

4.1 Air Quality

This section evaluates the potential for impacts on air quality resulting from implementation of the OC River Walk Project (project). Information presented in this section related to construction and operation emissions is based on California Emissions Estimator Model (CalEEMod) modeling prepared by Harris & Associates and included in Appendix C, Air Quality/GHG Data, to this Environmental Impact Report (EIR).

4.1.1 Environmental Setting

4.1.1.1 Regulatory Setting

This section describes the federal, state, and local regulatory framework adopted to address air quality.

Federal

Federal Clean Air Act (U.S. Code, Title 42, Section 7401 et seq.)

The Clean Air Act (CAA) of 1970 is the comprehensive federal law that regulates air emissions from stationary and mobile sources. The CAA authorizes the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants. Current NAAQS are listed in Table 4.1-1, National and California Ambient Air Quality Standards. The primary standards listed in Table 4.1-1 have been set at levels intended to protect public health. The USEPA has classified air basins (or portions thereof) as being in “attainment,” “nonattainment,” or “unclassified” for each criteria air pollutant based on if the NAAQS have been achieved. Non-attainment areas are air basins that do not meet one or more of the NAAQS and are subject to additional restrictions as required by the USEPA. If an area is designated unclassified, it is because inadequate air quality data was available as a basis for a non-attainment or attainment designation. The USEPA classifies the South Coast Air Quality Management District (SCAQMD) as in attainment for the federal carbon monoxide (CO), nitrogen dioxide (NO₂), lead, respirable particulate matter (PM₁₀), and sulfur dioxide (SO₂) standards. It is unclassifiable for PM₁₀ with respect to federal air quality standards. The SCAQMD is classified as in non-attainment for the federal ozone (O₃) standard and fine particulate matter (PM_{2.5}) (SCAQMD 2022). Table 4.1-2, South Coast Air Quality Management District Attainment Status, lists the attainment status of the SCAQMD for criteria air pollutants.

Table 4.1-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ¹	Federal Standards ²	
		Concentration ³	Primary ^{3,4}	Secondary ^{3,5}
Ozone (O ₃) ⁶	1-Hour	0.09 ppm (180 µg/m ³)	—	Same as Primary Standards
	8-Hour	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)	
Respirable Particulate Matter (PM ₁₀) ⁷	24-Hour	50 µg/m ³	150 µg/m ³	Same as Primary Standards
	Annual Arithmetic Mean	20 µg/m ³	—	
Fine Particulate Matter (PM _{2.5}) ⁷	24-Hour	—	35 µg/m ³	Same as Primary Standards
	Annual Arithmetic Mean	12 µg/m ³	9 µg/m ³	15 µg/m ³
Carbon Monoxide (CO)	8-Hour	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	None
	1-Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	
Nitrogen Dioxide (NO ₂) ⁸	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as Primary Standard
	1-Hour	0.18 ppm (470 µg/m ³)	100 ppb (188 µg/m ³)	
Sulfur Dioxide (SO ₂) ⁹	Annual Arithmetic Mean	—	0.030 ppm (for certain areas)	—
	24-Hour	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas)	—
	3-Hour	—	—	0.5 ppm (1,300 µg/m ³)
	1-Hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)	—
Lead ^{10, 11}	30-Day Average	1.5 µg/m ³	—	—
	Calendar Quarter	—	1.5 µg/m ³ (for certain areas)	Same as Primary Standard
	Rolling 3-Month Average ⁷	—	0.15 µg/m ³	
Visibility-Reducing Particles ¹²	8-Hour	Refer to Footnote 12	No Federal Standards	
Sulfates	24-Hour	25 µg/m ³	No Federal Standards	
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m ³)	No Federal Standards	
Vinyl Chloride ¹⁰	24-Hour	0.01 ppm (26 µg/m ³)	No Federal Standards	

Source: CARB 2024a, 2024b.

Notes: µg/m³ = micrograms per cubic meter; mg/m³ = milligram per cubic meter; ppb = parts per billion; ppm = parts per million

¹ California standards for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, PM₁₀, PM_{2.5}, and visibility-reducing particles are values that are not to be exceeded. The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride standards are not to be equaled or exceeded. The California ambient air quality standards are listed in the Table of Standards in California Code of Regulations, Title 17, Section 70200.

² National standards (other than O₃, PM, and those based on annual averages) are not to be exceeded more than once per year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in 1 year, averaged over 3 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 1. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the USEPA for further clarification and current national policies.

³ Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

- ⁴ National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- ⁵ National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- ⁶ On October 1, 2015, the national 8-hour O₃ primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- ⁷ On February 7, 2024, the national annual PM_{2.5} primary standard was lowered from 12.0 µg/m³ to 9.0 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 15.0 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.
- ⁸ To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- ⁹ On June 2, 2010, a new 1-hour SO₂ standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
- Note that the 1-hour national standard is in units of ppb. California standards are in units of 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.
- ¹⁰ The California Air Resources Board (CARB) had identified lead and vinyl chloride as toxic air contaminants (TACs) with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- ¹¹ The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- ¹² In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.

Table 4.1-2. South Coast Air Quality Management District Attainment Status

Pollutant	California Standards	Federal Standards
Ozone (O ₃) (1-Hour)	Non-attainment	Non-attainment
Ozone (O ₃) (8-Hour)	Non-attainment	Non-attainment
Respirable Particulate Matter (PM ₁₀)	Non-attainment	Attainment
Fine Particulate Matter (PM _{2.5})	Non-attainment	Non-attainment
Carbon Monoxide (CO)	Attainment	Attainment/Unclassifiable ¹
Nitrogen Dioxide (NO ₂)	Attainment	Attainment/Unclassifiable
Lead	Attainment	Attainment/Unclassifiable
Sulfur Dioxide (SO ₂)	Attainment	Attainment

Source: SCAQMD 2016.

Notes:

- ¹ Unclassified; indicates data is not sufficient for determining attainment or non-attainment.

The CAA requires states to develop a plan to attain and maintain the NAAQS in all areas of the country and a specific plan to attain the standards for each area designated non-attainment for a NAAQS. These plans, known as State Implementation Plans, are developed by state and local air quality management agencies and submitted to the USEPA for approval. The State Implementation Plan includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The State Implementation Plan is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them.

State

Air Quality and Land Use Handbook: A Community Health Perspective

The California Air Resources Board (CARB) developed the Air Quality and Land Use Handbook: A Community Health Perspective to provide guidance on land use compatibility with sources of toxic air contaminants (TACs) (CARB 2005). These sources include freeways and high-traffic roads, commercial distribution centers, rail yards, refineries, dry cleaners, gasoline stations, and industrial facilities. The handbook is not a law or adopted policy but offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs. The handbook indicates that land use agencies must balance other considerations, including housing and transportation needs, economic development priorities, and other quality-of-life issues.

California Ambient Air Quality Standards

CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of air pollution control programs in California. The CAA allows states to adopt ambient air quality standards and other regulations if they are at least as stringent as federal standards. California has adopted ambient air quality standards (CAAQS), listed in the Table of Standards in California Code of Regulations, Title 17, Section 70200, and provided in Table 4.1-1. Similar to the NAAQS, areas have been designated as attainment, non-attainment, or unclassified with respect to the CAAQS. As shown in Table 4.1-2, the SCAQMD is in non-attainment with the CAAQS for O₃, PM₁₀, and PM_{2.5}. The SCAQMD is designated as an attainment area for the state CO, NO₂, SO₂, and lead.

Toxic Air Contaminant Regulations

California regulates TACs primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588, Hot Spots Act). The act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. To date, CARB has designated nearly 200 compounds as TACs. The majority of estimated health risks from TACs can be attributed to a relatively small number of compounds, the most important being diesel particulate matter from diesel-fueled engines.

Regional

South Coast Air Quality Management District

The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. The SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. It has responded to this requirement by preparing a sequence of Air Quality Management Plans (AQMPs). Most recently, in December 2022, the SCAQMD Governing Board adopted the 2022 AQMP. The 2022 AQMP is focused on attaining

the 2015 8-hour ozone standard (70 parts per billion) for the South Coast Air Basin (SCAB) and Coachella Valley. The 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emission technologies, when cost-effective and feasible, and low NOx technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other CAA measures to achieve the 2015 8-hour ozone standard. The 2022 AQMP was approved and adopted by CARB on January 26, 2023. The 2022 AQMP strategy includes the following:

- Wide adoption of zero emissions technologies anywhere available
- Low NOx technologies where zero emissions aren't feasible
- Federal Action
- Zero emissions technologies for residential and industrial sources such as water and space heaters in buildings and homes regionwide
- Incentive funding in environmental justice areas
- Prioritize benefits on the most disadvantaged communities

Additionally, the project must comply with applicable SCAQMD rules and regulations. The following are the rules that the project may be required to comply with, primarily during construction:

- **Rule 402:** Prohibits a person from discharging 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.
- **Rule 403:** Governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through the application of standard Best Management Practices.
- **Rule 1108:** Governs the sale, use, and manufacturing of asphalt and limits the volatile organic compound (VOC) content in asphalt used in the South Coast Air Basin. This rule would regulate the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the Proposed Project must comply with SCAQMD Rule 1108.

Southern California Association of Governments

The Southern California Association of Governments is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. The Southern California Association of Governments is the federally designated metropolitan planning organization for the majority of the Southern California region and is the

largest metropolitan planning organization in the nation. With respect to air quality planning, the Southern California Association of Governments has prepared the Regional Transportation Plan and Regional Transportation Improvement Plan, which addresses regional development and growth forecasts. These plans form the basis for the land use and transportation components of the AQMP, which are used in the preparation of air quality forecasts and in the consistency, analysis included in the AQMP. The Regional Transportation Plan, Regional Transportation Improvement Plan, and AQMP are based on projections originating within the City and County General Plans.

In April 2024, the Southern California Association of Governments approved the Final 2025–2050 RTP/SCS, Connect SoCal 2024. Connect SoCal 2024 outlines a vision for a more resilient and equitable future, with investment, policies and strategies for achieving the region’s shared goals through 2050. Goals of the plan include more efficient development patterns, reduced congestion, expanded multimodal travel options, and reduced greenhouse gas emissions from passenger vehicles. Priority Development Areas are a key focus of the plan to increase development in locations where people can access alternative modes of transportation or make short trips for day-to-day tasks.

Local

City of Anaheim General Plan Green Element

The City of Anaheim General Plan’s Green Element, adopted in 2004, contains goals that focus on the reduction of vehicle trips and vehicle emissions (City of Anaheim 2004). The Green Element comprehensively addresses topics concerning conservation, open space, parks and recreation, trails, and public landscaping. Goals and policies from the Green Element relating to air quality that are applicable to the project are listed below:

- **Goal 8.1:** Reduce locally generated emissions through improved traffic flows and construction management practices.
 - **Policy 1.** Reduce vehicle emissions through traffic flow improvements, such as traffic signal synchronization, Intelligent Transportation Systems, the Scoot Adaptive Traffic Control System, and related capital improvements.
 - **Policy 2.** Regulate construction practices, including grading, dust suppression, chemical management, and encourage pre-determined construction routes that minimize dust and particulate matter pollution.
- **Goal 9.1:** Reduce single-occupancy vehicle trips.
 - **Policy 3.** Encourage use of vanpools and carpools by providing priority parking through the project design process.
 - **Policy 4.** Encourage bicycle and pedestrian travel by improving the City’s trail and bikeway master plan and by providing convenient links between the trail system and desired destinations.

- **Goal 13.1:** Expand citizen and business outreach programs relating to policies that improve air quality.
 - **Policy 2.** Disseminate air quality educational materials to residents, businesses and schools.

City of Orange General Plan Natural Resources Element

The City of Orange General Plan Natural Resources Element, adopted in 2010, contains goals that focus on the reduction of vehicle trips and vehicle emissions (City of Orange 2010). The Natural Resources Element comprehensively addresses topics concerning conservation, open space, parks and recreation, trails, and public landscaping, as well as preservation and management of renewable and non-renewable natural resources. The applicable Natural Resources Element goal related to air quality is listed below:

- **Goal 2.0:** Protect air, water, and energy resources from pollution and overuse.
 - **Policy 2.1.** Cooperate with the South Coast Air Quality Management District (SCAQMD) and other regional agencies to implement and enforce regional air quality management plans.
 - **Policy 2.2.** Support alternative transportation modes, alternative technologies, and bicycle- and pedestrian-friendly neighborhoods to reduce emissions related to vehicular travel.
 - **Policy 2.10.** Work toward replacing existing City vehicles with ultra low or zero emission vehicles. At a minimum, new City vehicles shall be low emission vehicles as defined by the California Air Resources Board, except if certain vehicle types are not available in the marketplace. Public safety vehicles are exempted from this requirement.

4.1.1.2 Existing Conditions

Climate

The project site is located within the SCAB, which includes all of Orange County and the urbanized portions of Los Angeles, Riverside, and San Bernardino Counties. The SCAB is arid, with virtually no rainfall and abundant sunshine during the summer months. The SCAB has light winds and poor vertical mixing compared to the other large urban areas in the United States. The combination of poor dispersion and abundant sunshine drives the photochemical reactions that form pollutants (such as ozone [O₃]) and provide conditions especially favorable to the formation of smog. The SCAB is bound to the north and east by mountains with maximum elevations exceeding 10,000 feet. The unfavorable combination of meteorology, topography, and emissions from the nation's second largest urban area results in the SCAB having some of the worst air quality in the United States (SCAQMD 2022).

Temperature and precipitation levels in the Cities of Anaheim and Orange vary throughout the year. In general, August is typically the warmest month, and December is typically the coolest month. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry (WRCC 2025).

Air Pollutants and Effects

Air quality laws and regulations have historically divided air pollutants into two broad categories: criteria air pollutants and non-criteria air pollutants, or TACs. Criteria air pollutants are a group of common air pollutants regulated by federal and state governments through ambient air quality standards based on criteria regarding the health and environmental effects of pollution. The criteria air pollutants pertinent to the analysis in this memorandum are carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O₃), particulate matter (particulate matter measuring no more than 10 microns in diameter [PM₁₀] and particulate matter measuring no more than 2.5 microns in diameter [PM_{2.5}]), and sulfur dioxide (SO₂). The following describes the health effects of these criteria air pollutants.

Carbon Monoxide

CO is a colorless, odorless, poisonous gas produced by combustion processes, primarily mobile sources. When CO gets into the body, it combines with chemicals in the blood and prevents blood from providing oxygen to cells, tissues, and organs. Because the body requires oxygen for energy, high-level exposure to CO can cause serious health effects, including death (USEPA 2024a).

Nitrogen Oxides

NO_x is a general term pertaining to compounds including nitric oxide (NO), nitrogen dioxide (NO₂), and other nitrogen oxides. NO_x is produced from burning fuels, including gasoline, diesel, and coal. NO_x reacts with volatile organic compounds (VOCs) to form ground-level O₃ (smog). NO_x is linked to a number of adverse respiratory system effects (USEPA 2024b).

Ozone

Ground-level O₃ is not emitted directly into the air but is formed by chemical reactions of “precursor” pollutants (NO_x and VOCs) in the presence of sunlight. Major emissions sources include NO_x and VOC emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents. O₃ can trigger a variety of health problems, particularly for sensitive receptors, including children, older adults, and people of all ages who have lung diseases, such as asthma (USEPA 2024c).

Particulate Matter

Particulate matter includes dust, metals, organic compounds, and other tiny particles of solid materials that are released into and move around in the air. Particulates are produced by many sources, including the burning of diesel fuel by trucks and buses, industrial processes, and fires.

Particulate matter is measured in microns, which are 1 millionth of 1 meter in length (or 1 thousandth of 1 millimeter). PM₁₀ is small particulate matter measuring no more than 10 microns in diameter, while PM_{2.5} is fine particulate matter measuring no more than 2.5 microns in diameter. Both PM_{2.5} and PM₁₀ can be inhaled and deposited throughout the airways. Locations of particle deposition in the lung depend on particle size. PM_{2.5} is more likely to travel into and deposit on the surface of the deeper parts of the lung, while PM₁₀ is more likely to deposit on the surfaces of the larger airways of the upper region of the lung. Inhalation of particulate matter can cause nose and throat irritation and heart and lung problems (USEPA 2024d).

Sulfur Dioxide

SO₂ is formed primarily by the combustion of sulfur-containing fossil fuels, especially at power plants and industrial facilities. SO₂ is linked to a number of adverse effects on the respiratory system (USEPA 2024e).

Existing Ambient Air Quality

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the SCAB. Estimates of the existing emissions in the SCAB provided in the 2022 AQMP indicate that collectively, mobile sources account for 46 percent of the VOC, 85 percent of the NO_x emissions, 89 percent of the CO emissions and 29 percent of directly emitted PM_{2.5}, with another 18 percent of PM_{2.5} from road dust (SCAQMD 2022).

The SCAQMD has divided the SCAB into 38 air monitoring areas with a designated ambient air monitoring station representative of each area. The project site is located in the Central Orange County Air Monitoring Area (Area 17). The nearest air monitoring station to the project site is the Anaheim Route 5 Near Road Station located at 812 West Vermont Street in Anaheim, California (Anaheim–West Vermont Street Monitoring Station) and approximately 2.6 miles west of the project site. As not all monitoring stations monitor all pollutants, data was also taken from the Anaheim–Loara School Monitoring Station located approximately 3.8 miles west of the project site at 1630 Pampas Lane, Anaheim (Anaheim–Pampas Lane Monitoring Station) for those pollutants which are not measured at the Anaheim–West Vermont Street Monitoring Station. Table 4.1-3, Air Quality Monitoring Summary, summarizes the monitored pollutant levels from the Anaheim–Pampas Lane Monitoring Station and the Anaheim–West Vermont Street Monitoring Station from 2021 through 2023, which is the most recent 3-year period available. The data shows that during the past few years, monitored conditions have exceeded the ozone, PM_{2.5} PM₁₀ standards.

Table 4.1-3. Air Quality Monitoring Summary

Pollutant	Standard	Monitoring Station	2021	2022	2023
O₃					
Maximum 1-hour concentration (ppm)		Anaheim-Pampas Lane	0.089	0.102	0.089
Number of days exceeded	State: > 0.12 ppm		0	1	0
Maximum 8-hour concentration (ppm)			0.068	0.076	0.076
Number of days exceeded	Federal: > 0.07 ppm		0	1	2
	State: > 0.07 ppm		0	1	2
PM_{2.5}					
Maximum 24-hour concentration (µg/m ³)		Anaheim-Pampas Lane	54.4	33.1	45.6
Number of days exceeded	Federal: > 35 µg/m ³		10	0	1
Annual arithmetic average concentration (µg/m ³)			11.6	9.9	*
Exceeded for the year	State: > 12 µg/m ³		No	No	No
PM₁₀					
Maximum 24-Hour Concentration		Anaheim-Pampas Lane	63.6	67.0	97.8
Number of days exceeded	Federal: >150 µg/m ³		0	0	0
	State: > 50 µg/m ³		1	1	1
Annual arithmetic average concentration (µg/m ³)			23.2	*	*
NO₂					
Maximum 1-hour concentration (ppm)		Anaheim- W Vermont Street	0.072	0.062	0.058
Number of days exceeded	State: > 0.18 ppm		0	0	0

Source: CARB 2024b.

Notes: CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million

* insufficient data available to determine value

4.1.2 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the project would have a significant impact on air quality if it would:

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

The Initial Study (Appendix A to this EIR) determined that the following thresholds would have less than significant or no impact, and these environmental topics will not be addressed further in this section of the Draft EIR:

- Threshold AQ-1
- Threshold AQ-2 (operation impact only)
- Threshold AQ-3 (operation impact only)
- Threshold AQ-4 (operation impact only)

4.1.3 Plans, Programs, and Policies

This section addresses plans, programs, and policies relevant to the project.

PPP AQ-1 The project is required to comply with applicable rules and regulations set forth by SCAQMD, including but not limited to Rules 402, 403, and 1108.

PPP AQ-2 The project is required to comply with the goals and policies related to air quality outlined in the City of Anaheim Green Element and the City of Orange Natural Resources Element.

4.1.4 Environmental Impacts

The following sections address various potential impacts relating to air quality that could result from implementation of the project.

4.1.4.1 Threshold AQ-2: Cumulative Increase in Criteria Air Pollutant Emissions (Construction)

Impact Analysis

Construction activities would result in the temporary generation of air pollutants from operation of heavy construction equipment and generation of fugitive dust in the construction area and emissions from worker vehicle trips and hauling of import and export materials. Construction emissions were modeled for the project using CalEEMod Version 2022.1.1.29 using the linear construction project model. The CalEEMod includes default assumptions for construction and operation of a variety of land use development or vertical development types (e.g., residential or commercial development), and construction of linear infrastructure (e.g., pedestrian, bike, and vehicular bridge, trails, and roadway construction). As a new linear active transportation facility with paved trails and pedestrian/bike bridges, the linear model is most appropriate for the project. Construction is anticipated to take up to 36 months but is conservatively assumed to take approximately 24 months for this analysis. Based on information provided by the project engineering team (PACE), construction assumes that 11,600 cubic yards of soil would be exported during site preparation and approximately 90,000 cubic yards of soil would be stockpiled for use

on site. Excavation assumes the export and import of 17,700 cubic yards of soil. Pavement is assumed to require 11,460 cubic yards of imported paving material. CalEEMod default construction equipment fleet and vehicle trips for workers and haul trips are assumed. Implementation of dust control practices is assumed consistent with SCAQMD Rule 403, including watering and limiting vehicle speeds.

The project's estimated maximum daily construction emissions and the SCAQMD's regional emissions thresholds are summarized in Table 4.1-4, Construction-Related Regional Pollutant Emissions (pounds/day). These significance thresholds are updated as needed to appropriately represent the most current technical information and attainment status in the SCAB. Any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact (SCAQMD 2023). Construction phases are anticipated to occur sequentially. As shown in Table 4.1-4, the project daily construction emissions would not exceed the SCAQMD thresholds for any pollutant during any phase. It should be noted that even if construction phases were to occur concurrently, the total daily maximum would not exceed the SCAQMD maximum daily thresholds except for NO_x emissions. As such, the project would not result in a cumulatively considerable net increase of any criteria air pollutant during construction. This impact would be less than significant.

Table 4.1-4. Construction-Related Regional Pollutant Emissions (pounds/day)¹

Activity	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Site Preparation and Clearing	1	10	11	<1	4	1
Grading and Excavation ²	9	78	93	<1	11	4
Drainage, Utilities, and Subgrade	7	55	65	<1	9	3
Paving and Construction	1	13	22	<1	3	1
Maximum Daily Emissions	9	78	93	<1	11	4
SCAQMD Thresholds	75	100	550	150	150	55
Significant?	No	No	No	No	No	No

Source: CAPCOA 2022. Appendix C of the Draft EIR.

Notes: CO = carbon monoxide; NO_x = oxides of nitrogen; PM₁₀ = particulate matter less than 10 microns in diameter; PM_{2.5} = particulate matter less than 2.5 microns in diameter; SO_x = sulfur oxides; VOC = volatile organic compounds.

¹ Includes on-site and off-site emissions.

² On-site grading PM₁₀ and PM_{2.5} emissions assume compliance with SCAQMD Rule 403 for fugitive dust control measures.

Level of Significance Before Mitigation: Less than significant.

Mitigation Measures: No mitigation measures are required.

4.1.4.2 Threshold AQ-3: Sensitive Receptors (Construction)

Impact Analysis

The SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities (SCAQMD 2008). Those who are sensitive to air pollution include children, older adults, and people with pre-existing respiratory or cardiovascular illness. The nearest sensitive receptors to the project site include Extended Stay America hotel, approximately 75 feet east of nearest edge of the project site, and Garrison Apartments, located approximately 500 feet east of the project site.

Localized Impacts from Criteria Air Pollutants

The SCAQMD's screening look-up tables, or Localized Significance Thresholds (LSTs) are used in determining the significance of the project's localized air quality impacts, and to determine if further detailed analysis is required. LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable NAAQS and CAAQS at the nearest sensitive receptor. Receptor locations are off-site locations where individuals may be exposed to emissions from project activities.

The LST analysis for construction is dependent, in part, on the number of acres that would be disturbed during each phase of construction. The disturbed area per day is representative of a piece of equipment making multiple passes over the same land area. Construction activities associated with the project would have the potential to generate air emissions and toxic air contaminant emissions. A complete list of off-road equipment assumed for construction activities, hours of operation, and maximum estimated emissions are presented in Appendix C of this Draft EIR.

The local air emissions from construction were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in the LST Methodology prepared by SCAQMD (SCAQMD 2008, 2009). Consistent with SCAQMD guidance, the LST analysis includes only on-site emissions during construction (SCAQMD 2008).

Table 4.1-5, Local Construction Emissions at the Nearest Receptor, shows the on-site daily emissions from the CalEEMod for the different construction phases compared to the SCAQMD's LST emissions thresholds. The LST emissions threshold options are for 25, 50, 100, and 200 meter; therefore, 25 meters is the most conservative threshold distance. The emission thresholds were obtained based on the Central Orange County Source Receptor Area (SRA) 17. A daily disturbance value of 5 acres per day is assumed for construction based on SCAQMD guidance for determining daily disturbance area based on CalEEMod-estimated fleet (SCAQMD 2025). As previously noted, the Extended Stay America hotel is located approximately 75 feet from the project site. As such, the thresholds for a receptor distance of 25 meters (approximately 82 feet), the most conservative distance, is assumed to determine construction air quality impacts. The data provided

in Table 4.1-5 shows that none of the analyzed criteria air pollutants would exceed the local emissions thresholds at the nearest sensitive receptor, the Extended Stay America hotel. Therefore, a less than significant local air quality impact would occur from construction.

Table 4.1-5. Local Construction Emissions at the Nearest Receptor

Activity	On-Site Pollutant Emissions (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Site Preparation and Clearing	7	8	3	1
Grading and Excavation	76	87	9	4
Drainage, Utilities, and Subgrade	54	61	7	3
Paving and Construction	12	20	3	1
Maximum Daily Emissions	76	87	9	4
SCAQMD Maximum Daily Localized Emissions Thresholds	183	1,253	13	7
Exceed Threshold?	No	No	No	No

Source: Appendix C of the Draft EIR.

Notes: CO = carbon monoxide; NO_x = oxides of nitrogen; PM₁₀ = particulate matter less than 10 microns in diameter; PM_{2.5} = particulate matter less than 2.5 microns in diameter; SO_x = sulfur oxides; VOC = volatile organic compounds

Toxic Air Contaminants

Construction

The greatest potential for TAC emissions during construction would be related to diesel particulate matter emissions associated with heavy equipment operations. Health effects to residents from TACs are generally described in terms of risk based on a 30-year exposure (SCAQMD 2017). Given the temporary and short-term construction schedule (approximately 2 to 3 years), the project would not result in a long-term (i.e., lifetime or 30-year) diesel particulate matter emissions as a result of project construction. Furthermore, total construction-based PM emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds, as shown in Table 4.1-4 and Table 4.1-5. Therefore, impacts to sensitive receptors from TAC emissions during construction would be less than significant.

Level of Significance Before Mitigation: Less than significant.

Mitigation Measures: No mitigation measures are required.

4.1.4.3 Threshold AQ-4: Odors (Construction)

Impact Analysis

Land uses generally associated with odor complaints include agricultural uses (livestock and farming); wastewater treatment plants; food processing plants; chemical plants; composting operations; refineries; landfills; dairies; and fiberglass molding facilities (CARB 2005). The project does not propose or require any additional land uses typically associated with emitting objectionable odors. Potential odor sources associated with the project may result from

construction equipment exhaust and the application of asphalt and architectural coatings during construction activities. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction. As shown in Table 4.1-5, emissions of sulfurous gases, the main source of odors from construction equipment, would be extremely limited during construction. Therefore, odors associated with the project construction would be less than significant.

Level of Significance Before Mitigation: Less than significant.

Mitigation Measures: No mitigation measures are required.

4.1.5 Cumulative Impacts

The following sections address various potential cumulative impacts relating to air quality that could result from implementation of the project.

4.1.5.1 Cumulative Threshold AQ-2: Cumulative Increase in Criteria Air Pollutant Emissions (Construction)

The thresholds in Table 4.1-4 indicate if a project would result in a cumulatively considerable contribution to the existing cumulative impact related to non-attainment of ozone and PM standards during construction. As such, the analysis for Threshold AQ-2 is cumulative in nature. Similar to the project, other cumulative projects would be required to demonstrate consistency with SCAQMD thresholds to determine if the project would result in a cumulatively considerable impact related to ozone or PM. The combined cumulative development impacts would likely be significant. However, as indicated under the analysis for Threshold AQ-2, construction-source air pollutant emissions would not exceed the regional thresholds for any criteria air pollutant. Thus, the project's emissions during construction would be less-than-cumulatively considerable. After construction, the project would reduce cumulative air quality impacts by providing active transportation facilities that supports reducing air pollutant emissions related to vehicle miles traveled. The project impacts would not be cumulatively considerable.

4.1.5.2 Cumulative Threshold AQ-3: Sensitive Receptors (Construction)

This analysis assumes active cumulative projects within a 1-mile radius of the project site, mainly the OCVIBE Project as described in Section 3.3, Assumptions Regarding Cumulative Impacts. The types of projects listed include a variety of land use types, including housing, commercial/retail and hotel, and food establishment projects. These projects are at various stages of development and require individual analysis to determine air quality impacts to sensitive receptors. As discussed under Threshold AQ-3, the project would not result in localized impacts during construction, including at the nearest receptor distance. Therefore, it is unlikely that project on-site emissions would combine with emissions from a cumulative project to create a hotspot for

any pollutant at existing or future sensitive receptors developed under cumulative projects. Accordingly, construction of the project would not expose nearby sensitive receptors to substantial localized pollutant concentrations, and a cumulatively considerable impact would not occur.

4.1.5.3 Cumulative Threshold AQ-4: Odors (Construction)

Impacts relative to objectionable odors are limited to the area immediately surrounding the odor source and are not cumulative in nature because the air emissions that cause odors disperse beyond the sources of the odor. As the emissions disperse, the odor becomes decreasingly detectable. Construction of cumulative projects would have the potential to occur simultaneously with the project. Construction-related odors would include construction equipment exhaust and the application of asphalt and architectural coatings. However, generator of odors in any one area would be temporary, short-term, and intermittent in nature, and odors from multiple construction sites would be unlikely to combine to contribute to any cumulatively considerable odor impacts in the local area. Thus, project-related odor impacts in combination with other cumulative projects would be less-than-cumulatively considerable.

4.1.6 Level of Significance Before Mitigation

The following thresholds would be less than significant:

- **Threshold AQ-2:** Project construction would not result in a cumulatively considerable net increase of any criteria air pollutant during construction for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- **Threshold AQ-3:** Project construction would not expose sensitive receptors to substantial pollutant concentrations during construction.
- **Threshold AQ-4:** Project construction would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people during construction.

4.1.7 Mitigation Measures

No mitigation measures are required.

4.1.8 Level of Significance After Mitigation

Not applicable.