would conflict with CEQA Guidelines § 15064.3, subdivision (b).

5.12.7 Mitigation Measures

Impact 5.17-2

Mitigation Measures

There are no feasible mitigation measures that can reduce HBWA VMT/Employee.

5.12.8 Level of Significance After Mitigation

There are no feasible mitigation measures and impacts would be significant and unavoidable at full buildout of the proposed project.

5.12.9 References

Fehr and Peers. 2019, May. Draft Existing Conditions Report. Appendix 5.12-1.

_____. 2020, June. Transportation Impact Assessment Guidelines for Land Use Projects in CEQA and for General Plan Consistency. Appendix 5.12-3.

_____. 2021, September. Vehicle Miles Traveled (VMT) Impact Assessment. Appendix 5.12-2.

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5.13 UTILITIES AND SERVICE SYSTEMS

This section of the draft environmental impact report (DEIR) evaluates the potential for implementation of the City of Fountain Valley General Plan Update to result in impacts to utilities and service systems in the City of Fountain Valley. The analysis in this section is based in part on the following technical report(s):

- *Existing Conditions Infrastructure Technical Report for Hydrology, Sewer, Water, and Water Quality*, Fuscoe Engineering, Inc., May 31, 2022

A complete copy of this study is included as Appendix 5.13-1 to this DEIR.

5.13.1 Wastewater Treatment and Collection

5.13.1.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal Regulations

Clean Water Act

The Clean Water Act establishes regulations to control the discharge of pollutants into the waters of the United States and regulates water quality standards for surface waters (US Code, Title 33, §§ 1251 et seq.). Under the act, the US Environment Protection Agency is authorized to set wastewater standards and runs the National Pollutant Discharge Elimination System (NPDES) permit program. Under the NPDES program, permits are required for all new developments that discharge directly into Waters of the United States. The federal Clean Water Act requires wastewater treatment of all effluent before it is discharged into surface waters.

General Pretreatment Regulations for Existing and New Sources of Pollution

The General Pretreatment Regulations establish responsibilities of Federal, State, and local government, industry, and the public to implement National Pretreatment Standards to control pollutants which pass through or interfere with treatment processes in Publicly Owned Treatment Works (POTW) or which may contaminate sewage sludge. Pretreatment standards are pollutant discharge limits which apply to industrial users.

State Regulations

State Water Resources Control Board: Statewide General Waste Discharge Requirements

The General Waste Discharge Requirements specify that all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California need to develop a Sewer Master Plan. The plan evaluates existing sewer collection systems and provides a framework for undertaking the construction of new and replacement facilities to maintain proper levels of service. The master plan includes inflow and infiltration studies to

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UTILITIES AND SERVICE SYSTEMS

analyze flow monitoring and water use data, a capacity assurance plan to analyze the existing system with existing land use and unit flow factors, a condition assessment and sewer system rehabilitation plan, and a financial plan with recommended capital improvements and financial models.

Senate Bill 244

Senate Bill (SB) 244 requires cities and counties to address the infrastructure needs of unincorporated disadvantaged communities in city and county general plans. For cities and counties, SB 244 requires that, before the due date for adoption of the next housing element after January 1, 2012, the general plan land use element must be updated to:

- Identify unincorporated disadvantaged communities.
- Analyze for each identified community the water, wastewater, stormwater drainage, and structural fire protection needs.
- Identify financial funding alternatives for the extension of services to identified communities.

Local Regulations

City of Fountain Valley Municipal Code

Chapter 14.36, Sewers, of the Fountain Valley Municipal Code, includes sections on the district limits of the sanitation department, connection waivers and waiver requirements, required maintenance, inspection, connection permit, maintenance and inspection fee, violation (penalty), and so forth.

5.13.1.2 EXISTING CONDITIONS

Existing Sewer System and Facilities

The City owns, operates, and maintains the majority of the sewer collection system within the City boundary. The City of Fountain Valley Public Works provides wastewater/sewer collection services. The North Island Sphere of Influence (SOI) has private sewer infrastructure that connects into City sewer lines with Edinger and Harbor Boulevard. The majority of the sewer system serving the City was built in the 1960s and 1970s and is comprised of approximately 133 miles of vitrified clay pipe ranging from 6 inches to 27 inches in diameter (Fusco 2022). The City's Engineering Department works closely with the Maintenance Division to ensure the sewer system is functioning effectively within the City boundary.

Sewer flows from the City ultimately connect into Orange County Sanitation District (OCSD) sewer trunk lines that convey wastewater to OCSD treatment plants (WWTP). The OCSD provides waste water treatment for the City of Fountain Valley and Orange County cities. OCSD's Reclamation Plant No. 1 in Fountain Valley is the only current source of water for the Groundwater Replenishment System. Treated wastewater from the City and other cities within Orange County is conveyed to Plant No. 1 for treatment and is recharged into the groundwater basin for future water supply. The 24-hour facility is bordered by Ellis Avenue, the Santa Ana River, and the Orange County Water District (Fusco 2022).

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Existing Sewer Flows

For existing land uses within the City, sewer generation was estimated by employing sewer generation factors from the City's 2013 Sewer Master Plan. Existing sewer flow throughout the City is estimated to be approximately 5.2 million gallons per day (MGD) (Fuscoe 2022).

Existing Sewer Capacity Assessment

The 2012 inspection highlighted 83.5 miles of highest risk sewer segments to be analyzed by City staff and prioritized for upgrades. In addition to the condition assessment, hydraulic analyses of the existing gravity sewer system were conducted and based upon the calculated peak dry weather flows. Existing condition and ultimately condition sewer flow factors were included in the analysis that was based on the existing sewer system and the current land use zoning (no vacancies). Any segment of sewer pipe with a depth to diameter ratio (d/D) of 0.64 or more was considered to be hydraulically deficient (Fuscoe 2022).

The condition assessment identified that approximately 52 percent (355,850 feet) of the sewer system was in good condition, 36 percent (249,912 feet) was in fair condition, 10 percent (66,310 feet) was in poor condition, and 2 percent (13,891 feet) was in very poor condition. The hydraulic analysis identified that approximately 2,879 feet and 5,932 feet of sewer lines were identified to be deficient using existing and ultimate flow factors, respectively (Fuscoe 2022). The City has programs in place via the Capital Improvement Program (CIP) to address deficiencies within the City's sewer system.

OCSD Capital Improvement Program

The OCSD CIP highlights OCSD's continuous effort to keep its facilities operating at optimal levels. The 2019-2020 CIP lists several projects within their regional sewer conveyance system Distribution system projects within the Fountain Valley GPU area include the following listed below:

- Interstate 405 (I-405) Widening Project Impacts on OCSD Sewers

This project is a relocation of the current OCSD sewer line at Ellis Avenue and Euclid Avenue near the site entrance to Reclamation Plant No. 1.

Reclamation Plant No. 1 is undergoing several new projects, as listed below:

- Digester Rehabilitation
- Sludge Dewatering and Odor Control
- Headworks Rehabilitation
- Rehabilitation of Fleet Services Building, Building 8 and Paving Area
- Headquarters Complex
- Return Activated Sludge Piping Replacement
- Uninterruptable Power Supply Improvements
- Primary Sedimentation Basins No. 6-31 Reliability Improvements
- South Perimeter Security and Utility Improvements

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- Digester Ferric Chloride Piping Replacement

OCSD has a 10-Year Net CIP outlay which allocates the available budget to various projects throughout its service area. The majority of the budget (53 percent) is allocated to the reclamation plants. Appropriately 18 percent is allocated to the existing collections/distribution system (Fuscoe 2022).

5.13.1.3 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

- U-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- U-3 Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

5.13.1.4 APPLICABLE GENERAL PLAN UPDATE POLICIES

Public Facilities and Safety Element

- **Policy PFS-1.4: Sewer System.** Provide and maintain wastewater collection facilities that adequately serve existing land uses and future development projects. Coordinate with the Orange County Sanitation District to maintain adequate and efficient wastewater collection and treatment facilities.

5.13.1.5 ENVIRONMENTAL IMPACTS

Impact 5.13-1: Sewer and wastewater treatment systems are adequate to meet project requirements. [Threshold U-1 (part) and U-3]

Full implementation of the proposed project has the potential to increase sewer flows by 1.58 million gallons per day (MGD) throughout the entire City, with most of the increased sewer flow (1.33 MGD) representing future development of opportunity sites identified in the Housing Element and remaining nonresidential development potential in specific plans. This accounts for a percent increase of 30 percent within the City, (Fuscoe 2022).

The estimated increase of 1.58 MGD in sewer flows under the proposed project is not anticipated to exceed the projected future capacity of the City's wastewater infrastructure or OCSD's regional infrastructure. However, potential development within portions of the City is upstream of six deficiencies; these structural and hydraulic deficiencies are recommended to be added to the City's CIP Program and/or studied further (Fuscoe 2022).

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The City maintains a regularly updated Sewer Master Plan and CIP and has a process in place to assess local sewer impacts on a project-by-project basis. The Sewer Master Plan would continue to serve as a sewer infrastructure planning tool to make informed decisions about when CIP projects are warranted. The City's Engineering Department works closely with the Maintenance Division to ensure that the sewer system is functioning effectively and has implemented several projects over the past 10 years to improve the sewer system. Therefore, at a Citywide scale, the City's Sewer Master Plan and CIP Process adequately prioritizes necessary projects as developments under the General Plan Update are constructed. In addition, OCSD regularly updates long-term planning documents which include provisions for improving regional treatment plant and conveyance infrastructure capacity. OCSD has identified an operational improvement needed for the Euclid Interceptor A and B line within the General Plan Update area. Through planning and management processes currently in place, OCSD is able to ensure the regional sewer infrastructure would support future developments under the proposed project.

Construction impacts associated with private wastewater infrastructure to support development throughout the City would primarily be confined to trenching for miscellaneous utility lines and connections to public infrastructure. Installation of wastewater infrastructure would be limited to onsite wastewater distribution and minor off-site work associated with connections to the public main. No upgrades to the public main are anticipated, and any work that may affect services to the existing sewer lines would be coordinated with the City (Fuscoe 2022). Moreover, when considering impacts resulting from the installation of any required wastewater infrastructure, all impacts are of a relatively short-term duration and would cease to occur once installation is complete.

OCSD's wastewater treatment plants have a total combined capacity of 390 MGD with the ability to route flows to either of the two WWTPs as needed. The 2018-2019 flows were estimated to be 185 MGD, indicating adequate capacity (205 MGD) for the proposed increase in flows of 1.58 MGD under the proposed project (Fuscoe 2022). OCSD utilizes a robust CIP process and relies on internal capacity modeling, population projects and land use projections, independent of General Plan Update buildout estimates. Provided that OCSD retains operational proficiency over Diversion No. 40 and Euclid Interceptor A and B, these lines would be able to handle the increase of 0.01 MGD under the proposed project. Through updating appropriate master plans, long-term capital improvement budgets, and plant capacity assessments, it is anticipated OCSD would be able to receive increases in flows consistent with the buildout of the proposed project.

As detailed in Section 14.36.130, Cost, Replacement and Extension Fee, of the City's Municipal Code, the City imposes a development impact fee to pay for sewer improvements. Additionally, with the implementation of the proposed OCSD CIP improvements, and the General Plan Update policies, such as Policy PFS-1.4, impacts would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.13-1 would be less than significant.

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Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.13-1 would be less than significant.

5.13.1.6 CUMULATIVE IMPACTS

The area considered for cumulative impacts to wastewater facilities is the OCSD service area. Cumulative population increases and development within the service area would increase the overall regional demand for wastewater service. By adhering to the wastewater treatment requirements established by the Santa Ana Regional Water Quality Control Board (RWQCB) through the NPDES permit, wastewater from the project site that is processed through Reclamation Plant No. 1 would meet established standards. As the wastewater from all development within the service area of OCSD would be similarly treated under the NPDES, no cumulatively significant exceedance of RWQCB wastewater treatment requirements would occur.

5.13.1.7 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.13-1 would be less than significant.

5.13.1.8 MITIGATION MEASURES

No mitigation measures are required.

5.13.1.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.13.2 Water Supply and Distribution Systems

5.13.2.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal Regulations

Federal Safe Drinking Water Act

The Safe Drinking Water Act (SDWA), the principal federal law intended to ensure safe drinking water to the public, was enacted in 1974 and has been amended several times since it came into law. The Act authorizes the U.S. Environmental Protection Agency (EPA) to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and man-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all water providers in the United States to treat water to remove contaminants, except for private wells serving fewer than 25 people. In California, the State Water Resources Control Board (SWRCB) conducts most

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enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

State Regulations

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.), which was passed in California in 1969 and amended in 2013, the SWRCB has authority over State water rights and water quality policy. This Act divided the state into nine regional basins, each under the jurisdiction of a RWQCB to oversee water quality on a day-to-day basis at the local and regional level. RWQCBs engage in a number of water quality functions in their respective regions. RWQCBs regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. The City of Fountain Valley is overseen by the Santa Ana RWQCB.

Urban Water Management Planning Act

The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires preparation of a plan that:

- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands in normal, single-dry, and multiple-dry years.
- Plans for water supply and assesses reliability of each source of water, over a 20-year period, in 5-year increments.
- Implements conservation strategies and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (SBX7-7), which amends the act and adds new water conservation provisions to the Water Code.

The Urban Water Management Planning Act states that every urban water supplier that provides water to 3,000 or more customers or provides over 3,000 acre-feet of water per year (afy) should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple-dry years.

The Water Conservation Act of 2009 (Senate Bill X7-7)

The Water Conservation Act of 2009, SB X7-7, requires all water suppliers to increase water use efficiency. The legislation sets an overall goal of reducing per capita water use by 20 percent by 2020, with an interim goal of a 10 percent reduction in per capita water use by 2015. Effective in 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans. The SB X7-7 requires that urban water retail suppliers determine baseline water use and set reduction targets according to specified standards, it also requires that agricultural water suppliers prepare plans and implement efficient water management practices.

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2015 Update of the State Model Water Efficient Landscape Ordinance (MWELo) (Per Governor's Executive Order B-29-15)

To improve water savings in the landscaping sector, the DWR updated the Model Ordinance in accordance with Executive Order B-29-15. The Model Ordinance promotes efficient landscapes in new developments and retrofitted landscapes. The Executive Order calls for revising the Model Ordinance to increase water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, and on-site stormwater capture, and by limiting the portion of landscapes that can be covered in turf.

New development projects that include landscape areas of 500 square feet or more are subject to the Ordinance. This applies to residential, commercial, industrial, and institutional projects that require a permit, plan check, or design review. The previous landscape size threshold for new development projects ranged from 2,500 square feet to 5,000 square feet.

Section 21.20.050, Landscape Standards, of the City's Municipal Code adopts an ordinance that incorporates updates consistent with the 2015 State MWELo update.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen; Title 24, California Code of Regulations, Part 11) establishes mandatory residential and nonresidential measures for water efficiency and conservation under Sections 4.3 and 5.3. The provisions establish the means of conserving water used indoors, outdoors, and in wastewater conveyance. The code includes standards for water-conserving plumbing fixtures and fittings and the use of potable water in landscaped areas.

Principles Governing CEQA Analysis of Water Supply

In *Vineyard Area Citizens for Responsible Growth, Inc., v. City of Rancho Cordova* (February 1, 2007), the California Supreme Court articulated the following principles for analysis of future water supplies for projects subject to CEQA:

- To meet CEQA's informational purposes, the EIR must present sufficient facts to decision makers to evaluate the pros and cons of supplying the necessary amount of water to the project.
- CEQA analysis for large, multiphase projects must assume that all phases of the project will eventually be built, and the EIR must analyze, to the extent reasonably possible, the impacts of providing water to the entire project. Tiering cannot be used to defer water supply analysis until future phases of the project are built.
- CEQA analysis cannot rely on "paper water." The EIR must discuss why the identified water should reasonably be expected to be available. Future water supplies must be likely rather than speculative.
- When there is some uncertainty regarding future availability of water, an EIR should acknowledge the degree of uncertainty, include a discussion of possible alternative sources, and identify the environmental impacts of such alternative sources. Where a full discussion still leaves some uncertainty about long-term water supply, mitigation measures for curtailing future development in the event that intended sources become unavailable may become a part of the EIR's approach.

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- The EIR does not need to show that water supplies are definitely ensured, because such a degree of certainty would be “unworkable, as it would require water planning to far outpace land use planning.” The requisite degree of certainty of a project’s water supply varies with the stage of project approval. CEQA does not require large projects, at the early planning phase, to provide a high degree of certainty regarding long-term future water supplies.
- The EIR analysis may rely on existing urban water management plans, as long as the project’s demand was included in the water management plan’s future demand accounting.
- The ultimate question under CEQA is not whether an EIR establishes a likely source of water, but whether it adequately addresses the reasonably foreseeable impacts of supplying water to the project.

Local Regulations

City of Fountain Valley Municipal Code

Chapter 14.16, Water Regulations, of the Fountain Valley Municipal Code includes sections on waste in plumbing, water restrictions, shut off valves, and others. Chapter 14.18, Water Conservation, establishes standards and procedures for year-round water conservation, to promote the efficient use of water, to reduce or eliminate the waste of water in the city, to complement the city’s stormwater regulations and urban runoff reduction efforts, and enable implementation of the City’s water shortage contingency plan and demand management measures.

5.13.2.2 EXISTING CONDITIONS

Existing Water System

The City’s existing potable water system consists of two storage reservoirs and booster pumping stations, six operating groundwater wells, one connection to Metropolitan Water District of Southern California, two emergency interconnections with other cities, approximately 200 miles of distribution pipelines, 6,000 valves and over 2,000 fire hydrants. Water supplies are from local groundwater aquifers managed by Orange County Water District (OCWD) that is pumped from the City-owned wells and imported water from Metropolitan Water District of Southern California that is provided by the Municipal Water District of Orange County (MWDOC) (Fusco 2022).

Distribution pipelines within the City range in diameter between 4 inches and 18 inches and have a total length of approximately 200 miles. The majority of the water pipes throughout the City are 8-inch pipes and most of the pipelines were constructed in the 1960s and 1970s (Fusco 2022).

Existing Water Demand

For existing land uses within the City, water demands were estimated by employing water demand factors from the City’s 2013 Water System Master Plan. As no landscape water unit demand factors were available, these water demands were estimated based on similar landscape unit demand factors within the region. The existing land uses within the City have an estimated combined water demand of approximately 9 MGD which aligns with the 2020 Urban Water Management Plan total water use of 9,870 acre feet per year (Fusco 2022). The existing water infrastructure system is functioning effectively to deliver these demands.

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Existing Water Capacity Assessment and Water Planning

2013 Fountain Valley Water System Master Plan

The water distribution system was found to have adequate pressures, does not have excessive velocities, and provides adequate fire flow for normal and emergency operations. The reservoir storage system was found to also be adequate and there is currently no need for additional storage to meet existing or projected water demands (Fuscoe 2022).

Groundwater Replenishment System Final Expansion

OCWD provides the majority of water supply to satisfy the City's demands. The final expansion to the Groundwater Replenishment System (GWRS) was completed in early 2023, which will increase water supply production into the groundwater basin by 31,000 AFY, significantly boosting the groundwater resources that serve Fountain Valley and far more than the 1,096 AFY of demand anticipated from the proposed project, though it is recognized that the increased water resources will also serve other jurisdictions (Fuscoe 2022).

Metropolitan Administrative Code & Water Storage Capacity

Metropolitan Water District of Southern California (MET) has developed significant storage in reservoirs and groundwater banking programs both within and outside of the Southern California region. MET has a total storage capacity of over 5 million AF and maintains a current storage of 3.2 million AF (Fuscoe 2022). This regional storage is relevant as a way to augment potential imported water supplies to serve the City of Fountain Valley. Fountain Valley is not alone in its requirement to potentially accommodate a substantial amount of residential growth, with the State assigning the SCAG region a RHNA allocation of 1.34 million housing units (Fuscoe 2022). However, unique to the 2021-2029 RHNA cycle, the 1.34 million consists of roughly 505,000 units of projected need and roughly 837,000 units of pent-up existing demand. The approximately 837,000 units of pent-up existing need represents households that already exist in the southern California region and currently place demands on water supplies (Fuscoe 2022). Accordingly, the amount of new regional growth that would require additional water is not 1.34 million but 505,000 housing units. This figure is similar to those of past RHNA cycles, which have not strained local or regional water supplies (Fuscoe 2022).

Additionally, MET can pursue additional water transfer and exchange programs with other water agencies to help mitigate supply/demand imbalances and provide additional dry-year supply sources. In addition, Metropolitan's administrative code Section 4202 (Laguna Declaration) states that Metropolitan is prepared, with its existing governmental powers and its present and projected distribution facilities, to provide its service area with adequate supplies of water to meet expanding and increasing needs in the years ahead. When additional water resources are required to meet increasing needs for domestic, industrial and municipal water, the District will be prepared to deliver such supplies (Fuscoe 2022). This administrative code as well as the storage (and capacity) would ensure that regional water supplies can be bolstered to ensure local water suppliers can satisfy the additional 1,096 AFY from the General Plan Update (Fuscoe 2022).

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MWDOC and OCWD Agreements

MWDOC, and in turn its retail agencies, including the City, has access to supply augmentation actions through MET. MET may exercise these actions based on regional need, and may include the use of supplies and storage programs within the Colorado River, SWP, and in-region storage. The City has the ability to augment its supply to reduce the shortage gap by up to 100 percent by purchasing additional imported water (at higher cost) through MWDOC or pumping additional groundwater in the OC Basin. Based on these agreements, the City has access to additional supplies to support growth as new developments come online. In addition, MWDOC recently published the Orange County Reliability Study that highlights water supply projects to successfully meet increased water demands over time. OCWD also received approval by the State in 2019 on the Groundwater Sustainability Plan Alternative which signifies sustainable groundwater management will be achieved now and into the future (Fuscoe 2022).

5.13.2.3 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

- U-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

- U-2 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

5.13.2.4 APPLICABLE GENERAL PLAN UPDATE POLICIES

Open Space and Conservation Element

- **Policy OSC-3.3: Energy and Water Conservation.** Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the City's Municipal Code and the California Building Code.

- **Policy OSC-3.4: Turf Replacement.** Continue to encourage and facilitate the replacement of turf grass with native and drought-tolerant plants and/or artificial turf to reduce the use of water for irrigation.

- **Policy OSC-3.5: Groundwater Quality and Supply.** Support regional efforts to improve the quality and quantity of groundwater sources available to the City.

- **Policy OSC-3.9: Public Education.** Provide and support public education efforts for residents and businesses about the importance of and proper practices to comply with air and water quality regulations.

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Public Facilities and Safety Element

- **Policy PFS-1.1: Water Supply and Distribution.** Coordinate with Orange County Water District and Metropolitan Water District of Orange County to maintain high water quality and ensure adequate water supply for personal, business, and institutional use, as well as landscaping and fire protection.
- **Policy PFS-1.2: Approval Beyond Projected Supplies.** Approve new development with more than 100 units or 25,000 square feet of nonresidential building space only if either:
 - the projected water demand of the proposed development can be accommodated by the remaining projected supplies in the latest adopted Urban Water Management Plan, or
 - the developer of the proposed development provides a separate water supply assessment that is approved by the Director of Public Works and demonstrates that there is an adequate 25-year water supply that will serve the proposed project and not diminish the water supply of existing residents and businesses in Fountain Valley.
- **Policy PFS-1.3: Irrigation.** Encourage the use of water-efficient and recycled water irrigation systems.
- **Policy PFS-4.4: Water Shortage Contingency.** Prepare for a reduced, long-term water supply resulting from more frequent and severe drought events, coordinating with water providers to implement extensive water conservation measures and ensure adequate water supplies.

5.13.2.5 ENVIRONMENTAL IMPACTS

Impact 5.13-2: Water supply and delivery systems are adequate to meet project requirements. [Threshold U-1 (part) and U-2]

The City maintains a regularly updated Water System Master Plan (WSMP) that identifies deficiencies and necessary improvement projects throughout its service area. Improvement projects are regularly incorporated into the City's CIP based on priority. The WSMP did not identify any hydraulic capacity deficiencies within the water system. Improvement projects based on pipe age and condition may be required throughout the buildout of the General Plan Update, as suggested in the WSMP, however, as these deficiencies are not capacity based, and are considered maintenance projects that can occur over time, the status or prioritization of these projects is not anticipated to be impacted by the General Plan Update buildout (Fuscoe 2022). Individual projects would be subject to City permits, fees, and applications in order to ensure that they would not place an undue burden on existing infrastructure. In instances where infrastructure is expanded or relocated, construction would follow the Construction General Permit, City, and County specific regulations to minimize impacts. Therefore, impacts would be less than significant.

Metropolitan, MWDOC, OCWD, and the City have performed extensive water planning over the past 30+ years by tracking population, City planning documentation, development projects, water supply augmentation projects (e.g. GWRS final expansion), climate, conservation, and several other factors utilized in local and regional water resources planning processes. Based on this project, it is anticipated that water supplies will be

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sufficient to support the proposed project over a 25-year horizon. Additionally, the General Plan Update includes policies pertaining to water supply, such as Policy PFS-1.2 and Policy PFS-4.4. The implementation of these policies would ensure impacts are less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.13-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.13-2 would be less than significant.

5.13.2.6 CUMULATIVE IMPACTS

The area considered for cumulative impacts to water supply service is the OCWD service area. Existing and future development within the OCWD service area would demand additional quantities of water. Increases in population, development, and intensity of uses would contribute to increases in the overall regional water demand. Water conservation and recycling measures would reduce the need for increased water supply, and expansion project would ensure there is adequate capacity. Therefore, impacts would not be cumulatively considerable.

5.13.2.7 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.13-2 would be less than significant.

5.13.2.8 MITIGATION MEASURES

No mitigation measures are required.

5.13.2.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.13.3 Storm Drainage Systems

5.13.3.1 ENVIRONMENTAL SETTING

Regulatory Background

State Regulations

The SWRCB has adopted a statewide Construction General Permit (Order No. 2012-0006-DWQ) for stormwater discharges associated with construction activity. These regulations prohibit the discharge of stormwater from construction projects that include one acre or more of soil disturbance. Construction

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activities subject to this permit include clearing, grading, and other disturbance to the ground, such as stockpiling or excavation, that results in soil disturbance of at least one acre of total land area. Individual developers are required to submit Permit Registration Documents (PRD) to the SWRCB for coverage under the NPDES permit prior to the start of construction. The PRDs include a Notice of Intent, risk assessment, site map, Stormwater Pollution Prevention Plan (SWPPP), annual fee, and a signed certification statement. The PRDs are submitted electronically to the SWRCB via the Stormwater Multiple Application and Report Tracking System (SMARTS) website.

The NPDES Construction General Permit requires all dischargers to (1) develop and implement a SWPPP that specifies BMPs to be used during construction of the project; (2) eliminate or reduce non-storm water discharge to stormwater conveyance systems; and (3) develop and implement a monitoring program of all specified BMPs. The two major objectives of the SWPPP are to (1) help identify the sources of sediment and other pollutants that affect the water quality of stormwater discharges and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-storm water discharges.

State Water Quality Control Board's Trash Amendment

On April 7, 2015, the SWQCB adopted an amendment to the Water Quality Control Plan for Ocean Waters of California to control trash. In addition, the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California added the section, Part 1 Trash Provisions. Together, they are collectively referred to as "the Trash Amendments". The purpose of the Trash Amendments is to provide statewide consistency for the RWQCBs in their regulatory approach to protect aquatic life, public health beneficial uses, and reduce environmental issues associated with trash in State waters, while focusing limited resources on high trash generating areas.

Regional Regulations

Municipal Stormwater (MS4) Permit

The project area lies within the jurisdiction of Santa Ana Regional Water Quality Control Board and is subject to the waste discharge requirements of NPDES MS4 Permit No. CAS 0109266 (Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100). The NPDES MS4 permit is intended to regulate the discharge of urban runoff to the MS4. Under the NPDES MS4 permit, the City is responsible for the management of storm drain systems within its jurisdiction. Cities are required to implement management programs, monitoring programs, implementation plans, and all applicable BMPs.

Local Regulations

City of Fountain Valley Municipal Code

Chapter 14.40, Stormwater Regulations, states that the federal Clean Water Act requires that various state and local agencies implement regulations to control stormwater pollution. The city establishes these regulations as a co-permittee pursuant to its National Pollution Discharge Elimination System Permit.

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5.13.3.2 EXISTING CONDITIONS

The City is within the Santa Ana River Watershed and the Anaheim Bay-Huntington Harbor Watershed. Each watershed is comprised of a number of channels that ultimately deliver stormwater to the Pacific Ocean (Fusco 2022). The City drains to the following channels within both watersheds:

- Talbert Channel
- Fountain Valley Channel
- East Garden Grove Wintersburg Channel
- Ocean View Channel

The channels mentioned above are all owned and maintained by the Orange County Flood Control District (OCFCD). The City has storm drain lines that convey stormwater to OCFCD regional conveyance facilities. The City maintains lines that range in diameter from 8 inches to 84 inches (Fusco 2022). The City has a detailed GIS based inventory of all drainage facilities including storm drainpipes, catch basins, BMPs/filters within catch basins, pump stations, settling basins and outfalls for both public and private properties.

Storm Drain Capacity

Fountain Valley Stormwater Management

The City is flat and largely built out with a storm drain system comprised of catch basins, storm drain lines, and pump stations to convey stormwater runoff within the roadways and underground. The City has an ongoing monitoring and maintenance procedure to ensure the system is function effectively (Fusco 2022).

To prevent against significant flooding during storm events, the City monitors and maintains stormwater pumping stations to ensure they are functioning efficiently. As of 2017, the City had improved the Sandalwood Pump Station which includes replacement of pumps with increased horsepower. Similar improvements have also been completed to the Walnut Pump Station as of 2019 (Fusco 2022).

5.13.3.3 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

- U-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

5.13.3.4 APPLICABLE GENERAL PLAN UPDATE POLICIES

Open Space and Conservation Element

- **Policy OSC-3.6: Stormwater Pollution.** Minimize non-point source pollutants and stormwater runoff to comply with and, where feasible, exceed regional, state, and federal standards.

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- **Policy OSC-3.7: Low Impact Techniques.** Encourage the use of low impact development techniques that retain or mimic natural features for stormwater management.

Public Facilities and Safety Element

- **Policy PFS-1.5: Stormwater Drainage.** Provide and maintain stormwater collection facilities to adequately protect residents and businesses from flood hazards, upgrading existing facilities to current standards whenever financially feasible. Coordinate with the Orange County Flood Control District to maintain and enhance the capacity of regional stormwater drainage facilities.
- **Policy PFS-2.4: Stormwater Drainage Improvements.** Support the Orange County Flood Control District's effort to collaborate with US Army Corps of Engineers to improve the East Garden Grove-Wintersburg Channel to reduce or eliminate the FEMA Flood Hazard Zone A in Fountain Valley.

5.13.3.5 ENVIRONMENTAL IMPACTS

Impact 5.13-3: Existing and/or proposed storm drainage systems are adequate to serve the drainage requirements of the proposed project. [Threshold U-1 (part)]

The City currently requires individual drainage analyses to occur for redevelopments to ensure conformity with the entire Citywide drainage system. New developments and significant redevelopments must analyze the 10- and 25-year storm events of their project and determine if there are any impacts to the public storm drain system (Fuscoe 2022).

OCFCD has a 7-year CIP in place to plan for future drainage projects. There are several projects that impact drainage facilities within the General Plan Area (Fuscoe 2022):

- **Ocean View Channel Improvements.** Improve capacity by adding two elliptical pipes under I-405 freeway (a cooperative project between OCTA and OCFCD. Completed – 2018-2019).
- **Lower Santa Ana River Projects.** Improve 23-mile channel from Prado Dam to the Pacific Ocean. Completed – 2020.
- **East Garden Grove – Wintersburg Channel Multi-Year Improvements.** Reconstruct existing trapezoidal earthen rip rap channel to a concrete rectangular channel, allowing the channel reach to convey a 100-year storm. CIP Year – 2024-25.

These projects would improve the regional drainage infrastructure serving the General Plan Area. Additionally, General Plan Update policies, such as Policy PFS-1.5 and Policy PFS-2.4, call for the maintenance and minimization of impacts on drainage. Therefore, with the City's requirement for projects to analyze drainage impacts along with the OCFCD improvements to the drainage system, as well as implementation of the General Plan Update policies, impacts would be less than significant.

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LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.13-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.13-3 would be less than significant.

5.13.3.6 CUMULATIVE IMPACTS

Cumulative impacts are considered for the Santa Ana River Watershed and the Anaheim Bay-Huntington Harbor Watershed. Other projects within the watersheds may increase the amount of impervious surfaces and therefore, may increase flow rates and volumes of runoff entering storm drains in the region. Other projects within the watersheds would be required to obtain MS4 permits and to be sized and designed to ensure onsite retention of the volume of runoff produced from a 24-hour, 85th percentile storm event. Other impacts to storm drainage would be analyzed in separate CEQA processing for each cumulative project, and mitigation measures would be required as appropriate to minimize significant impacts. Therefore, the impacts would not be cumulatively considerable.

5.13.3.7 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.13-3 would be less than significant.

5.13.3.8 MITIGATION MEASURES

No mitigation measures are required.

5.13.3.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.13.4 Solid Waste

5.13.4.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal Regulations

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act of 1976 (Title 40 of the Code of Federal Regulations), Part 258, contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location,

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operation, design (liners, leachate collection, run-off control, etc.), groundwater monitoring, and closure of landfills.

State Regulations

California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties throughout California to divert 50 percent of all solid waste from landfills as of January 1, 2000 through source reduction, recycling, and composting. To help achieve this, the Act requires that each city and county prepare a Source Reduction and Recycling Element to be submitted to the Department of Resources Recycling and Recovery (CalRecycle). AB 939 also established a goal for all California counties to provide at least 15 years of ongoing landfill capacity which Orange County maintains.

In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system. The per capita disposal measurement system is based on two factors: a jurisdiction's reported total disposal of solid waste divided by the jurisdiction's population. The California Integrated Waste Management Board was replaced by CalRecycle in 2010. CalRecycle sets a target per capita disposal rate for each jurisdiction. Each jurisdiction must submit an annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate.

California Solid Waste Reuse and Recycling Act of 1991

The California Solid Waste Reuse and Recycling Access Act (AB 1327, California Public Resources Code Sections 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

Assembly Bills 341, and 1826

Assembly Bill 341 (Chapter 476) set a statewide solid waste diversion goal of 75 percent by 2020. AB 341, which was passed in 2011 and took effect July 1, 2012, mandates recycling for businesses producing four or more cubic yards of solid waste per week or multi-family residential dwellings of five or more units. Under AB 341, businesses and multi-family dwellings of five or more units must separate recyclables from trash and then either subscribe to recycling services, self-haul their recyclables, or contract with a permitted private recycler.

AB 1826 (California Public Resources Code Sections 42649.8 et seq.), signed into law in September 2014, requires recycling of organic matter by businesses generating such wastes in amounts over certain thresholds. This law also requires that local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses. The law took effect in April 2016.

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California Green Building Standards Code

CALGreen establishes building standards for sustainable site development. Sections 4.408 and 5.408, Construction Waste Reduction Disposal and Recycling, mandate that, in the absence of a more stringent local ordinance, a minimum of 65 percent of non-hazardous construction and demolition debris generated during most new construction must be recycled or salvaged. CALGreen requires developers to prepare and submit a Waste Management Plan for on-site sorting of construction debris, which is submitted to the City for approval, or use a waste management company with verifiable documentation. The Waste Management Plan must:

- Identify the materials to be diverted from disposal by recycling, reuse on the project, or salvage for future use or sale
- Specify if materials will be sorted on-site or mixed for transportation to a diversion facility
- Identify the diversion facility where the material collected can be taken
- Identify construction methods employed to reduce the amount of waste generated
- Specify that the amount of materials diverted shall be calculated by weight or volume, but not by both

Local Regulations

City of Fountain Valley Municipal Code

The purpose of Chapter 6.08, Solid Waste, of the Fountain Valley Municipal Code is to provide for the collection and disposition of solid waste within the City in compliance with all laws and to facilitate the recycling of materials and otherwise reduce waste going to the landfills.

5.13.4.2 EXISTING CONDITIONS

The Orange County Waste & Recycling (OCWR) provides solid waste services to the City's SOI and provides waste disposal services to the City's contract hauler, as outlined in the Waste Disposal Agreement between the City and OCWR.

Solid waste generated in the City is transferred to the Frank Bowerman Sanitary Landfill, which has an estimated cease date of December 31, 2053, a maximum permitted throughput of 11,500 tons per day, and a remaining capacity of 205,000,000 cubic yards (CalRecycle 2019).

5.13.4.3 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

- U-4 Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
- U-5 Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

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5.13.4.4 APPLICABLE GENERAL PLAN UPDATE POLICIES

Public Safety and Conservation Element

- **Policy PFS-1.7: Waste Management.** A waste management system that meets or exceeds state recycling and waste diversion mandates while providing cost-effective disposal of waste for residents, businesses, and institutions.

5.13.4.5 ENVIRONMENTAL IMPACTS

Impact 5.13-4: Existing and/or proposed facilities would/would not be able to accommodate project-generated solid waste. [Threshold U-4]

Solid waste generated by the City is transferred to the Frank Bowerman Sanitary Landfill which has a remaining capacity of 205,000,000 and an anticipated close date of December 31, 2053 (CalRecycle 2019). Correspondence with OCWR staff concluded that existing facilities would be able to accommodate the buildout of the proposed project. Therefore, existing facilities have adequate capacity to accommodate increased volumes of waste from the City through 2045, and impacts would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.13-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.13-4 would be less than significant.

Impact 5.13-5: The proposed project would comply with federal, state, and local statutes and regulations related to solid waste. [Threshold U-5]

The proposed project would comply with the CALGreen Building Code Standards, which requires that at least 65 percent of nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse. Furthermore, the proposed project would also comply with the requirements of AB 341 that mandates recycling for commercial land uses. Additionally, any organic waste generated in amounts over a certain threshold would be recycled in accordance with AB 1826. General Plan Update Policy PFS-1.7 would provide additional recycling regulations in the City. Therefore, the proposed project would comply with all applicable federal, state, and local solid waste regulations and impacts would be less than significant.

LEVEL OF SIGNIFICANCE

Level of Significance Before Mitigation: Impact 5.13-5 would be less than significant.

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Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation: Impact 5.13-5 would be less than significant.

5.13.4.6 CUMULATIVE IMPACTS

Cumulative impacts are considered for the service area of the Frank Bowerman Sanitary Landfill. Cumulative projects would result in increased generation of solid waste that would need to be processed at the landfill. The Frank Bowerman Sanitary Landfill has a daily maximum throughout of 11,500 tons per day, a remaining capacity of 205,000,000 cubic yards, and an estimated cease date of 2053. With planned expansion activities of landfills in the project area and proposed growth rates contained in the City's General Plan EIR, sufficient landfill capacity exists to accommodate future disposal needs through 2045. Therefore, no significant cumulative impact to landfill capacity would occur, and the proposed project would not contribute to a significant cumulative impact.

5.13.4.7 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.13-4 and 5.13-5.

5.13.4.8 MITIGATION MEASURES

No mitigation measures are required.

5.13.4.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.13.5 References

- California Department of Resources Recycling and Recovery (CalRecycle). 2019. SWIS Facility/Site Activity Details: Frank R. Bowerman Sanitary Landfill (30-AB-0360)
<https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2767?siteID=2103>.
- Fusco. 2022, May 31. Existing Conditions Infrastructure Technical Report for Hydrology, Sewer, Water, and Water Quality. Appendix 5.13-1.

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6. Unavoidable Impacts, Irreversible Changes, and Growth-Inducing Impacts

6.1 SIGNIFICANT UNAVOIDABLE AND ADVERSE IMPACTS

At the end of Chapter 1, *Executive Summary*, Table 1-1 summarizes the impacts, mitigation measures, and levels of significance before and after mitigation. Mitigation measures would reduce the level of impact, but the following impacts would remain significant, unavoidable, and adverse after mitigation measures are applied:

Air Quality

- **Impact 5.2-2:** Construction activities associated with future development that would be accommodated under the General Plan Update could generate short-term emissions in exceedance of the South Coast AQMD's threshold criteria.
- **Impact 5.2-3:** Implementation of the proposed project would generate additional, long-term emissions in exceedance of South Coast AQMD's threshold criteria and cumulatively contribute to the South Coast Air Basin's nonattainment designations.

Greenhouse Gas Emissions

- **Impact 5.5-1:** Implementation of the General Plan Update would not result in a substantial increase in emissions but would not place the city on a trajectory to achieve the goals established under Executive Order S-03-05 or progress toward the State's carbon neutrality goal.

Noise

- **Impact 5.9-1:** Construction activities associated with the buildout of the plan area would result in temporary noise increases at sensitive receptors

Population and Housing

- **Impact 5.10-1:** The proposed project would directly induce substantial unplanned population growth.

Transportation

- **Impact 5.12-2:** The proposed project would conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b).

6. Unavoidable Impacts, Irreversible Changes, and Growth-Inducing Impacts

6.2 SIGNIFICANT IRREVERSIBLE CHANGES DUE TO THE PROPOSED PROJECT

Section 15126.2(c) of the CEQA Guidelines requires that an Environmental Impact Report (EIR) describe any significant irreversible environmental changes that would be caused by the proposed project should it be implemented. Specifically, the CEQA Guidelines state:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highways improvement which provides access to previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The following are the significant irreversible changes that would be caused by the proposed project, should it be implemented:

- Implementation of the proposed project would include construction that would entail the commitment of nonrenewable and/or slowly renewable energy resources; human resources; and natural resources such as lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metals, water, and fossil fuels. Operation of the proposed project would require the use of natural gas and electricity, petroleum-based fuels, fossil fuels, and water. The commitment of resources required for the construction and operation of the proposed project would limit the availability of such resources for future generations or for other uses during the life of the project.
- An increase in vehicle trips would accompany project-related population growth. Over the long-term, emissions associated with such vehicle trips would continue to contribute to the South Coast Air Basin's nonattainment designation for ozone (O³) and particulate matter (PM_{2.5} and PM₁₀) under the California and National Ambient Air Quality Standards (AAQS), and nonattainment for nitrogen dioxide (NO₂) under the California AAQS.

Given the low likelihood that the land in the City would revert to its original form, the proposed project would generally commit future generations to these environmental changes.

6.3 GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT

Pursuant to Sections 15126(d) and 15126.2(d) of the CEQA Guidelines, this section is provided to examine ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also required is an assessment of other projects that would foster other activities which could affect the environment, individually or cumulatively. To address this issue, potential growth-inducing effects will be examined through analysis of the following questions:

6. Unavoidable Impacts, Irreversible Changes, and Growth-Inducing Impacts

- Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?
- Would this project result in the need to expand one or more public services to maintain desired levels of service?
- Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?
- Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

Please note that growth-inducing effects are not to be construed as necessarily beneficial, detrimental, or of little significance to the environment. This issue is presented to provide additional information on ways in which this project could contribute to significant changes in the environment, beyond the direct consequences of developing the land use concept examined in the preceding sections of this EIR.

Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?

Implementation of the General Plan Update would allow for infill development and intensification within the City. This would indirectly induce construction of site-specific infrastructure extensions and improvements, such as roadways, storm drains, water pipes, solid waste collection systems, and energy/communications extensions. In addition, the proposed project would increase demand for electricity and natural gas that could require expansion of energy infrastructure. Given the built-out nature of the City, as well as the existing infrastructure in place, there would be no obstacles to accommodate growth.

Buildout of the proposed General Plan Update may require additional firefighting and police personnel/facilities, and construction of new and/or expanded schools in the various school districts serving the City. Additionally, updates to the City's circulation system, as proposed in the General Plan Update Mobility Element would improve the roadways with multimodal amenities and features to promote pedestrian, bicycle, and transit use. As this EIR addresses the citywide impacts associated with future growth, and site-specific analyses would need to be prepared to demonstrate compliance, subsequent impacts would not significantly affect the environment.

Would this project result in the need to expand one or more public services to maintain desired levels of service?

Over time, the City anticipates the need to expand services to meet the needs of growth envisioned in the General Plan Update. There are several mechanisms in place to ensure there is adequate funding for expansion such as budgets, development impact fees, and coordination with local and regional agencies. The growth anticipated in this General Plan Update would occur in areas already served by public services.

6. Unavoidable Impacts, Irreversible Changes, and Growth-Inducing Impacts

Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?

Implementation of the General Plan Update would encourage or facilitate economic effects. Several temporary jobs would be created during project development (e.g., design, planning, engineering, construction, etc.), which would be a direct growth inducing effect of the General Plan Update.

As the population grows and occupies new dwellings units in accordance with the General Plan Update, new residents would seek shopping, entertainment, employment, home improvement, auto maintenance, and other economic opportunities in the surrounding area. This would facilitate economic goods and services and could, therefore, encourage the creation of new businesses and/or the expansion of existing businesses to address these economic needs. Furthermore, the proposed increases in development capacity for office, commercial, and retail uses allowed under the General Plan Update would serve the shopping needs of the future residents and would generate additional employment opportunities. The physical impacts of job growth is reflected in the analysis contained in this DEIR and are expected to be localized in the City. There is nothing unusual about the anticipated growth that would significantly affect the environment.

Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

The General Plan Update is an update to the current General Plan. The General Plan Update refines and adds to the goals and policies, and changes land uses in the City. New and/or modified goals and policies in the General Plan Update either replace, supplement, or elaborate on those in the existing General Plan. The General Plan Update would not set a precedent that could encourage and facilitate other activities that could significantly affect the environment. Subsequent development projects in accordance with the General Plan Update would require environmental analyses and associated mitigation to ensure that any subsequent impacts would not adversely affect the environment.

Moreover, no changes to any of the City's building safety standards (building, grading, plumbing, mechanical, electrical, fire codes) are proposed or required to implement the General Plan Update. Therefore, the General Plan Update would not involve a precedent-setting action that would encourage and/or facilitate other activities that could significantly affect the environment.

7. Alternatives to the Proposed Project

7.1 INTRODUCTION

7.1.1 Purpose and Scope

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) include a discussion of reasonable project alternatives that would “feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives” (CEQA Guidelines § 15126.6[a]). As required by CEQA, this chapter identifies and evaluates potential alternatives to the proposed project.

Section 15126.6 of the CEQA Guidelines explains the foundation and legal requirements for the alternatives analysis in an EIR. Key provisions are:

- “[T]he discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.” (15126.6[b])
- “The specific alternative of ‘no project’ shall also be evaluated along with its impact.” (15126.6[e][1])
- “The no project analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the ‘no project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” (15126.6[e][2])
- “The range of alternatives required in an EIR is governed by a ‘rule of reason’ that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.” (15126.6[f])
- “Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries..., and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)” (15126.6[f][1]).
- “Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.” (15126.6[f][2][A])

7. Alternatives to the Proposed Project

- “An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative.” (15126.6[f][3])

For each development alternative, this analysis:

- Describes the alternative.
- Analyzes the impact of the alternative as compared to the proposed project.
- Identifies the impacts of the project that would be avoided or lessened by the alternative.
- Assesses whether the alternative would meet most of the basic project objectives.
- Evaluates the comparative merits of the alternative and the project.

According to Section 15126.6(d) of the CEQA Guidelines, “[i]f an alternative would cause...significant effects in addition those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.”

7.1.2 Project Objectives

As described in Section 3.2, the following objectives have been established for the proposed project and will aid decision makers in their review of the project, the project alternatives, and associated environmental impacts.

- Provide well-designed and accessible residential neighborhoods and commercial and industrial districts to provide opportunities for people to live, work, and play.
- Ensure that the City meets its proportionate share of affordable and market rate housing demand by accommodating the Regional Housing Needs Assessment (RHNA) allocation.
- Increase jobs in the City to encourage more residents to work locally and reduce commuting out of the City to work.
- Ensure that people, goods, and services move safely and efficiently through the City and connect to the larger region.
- Ensure that Fountain Valley is a safe community for residents, businesses, and visitors.
- Foster a vibrant community that supports healthy lifestyles, historical resources, arts, education, and culture for all residents.

7.2 ALTERNATIVES CONSIDERED AND REJECTED DURING THE SCOPING/PROJECT PLANNING PROCESS

In accordance with CEQA Guidelines Section 15126.6, there were no alternatives suggested or rejected as infeasible during the Notice of Preparation (NOP) scoping process. However, the City nonetheless identified potential alternatives from further analysis in the EIR. Suitable alternatives are those which:

7. Alternatives to the Proposed Project

1. Can substantially reduce the proposed project's significant impacts;
2. Can attain most of the basic project objectives;
3. Are potentially feasible; and
4. Are reasonable and realistic.

Alternatives that do not meet each of these four criteria may be eliminated from further consideration in the EIR. The following alternatives have been considered by the City but rejected for their failure to meet the four criteria and, therefore, will not be analyzed further in this EIR.

7.2.1 Alternative Location

The proposed General Plan covers the entire City. Alternative locations are typically included in an environmental document to avoid, lessen, or eliminate the significant impacts of a project by considering the proposed development in an entirely different location. To be feasible, development of off-site locations must be able to fulfill the project purpose and meet most of the project's basic objectives. Given the nature of the proposed project (adoption of a General Plan for the entire City), it is not possible to consider an off-site alternative because the City boundaries have been established through incorporation. For this reason, an offsite alternative was considered infeasible pursuant to State CEQA Guidelines Section 15126.6(c) and rejected as a feasible project alternative.

7.2.2 Reduced Residential Density Alternative

A Reduced Residential Density Alternative would result in fewer residences which would theoretically reduce traffic and thereby reduce community impacts such as air quality, greenhouse gas (GHG) emissions, noise, and demand for utilities and public services. However, such an Alternative would not achieve or would only partially achieve the General Plan objectives of providing for growth of the City. This Alternative would not be consistent with regional planning that requires accommodation of regional housing needs, and would be inconsistent with the existing certified Housing Element. Finally, by restricting residential growth, the environmental impact of the projected growth would increase development pressure elsewhere in the region which could increase vehicle miles travelled (VMT) and further degrade air quality. As a Reduced Residential Development Density Alternative would relocate impacts outside of the City, and would not meet the project objectives, this option was not evaluated in the EIR.

7.3 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

Based on the criteria listed above, the following three alternatives have been determined to represent a reasonable range of alternatives which have the potential to feasibly attain most of the basic objectives of the project but which may avoid or substantially lessen any of the significant effects of the project. These alternatives are analyzed in detail in the following sections.

- No Project/Existing General Plan Alternative
- Housing Priority Alternative

7. Alternatives to the Proposed Project

An EIR must identify an “environmentally superior” alternative and where the No Project Alternative is identified as environmentally superior, the EIR is then required to identify as environmentally superior an alternative from among the others evaluated. Each alternative's environmental impacts are compared to the proposed project and determined to be environmentally superior, neutral, or inferior. Section 7.6 identifies the Environmentally Superior Alternative. The preferred land use alternative (proposed project) is analyzed in detail in Chapter 5 of this DEIR.

7.3.1 Alternatives Comparison

The following statistical analysis provides a summary of general socioeconomic buildout projections determined by the four land use alternatives, including the proposed project. It is important to note that these are not growth projections. That is, they do not anticipate what is likely to occur by a certain time horizon, but provide a buildout scenario that would only occur if all the areas of the City were to develop to the probable capacities yielded by the land use alternatives. The following statistics were developed as a tool to understand better the difference between the alternatives analyzed in the DEIR. Table 7-1, *Buildout Statistical Summary*, identifies City-wide information regarding dwelling unit, population and employment projections, and also provides the jobs to housing ratio for each of the alternatives.

Table 7-1 Buildout Statistical Summary

	Existing Conditions	Proposed Project	No Project/Existing General Plan Alternative	Housing Priority Alternative
Dwelling Units	19,395	25,633	20,164	25,633
Population	57,595	73,668	59,755	73,668
Non-Residential Square Footage	11,925,652	13,231,538	13,923,084	11,689,841
Employment	32,485	36,542	38,355	31,688
Jobs-to-Housing Ratio	1.67	1.43	1.90	1.24

7.4 NO PROJECT/EXISTING GENERAL PLAN ALTERNATIVE

Under the No Project/Existing General Plan Alternative, the General Plan Update would not be implemented by the City. The current General Plan would remain in effect. Buildout statistics for the proposed General Plan and the current General Plan are compared in Table 7-1. The proposed land use designations under the proposed project, Very High Density Residential (VHDR), Mixed Use 1 (MU1), and Mixed Use 2 (MU2), would not be implemented under this Alternative.

7.4.1 Aesthetics

In this Alternative, the entire City would be developed under the current land use plan and would involve new development and redevelopment in the same areas as the proposed General Plan Update. Under this Alternative, the proposed land use designations—Very High Density Residential (VHDR), Mixed Use 1 (MU1), and Mixed Use 2 (MU2)—would not be implemented. The visual character of the City would not result in taller

7. Alternatives to the Proposed Project

buildings under this Alternative. The aesthetic impacts would be less than the proposed project, but, as with the proposed project, would be less than significant.

7.4.2 Air Quality

The development intensity of the proposed project is greater than this Alternative, and therefore, this Alternative would result in less criteria air pollutant emissions and toxic air contaminants (TACs) than the proposed project. Impacts under this Alternative would be less than the proposed project's significant and unavoidable impacts, and would be less than significant.

7.4.3 Energy

Under this Alternative, energy impacts would be less than the proposed project due the decrease in intensity compared to the proposed project. As with the proposed project, impacts would be less than significant.

7.4.4 Geology and Soils

As with the General Plan Update, individual development projects under this Alternative would be required to prepare site-specific geotechnical investigations to evaluate seismic, liquefaction, ground settlement, paleontological resources, and/or soil expansion hazards. All development projects would be required to comply with existing federal, state, and local regulations, such as the California Building Code and statewide General Construction Permit. Site-specific development that requires ground-disturbing activities have the potential to uncover paleontological resources. Impacts under this Alternative would be similar to the proposed project and would result in less than significant impacts upon implementation of mitigation measures.

7.4.5 Greenhouse Gas Emissions

Development under this Alternative would result in a lesser intensity compared to the proposed project, and therefore, would result in less GHG emissions. Impacts under this Alternative would be less than the proposed project's significant and unavoidable impacts, and would be less than significant.

7.4.6 Hazards and Hazardous Materials

Under both this Alternative and the proposed General Plan Update, land uses throughout the City would be required to comply with existing federal, state, and local regulations governing use, storage, transport, and disposal of hazardous materials and hazardous wastes. This Alternative would result in similar impacts to the proposed project, and impacts would be less than significant.

7.4.7 Hydrology and Water Quality

This Alternative would have similar hydrology and water quality impacts as the proposed project. Future project-specific water quality management plans (WQMPs), preliminary and/or final, would be prepared at the time of project application. Moreover, Low Impact Development (LID) and water quality treatment solutions prescribed in project-specific WQMPs shall be designed to support or enhance the regional best management

7. Alternatives to the Proposed Project

practices (BMPs) and efforts implemented by the City in order to improve water quality. During construction, project-specific Stormwater Pollution Prevention Plans (SWPPP) are required to be prepared. The SWPPP must describe construction BMPs that address pollutant source reduction, and provide measures/controls necessary to mitigate potential pollutant sources. Therefore, impacts would be similar and less than significant.

7.4.8 Land Use and Planning

This Alternative would leave the current General Plan in place rather than providing a technical update. Additionally, the proposed land use designations—Very High Density Residential (VHDR), Mixed Use 1 (MU1), and Mixed Use 2 (MU2)—would not be implemented under this Alternative; the intensity envisioned under the proposed project would not take place under this Alternative. However, the existing General Plan was prepared in 1995 and does not reflect new state planning laws. Therefore, the land use impacts would be slightly increased under this Alternative in comparison to the proposed project; like the proposed project, impacts would be less than significant.

7.4.9 Noise

As this Alternative would result in a lesser intensity compared to the proposed project, construction and operational noise impacts would be less than the proposed project. Noise impacts under the proposed project would be significant and unavoidable, and noise impacts under this Alternative would be less than significant.

7.4.10 Population and Housing

The General Plan Update would result in significant and unavoidable impacts as the growth forecasts exceed the SCAG 2045 growth forecasts. The current General Plan EIR indicated that population and housing impacts would be significant and unavoidable as the City is fully built-out and cannot meet the “future housing needs” according to RHNA. Although both the proposed project and this Alternative would result in significant and unavoidable impacts, impacts under the proposed project would result in more benefits as the proposed project would create a more balanced jobs-housing ratio. Therefore, impacts would be slightly greater under this Alternative and would continue to be significant and unavoidable.

7.4.11 Recreation

This Alternative would result in a reduction in population compared to the proposed project, and therefore, impacts to recreational facilities would be less than the proposed project. As with the proposed project, impacts would be less than significant.

7.4.12 Transportation

Population and employment under this Alternative would be less than the proposed project. While the proposed project would implement policies that would provide multimodal facilities in the City and would reduce VMT (boundary VMT/Service Population [SP], Home-Based Production [HBP] VMT/Resident, and Home-Based-Work Attraction [HBWA] VMT/Employee only), impacts under the proposed project would be significant and

7. Alternatives to the Proposed Project

unavoidable. Therefore, impacts under this Alternative would be less than the proposed project. Impacts would be less than significant.

7.4.13 Utilities and Service Systems

This Alternative would result in a reduction in population and employment, and therefore, would result in less impacts to the City's utilities and service systems infrastructure. Overall, impacts would be less than the proposed project, and impacts would be less than significant.

7.4.14 Conclusion

The No Project Alternative would lessen impacts to aesthetics, air quality, energy, greenhouse gas emissions, noise, recreation, transportation, and utilities and service systems. The No Project Alternative would result in similar impacts to geology and soils, hazards and hazardous materials, and hydrology and water quality. The No Project Alternative would result in greater impacts to land use and planning and population and housing. The No Project Alternative would not meet any of the project objectives.

7.5 HOUSING PRIORITY ALTERNATIVE

The Housing Priority Alternative would prioritize future development for housing to maximize the City's ability to accommodate and build its RHNA allocation. This Alternative would propose residential-only land use and zoning on any vacant land as well as underutilized parcels, both within and outside of specific plans. This Alternative would reduce the amount of nonresidential building square footage by converting currently designated industrial land to residential land. Under this Alternative, this conversion of land would reduce the number of jobs below existing conditions, freeing up all developable land to accommodate the City's RHNA allocation at lower densities. This Alternative would result in less jobs but the same number of housing units as the proposed project.

7.5.1 Aesthetics

As this Alternative would accommodate the same number of housing units as the proposed project the addition of the land changed from industrial to residential use, would reduce the need for higher buildings to accommodate housing, resulting in shorter, lower density buildings. While density and height would be less under this Alternative, impacts to aesthetics would generally be similar due to compliance with the General Plan Update policies and the City's Municipal Code. Therefore, impacts would be less than significant.

7.5.2 Air Quality

Under this Alternative, construction activities would generally be shorter due to the reduction in density and building height. However, operationally, more residents would commute outside of the City for work as fewer jobs are envisioned with this alternative. Longer vehicle trips would increase vehicle miles travelled and would also increase emissions. As such, impacts would be greater under this Alternative, and as with the proposed project, impacts would be significant and unavoidable.

7. Alternatives to the Proposed Project

7.5.3 Energy

Under this Alternative, construction energy would be less than the proposed project due to the decrease in building height and density. However, operationally, more residents would commute outside of the City for work, resulting in longer trips, and therefore, an increase in energy. While impacts would be greater under this Alternative, as with the proposed project, impacts would be less than significant.

7.5.4 Geology and Soils

As with the proposed project, individual development projects under this Alternative would be required to prepare site-specific geotechnical investigations to evaluate seismic, liquefaction, ground settlement, paleontological resources, and/or soil expansion hazards. All development projects would be required to comply with existing federal, state, and local regulations, such as the California Building Code and statewide General Construction Permit. Site-specific development that requires ground-disturbing activities have the potential to uncover paleontological resources. Impacts under this Alternative would be similar to the proposed project and would result in less than significant impacts upon implementation of mitigation measures.

7.5.5 Greenhouse Gas Emissions

Under this Alternative, construction activities would generally be shorter due to the reduction in density and building height. However, operationally, more residents would commute outside of the City for work, resulting in longer trips, and therefore, an increase in emissions. As such, impacts would be greater under this Alternative, and as with the proposed project, impacts would be significant and unavoidable.

7.5.6 Hazards and Hazardous Materials

Under both this Alternative and the proposed project, land uses throughout the City would be required to comply with existing federal, state, and local regulations governing use, storage, transport, and disposal of hazardous materials and hazardous wastes. However, as there would be less non-residential square footage under this Alternative, impacts would be less than the proposed project. As with the proposed project, impacts under this Alternative would be less than significant.

7.5.7 Hydrology and Water Quality

This Alternative would have similar hydrology and water quality impacts as the proposed project. Future project-specific WQMPs, preliminary and/or final, would be prepared at the time of project application. Moreover, LID and water quality treatment solutions prescribes in project-specific WQMPs shall be designed to support or enhance the regional BMPs and efforts implemented by the City in order to improve water quality. During construction, project-specific SWPPP are required to be prepared. The SWPPP must describe construction BMPs that address pollutant source reduction, and provide measures/controls necessary to mitigate potential pollutant sources. Therefore, impacts would be similar to the proposed project, and less than significant.

7. Alternatives to the Proposed Project

7.5.8 Land Use and Planning

Under this Alternative all opportunity sites would be designated exclusively for residential uses, including the mixed-use area in the Crossings Specific Plan. This Alternative would result in a reduction in building density and height as there would be more land to develop the same number of housing units as envisioned under the proposed project, and would result in a decrease in forecasted jobs to accommodate its RHNA allocation. Neither this Alternative nor the proposed project would divide an established community. Impacts would be similar and less than significant.

7.5.9 Noise

Under this Alternative, construction noise would be less than the proposed project as building heights and densities would be reduced. However, operationally, more residents would commute outside of the City for work, resulting in longer trips, and therefore, an increase in traffic noise. Therefore, impacts would be greater than the proposed project and impacts would remain significant and unavoidable.

7.5.10 Population and Housing

Under this Alternative, all opportunity sites would be designated exclusively for residential uses, including the mixed-use area in the Crossings Specific Plan. In order to accommodate its RHNA allocation at lower densities, this Alternative would reduce the number of forecasted jobs, as such, the jobs-housing ratio would be less balanced under this Alternative compared to the proposed project. Therefore, impacts under this Alternative would be greater, and as with the proposed project, significant and unavoidable.

7.5.11 Recreation

Under this Alternative, impacts to recreational facilities would be the same as the proposed project since the number of residential units would remain the same. As with the proposed project, impacts would be less than significant.

7.5.12 Transportation

Under this Alternative, the number of forecasted jobs would be reduced to accommodate its RHNA allocation at lower densities. The decrease in employment in the City would result in more residents commuting outside of the City for work, resulting in longer trips, and therefore, an increase in VMT. As such, impacts would be greater, and as with the proposed project, would be significant and unavoidable.

7.5.13 Utilities and Service Systems

This Alternative would result in a decrease in employment, and therefore, would result in reduced impacts to the City's utilities and service systems infrastructure. Overall, impacts would be less than the proposed project, and would continue to be less than significant.

7. Alternatives to the Proposed Project

7.5.14 Conclusion

This Alternative would result in greater impacts to air quality, energy, greenhouse gas emissions, noise, population and housing, and transportation. This Alternative would result in similar impacts to aesthetics, geology and soils, hydrology and water quality, land use and planning, and recreation. This Alternative would result in less impacts to hazards and hazardous materials, and utilities and service systems. While this Alternative would meet all the project objectives, but to a lesser degree, it would result in greater impacts than the proposed project.

7.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires a lead agency to identify the “environmentally superior alternative” and, in cases where the “No Project” Alternative is environmentally superior to the proposed project, the environmentally superior development alternative must be identified. This can be challenging for a General Plan Update EIR because much of the public outreach and refinement of the General Plan is designed to address community concerns and environmental issues. In this instance the No Project Alternative results in fewer impacts than the proposed project but meets none of the objectives of the proposed project. Further, the No Project Alternative does not include policies intended to reduce vehicle miles travelled (VMT), an important state goal linked to reducing greenhouse gas emissions. The Housing Priority Alternative would add the same number of housing units as the proposed project in the City, but at the expense of commercial, office, and industrial development. This would mean that more residents in the City would need to commute outside of the City for employment which would increase VMT.

Table 7-2, *Summary of Impacts of Alternatives Compared to the Proposed Project*, compares the impacts of each of the project alternatives to the proposed project, and Table 7-3, *Ability of Each Alternative to Meet the Project Objectives*, shows the ability of each project alternative to meet the project objectives.

Table 7-2 Summary of Impacts of Alternatives Compared to the Proposed Project

Topic	Proposed Project	No Project/Existing General Plan Alternative	Housing Priority Alternative
Aesthetics	LTS	-	=
Air Quality	SU	-	+
Energy	LTS	-	+
Geology and Soils	LTS/M	=	=
GHG Emissions	SU	-	+
Hazards and Hazardous Materials	LTS	=	-
Hydrology and Water Quality	LTS	=	=
Land Use and Planning	LTS	+	=
Noise	SU	-	+
Population and Housing	SU	+	+
Recreation	LTS	-	=
Transportation	SU	-	+
Utilities and Service Systems	LTS	-	-
<i>Summary</i>		-	+

Notes: NI = No Impact; LTS = Less than Significant; LTS/M = Less than Significant with Mitigation Incorporated; SU = Significant and Unavoidable

(-) The alternative would result in less of an impact than the proposed project.

(+) The alternative would result in greater impacts than the proposed project.

(=) The alternative would result in the same/similar impacts as the proposed project.

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Table 7-3 Ability of Each Alternative to Meet the Project Objectives

Objective	Proposed Project	No Project/Existing General Plan Alternative	Housing Priority Alternative
Provide well-designed and accessible residential neighborhoods and commercial and industrial districts to provide opportunities for people to live, work, and play.	Yes	No	Yes, but to a lesser extent
Ensure that the City meets its proportionate share of affordable and market rate housing demand by accommodating the Regional Housing Needs Assessment (RHNA) allocation.	Yes	No	Yes
Increase jobs in the City to encourage more residents to work locally and reduce commuting out of the City to work.	Yes	No	No
Ensure that people, goods, and services move safely and efficiently through the City and connect to the larger region.	Yes	No	Yes, but to a lesser extent
Ensure that Fountain Valley is a safe community for residents, businesses, and visitors.	Yes	No	Yes, but to a lesser extent
Foster a vibrant community that supports healthy lifestyles, historical resources, arts, education, and culture for all residents.	Yes	No	Yes, but to a lesser extent

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8. Impacts Found Not to Be Significant

California Public Resources Code Section 21003 (f) states: "...it is the policy of the state that...[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." This policy is reflected in the State California Environmental Quality Act (CEQA) Guidelines (Guidelines) Section 15126.2(a), which states that "[a]n EIR [Environmental Impact Report] shall identify and focus on the significant environmental impacts of the proposed project" and Section 15143, which states that "[t]he EIR shall focus on the significant effects on the environment."

State CEQA Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant. This Chapter includes an environmental analysis and finding of no impact, less than significant, or less than significant with mitigation incorporated for the topics not included in Chapter 5, *Environmental Analysis*, of this DEIR.

8.1 AGRICULTURE AND FORESTRY RESOURCES

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

Less than significant. According to Farmland Mapping and Monitoring Program, majority of the City is categorized as Urban and Built-up Land, with the exception of a number of parcels categorized as Prime Farmland and Grazing Land (CDC 2022). Prime Farmland is found at the intersection of Euclid Street and Heil Avenue and is currently designated as Low Density Residential. Prime Farmland (Euclid Street and Talbert Avenue) and Grazing Land (Euclid Street and South Park Avenue, Euclid Street and Grace Avenue, and Euclid Street and Slater Avenue) are designated Specific Plan. Additionally, the City's Zoning Map shows residential neighborhoods occupied by mobile home parks (west of Redbud Circle and Talbert Avenue and north of Toucan Avenue and Bushard Street) located within areas zoned A1-General Agriculture.

The General Plan Update proposes to change the land use designation of the Low Density Residential parcel to High Density Residential, under the General Plan Update. The change would not result in significant impacts on agricultural land since this area is designated for non-agricultural uses under the existing General Plan. Therefore, impacts would be less than significant.

8. Impacts Found Not to Be Significant

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

No Impact. There is no land zoned for Williamson Act contracts in the City. Therefore, no impact would occur.

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

No impacts. The City of Fountain Valley does not have areas designated as forestland or timberland. Therefore, the General Plan Update would not conflict with forestland or timberland areas and no impacts would occur.

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

No impacts. The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use as there are no forestlands within the City and SOI. Therefore, no impacts would occur.

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

Less than significant. The City of Fountain Valley is characterized as an urban and built-up environment. The existing agricultural lands found within the City are not zoned for agricultural use. Additionally, the residential neighborhoods west of Redbud Circle and Talbert Avenue and north of Toucan Avenue and Bushard Street, which are zoned A1-General Agriculture, are developed with residential uses (mobile home parks).

The General Plan Update proposes to change the land use designation of the Low Density Residential parcel, which is designated as Prime Farmland, to High Density Residential, under the General Plan Update. The change would not result in significant impacts on agricultural land since this area is currently designated for non-agricultural uses under the existing General Plan. Therefore, impacts would be less than significant.

8.2 BIOLOGICAL RESOURCES

Would the project:

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

Less than Significant. The City of Fountain Valley is urbanized with buildings, and contains a few areas of open space, such as Mile Square Regional Park. As such, it is unlikely to contain sensitive species or habitats. Nonetheless, trees and buildings, as well as open space areas, could contain special status species, such as nesting birds. Future development in the City would be required to comply with local, state, and federal regulations

8. Impacts Found Not to Be Significant

pertaining to the protection of special status, candidate, and/or sensitive species, should they occur on or near a development site, particularly those within proximity to Mile Square Regional Park. Additionally, Policy OSC-2.6 calls for the coordination with the County to maintain and enhance the Mile Square Park Urban Nature Center and minimize impacts on biological resources within Mile Square Regional Park. As such, impacts would be less than significant.

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

No Impact. There are no riparian habitats in the City (USFWS 2023). Therefore, no impact would occur.

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

Less than Significant. The City is primarily developed, and contains a few areas of open space. According to the National Wetlands Inventory, the City contains wetland habitat in Mile Square Regional Park and the Santa Ana River, which bounds the eastern portion of the City (USFWS 2023). Buildout of the General Plan Update would intensify the uses of several sites adjacent to the channel which could contribute to an increase in pollutants in the waterway. However, as noted in Chapter 5.10, *Hydrology and Water Quality*, all development would adhere to existing regulations in addition to General Plan Policy OSC-3.5 and Policy OSC-3.6 which would improve groundwater quality and minimize stormwater pollution, respectively. Additionally, Policy OSC-2.6 calls for the coordination with the County to maintain and enhance the Mile Square Park Urban Nature Center and minimize impacts on biological resources within Mile Square Regional Park.

Potential future development would be required to comply with local, state, and federal regulations adopted to minimize impacts to potential sensitive natural communities (e.g., Endangered Species Act, California Endangered Species Act, California Native Plant Protection Act, etc.). Therefore, impacts would be less than significant.

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

Less than Significant. The City is primarily developed with few, scattered open space areas that could serve as migration corridors. The Santa Ana River and parks, such as Mile Square Regional Park, could be used for migration. Migratory birds would be protected under the Migratory Bird Treaty Act which governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. It prohibits the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations. In addition, California law, particularly relevant statutes in the Fish and Game Code, provide protections for birds and their active nests.

8. Impacts Found Not to Be Significant

Future development would also be required to comply with local, state, and federal regulations adopted to minimize impacts to potential sensitive species. Additionally, Policy OSC-2.6 calls for the coordination with the County to maintain and enhance the Mile Square Park Urban Nature Center and minimize impacts on biological resources within Mile Square Regional Park. Therefore, impacts would be less than significant.

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

Less Than Significant Impact. The City of Fountain Valley Municipal Code Chapter 12.04, Trees, Shrubs, and Plants, protects trees by ensuring that no person shall cut, trim, plant, prune, remove, injure, or interfere with any tree within public property without prior permission and approval from the Director of Public Works. The City is recognized as a “Tree City USA” city since 2015 which recognizes environmental improvement and higher levels of tree care in Tree City USA communities (Fountain Valley 2023a). The proposed project would not conflict with Chapter 12.04 of the Municipal Code, nor would it conflict the City’s status as a “Tree City USA” city. Additionally, General Plan Update Policy OSC-2.1 and Policy OSC-2.2 call for maintaining and enhancing a diverse and healthy urban forest and replacing dead, missing, or removed trees and facilitating tree replacement, respectively. Therefore, impacts would be less than significant.

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

No impact. There are no HCPs, NCCPs, or other approved local, regional, or state habitat conservation plans that cover the City or SOI (CDFW 2023). Therefore, no impact would occur.

8.3 CULTURAL RESOURCES

Would the project:

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

Less Than Significant with Mitigation Incorporated. Heritage Park consists of a historical Japanese Bath house, the 1898 Courreges Tank House (oldest surviving structure in Fountain Valley), and a historical real estate office (Fountain Valley 2023b). According to the California Register of Historic Places and the National Register of Historic Places, there are no historical resources in the City (OHP 2023; NPS 2020). Buildings that reach 50 years are eligible to be listed as historic resources. Future development under the proposed project could adversely impact historic resources through changes to accommodate adaptive reuse, removal, or reconstruction. Known or future historic sites or resources listed in the national, California, or local registers maintained by the City would be protected through state and federal regulations, as well as General Plan Update Policy OSC-2.3, which calls for the preservation of national and state historic resources, and Policy OSC-2.4, which calls for the preservation and maintenance of local historic resources. Nonetheless, changes to historic resources could result in a significant impact. With the implementation of Mitigation Measure CUL-1 through Mitigation Measure CUL-4, impacts would be less than significant.

8. Impacts Found Not to Be Significant

Mitigation Measures

- CUL-1 Prior to any construction activities that may affect historical resources (i.e., structures 45 years or older), a historical resources assessment shall be performed by an architectural historian or historian who meets the Secretary of the Interior's Professionally Qualified Standards (PQS) in architectural history or history. This shall include a records search to determine if any resources that may be potentially affected by a project have been previously recorded, evaluated, and/or designated in the National Register of Historic Places (NRHP), California Register of Historic Resources (CRHR), or other registers of historic resources. Following the records search, the qualified architectural historian or historian shall conduct a reconnaissance-level and/or intensive-level survey in accordance with the California Office of Historic Preservation (OHP) guidelines to identify any previously unrecorded potential historical resources that may be potentially affected by a proposed project. Pursuant to the definition of a historical resource under CEQA, potential historical resources shall be evaluated under a developed historic context.
- CUL-2 To ensure that projects requiring the relocation, rehabilitation, or alteration of a historical resource not impair its significance, the *Secretary of the Interior's Standards for the Treatments of Historic Properties* shall be used to the maximum extent possible. The application of the standards shall be overseen by a qualified architectural historian or historic architect meeting the PQS. Prior to any construction activities that may affect the historical resource, a report identifying and specifying the treatment of character-defining features and construction activities shall be provided to the City of Fountain Valley.
- CUL-3 If a proposed project would result in the demolition or significant alteration of a historical resource, it cannot be mitigated to a less than significant level. However, recordation of the resource prior to construction activities will assist in reducing adverse impacts to the resource to the greatest extent possible. Recordation shall take the form of Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), or Historic American Landscape Survey (HALS) documentation, and shall be performed by an architectural historian or historian who meets the PQS. Documentation shall include an architectural and historical narrative; medium- or large-format black and white photographs, negatives, and prints; and supplementary information such as building plans and elevations, and/or historic photographs. Documentation shall be reproduced on archival paper and placed in appropriate local, state, or federal institutions. The specific scope and details of documentation would be developed at the project level.
- CUL-4 If cultural resources that are eligible for listing to the NRHP, CRHR, or other registers of historic resources are identified within or adjacent to the proposed development, the construction limits shall be clearly flagged to assure impacts to eligible cultural resources are avoided or minimized to the extent feasible. Prior to implementing construction activities, a qualified archaeologist shall verify that the flagging clearly delineates the construction limits

8. Impacts Found Not to Be Significant

and eligible resources to be avoided. Since the location of some eligible cultural resources is confidential, these resources will be flagged as environmentally sensitive areas (ESA).

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

Less Than Significant Impact with Mitigation Incorporated. While the majority of the City has been developed, future construction and redevelopment of sites would include ground-disturbing activities that could have the potential to uncover archaeological resources. However, with the implementation of Mitigation Measure CUL-5, impacts would be less than significant.

Mitigation Measures

CUL-5 Prior to construction activities, the future project applicant shall retain a qualified archaeologist to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources. If cultural resources are discovered during ground disturbing activities, all ground disturbing activities within 50 feet of the find shall be halted until a meeting is convened between the developer, archaeologist, tribal representatives, and the Director of the Community Development Department. At the meeting, the significance of the discoveries shall be discussed and after consultation with the tribal representatives, developer, and archaeologist, a decision shall be made, with the concurrence of the Director of the Community Development Department, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources.

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

Less Than Significant Impact. California Health and Safety Code, Section 7050.5; CEQA Section 15064.5; and Public Resources Code, Section 5097.98, mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. Specifically, California Health and Safety Code, Section 7050.5, requires that if human remains are discovered on a project site, disturbance of the site shall remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. Although soil-disturbing activities associated with development in accordance with the General Plan Update could result in the discovery of human remains, compliance with existing law would ensure that significant impacts to human remains would be less than significant.

8. Impacts Found Not to Be Significant

8.4 MINERAL RESOURCES

Would the project:

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

No Impact. The City of Fountain Valley is mapped as MRZ-3, which is an area where the significance of mineral deposits cannot be determined from available data. As such, the proposed project would not result in a loss of availability of known mineral resources. No impact would occur.

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

No Impact. No mineral resources sectors and active or inactive mines are present in the City, and there are no areas in the City designated for mineral resource use. As such, the proposed project would not result in a loss of availability of known mineral resources. No impact would occur.

8.5 PUBLIC SERVICES

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

- a) **Fire protection?**

Less Than Significant Impact. The Fountain Valley Fire Department (FVFD) provides fire protection and safety services for the City of Fountain Valley. FVFD has two fire stations in the City – Fire Station 1 located at 17737 Bushard Street and Fire Station 2 located at 16767 Newhope Street. A total of 39 sworn personnel is assigned to field operations, with 13 firefighting and emergency medical personnel on-duty, 24-hours per day. Each engine and the ladder truck are staffed with a captain, an engineer, and two firefighter-paramedics. A battalion chief serves as the on-duty command officer for the department (Fountain Valley 2023c).

Fountain Valley Fire Department participates with three fire departments which border Fountain Valley (Costa Mesa Fire Department, Huntington Beach Fire Department, and Orange County Fire Authority) in automatic aid pacts, which provide for the response of the closest fire and paramedic units regardless of jurisdictional boundaries (Fountain Valley 2023d).

The proposed project would increase intensity development within the City and SOI boundaries, and would not expand development into undeveloped areas of the County. While the proposed project would increase the need for fire protection services, the proposed project would include policies aimed at maintaining staffing, facilities, and training activities to respond to emergencies and service calls (General Plan Update Policy PFS-3.1) and continuing to participate in mutual aid and automatic aid (General Plan Update Policy PFS-3.2).

8. Impacts Found Not to Be Significant

Additionally, new development in the City would be required to comply with all applicable regulations, such as the California Fire Code, and would be reviewed by the FVFD for consistency. Therefore, impacts would be less than significant.

b) Police protection?

Less Than Significant Impact. The Fountain Valley Police Department (FVPD) is made up of two divisions—the Patrol Division and the Support Services Division. As per correspondence with the FVPD, the Patrol Division includes duty gear, patrol car, and six to 15 officers; and the Services Division includes office equipment, dispatch equipment, CSI-evidence equipment, and 25 to 30 sworn and non-sworn officers. The FVPD is located at 10200 Slater Avenue.

The FVPD's service boundary is bounded by Edinger Avenue to the north, Garfield Avenue to the south, Newland Street and Magnolia Street (changes at Warner Avenue) to the west, and Riverbed and Flood Control Channel to the east. The Mile Square Regional Park is serviced by the Orange County Sheriff's Department. The total service area is approximately 9.08 square miles. The current average response time for emergency calls is 6 minutes and 43 seconds, and between 10 minutes and 35 seconds to 11 minutes and 17 seconds depending on the level of priority of the call for non-emergency calls.

Per correspondence with FVPD, at full or nearly full staffing, existing resources appear adequate to serve the City under current conditions; however due to retirement, injuries, and other matters the police department is not usually at full staffing levels. There are currently 64 authorized sworn officer positions in the FVPD; the ratio of officers to citizens is approximately 1:900 based on a population of 57,595 people. If the projected population in 2045 is 73,668, then the police department would need 18 more officers to maintain the same ratio of officers to citizens. Therefore, with more officers and caseloads from a larger population, the police department would also need additional support services personnel and may result in the need to expand or construct new facilities.

Implementation of the proposed project would result in an increase in population, thereby increasing the demand for police protection services. As new development occurs, new or expanded police facilities may be needed to support the associated population growth. It is not known at this time when such facilities would be required or what the exact nature of these facilities would be. As a result, project-specific assumptions would be speculative. If construction or expansion of facilities to accommodate additional personnel or equipment become necessary, CEQA review and compliance with local, state, and federal laws would be required.

Nonetheless, the General Plan Update include policies to reduce significant impacts on police services, such as Policy PFS-3.1, which calls for maintaining staffing, facilities, and training activities to effectively respond to emergency and respond to emergency and general public service calls. As such, impacts would be less than significant.

8. Impacts Found Not to Be Significant

c) Schools?

Less Than Significant Impact. The City is served by four school districts—the Fountain Valley School District, Huntington Beach Union High School District, Garden Grove Unified School District, and Ocean View School District. There are nine public elementary schools, five public middle schools, and two public high schools that serve the residents of the City. The Fountain Valley School District serves over 6,000 students from Fountain Valley and Huntington Beach (FVSD 2023).

Buildout potential associated with the proposed project is expected to increase population by approximately 16,073. This expected population growth would include school-aged children, which would increase enrollment in local schools serving Fountain Valley. Table 8.4-1, *Student Generation Rates Per Residential Units*, shows the student generation rates provided by Fountain Valley School District (FVSD) and the Garden Grove Unified School District (GGUSD).

Table 8.4-1 Student Generation Rates Per Residential Units

School Level	Single Family	Multi-Family
Garden Grove Unified School District¹		
Elementary School (TK-6)	0.18	0.21
Intermediate School	0.06	0.07
High School	0.12	0.14
Fountain Valley School District		
Elementary (K-5)	0.30	0.14
Middle School (6-8)	0.08	0.06

¹ Detached and Attached Single Family was combined and divided by two.

Source: Correspondence with FVSD and GGUSD

The General Plan Update includes policies aimed at addressing future school demands within a growing city, such as Policy LU-1.6 and Policy LU-1.7. In addition, new development under the proposed project would also be required to pay development fees. For example, the FVSD requires a \$4.79 residential, \$0.78 commercial, and \$0.07 assessable space for self-storage development fee per square foot. In addition, the GGUSD requires a \$4.79 residential, \$0.78 commercial, and \$0.03 assessable space for self-storage development fees per square foot. Pursuant to Section 65996 of the Government Code, payment of school fees is deemed to provide full and complete school facilities mitigation. As such, impacts would be less than significant.

d) Other public facilities?

Less Than Significant Impact. The Fountain Valley Library is approximately 15,000 square feet and is located at 17635 Los Alamos Street. The Fountain Valley Library provides community programming for all ages, approximately 56,261 items in its collection system, access to free Wi-Fi, computers, and other electronic media. The Fountain Valley Library is one of 33 branches that belong to the community network of the Orange County Public Libraries (OCPL 2023).

The proposed project is expected to increase the City’s existing population by 16,073 by the 2045 buildout. There are no plans for future library expansion or new libraries that would potentially serve the proposed project. Based on correspondence with Fountain Valley Library the current square footage, staff, and collection

8. Impacts Found Not to Be Significant

size are adequate to serve future growth. In addition, patrons have access to the collection with interlibrary loans whereby they can order books from other branches and have them delivered to their home branch. The Fountain Valley Library has enough adequate usable space, but staff indicate that the library could be redesigned to meet current community needs, as well as Title 24 standards, and new shelving to meet earthquake standards. Additionally, the General Plan Update includes Policy PFS-6.1 which calls for coordination with the County to maintain, expand, and improve library services to meet the needs of the community. Impacts would be less than significant.

8.6 TRIBAL CULTURAL RESOURCES

- a) **Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**
 - i) **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or**
 - ii) **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

Less Than Significant Impact with Mitigation Incorporated. In accordance with AB 52 and SB 18 requirements, the City sent invitation letters to representatives of the Native American contacts provided by the Native American Heritage Commission (NAHC) on November 18, 2022, formally inviting tribes to consult with the City on the upcoming General Plan Update. No tribes requested consultation. Future development could include ground disturbing activities that may have sensitive tribal cultural resources. Grading and construction activities of undeveloped areas or redevelopment that requires more intensive soil excavation than needed for the existing development could potentially cause disturbance to tribal cultural resources by potentially unearthing previously unknown/unrecorded tribal cultural resources. The General Plan Update includes Policy OSC-2.7 which ensures compliance with statutory tribal notification and consultation requirements and CEQA mitigation measures as part of planning, permitting, and construction activities. With compliance with local, state, and federal regulations, as well as Mitigation Measure TCR-1, impacts would be less than significant.

Mitigation Measures

TCR-1 Prior to any ground disturbing construction activities, the project applicant shall retain a Native American monitor. The tribal monitor shall only be present onsite during the construction phases that involve ground-disturbing activities. Ground-disturbing activities are defined as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching within a

8. Impacts Found Not to Be Significant

project site. The tribal monitor will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The onsite monitoring shall end when the grading and excavation activities are completed or when the tribal representatives and monitor have indicated that the project site has a low potential for affecting tribal cultural resources.

Upon discovery of any tribal cultural resources, construction activities shall cease in the immediate vicinity of the find until the tribal monitor can assess the find. The evaluation of all tribal cultural resources unearthed by project construction activities shall be evaluated by a qualified archaeologist and/or tribal monitor. If the resources are Native American in origin, the tribal monitor shall coordinate with the project applicant and Director of the Community Development Department regarding treatment and curation of these resources as well as notifying local tribes of the find. Typically, the tribe(s) will request reburial or preservation for educational purposes. The project applicant may continue work on other parts of the project site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5[f]). If the tribal monitor determines a resource to constitute a "historical resource" or "unique archaeological resource," time and funding sufficient to allow for implementation of avoidance measures or appropriate mitigation must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Section 21083.2(b) for unique archaeological resources.

If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. The project applicant and Director of the Community Development Department shall be responsible for ensuring that a public, nonprofit institution with a research interest in the materials, such as the Orange County Museum of Natural History, curate any historic archaeological material that is not Native American in origin if such an institution agrees to accept the material. If no institution accepts the archaeological material, the project applicant and Director of the Community Development Department shall offer it to a local historical society for educational purposes or retain the material and use it for educational purposes.

8.7 WILDFIRE

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

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

Less Than Significant Impact. The City of Fountain Valley Municipal Code includes Chapter 2.57, Emergency Preparedness, and Chapter 17.06, Emergency Response Systems and Hazardous Materials Ordinance; the purposes of these chapters are to provide for the preparation and carrying out of plans

8. Impacts Found Not to Be Significant

for the protection of persons and property, and to ensure new buildings have approved radio coverage for emergency responders.

Buildout of the City under the proposed General Plan Update would not result in substantial changes to the circulation patterns or emergency access routes in the City. During an emergency, standard response procedures of the City of Fountain Valley Police Department and the City of Fountain Valley Fire Department are conducted in tandem.

Future development would be required to comply with applicable fire and building codes, as well as the General Plan Update policies, such as Policy PFS-2.6, Policy PFS-4.1, and Policy PFS-4.3. To ensure emergency services in the City are not impaired by future development, all development projects in the City are reviewed by the Fountain Valley Fire Department, prior to approval. Impacts would be less than significant.

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

Less Than Significant Impact. There are three primary factors used in assessing wildfire hazards—topography, weather, and fuel. The City is primarily flat and highly urbanized. The proposed project would not impact weather or topography. Future development within the City would be required to adhere to state and local codes, such as the California Fire Code, and Chapter 2.57 and Chapter 17.06 of the Fountain Valley Municipal Code, as well as the General Plan Update policies, such as Policy PFS-2.2 and Policy PFS-3.2. Additionally, the City is not located within a VHFHSZ. Therefore, impacts of exposing occupants to pollutant concentrations from or exacerbating a wildfire would be less than significant.

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

Less Than Significant Impact. The City of Fountain Valley is highly urbanized and is surrounded by urbanized cities. Future development may require connections to existing utility lines and/or new infrastructure for electricity, natural gas, telecommunications, and cable service. However, future development would occur within areas already developed, and therefore, the proposed project would not introduce new infrastructure in undeveloped areas. Additionally, the City is not within a VHFHSZ. Future infrastructure would be installed to meet the requirements of service providers, and implementation of General Plan Update Policy PFS-2.7 requires that utilities be hardened to fire risk. Therefore, impacts would be less than significant.

8. Impacts Found Not to Be Significant

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

Less Than Significant Impact. The City of Fountain Valley is generally flat. The majority of the City is within Flood Zone X, and the northwestern portion of the City is within Flood Zone A. Section 21.14.040, Floodplain (-FP) Overlay Zoning District—Flood Damage Prevention, of the Fountain Valley Municipal Code promotes public health, safety and general welfare, and to minimize public and private losses due to flood conditions. The City is not at risk of landslide or slope instability. Therefore, it is unlikely that the City would be susceptible to downslope or downstream flooding or landslides as a result of post-fire slope instability. Additionally, the City is not within a VHFHSZ. The proposed project would implement the policies of the General Plan Update, such as Policy PFS-2.1 and Policy PFS-2.2, which call for improving the City’s ability to prepare for/respond to large-scale disasters and require adherence to the goals, objectives, and actions of the Local Hazard Mitigation Plan, respectively. Impacts would be less than significant.

8.8 REFERENCES

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8. Impacts Found Not to Be Significant

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9. Organizations Consulted and Qualifications of Preparers

Fountain Valley Community Development

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Fountain Valley Public Works

Hye Jin Lee – Director of Public Works

Fountain Valley Parks and Recreation Department

Rob Frizzelle – Community Services Director

Fountain Valley Police Department

Henry Hsu – Sergeant

Fountain Valley School District

Christine Fullerton – Assistant Superintendent, Business Services

Garden Grove Unified School District

Elaine Kavanaugh

Orange County Public Libraries - Fountain Valley Library

Julie Oakley

Orange County Waste & Recycling

Aimee Halligan – Administrative Manager

9. Organizations Consulted and Qualifications of Preparers

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