IV. Environmental Impact Analysis

B. Air Quality

1. Introduction

This section describes the environmental setting and existing air quality conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential short-term and long-term air quality impacts, and identifies mitigation measures related to implementation of the proposed Project. The analysis and findings are based on air quality emissions modeling performed for the Project, provided in Appendices B-1 and B-2 of this Draft Environmental Impact Report (EIR).

2. Environmental Setting

The Project Site are located within the City of Los Angeles (City), Los Angeles County, in the non-desert portion of the South Coast Air Basin (SCAB). The SCAB is a 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. A description of pollutants and effects, applicable regulations, and existing environmental conditions for the Project are provided below.

a) Pollutants and Effects

Criteria air pollutants are defined as pollutants for which the federal and State governments have established ambient air quality standards (AAQS), or criteria, for outdoor concentrations to protect public health. The federal and State standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter 10 microns or less in diameter (PM_{10}), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and lead (Pb). In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Numerous scientific studies published over the past 50 years point to the harmful effects of air pollution.[1] The adverse health effects associated with air pollution are diverse and include the following:[2]

- Premature mortality
- Cardiovascular effects
- Increased health care utilization (hospitalization, physician and emergency room visits)
- Increased respiratory illness and other morbidity (symptoms, infections, and asthma exacerbation)
- Decreased lung function (breathing capacity)
- Lung inflammation
- Potential immunological changes
- Increased airway reactivity to a known pharmacological agent exposure – a method used in laboratories to evaluate the tendency of airways to have an increased possibility of developing an asthmatic response
- A decreased tolerance for exercise
- Adverse birth outcomes such as low birth weights

The evidence linking these effects to air pollutants is derived from population-based observational and field studies (epidemiological), as well as controlled laboratory studies involving human subjects and animals. There have been an increasing number of studies focusing on the mechanisms (i.e., on learning how specific organs, cell types, and biomarkers are involved in the human body's response to air pollution) and specific pollutants responsible for individual effects. However, the underlying biological pathways for these effects are not always clearly understood.[3]

Although individuals inhale pollutants as a mixture under ambient conditions, the regulatory framework and the control measures developed are pollutant-specific for six major outdoor pollutants covered under Sections 108 and 109 of the Clean Air Act. This is appropriate, in that different pollutants usually differ in their sources, their times and places of occurrence, the kinds of health effects they may cause, and their overall levels

[1] California Air Resources Board (CARB), National Ambient Air Quality Standards, 2019.
[2] South Coast Air Quality Management District (SCAQMD), 2016 Air Quality Management Plan, Appendix I, Health Effects, March 2017.
[3] SCAQMD, 2016 Air Quality Management Plan, Appendix I, Health Effects, March 2017. 4

of health risk. Different pollutants, from the same or different sources, oftentimes occur together. Evidence for more than additive effects has not been strong and, as a practical matter, health scientists, as well as regulatory officials, usually must deal with one pollutant at a time in adopting AAQS.[4]

Criteria air pollutants, as well as TACs, are discussed below.

(1) Ozone

O_3 is a strong-smelling, pale blue, reactive chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly oxides of nitrogen (NO_x) and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric O_3) and at Earth's surface in the lower atmosphere (tropospheric O_3).[5] O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, respiratory symptoms, worsening of lung disease leading to premature death, increased susceptibility to infections, inflammation of and damage to the lung tissue, and some immunological changes.[6,7] These health problems are particularly acute in sensitive receptors, such as the sick, older adults, and young children.

Inhalation of O_3 causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O_3 can reduce the volume of air that the lungs breathe in and cause shortness of breath. O_3 in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from O_3 exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O_3 exposure. While there are relatively few studies of the effects of O_3 on children, the available studies show that children are no more or less likely to suffer

4 SCAQMD, 2016 Air Quality Management Plan Appendix I, Health Effects, March 2017.
5 The troposphere is the layer of Earth's atmosphere nearest to the surface of Earth, extending outward approximately 5 miles at the poles and approximately 10 miles at the equator.
6 U.S. Environmental Protection Agency (EPA), Integrated Science Assessment of Ozone and Related Photochemical Oxidants, 2013.
7 California Air Resources Board (CARB), Ozone & Health, 2019.

harmful effects than adults. However, there are a number of reasons why children may be more susceptible to O_3 and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents and adults who exercise or work outdoors, where O_3 concentrations are the highest, are at the greatest risk of harm from this pollutant.[8]

A number of population groups are potentially at increased risk for O_3 exposure effects. In the ongoing review of O_3, the U.S. Environmental Protection Agency (EPA) has identified populations as having adequate evidence for increased risk from O_3 exposures, which include individuals with asthma; younger and older age groups; individuals with reduced intake of certain nutrients, such as vitamins C and E; and outdoor workers. There is suggestive evidence for other potential factors, such as variations in genes related to oxidative metabolism or inflammation, gender, socioeconomic status, and obesity. However further evidence is needed.[9]

The adverse effects reported with short-term O_3 exposure are greater with increased activity because activity increases the breathing rate and the volume of air reaching the lungs, resulting in an increased amount of O_3 reaching the lungs.

(2) Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_2 and NO are gases composed of a mixture of nitrogen and oxygen and are part of the group of compounds termed NO_x. A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the AAQS for NO_2, results from controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies

8 CARB, Ozone & Health, 2019.
9 SCAQMD, 2016 Air Quality Management Plan Appendix I, Health Effects, March 2017.

have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher compared to lower levels of exposure. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease.[10]

(3) Carbon Monoxide

CO is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, and light-headedness and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO.[11]

(4) Sulfur Dioxide

SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter (PM), SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can worsen asthma resulting in increased symptoms, increased medication usage, and emergency room visits.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO_2 exposure, compared with the non-asthmatic population. Effects at levels near the one-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation, such as wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO_2 (above 1 part per million [ppm]) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. The elderly and people with

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[10] CARB, Nitrogen Dioxide & Health, 2019.
[11] CARB, Carbon Monoxide & Health, 2019.

cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects.[12]

SO_2 is of concern both because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in PM.[13] People with asthma are of particular concern, both because they have increased baseline airflow resistance and because their SO_2-induced increase in resistance is greater than in healthy people, and it increases with the severity of their asthma.[14] SO_2 is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways.[15]

(5) Particulate Matter

A number of adverse health effects have been associated with exposure to both $PM_{2.5}$ and PM_{10}. For $PM_{2.5}$, short-term exposures (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, $PM_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and world-wide based on the World Health Organization's Global Burden of Disease Project. Short-term exposures to PM_{10} have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits.[16]

Long-term (months to years) exposure to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that PM in outdoor air pollution causes lung cancer.[17]

12 CARB, Sulfur Dioxide & Health, 2019.
13 National Research Council (NRC), Interim Report of the Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants, 2005.
14 NRC, Interim Report of the Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants, 2005.
15 NRC, Interim Report of the Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants, 2005.
16 CARB, Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10}), 2017.
17 CARB, Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10}), 2017.

People with influenza, people with chronic respiratory and cardiovascular diseases, and older adults may suffer worsening illness and premature death as a result of breathing PM. People with bronchitis can expect aggravated symptoms from breathing PM. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$.[18]

PM encompasses a physically and chemically diverse class of ambient air pollutants of both anthropogenic and biological origin. The PM national standard is the only AAQS that does not target a specific chemical or family of chemical species.[19] The range of human health effects associated with ambient PM levels or demonstrated in laboratory studies has expanded from earlier concerns for total mortality and respiratory morbidity to include cardiac mortality and morbidity, blood vessel constriction, stroke, premature birth, low birth weight, retarded lung growth, enhancement of allergic responses, reduced resistance to infection, degenerative lesions in the brain, and lung cancer.[20]

(6) Lead

Lead in the atmosphere occurs as PM. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.[21]

(7) Sulfates

Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere and can result in respiratory impairment, as well as reduced visibility.[22]

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[18] EPA, Integrated Science Assessment for Particulate Matter, 2009.
[19] NRC, Interim Report of the Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants, 2005.
[20] EPA, Air Quality Criteria for Particulate Matter, Vol. 1 and 2, 2004.
[21] EPA, Criteria Air Pollutants, March 8, 2018.
[22] CARB, ARB Fact Sheet: Air Pollution Sources, Effects and Control, last reviewed December 2, 2009.

(8) Vinyl Chloride

Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.[23]

(9) Hydrogen Sulfide

Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.[24]

(10) Visibility-Reducing Particles

Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for $PM_{2.5}$ described above.[25]

(11) Volatile Organic Compounds

Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs. Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

23 CARB, ARB Fact Sheet: Air Pollution Sources, Effects and Control, last reviewed December 2, 2009.
24 CARB, ARB Fact Sheet: Air Pollution Sources, Effects and Control, last reviewed December 2, 2009
25 CARB, ARB Fact Sheet: Air Pollution Sources, Effects and Control, last reviewed December 2, 2009

(12) Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects. A toxic substance released into the air is considered a TAC.

Examples of TACs include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and non-carcinogenic effects. Non-carcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

The California Air Resources Board (CARB) classified "particulate emissions from diesel-fueled engines" (i.e., diesel particulate matter or DPM) as a TAC in August 1998.[26] DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars, and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70 percent of all airborne cancer risk in California is associated with DPM. To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000.[27] Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children.

b) Regulatory Framework

There are several plans, regulations, and programs that include policies, requirements, and guidelines regarding Air Quality at the federal, state, regional, and local levels. As described below, these plans, guidelines, and laws include the following:

- Federal Clean Air Act
  - National Ambient Air Quality Standards

[26] CARB, Rulemaking Identification of Particulate Emissions of Diesel-Fueled Engines as a Toxic Air Contaminant, July 30, 1998, page last updated February 25, 2010.

[27] CARB Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, 2000.

- California Clean Air Act
  - California Ambient Air Quality Standards
- California Code of Regulations
- Toxic Air Contaminant Identification and Control Act Assembly Bill 1807
- Airborne Toxic Control Measures
- Air Toxics “Hot Spots” Program/AB 2588
- CARB Air Quality and Land Use Handbook
- South Coast Air Quality Management District
- Southern California Association of Governments
- City of Los Angeles General Plan
  - Air Quality Element
  - Plan for a Healthy Los Angeles

(1) Federal

(a) Federal Clean Air Act

The Federal Clean Air Act (CAA), first enacted in 1970, with amendments in 1990, identifies specific emission reduction goals for areas not meeting the National Ambient Air Quality Standard (NAAQS). The sections of the CAA which are most applicable to the Project include Title I (Non-attainment Provisions) and Title II (Mobile Source Provisions). Title I non-attainment provisions are implemented for the purpose of attaining NAAQS. **Table IV.B-1** below shows the NAAQS currently in effect for each criteria pollutant and their relative attainment status. The CAA provides deadlines for meeting the NAAQS within the SCAB, including the following: (1) 1-hour O_3 by the year 2010, (2) 8-hour O_3 by the year 2024, and (3) $PM_{2.5}$ by the year 2015.

Nonattainment designations are categorized into seven levels of severity: (1) basic, (2) marginal, (3) moderate, (4) serious, (5) severe-15, (6) severe-17, and (7) extreme.[28] On June 11, 2007, the EPA reclassified the SCAB as a federal “attainment” area for CO and

[28] The “-15” and “-17” designations reflect the number of years within which attainment must be achieved.

approved the CO maintenance plan.[29] The SCAB fails to meet national standards for O_3 and $PM_{2.5}$ and, therefore, is considered a federal "nonattainment" area for these pollutants. In addition, Los Angeles County fails to meet the national standard for lead and, therefore, is considered a federal "nonattainment" area for lead.

Title II of the CAA pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline and automobile pollution control devices are examples of the mechanisms the EPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have been strengthened in recent years to improve air quality. For example, the standards for NO_2 emissions have been lowered substantially and the specification requirements for cleaner burning gasoline are more stringent.

Table IV.B-1
Ambient Air Quality Standards and Attainment Status

Pollutant	Averaging Time[a]	California Standard[a]	Federal Standard[b]	SCAB Attainment Status[c]	
				California Standard[d]	Federal Standard[e]
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m³)	—	Nonattainment (Extreme)	—
	8-hour	0.07 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)	Nonattainment	Extreme Nonattainment
Respirable Particulate Matter (PM_{10})	24-hour	50 µg/m³	150 µg/m³	Nonattainment	Attainment
	Annual	20 µg/m³	—		
Fine Particulate Matter ($PM_{2.5}$)	24-hour	—	35 µg/m³	Nonattainment	Serious Nonattainment
	Annual	12 µg/m³	12 µg/m³		
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	Attainment	Unclassified/ Attainment
	8-hour	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)		
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm (339 µg/m³)	0.10 ppm (188 µg/m³)	Attainment	Unclassified/ Attainment
	Annual	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)		

29 U.S. Environmental Protection Agency, Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes: California; Federal Register, Vol. 72, Number 91, Friday, May 11, 2007.

Table IV.B-1
Ambient Air Quality Standards and Attainment Status

Pollutant	Averaging Time[a]	California Standard[a]	Federal Standard[b]	SCAB Attainment Status[c]	
				California Standard[d]	Federal Standard[e]
Lead (Pb)	30-day average	1.5 μg/m³	—	Attainment	Nonattainment
	Rolling 3-month average	—	0.15 μg/m³		
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm (655 μg/m³)	0.075 ppm (196 μg/m³)	Attainment	Attainment
	3-hour	—	0.5 ppm (1,300 μg/m³)		
	24-hour	0.04 ppm (105 μg/m³)	0.14 ppm (365 μg/m³)		
	Annual	—	0.03 ppm (80 μg/m³)		
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 μg/m³)	—	Unclassified	—
Vinyl Chloride[f]	24-hour	0.01 ppm (26 μg/m³)	—	Unclassified	—
Sulfates	24-hour	25 μg/m³	—	Attainment	—

SOURCES: CARB, Ambient Air Quality Standards and Attainment Status, May 4, 2016; CARB, Area Designations Maps/ State and National, last reviewed October 18, 2017; EPA, EPA Region 9 Air Quality Maps and Geographic Information, February 14, 2017.

NOTES: ppm = parts per million by volume; μg/m³ = micrograms per cubic meter.

a An ambient air quality standard is a concentration level expressed in either parts per million or micrograms per cubic meter and averaged over a specific time period (e.g., one-hour). The different averaging times and concentrations are meant to protect against different exposure effects. Some ambient air quality standards are expressed as a concentration that is not to be exceeded. Others are expressed as a concentration that is not to be equaled or exceeded.

b CARB, Ambient Air Quality Standards Chart, last updated May 4, 2016.

c "Attainment" means that the regulatory agency has determined, based on established criteria, that the SCAB meets the identified standard. "Nonattainment" means that the regulatory agency has determined that the SCAB does not meet the standard.

d California standard attainment status based on the CARB 2015 State Area Designations maps, last reviewed October 18, 2017.

e Federal standard attainment status based on EPA Region 9 Air Quality Maps and Geographic Information.

f CARB has identified lead and vinyl chloride as 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.

(2) State

(a) California Clean Air Act

The California Clean Air Act, signed into law in 1988, requires all areas of the State to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practicable date. CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both State and federal air pollution control programs within California. It also sets fuel specifications to further reduce vehicular emissions. Table IV.B-1 includes the CAAQS currently in effect for each of the criteria pollutants, as well as other pollutants recognized by the State. The SCAB fails to meet State standards for O_3, PM_{10}, and $PM_{2.5}$ and, therefore, is considered a State "nonattainment" area for these pollutants. As shown, the CAAQS include more stringent standards than the NAAQS

(b) California Code of Regulations

The California Code of Regulations (CCR) is the official compilation and publication of regulations adopted, amended or repealed by the State agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, Section 2485 in Title 13 of the CCR states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to 5 minutes at any location. In addition, Section 93115 in Title 17 of the CCR states that operation of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emission standards.

(c) Toxic Air Contaminant Identification and Control Act Assembly Bill 1807

TACs are identified by federal and State agencies based on a review of available scientific evidence. The California Air Toxics Program[30] was established in 1983, when the California Legislature passed Assembly Bill (AB) 1807 to establish a two-step process of risk identification and risk management to address potential health effects from exposure to toxic substances in the air. In the risk identification step, CARB and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified, or "listed," as a TAC in California. Since the inception of the program, a number of such substances have been listed including benzene, chloroform, formaldehyde, and particulate emissions from diesel-fueled engines, among others.[31]

[30] CARB, California Air Toxics Program, last reviewed September 24, 2015.
[31] CARB, Toxic Air Contaminant Identification List, last reviewed July 18, 2011.

(d) Airborne Toxic Control Measures

In 1993, the California Legislature amended the California Air Toxics Program to identify the 189 federal hazardous air pollutants (HAPs) as TACs. In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce risk. Based on results of that review, CARB has enacted a number of airborne toxic control measures (ATCMs), both for mobile and stationary sources.[32] In 2004, CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to DPM and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time.

In addition to limiting exhaust from idling trucks, CARB approved the In-Use Off-Road Diesel Fueled Fleets Regulation on July 26, 2007, for off-road diesel construction equipment such as bulldozers, loaders, backhoes, forklifts, and many other self-propelled off-road diesel vehicles to reduce emissions by installation of diesel particulate filters and encouraging the replacement of older, dirtier engines with newer emission-controlled models. Implementation is staggered based on fleet size, with the largest operators beginning compliance in 2014.[33]

(e) Air Toxics "Hot Spots" Program/AB 2588

The AB 1807 California Air Toxics Program was supplemented by the AB 2588 Air Toxics "Hot Spots" program, which was established by the California Legislature in 1987 to address public concern over the release of TACs into the atmosphere. Under this program, facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks if present. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. In 1992, the AB 2588 program was amended by Senate Bill (SB) 1731 to require facilities that pose a significant health risk to the community, based on the facility's TAC emissions inventory and prioritization score, to reduce their risk through implementation of a risk management plan.

32 CARB, Airborne Toxic Control Measures, last reviewed June 7, 2016.
33 CARB, In-Use Off-Road Diesel Vehicle Regulation, last reviewed August 8, 2014.

(f) CARB Air Quality and Land Use Handbook

CARB published the Air Quality and Land Use Handbook on April 28, 2005 (the "CARB Handbook"), to serve as a general guide for considering health effects associated with siting sensitive receptors proximate to sources of TAC emissions. The recommendations provided in the CARB Handbook are voluntary and do not constitute a requirement or mandate for land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway or within an urban road with 100,000 vehicles per day, or within a rural road with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center/warehouse that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week; and (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines.

(3) Regional

(a) South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) shares responsibility with CARB for ensuring that all State and federal ambient air quality standards are achieved and maintained throughout all of Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles. This area includes all of Orange County and Los Angeles County, except for the Antelope Valley; the non-desert portion of western San Bernardino County; and the western and Coachella Valley portions of Riverside County. The SCAB is a subregion of the SCAQMD jurisdiction.

On March 3, 2017, SCAQMD approved the 2016 AQMP, which includes strategies to meet the NAAQS for the 8-hour O_3 standard by 2032, the annual $PM_{2.5}$ standard by 2021–2025, the 1-hour O_3 standard by 2023, and the 24-hour $PM_{2.5}$ standard by 2019. In its role as the local air quality regulatory agency, SCAQMD also provides guidance on how environmental analyses should be prepared. This includes recommended thresholds of significance for evaluating air quality impacts.

The SCAQMD adopts rules and regulations to implement portions of the AQMP. Several of these rules may apply to Project construction or operation. For example, SCAQMD Rule 403 requires the implementation of best available fugitive dust control measures during active construction periods capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads.

The following SCAQMD rules and regulations would be applicable to the Project:

- **Rule 401** establishes the limit for visible emissions from stationary sources for a period or periods aggregating more than three minutes in any hour. This rule prohibits visible emissions dark or darker than Ringelmann No. 1 for periods greater than three minutes in any hour or such opacity which could obscure an observer's view to a degree equal or greater than does smoke.

- **Rule 402** prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property.

- **Rule 403** requires projects to incorporate fugitive dust control measures at least as effectively as the following measures:

  – Use watering to control dust generation during the demolition of structures;

  – Clean-up mud and dirt carried onto paved streets from the site;

  – Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site;

  – All haul trucks shall be covered or maintain at least 6 inches of freeboard;

  – All materials transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of spillage or dust;

  – Suspend earthmoving operations or additional watering shall be implemented to meet Rule 403 criteria if wind gusts exceed 25 miles per hour;

  – The owner or contractor shall keep the construction area sufficiently dampened to control dust caused by construction and hauling, and at all times provide reasonable control of dust caused by wind. All unpaved demolition and construction areas shall be wetted at least twice daily during excavation and construction, and temporary dust covers shall be used to reduce dust emissions; and

  – An information sign shall be posted at the entrance to the construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive fugitive dust generation. A construction relations officer shall be appointed to act as a community liaison concerning on-site activity, including investigation and resolution of issues related to fugitive dust generation.

- **Rule 431.2** limits the sulfur content in diesel and other liquid fuels for the purpose both of reducing the formation of SO_x and particulates during combustion and of enabling the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the SCAQMD. The rule also affects diesel fuel supplied for mobile source applications.

- **Rule 1110.2** applies to stationary and portable engines rated at greater than 50 horsepower. The purpose of Rule 1110.2 is to reduce NO_x, VOC, and CO emissions from engines. Emergency engines, including those powering standby generators, are generally exempt from the emissions and monitoring requirements of this rule as they have permit conditions that limit operation to 200 hours or less per year as determined by an elapsed operating time meter.

- **Rule 1113** requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

- **SCAQMD Regulation XIII**, New Source Review, requires new on-site facility NO_x emissions to be minimized through the use of emission control measures (e.g., use of best available control technology for new combustion sources, such as boilers and water heaters).

(b) Southern California Association of Governments

The Southern California Association of Governments (SCAG) 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. SCAG coordinates with various air quality and transportation stakeholders in Southern California to ensure compliance with the federal and State air quality requirements, including the Transportation Conformity Rule and other applicable federal, State, and air district laws and regulations. As the federally designated Metropolitan Planning Organization for the six-county Southern California region, SCAG is required by law to ensure that transportation activities “conform” to, and are supportive of, the goals of regional and State air quality plans to attain the NAAQS. In addition, SCAG is a co-producer, with the SCAQMD, of the transportation strategy and transportation control measure sections of the AQMP for the SCAB.

With regard to future growth included in the 2016 AQMP, SCAG prepared the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS), which provided population, housing, and employment projections for cities under its jurisdiction. The growth projections in the 2016–2040 RTP/SCS are based on projections originating in County and City General Plans, and are used in the preparation of the air quality forecasts and consistency analysis included in the SCAQMD's AQMP. SCAG adopted the 2016-2040 RTP/SCS on April 7, 2016.[34] Notably, SCAG has adopted Connect SoCal, the 2020-2045 RTP/SCS on September 3, 2020,[35] but the updated growth projections have not yet been incorporated into an adopted AQMP. SCAQMD is currently developing the 2022 AQMP, which will incorporate these updated regional growth projections.

(4) Local

(a) City of Los Angeles General Plan

(i) Air Quality Element

Local jurisdictions such as the City of Los Angeles, have the authority and responsibility to reduce air pollution through their policing power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions.

The Air Quality Element of the City of Los Angeles General Plan (General Plan) was adopted on November 24, 1992, and sets forth the goals, objectives, and policies, which guide the City in the implementation of its air quality improvement programs and strategies. The Air Quality Element acknowledges the interrelationships among transportation and land use planning in meeting the City's mobility and air quality goals. The following Air Quality Element goals, objectives, and policies are relevant to the Project:

> **Goal 2:** Minimize impacts of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality.
>
> > ***Objective 4.1:*** It is the objective of the City of Los Angeles to include regional attainment of ambient air quality standards as a primary consideration in land use planning.

[34] Southern California Association of Governments (SCAG), 2016–2040 Regional Transportation Plan/ Sustainable Communities Strategy, adopted April 7, 2016.

[35] SCAG, 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy, Connect SoCal, adopted September 3, 2020.

Policy 4.1.1: Coordinate with all appropriate regional agencies in the implementation of strategies for the integration of land use, transportation, and air quality policies.

Objection 4.2: It is the objective of the City of Los Angeles to reduce vehicle trips and vehicle miles traveled associated with land use patterns.

Policy 4.2.2: Improve accessibility for the City's residents to places of employment, shopping centers, and other establishments.

*Policy 4.2.3***:** Ensure that new development is compatible with pedestrians, bicycles, transit, and alternative fuel vehicles.

Policy 4.2.4: Require that air quality impacts be a consideration in the review and approval of all discretionary projects.

Policy 4.2.5: Emphasize trip reduction, alternative transit and congestion management measures for discretionary projects.

(ii) Plan for a Healthy Los Angeles

The Plan for a Healthy Los Angeles, adopted by the City Council on March 31, 2015, lays the foundation to create healthier communities for all residents in the City. As an element of the General Plan, it provides high-level policy vision, along with measurable objectives and implementation programs, to elevate health as a priority for the City's future growth and development. With a focus on public health and safety, the Plan for a Healthy Los Angeles provides a roadmap for addressing the most basic and essential quality-of-life issues: safe neighborhoods, a clean environment (i.e., improved ambient and indoor air quality), the opportunity to thrive, and access to health services, affordable housing, and healthy and sustainably produced food.

c) Existing Conditions

(1) Regional Air Quality

The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted. Meteorological and topographical conditions, however, are also important. Factors such as wind speed and direction, air temperature gradients and sunlight, and precipitation and humidity, interact with physical landscape features to determine the movement and dispersal of air pollutants. The SCAB's air pollution problems are a consequence of the combination of emissions from the nation's second largest urban area, meteorological conditions adverse to the dispersion of those emissions, and mountainous terrain surrounding the SCAB that traps pollutants as they are pushed inland with the sea breeze.[36] Meteorological and topographical factors that affect air quality in the SCAB are described below.[37]

The SCAB is characterized as having a Mediterranean climate (typified as semiarid with mild winters, warm summers, and moderate rainfall). The general region lies in the semi-permanent high-pressure zone of the eastern Pacific; as a result, the climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the SCAB is a function of the area's natural physical characteristics (e.g., weather and topography) and of manufactured influences (e.g., development patterns and lifestyle). Moderate temperatures, comfortable humidity, and limited precipitation characterize the climate in the SCAB.

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain "primary" pollutants (mainly reactive hydrocarbons and NO_X) react to form "secondary" pollutants (primarily oxidants). Since this process is time-dependent, secondary pollutants can be formed many miles downwind of the emission sources. Southern California also has abundant sunshine, which drives the photochemical reactions that form pollutants, such as O_3 and a substantial portion of $PM_{2.5}$. In the SCAB, high concentrations of O_3 are normally recorded during the late spring, summer, and early autumn months, when more intense sunlight drives enhanced photochemical reactions. Due to the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California.

Under ideal meteorological conditions and irrespective of topography, pollutants emitted into the air mix and disperse into the upper atmosphere. However, the Southern California region frequently experiences temperature inversion layers in which pollutants are trapped and accumulate close to the ground. The inversion layer, a layer of warm, dry air overlaying cool, moist marine air, is a normal condition in coastal Southern California. The cool, damp, and hazy sea air capped by coastal clouds is heavier than the warm, clear air, which acts as a lid through which the cooler marine layer cannot rise. The height of the inversion layer is important in determining pollutant concentration. When the inversion layer is approximately 2,500 feet above mean sea level (amsl), the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet amsl, the terrain prevents the pollutants from entering the upper atmosphere, resulting in the pollutants settling in the foothill communities. Below 1,200 feet amsl, the inversion layer puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversion layers are lower before sunrise than during the daylight hours.

[36] SCAQMD, Final 2016 Air Quality Management Plan, 2017.
[37] The discussion of meteorological and topographical conditions of the SCAB is based on information provided in the 2016 AQMP.

Mixing heights for inversion layers are lower in the summer, and inversion layers are more persistent, being partly responsible for the high levels of O_3 observed during summer months in the SCAB. High ozone levels in Southern California are generally the result of these temperature inversion layers combining with coastal day winds and local mountains to contain the pollutants for long periods, allowing them to form secondary pollutants by reacting in the presence of sunlight. The SCAB has a limited ability to disperse these pollutants due to typically low wind speeds and the surrounding mountain ranges.

As with other cities within the SCAB, the City is susceptible to air inversion layers. This traps a layer of stagnant air near the ground where pollutants are further concentrated. These inversions produce haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources. Elevated PM_{10} and $PM_{2.5}$ concentrations can occur in the SCAB throughout the year but occur most frequently in fall and winter. Although there are some changes in emissions by day-of-week and season, the observed variations in pollutant concentrations are primarily the result of seasonal differences in weather conditions.

(2) Local Air Quality

(a) Existing Pollutant Levels at Nearby Monitoring Stations

SCAQMD divides the SCAB into 38 source receptor areas (SRAs) in which 38 monitoring stations operate to monitor the various concentrations of air pollutants in the region. As shown in **Figure IV.B-1**, SCAQMD Air Basin and Source Receptor Areas, the Project Site is located within SRA 1, which covers the Central Los Angeles area. SCAQMD Station No. 087 collects ambient air quality data for SRA 1. The station is located at 1630 North Main Street in Los Angeles, which is located approximately 4 miles southeast of the Project sites. The station currently monitors emission levels of O_3, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$. **Table IV.B-2** summarizes the ambient air pollutant concentrations measured at the SCAQMD Station No. 087 from 2017 to 2019[38] and identifies the national and state ambient air quality standards for the relevant pollutants. The number of days that SRA 1 exceeded the CAAQS and NAAQS are also shown in Table IV.B-2. As shown in Table IV.B-2, the CAAQS and NAAQS were not exceeded in SRA 1 for most pollutants between 2017 and 2019, except for O_3, PM_{10}, and $PM_{2.5}$.

38 Ambient air quality concentrations for 2020 have not been released.

TABLE IV.B-2
AMBIENT AIR QUALITY

Air Pollutants Monitored within SRA 1 Central Los Angeles Area	Year		
	2017	2018	2019
O_3			
Maximum 1-hour concentration measured (ppm)	0.116	0.098	0.085
Number of days exceeding national 0.124 ppm 1-hour standard	0	0	0
Number of days exceeding state 0.09 ppm 1-hour standard	6	2	0
Maximum 8-hour concentration measured	0.086	0.073	0.080
Number of days exceeding national 0.070 ppm 8-hour standard	14	4	2
Number of days exceeding state 0.070 ppm 8-hour standard	14	4	2
CO			
Maximum 1-hour concentration measured (µg/m^3)	1.9	2.0	2.0
Maximum 8-hour concentration measured (µg/m^3)	1.6	1.7	1.6
Number of days exceeding national and state 9 ppm 8-hour standard	0	0	0
Number of days exceeding national 35 ppm 1-hour standard	0	0	0
Number of days exceeding state 20 ppm 1-hour standard	0	0	0
NO_2			
Maximum 1-hour concentration measured (ppb)	80.6	70.1	69.7
Annual average (ppb)	20.5	18.5	17.7
Does measured annual average exceed national 53.4 ppb annual average standard?	No	No	No
Does measured annual average exceed state 30 ppb annual average standard?	No	No	No
PM_{10}			
Maximum 24-hour concentration measured (µg/m^3)	96	81	62
Number of days exceeding national 150 µg/m^3 24-hour standard	0	0	0
Number of days exceeding state 50 µg/m^3 24-hour standard	41	31	3
Annual arithmetic mean (AAM)	34.4	34.1	25.5

TABLE IV.B-2
AMBIENT AIR QUALITY

Air Pollutants Monitored within SRA 1 Central Los Angeles Area	Year		
	2017	**2018**	**2019**
Does measured AAM exceed state 20 µg/m^3 AAM standard?	Yes	Yes	Yes
$PM_{2.5}$			
Maximum 24-hour concentration measured (µg/m^3)	49.20	43.80	43.50
Number of days exceeding national 35.0 µg/m^3 24-hour standard	5	3	1
Annual arithmetic mean (AAM)	11.94	12.58	10.85
Does measured AAM exceed national 12 µg/m^3 AAM standard?	No	Yes	No
Does measured AAM exceed state 12 µg/m^3 AAM standard?	No	Yes	No
SO_2			
Maximum 1-hour concentration measured	5.7	17.9	10.0
99th percentile concentration (1-hour)	2.6	2.8	2.3
Number of days exceeding national 0.075 ppm 1-hour standard	0	0	0
Number of days exceeding state 0.25 ppm 1-hour standard	0	0	0
Number of days exceeding state 0.04 ppm 24-hour standard	0	0	0
Pb			
Maximum monthly average concentrations measured	0.017	0.011	0.012
Maximum 3-month rolling averages	0.010	0.011	0.010

SOURCE: SCAQMD, Historical Data By Year, 2017–2019, accessed December 2020.
NOTES: µg/m^3 = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; CO = carbon monoxide; NO_2 = nitrogen dioxide; NO_x = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in diameter; SO_2 = sulfur dioxide; Pb = lead; O_3 = ozone; AAM = Annual Arithmetic Mean.

(b) Existing Health Risk in the Surrounding Area

In addition to criteria pollutants, the air quality in the area surrounding the Project is influenced by TACs. In this case, diesel- and gasoline-powered vehicles and trucks produce localized increases in TACs that affect local air quality. Based on the SCAQMD's modeling using the MATES IV methodology, the Project area has an ambient background cancer risk of 1,338 in one million.[39] Notably, the City's Freeway Adjacent Advisory Notice requirements would not apply to the Project since the nearest highway (Highway 101) is approximately 3,300 feet southwest of the Project, much further than the 1,000-foot distance identified in the Advisory Notice.

(c) Surrounding Uses

The land uses surrounding the Project include open space, specifically Barnsdall Art Park to the north; commercial uses to the northeast along North Vermont Avenue; residential and commercial uses to the east and southeast, including the Children's Hospital of Los Angeles and the Hollywood Presbyterian Medical Center along Sunset Boulevard and North Vermont Avenue; residential and commercial uses to the south; and residential and commercial uses to the west.

(d) Sensitive Receptor Locations

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases are known as sensitive receptors. According to the CARB Handbook, land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses).

[39] SCAQMD, Final Report Multiple Air Toxics Exposure Study in the South Coast Air Basin, MATES-IV, 2015, May 2015.

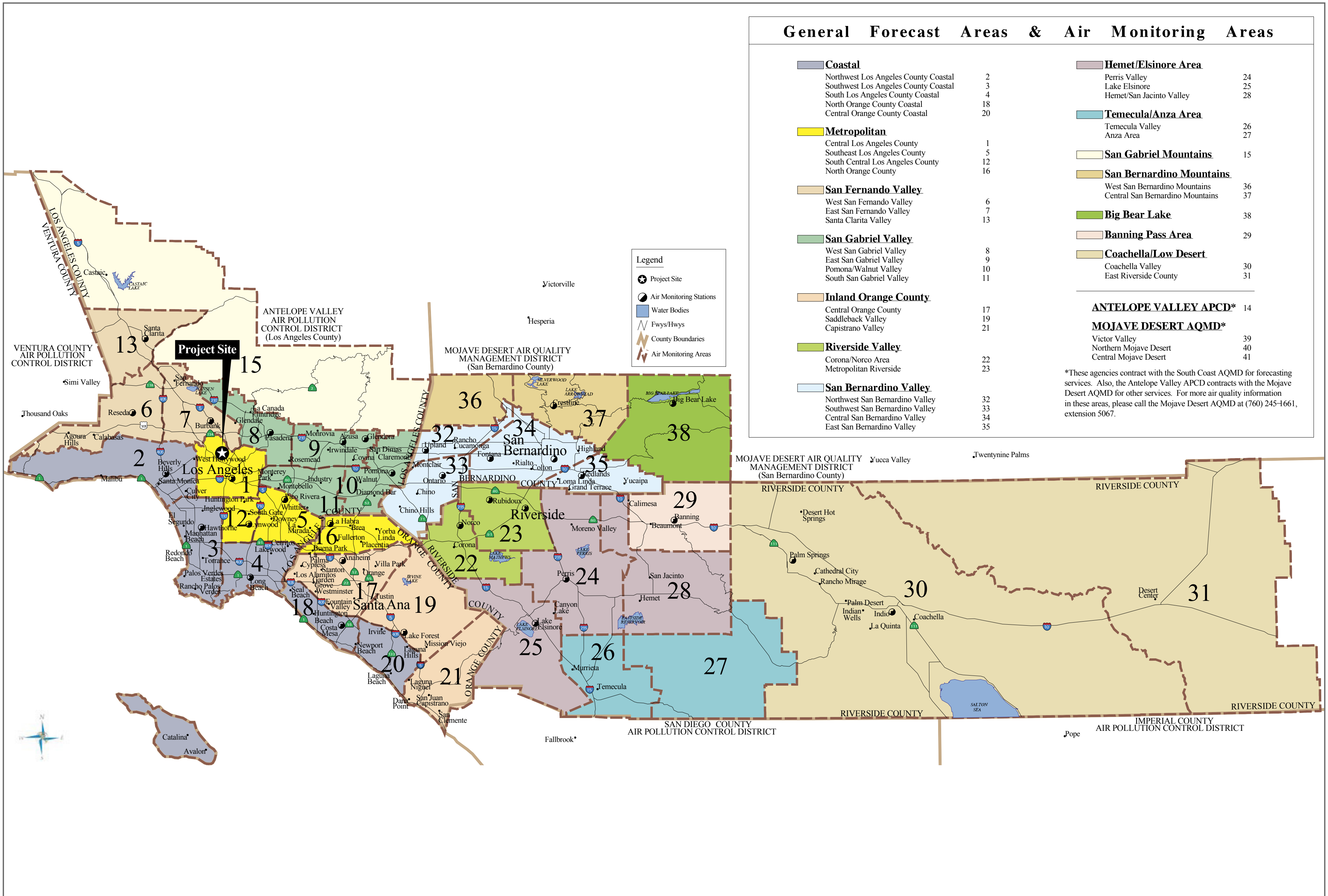

FIGURE IV.B-1

SCAQMD Air Basin and Source Receptor Areas

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The closest off-site sensitive receptor locations to the Project Site include the following and are shown in **Figure IV.B-2**, Air Quality Sensitive Receptor Locations:

- Barnsdall Art Park, located approximately 220 feet from Site 4, 230 feet from Site 5, and 520 feet from Site 3
- Children's Hospital of Los Angeles, located approximately 130 feet from Site 1, 220 feet from Site 5, and 520 feet from Site 2
- Hollywood Presbyterian Medical Center, located approximately 120 feet from Site 1, 660 feet from Site 2, and 700 feet from Site 5
- Los Feliz Elementary School at 1740 North New Hampshire Avenue, located approximately 1,180 feet from Site 5 and 1,300 feet from Site 4
- Mary's Schoolhouse at 1334 L Ron Hubbard Way, located approximately 250 feet from Site 1 and 310 feet from Site 2
- Rose and Alex Pilibos Armenian School at 1615 Alexandria Avenue, located approximately 770 feet from Site 3, 860 feet from Site 4, and 940 feet from Site 6
- Pacific Southwest Lutheran Learning Center at 1518 North Alexandria Avenue, located approximately 320 feet from Site 3, 405 feet from Site 6, and 530 feet from Site 4
- Residential land uses adjacent to Site 1, 2, and 6, approximately 200 feet from Site 3, approximately 430 feet from Site 4, and approximately 300 feet from Site 5

(e) Criteria Air Pollutant Emissions from Existing Uses at the Project Building Sites

Pre-Project environmental conditions (the environmental baseline) are considered in determining impact significance. Pollutant emissions associated with operation of the existing baseline were quantified using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2. The existing baseline conditions at the Project site generate criteria pollutant emissions from mobile sources, including vehicular traffic, energy sources (including combustion of fuels used for space and water heating), and area sources (i.e., use of consumer products, architectural coatings for repainting, landscaping equipment). For existing land uses, natural gas and electricity information provided by Kaiser Permanente for existing Medical Office Buildings (MOBs) was averaged on a per-square-foot basis and applied to the existing MOBs. For the existing apartments and parking areas, CalEEMod default assumptions for energy sources for these types of uses were used.

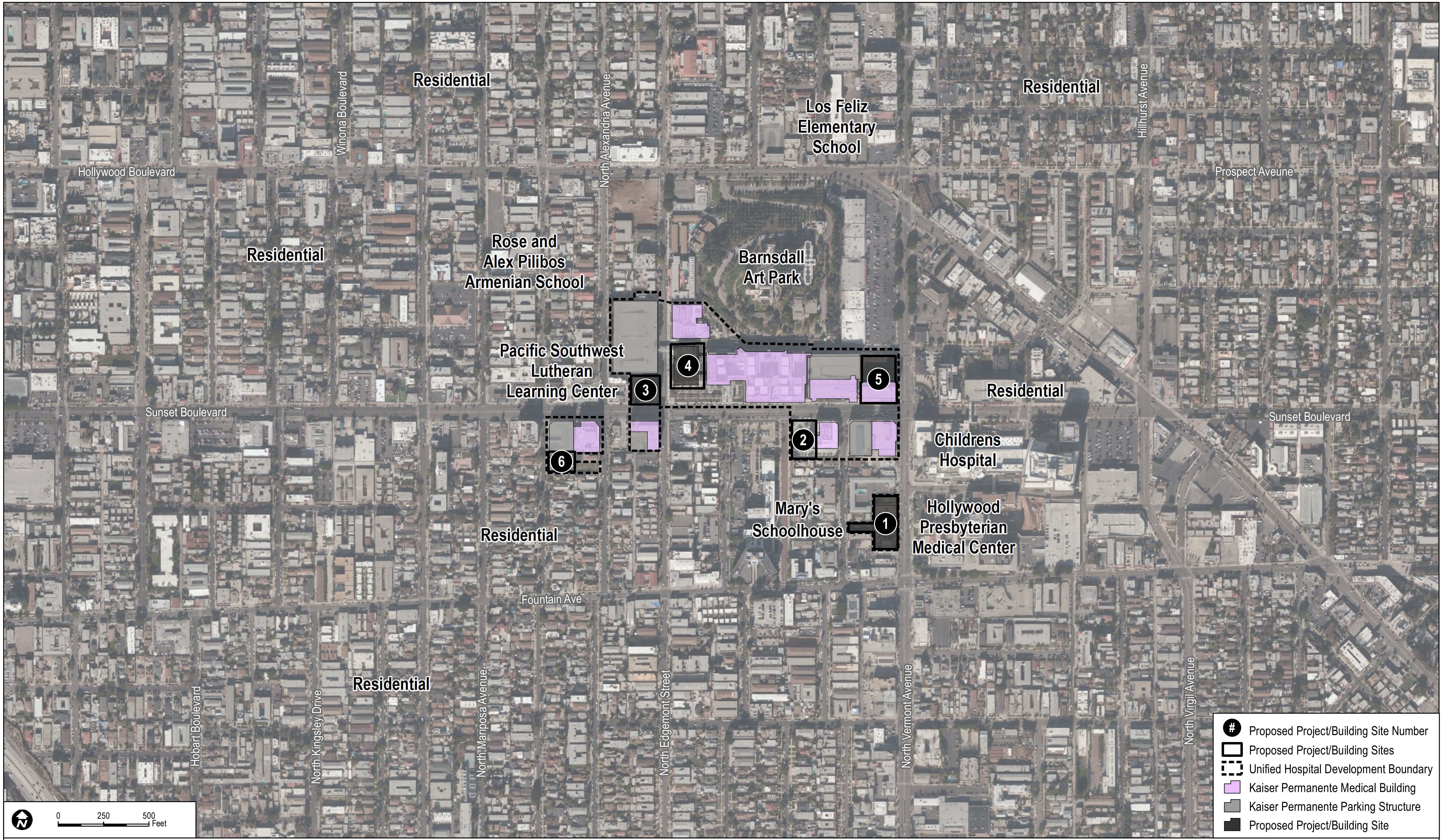
Under CEQA, the baseline environmental setting for an EIR is generally established at or around the time that the NOP for the EIR is published.[40] The existing baseline uses in year 2017 include operation of commercial and residential structures totaling approximately 15,113 square feet located at Site 1; a 79,356-square-foot MOB at 1505 North Edgemont Street located on Site 3; a 120,557-square-foot MOB at 1526 North Edgemont Street located on Site 4; a 19,199-square-foot MOB space located at Site 5; and associated parking. Maximum daily criteria pollutant emissions from the existing baseline uses on the Project Site are summarized in **Table IV.B-3**. Complete details of the emissions calculations are provided in Appendix B-2.

TABLE IV.B-3
EXISTING ESTIMATED DAILY MAXIMUM OPERATIONAL EMISSIONS – LAND USES AT THE PROJECT BUILDING SITES

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Existing Baseline			**Pounds per Day**			
Area	5.13	<0.01	0.21	<0.01	<0.01	<0.01
Energy	0.35	3.19	2.68	0.02	0.24	0.24
Mobile	20.77	92.86	287.99	0.75	54.61	15.29
Stationary	N/A	N/A	N/A	N/A	N/A	N/A
Total	**26.25**	**96.05**	**290.88**	**0.77**	**54.85**	**15.53**

SOURCE: See Appendix B-2 for complete results.
NOTES:
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Values in (parentheses) represent negative numbers. The values shown are the maximum summer or winter daily emissions results from CalEEMod, though totals may not sum due to rounding.
No stationary sources were modeled for the existing uses.

[40] CEQA Guidelines Section 15125 states that an EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time NOP is published, or if no NOP is published, at the time environmental analysis is commenced. The environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The EIR analysis began in 2017 when the EIR NOP was circulated on September 21, 2017. Therefore, it is appropriate and adequate under CEQA to use 2017 data for the baseline, or "existing," condition.



SOURCE: Perkins and Will, 2017; Bing Maps 2017

FIGURE IV.B-2

Air Quality Sensitive Receptor Locations

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3. Project Impacts

a) Thresholds of Significance

(1) State CEQA Guidelines Appendix G

In accordance with the State CEQA Guidelines Appendix G (Appendix G Thresholds), the Project would have a significant impact related to air quality if it would:

Threshold (a): Conflict with or obstruct implementation of the applicable air quality plan;

Threshold (b): Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard;

Threshold (c): Expose sensitive receptors to substantial pollutant concentrations; or

Threshold (d): Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

This analysis relies on the Appendix G Thresholds. To answer the Appendix G Threshold questions, the analysis uses factors and considerations identified below from the 2006 L.A. CEQA Thresholds Guide, as appropriate, and other guidance from the SCAQMD.

(a) Construction

The 2006 L.A. CEQA Thresholds Guide states that the determination of significance shall be made on a case-by-case basis, considering the following criteria to evaluate construction-related air emissions[41]:

- Combustion Emissions from Construction Equipment:
  - Type, number of pieces and usage for each type of construction equipment;
  - Estimated fuel usage and type of fuel (diesel, natural gas) for each type of equipment; and
  - Emission factors for each type of equipment.
- Fugitive Dust

41 City of Los Angeles, L.A. CEQA Thresholds Guide, 2006.

- Grading, Excavation, and Hauling:

– Amount of soil to be disturbed on-site or moved off-site;

– Emission factors for disturbed soil;

– Duration of grading, excavation and hauling activities;

– Type and number of pieces of equipment to be used; and

– Projected haul route.

- Heavy-Duty Equipment Travel on Unpaved Roads:

– Length and type of road;

– Type, number of pieces, weight and usage of equipment; and

– Type of soil.

- Other Mobile Source Emissions:
    - – Number and average length of construction worker trips to project site, per day; and
    - – Duration of construction activities.

(b) Operation

The 2006 L.A. CEQA Thresholds Guide states that the determination of significance shall be made on a case-by-case basis, considering the following criteria to evaluate operation-related air emissions:[42]

- Whether operational emissions exceed 10 tons per year of VOCs or any of the daily operational thresholds presented in **Table IV.B-4**.
- Whether either of the following conditions would occur at an intersection or roadway within one-quarter mile of a sensitive receptor:
    - – The Project causes or contributes to an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9.0 parts per million (ppm), respectively; or
    - – The incremental increase due to the Project is equal to or greater than 1.0 ppm for the California 1-hour CO standard, or 0.45 ppm for the 8-hour CO standard.
- Whether the Project creates an objectionable odor at the nearest sensitive receptor.

[42] City of Los Angeles, L.A. CEQA Thresholds Guide, 2006.

(c) Toxic Air Contaminants

The 2006 L.A. CEQA Thresholds Guide states that the determination of significance shall be made on a case-by-case basis, considering the following factors: [43]

- The regulatory framework for the toxic material(s) and process(es) involved;
- The proximity of the toxic air contaminants to sensitive receptors;
- The quantity, volume and toxicity of the contaminants expected to be emitted;
- The likelihood and potential level of exposure; and
- The degree to which project design will reduce the risk of exposure.

(2) SCAQMD's CEQA Air Quality Handbook

To assist in answering the Appendix G Threshold questions and thresholds provided by SCAQMD, the City uses SCAQMD's CEQA Air Quality Handbook and the thresholds of significance below as the guidance documents for the environmental review of development proposals within the SCAB. Table IV.B-4 shows the currently recommended supplemental thresholds by SCAQMD in the CEQA Air Quality Handbook, which is intended to translate the CEQA Guidelines thresholds into numerical values or performance standards.

(a) Construction

Based on the criteria set forth in SCAQMD's CEQA Air Quality Handbook, the Project may have a significant impact with regard to construction emissions if any of the following would occur:

- Regional emissions from both direct and indirect sources exceed any of the SCAQMD prescribed threshold levels identified in Table IV.B-4.

[43] City of Los Angeles, L.A. CEQA Thresholds Guide, 2006.

TABLE IV.B-4
SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
NO_x	100 pounds/day	55 pounds/day
VOC[a]	75 pounds/day	55 pounds/day
PM_{10}	150 pounds/day	150 pounds/day
$PM_{2.5}$	55 pounds/day	55 pounds/day
SO_x	150 pounds/day	150 pounds/day
CO	550 pounds/day	550 pounds/day
Lead	3 pounds/day	3 pounds/day

Toxic Air Contaminants and Odor Thresholds

Toxic Air Contaminants (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Hazard Index ≥ 1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
Greenhouse Gases	10,000 MT/yr CO_2e for industrial facilities

Ambient Air Quality for Criteria Pollutants[b]

NO_2	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:
1-hour average	0.10 ppm (federal)[c]
Annual arithmetic mean	0.03 ppm (State)
PM_{10}	
24-hour average	10.4 µg/m³ (construction)[d] & 2.5 µg/m³ (operation)
Annual average	1.0 µg/m³
$PM_{2.5}$	
24-hour average	10.4 µg/m³ (construction)[e] & 2.5 µg/m³ (operation)
SO_2	
1-hour average	0.25 ppm (State) & 0.075 ppm (federal – 99th percentile)
24-hour average	0.04 ppm (State)
Sulfate	
24-hour average	25 µg/m³ (State)
CO	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:
1-hour average	20 ppm (State) and 25 ppm (federal)
8-hour average	9.0 ppm (State/federal)

Table IV.B-4
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds	
Lead	
30-day average	1.5 µg/m^3 (State)[e]
Rolling 3-month average	0.15 µg/m^3 (federal)

SOURCES: SCAQMD, SCAQMD CEQA Handbook, 1993; SCAQMD, Air Quality Significance Thresholds, revised April 2019.
NOTES: ppm = parts per million by volume; µg/m^3 = micrograms per cubic meter; CO = carbon monoxide; CO_2e = carbon dioxide equivalent; MT = metric tons; NO_2 = nitrogen dioxide; NO_x = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in diameter; ROG = reactive organic gases; SCAQMD = South Coast Air Quality Management District; SO_x = sulfur oxides; EPA = U.S. Environmental Protection Agency; VOC = volatile organic compound; ppm = parts per million; SO_2 = sulfur dioxide

[a] The definition of VOC includes ROG compounds and additional organic compounds not included in the definition of ROG. However, for the purposes of this evaluation, VOC and ROG will be considered synonymous.
[b] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[c] In January 2010, the EPA proposed a new 1-hour national air quality standard of 0.10 ppm for NO_2, which is more stringent than the State's current 1-hour threshold of 0.18 ppm. For the purposes of conducting a conservative analysis, the more stringent national one-hour standard for NO_2 is used as a threshold in the evaluation of the project's air quality impacts.
[d] Ambient air quality threshold based on SCAQMD Rule 403.
[e] The phase-out of leaded gasoline started in 1976. Since gasoline no longer contains lead, the proposed Project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

- Maximum on-site daily localized emissions exceed the localized significance thresholds (LSTs), resulting in predicted ambient concentrations in the vicinity of the Project site greater than the most stringent ambient air quality standards for CO (20 [23,000 micrograms per cubic meter (µg/m^3)] over a 1-hour period or 9.0 ppm [10,530 µg/m^3] averaged over an 8-hour period) and NO_2 (0.18 ppm [338.4 µg/m^3] over a 1-hour period, 0.1 ppm [188 µg/m^3] averaged 3-year average of the 98th percentile of the daily maximum 1-hour average, or 0.03 ppm [56.4 µg/m^3] averaged over an annual period).

- Maximum on-site localized PM_{10} or $PM_{2.5}$ emissions during construction exceed the applicable LSTs, resulting in predicted ambient concentrations in the vicinity of the Project site to exceed the incremental 24-hour threshold of 10.4 µg/m^3 or 1.0 µg/m^3 PM_{10} averaged over an annual period.

(b) Operation

Based on the criteria set forth in SCAQMD's CEQA Air Quality Handbook, the Project may have a significant impact with regard to operational emissions if any of the following would occur:

- Regional emissions from both direct and indirect sources would exceed any of the SCAQMD-prescribed threshold levels identified in Table IV.B-4.
- Maximum on-site daily localized emissions exceed the LST, resulting in predicted ambient concentrations in the vicinity of the Project site greater than the most stringent ambient air quality standards for CO (20 ppm over a 1-hour period, 0.1 over a 3-year average of the 98th percentile of the daily maximum 1-hour average, or 0.03 ppm averaged over an annual period).
- Maximum on-site localized operational PM_{10} and $PM_{2.5}$ emissions exceed the incremental 24-hour threshold of 2.5 $\mu g/m^3$ or 1.0 $\mu g/m^3$ PM_{10} averaged over an annual period.
- The Project causes or contributes to an exceedance of the California 1-hour or 8-hour CO standards of 20 ppm or 9.0 ppm, respectively.
- The Project creates an odor nuisance pursuant to SCAQMD Rule 402 (i.e., objectionable odor at the nearest sensitive receptor).

(c) Toxic Air Contaminants

Based on the criteria set forth in SCAQMD's CEQA Air Quality Handbook, the Project may have a significant TAC impact, if:

- The Project emits carcinogenic or TACs that exceed the maximum incremental chronic and acute cancer risk as provided in Table IV.B-4.

In assessing impacts related to TACs in this section, the City will use Appendix G as the threshold of significance. The criteria factors identified above from the 2006 L.A. CEQA Thresholds Guide will be used where applicable and relevant to assist in analyzing the Appendix G thresholds. In addition, the following criteria factors set forth in SCAQMD's CEQA Air Quality Handbook serve as quantitative air quality standards to be used to evaluate Project impacts under Appendix G thresholds.

- The Project results in the exposure of sensitive receptors to carcinogenic or TACs that exceed the maximum incremental cancer risk of 10 in one million or an acute or chronic hazard index of 1.0. For projects with a maximum incremental cancer risk between 1 in one million and 10 in one million, a project would result in a significant impact if the cancer burden exceeds 0.5 excess cancer cases.

(d) Consistency with Applicable Air Quality Plans

Section 15125 of the State CEQA Guidelines requires an analysis of project consistency with applicable governmental plans and policies. In accordance with SCAQMD's CEQA Air Quality Handbook,[44] the following criteria were used to evaluate the Project's consistency with SCAQMD's 2016 AQMP and SCAG's 2016–2040 RTP/SCS:

- Criterion 1: Will the Project result in any of the following:
  - An increase in the frequency or severity of existing air quality violations;
  - Cause or contribute to new air quality violations; or
  - Delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP?
- Criterion 2: Will the Project exceed the assumptions utilized in preparing the AQMP?
  - Is the Project consistent with the population and employment growth projections upon which AQMP forecasted emission levels are based;
  - Does the Project include air quality mitigation measures; or
  - To what extent is Project development consistent with the control measures set forth in the AQMP?

The Project's impacts with respect to these criteria are discussed to assess the consistency with SCAQMD's AQMP and SCAG regional plans and policies. In addition, the Project's consistency with the Air Quality Element of the General Plan is discussed.

(e) Cumulative Impacts

Based on SCAQMD guidance, individual construction projects that exceed the SCAQMD's recommended daily thresholds for Project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which the SCAB is in nonattainment. As discussed in the SCAQMD's White Paper on Potential Control Strategies to Address Cumulative Impacts from Air pollution:[45]

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[44] SCAQMD, CEQA Air Quality Handbook, Chapter 12, Assessing Consistency with Applicable Regional Plans, 1993.

[45] SCAQMD, Cumulative Impacts White Paper, Appendix D, August 2003.

> As Lead Agency, the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR… Projects that exceed the Project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

The cumulative analysis of air quality impacts within this Draft EIR follows SCAQMD's guidance such that construction or operational Project emissions would be considered cumulatively considerable if Project-specific emissions exceed an applicable SCAQMD recommended daily threshold.

b) Methodology

Although the SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate the air quality issues associated with new development projects within the SCAB, such as the Project. Instead, the SCAQMD published the CEQA Air Quality Handbook in November 1993 to assist lead agencies consultants, project proponents, and other interested parties in evaluating potential air quality impacts of projects proposed in the SCAB. The CEQA Air Quality Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis. SCAQMD is currently in the process of replacing the CEQA Air Quality Handbook with the Air Quality Analysis Guidance Handbook.[46]

In order to assist the CEQA practitioner in conducting an air quality analysis in the interim while the replacement Air Quality Analysis Guidance Handbook is being prepared, supplemental guidance/information is provided on the SCAQMD website[47] and includes: (1) the EMission FACtors (EMFAC) model on-road vehicle emission factors, (2) background CO concentrations, (3) localized significance thresholds, (4) mitigation measures and control efficiencies, (5) mobile source toxics analysis, (6) off-road mobile source emission factors, (7) $PM_{2.5}$ significance thresholds and calculation methodology, and (8) updated SCAQMD Air Quality Significance Thresholds. The SCAQMD also recommends using approved models to calculate emissions from land use projects, such as CalEEMod. These recommendations were followed in the preparation of this analysis. Pursuant to the CEQA Guidelines (Section 15064.7), a lead agency may consider using, when available, significance thresholds established by the

46 SCAQMD, Air Quality Analysis Handbook, 1993, revised March 2015.
47 SCAQMD, Air Quality Analysis Handbook, 1993, revised March 2015.

applicable air quality management district or air pollution control district when making determinations of significance.

The SCAQMD has also adopted land use planning guidelines in the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning (May 2005),[48] which considers impacts to sensitive receptors from facilities that emit TAC emissions. SCAQMD's siting distance recommendations are the same as those provided by CARB, described above. The SCAQMD's document introduces land use-related policies that rely on design and distance parameters to minimize emissions and lower potential health risk. SCAQMD's guidelines are voluntary initiatives recommended for consideration by local planning agencies.

The following paragraphs describe the methodology used to analyze the Project's impacts with respect to air quality:

(1) Construction Emissions Methodology

(a) Regional Emissions

Pollutant emissions associated with construction activities were quantified using CalEEMod Version 2016.3.2. Construction emissions were calculated for the estimated worst-case day over the construction periods associated with Phases 1, 2, and 3. Default values provided by the program were used where detailed Project information was not available. Construction emissions associated with development Option B, which included the 105-bed hospital addition, were modeled as the worst-case scenario, based on the greater quantity of proposed land use square footage.

Phase 1

Phase 1 would include development of a 13-level, 130,000-square-foot MOB and parking structure that would provide a total of 562 parking spaces at Site 1, and a 50,000- square-foot four-level Procedure Center addition at Site 2. Additionally, as part of Phase 1, the existing commercial and residential structures totaling 15,113 square feet at Site 1; the existing seven-level, 79,356-square-foot MOB located at Site 3; and the existing eight-level, 120,557-square-foot MOB located at Site 4 would be demolished. Demolition of 47 parking stalls at Site 1, 39 surface parking stalls at Site 2, and 47 surface parking stalls at Site 3 would also occur in Phase 1. Phase 1 construction emissions methodology is found in Appendix B-1 and detailed model outputs included in Appendix B-2.

48 SCAQMD, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, May 6, 2005.

Phase 2

As part of Phase 2, the existing two-level, 19,199-square-foot MOB and parking structure that includes 186 parking spaces located at Site 5 would be demolished. Additionally, Phase 2 would include development of a 10-level parking structure that would provide a total of 578 parking spaces at Site 5. The parking structure would include a 2,300-square-foot retail/commercial space on the ground floor. To ensure a conservative environmental analysis, the worst-case scenario was assessed. Under Option A, a six-level, 177-300-square-foot MOB would be constructed at Site 4. Under Option B, a six-level, 177,300-square-foot hospital addition to support 105 beds would be constructed at Site 4. Option B was determined to be the worst-case scenario based on the overall square footage proposed over all phases. phases. Phase 2 construction emissions methodology is found in Appendix B-1, and detailed model outputs are included in Appendix B-2.

Phase 3

As part of Phase 3, the existing single-level, 1,400-square-foot structure and 0.3-acre surface parking at Site 6 would be demolished. Additionally, Phase 3 would include a parking structure that would provide a total of 241 parking spaces at Site 6, and an MOB that would vary in height and density, depending on which option for the MOB's design is selected. To ensure a conservative environmental analysis, the worst-case scenario was assessed. Under Option A, a three-level, 41,500-square-foot MOB would be constructed at Site 3. Under Option B, a five-level, 73,500-square-foot MOB would be constructed at Site 3. Based on these square footages, Option B was determined to be the worst-case scenario. Phase 3 construction emissions methodology is found in Appendix B-1, and detailed model outputs are included in Appendix B-2.

(b) Localized Emissions

To assess the impact on localized air quality, modeling results from on-site sources, such as off-road equipment exhaust and fugitive dust, were compared to LSTs established by SCAQMD to be used as a tool to assist lead agencies to analyze localized impacts associated with proposed projects.[49] These screening thresholds factor in construction site size and proximity of sensitive receptors to establish thresholds of gross emissions that could result in localized exceedances of the NO_x, CO, PM_{10}, $PM_{2.5}$, CAAQS, or NAAQS.

An LST analysis has been prepared to determine potential impacts to nearby sensitive receptors during construction of the Project. As indicated in the discussion of the thresholds of significance, the SCAQMD also recommends the evaluation of localized NO_2, CO, PM_{10}, and $PM_{2.5}$ impacts as a result of construction activities to sensitive

49 SCAQMD, Final Localized Significance Threshold Methodology, revised July 2009.

receptors in the immediate vicinity of a Project area. The impacts were analyzed using methods consistent with those in the SCAQMD's Final Localized Significance Threshold Methodology. According to the LST Methodology, "off-site mobile emissions from the Project should not be included in the emissions compared to the LSTs."[50]

(2) Operational Emissions Methodology

(a) Regional Emissions

Following completion of construction activities, the Project would generate criteria pollutants from mobile, energy, area, and stationary sources. Energy source emissions are emissions associated with natural gas. Area source emissions are emissions from space heating, water heating, and landscaping equipment. Mobile source emissions are emissions from vehicular traffic generated by patients, visitors, physicians/staff, and emergency vehicles (i.e., ambulances). Finally, stationary source emissions are emissions associated with the routine testing and maintenance of emergency diesel generators.

In general, projects are considered consistent with, and would not conflict with or obstruct implementation of, the AQMP if the growth in socioeconomic factors (e.g., population, housing, employment by industry) is consistent with the underlying regional plans used to develop the AQMP. The 2016 AQMP reduction and control measures, which are outlined to mitigate emissions, are based on existing and projected land use and development.[51] Demographic growth forecasts for various socioeconomic categories were developed by the SCAG for its 2016–2040 RTP/SCS based on general plans for cities and counties in the SCAB.[52] The 2016 AQMP relies on the land use and population projections provided in SCAG's 2016 Regional Growth Forecast, which is generally consistent with the local plans; therefore, the 2016 AQMP is generally consistent with local government plans. The 2016 AQMP also incorporates land use strategies from the 2016–2040 RTP/SCS, with the overarching strategy of planning for High Quality Transit Areas (HQTA), Livable Corridors, and Neighborhood Mobility Areas.[53] HQTAs are described as generally walkable transit villages or corridors that are within 0.5 miles of a well-serviced transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours.[54] Local jurisdictions are encouraged to focus housing and employment growth within HQTAs.[55] Development within HQTAs would result in a

50 SCAQMD, Final Localized Significance Threshold Methodology, revised July 2009.

51 SCAQMD, Final 2016 Air Quality Management Plan, March 2017.

52 As mentioned previously, SCAG has adopted Connect SoCal, the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), but the growth projections have not yet been incorporated into an adopted AQMP. SCAQMD is currently developing the 2022 AQMP, which will incorporate these updated regional growth projections.

53 SCAG 2016–2040 RTP/SCS, adopted April 2016.

54 SCAG 2016–2040 RTP/SCS, adopted April 2016.

55 SCAG 2016–2040 RTP/SCS, adopted April 2016.

reduction in vehicle miles traveled based on transit accessibility and service frequency, as well as improved pedestrian and bicycle network availability.[56] Notably, Project area is located within an HQTA as designated by the 2016 RTP/SCS.[57,58]

The Project would generate criteria air pollutants through mobile sources, area sources (consumer products, landscaping, and architectural coatings for maintenance of buildings), energy sources, and stationary sources (emergency diesel generators). The operational emissions methodology is found in Appendix B-1 and detailed model outputs included in Appendix B-2.

(b) Localized Emissions

Potential localized CO concentrations from Project-induced traffic at nearby intersections are addressed consistent with the methodologies and assumptions used in the consistency analysis provided in SCAQMD's Final 2003 AQMP Appendix V, Modeling and Attainment Demonstrations (2003 AQMP)[59] and further discussed below.

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections.[60,61,62] Accordingly, vehicle emissions standards have become increasingly more stringent. Before the first vehicle emission regulations, cars in the 1950s were typically emitting about 87 grams of CO per mile.[63] Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (with provisions for certain cars to emit less).[64] With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SCAQMD have steadily declined.

The analysis SCAQMD prepared on CO attainment in the SCAB can be used to assist in evaluating the potential for CO exceedances in the SCAB. CO attainment was thoroughly analyzed as part of the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan).[65] In the 1992 CO Plan, a CO hot spot analysis was

[56] California Air Pollution Control Officers Association (CAPCOA), Quantifying Greenhouse Gas Mitigation Measures, August 2010.
[57] CAPCOA, Quantifying Greenhouse Gas Mitigation Measures, Exhibit 5.1: High Quality Transit Areas in the SCAG Region for 2040 Plan, August 2010.
[58] Los Angeles County Metropolitan Transportation Authority (Metro), High Quality Transit Areas—Southwest Quadrant, n.d.
[59] SCAQMD, Final 2003 AQMP Appendix V, Modeling and Attainment Demonstrations, August 2003.
[60] EPA, Air Quality Criteria for Carbon Monoxide, 2000.
[61] SCAQMD, CEQA Air Quality Handbook, Section 4.5, 1993.
[62] SCAQMD, 2003 AQMP, August 2003.
[63] EPA, Timeline of Major Accomplishments in Transportation, Air Pollution, and Climate Change, last updated January 27, 2017.
[64] CARB, California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-duty Trucks, and Medium-duty Vehicles, amended September 27, 2010.
[65] SCAQMD, Final 2003 AQMP Appendix V, Modeling and Attainment Demonstrations, August 2003.

conducted for the four worst-case scenario intersections in Los Angeles at the peak morning and afternoon time periods: (1) Long Beach Boulevard and Imperial Highway (Lynwood), (2) Wilshire Boulevard and Veteran Avenue (Westwood), (3) Sunset Boulevard and Highland Avenue (Hollywood), and (4) La Cienega Boulevard and Century Boulevard (Inglewood). These analyses did not predict a violation of CO standards. The peak modeled CO concentrations due to vehicle emissions occurred at the intersection of Wilshire Boulevard and Veteran Avenue, which had a daily traffic volume of approximately 100,000 vehicles per day. The 2003 AQMP estimated the 1-hour concentration for this intersection at 4.6 ppm, which indicates the most stringent 1-hour CO standard (20.0 ppm) would not likely be exceeded until the daily traffic at the intersection exceeded more than 400,000 vehicles per day.[66] The Los Angeles County Metropolitan Transportation Authority (Metro) evaluated the level of service (LOS) in the vicinity of the Wilshire Boulevard and Veteran Avenue intersection and found it to be LOS E during peak morning traffic and LOS F during peak afternoon traffic.[67,68] If a project intersection does not exceed 400,000 vehicles per day, then the project does not need to prepare a detailed CO hot spot analysis. If the screening method does not rule out significant impacts for an intersection, then detailed analysis using the California Line Source Dispersion model is conducted.

c) Project Design Features

The following project design features (PDFs) will be incorporated into the Project:

PDF-AIR-1: All architectural coatings applied on the interior or exterior of Project structures must be in compliance with South Coast Air Quality Management District Rule 1113 and have a volatile organic compound (VOC) content of 50 grams of VOC per liter of coating or less, less water and exempt compounds.

PDF-AIR-2: The Project will include construction dust control strategies in compliance with South Coast Air Quality Management District (SCAQMD) Rule 403, compliance with which will be identified on grading plan approvals. In addition to SCAQMD Rule 403, the following dust control best management practices will be implemented during Project construction:

a. Dirt and debris spilled onto paved surfaces at the project site and on the adjacent roadways will be swept, vacuumed, and/or washed at the end of each workday.

b. All trucks hauling dirt, sand, soil, or other loose material to and from the construction site will be covered and/or a minimum 2 feet of freeboard will be maintained.

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66 Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

67 Metro measured traffic volumes and calculated the LOS for the intersection Wilshire Boulevard and Sepulveda Avenue, which is a block west along Wilshire Boulevard, still east of Highway 405.

68 Metro, Congestion Management Program for Los Angeles County, Exhibits 2–6 and Appendix A, 2004.

PDF-AIR-3: Where power poles are available, electricity from power poles and/or solar-powered generators rather than temporary diesel or gasoline generators will be used during construction.

PDF-AIR-4: The Project will be designed to enhance the walkability of the Project Site, through methods, including pedestrian-level wayfinding signage, landscaping, and lighting along pedestrian walkways, outdoor seating areas, and shade trees.

d) Analysis of Project Impacts

Threshold (a): Would the Project conflict with or obstruct implementation of the applicable air quality plan?

(1) Impact Analysis

(a) SCAQMD CEQA Air Quality Handbook Policy Analysis

In accordance with the procedures established in the SCAQMD's CEQA Air Quality Handbook, the following criteria are required to be addressed in order to determine the Project's consistency with applicable SCAQMD and SCAG policies:

- 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 timely attainment of the AAQS or interim emission reductions in the AQMP; and
- Whether the Project would exceed the assumptions in the AQMP or increments based on the year of Project buildout and phase. Is the Project consistent with the population and employment growth projections upon which AQMP forecasted emission levels are based; does the Project include air quality mitigation measures; or to what extent is project development consistent with control measures?

(i) Criterion 1: 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 timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.

To address this criterion, an air quality modeling analysis that identified the Project's impact on air quality was performed. Detailed results of the modeling conducted for the Project are included in Appendix B-2. CalEEMod Version 2016.3.2 was used to model emissions for the Project and to analyze the Project's potential to increase relevant criteria pollutants, as discussed in detail under Threshold (b) below.

As discussed under Threshold (b) below, the proposed Project would result in emissions that would not exceed the SCAQMD thresholds for VOC, NO_x, SO_x, PM_{10}, or $PM_{2.5}$ during construction or operations and would not result in a significant and unavoidable impact associated with the violation of an air quality standard. Thus, the Project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.

(ii) Criterion 2: Whether the Project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

The Project would not conflict with SCAG's growth projections anticipated in the 2016 AQMP because the Project would not introduce a land use or zoning conflict with the City's designations for the Project area. The Project would not include a residential component and, therefore, would not directly generate a residential population. The Project involves the expansion of the existing Medical Center campus by replacing facilities and adding new buildings. As discussed under Section IV.K, Population and Housing, of this Draft EIR, conservatively, using the larger net increase in building square footage under Option B, the Project would result in approximately 1,807 new employees under the 2030 buildout. Since the 2016 AQMP incorporated growth projections from the 2016–2040 RTP/SCS, the Project's increase in employees is compared to the growth forecast in the 2016–2040 RTP/SCS, rather than Connect SoCal. Based on the 2016–2040 RTP/SCS, SCAG's forecast for the City indicates an estimated employment increase from 1,696,400 jobs in 2012 to approximately 2,169,100 jobs by 2040. Assuming a consistent increase, this would result in approximately 16,882 new jobs per year. Between the year 2017 (Project baseline) and year 2030 (Project buildout), SCAG projected that the City would have an increase of approximately 219,468 new jobs. As such, the Project's approximately 1,807 new employees by 2030 buildout would represent 0.82 percent of the total new employees projected in the SCAG Region between 2017 and 2030 (Project buildout). Thus, the Project's employment growth would fall within the forecasted employment growth for the City, and the Project would not represent a substantial or significant growth as compared to the projected employment growth for the City.

The Project area is within the Vermont/Western Transit Oriented District Specific Plan Area (SNAP), which is intended to implement the goals and policies of the Hollywood Community Plan, the General Plan Framework Element, and the General Plan Mobility Element through land use regulations and designation of subareas. The Project is located within a Unified Hospital Development Boundary, as defined in the SNAP. All of the Project's proposed improvements and uses are authorized by, and consistent with, the SNAP requirements for the proposed uses and for development with a Unified Hospital

Development Boundary. Compared to the existing commercial buildings, duplex structure, parking, and reconstruction/addition of an existing MOB, the Project would be compatible with the uses in the Project area. Additionally, as detailed in Section IV.I, Land Use and Planning, of this Draft EIR, the Project would be consistent with all applicable plans and the City's Zoning Code. The Project would result in a net incremental increase of 1,807 employment opportunities within the community. In addition, with the development of the Project, there may be a potential to result in population growth in the event that new employees move to the area. The Project could generate approximately 1,807 net employment opportunities, which represents approximately 0.82 percent of the total new employees projected in the SCAG region between 2017 (Project baseline) and 2030 (Project buildout). Conservatively assuming that all new employees of the Project are not currently residents in the City and would become new residents of the City, the Project's approximately 1,807 new persons to the City by 2030 buildout would represent 0.51 percent of the total new population projected in the SCAG region between 2017 (Project baseline) and 2030 (Project buildout). Thus, cumulative development of the Project would not represent a substantial or significant growth as compared to the employment and population growth projected for the City. Thus, the Project would not conflict with the 2016 AQMP or exceed the assumptions in the 2016 AQMP.

Notably, the Project is located within a Transit Priority Area[69] and is well-located to facilitate pedestrian activity, bicycle use, and public transit use. The Medical Center campus is situated across the street from the Metro B Line Vermont/Sunset Station, located at the northeast corner of the Vermont Avenue and Sunset Boulevard intersection. The Medical Center campus also is also within walking distance of retail, restaurant, and other commercial businesses located along Vermont Avenue, Hollywood Boulevard, and Sunset Boulevard. Further, regional and local bus transit stops are provided throughout the campus along Vermont Avenue, Hollywood Boulevard, and Sunset Boulevard, as well as along other nearby roadways. Bus transit service in the Project area is provided by Metro and the Los Angeles Department of Transportation (DASH and Commuter Express transit services). The Project's proximity to a subway station and a variety of bus stops would facilitate use of transit to access the Project site, which was accounted for in the Traffic Impact Analysis (provided in Appendix L-1 of this Draft EIR).

Overall, the assessment matched the trip generation provided in the Traffic Impact Analysis, which already considered pedestrian and bicycle accessibility and accounted for trip reductions associated with transit, including a 15-percent transit trip reduction that was assumed based on the site's proximity to the Metro B Line Vermont/Sunset Station, as well

69 A "transit priority area" is defined as an area within 0.5 miles of a major transit stop that is "existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations."

as North Vermont Avenue and Sunset Boulevard bus transit lines.[70] The Project would also be required to comply with the City's Transportation Demand Management Ordinance.

In summary, the Project would not conflict with SCAG's growth projections anticipated in the 2016 AQMP because the Project would not introduce a land use or zoning conflict with the City's designations for the Project site. Therefore, the Project would not exceed the assumptions in the AQMP.

(b) City of Los Angeles Policies

The Air Quality Element of the General Plan was adopted on November 24, 1992, and sets forth the goals, objectives, and policies that guide the City in the implementation of its air quality improvement programs and strategies. The Air Quality Element acknowledges the interrelationships among transportation and land use planning in meeting the City's mobility and air quality goals.

To achieve these goals, performance-based standards have been adopted to provide flexibility in implementation of the policies and objectives of the Air Quality Element. The Air Quality Element goals, objectives, and policies relevant to the Project are summarized in the Local Regulatory Framework section above.

The Project would promote the General Plan Air Quality Element goals, objectives, and policies. The Project sites are located within a Transit Priority Area and is well-located to facilitate pedestrian activity, bicycle use, and public transit use. The Medical Center campus is situated across the street from the Metro B Line Vermont/Sunset Station, located at the northeast corner of the Vermont Avenue and Sunset Boulevard intersection. The Medical Center campus also is situated within walking distance of retail, restaurant, and other commercial businesses located along Vermont Avenue, Hollywood Boulevard, and Sunset Boulevard. Further, regional and local bus transit stops are provided throughout the campus along Vermont Avenue, Hollywood Boulevard, and Sunset Boulevard, as well as along other nearby roadways. Bus transit service in the Project area is provided by Metro and the Los Angeles Department of Transportation (DASH and Commuter Express transit services). The Project's proximity to a subway station and a variety of bus stops would facilitate use of transit to access the Project site. The Project would also be required to comply with the City's Transportation Demand Management Ordinance. Thus, the Project would reduce vehicular trips, reduce VMT, and encourage use of alternative modes of transportation.

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[70] Linscott, Law and Greenspan, Traffic Impact Study – Kaiser Permanente Los Angeles Medical Center Project, August 2018, provided in Appendix L-1 of this Draft EIR.

In summary, **the Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, would not exceed the demographic growth forecasts in the SCAQMD 2016 AQMP, and would be consistent with the General Plan's Air Quality Element. Based on these considerations, impacts related to the Project's potential to conflict with or obstruct implementation of the applicable air quality plan would be less than significant.**

(2) Mitigation Measures

Impacts related to the Project's potential to conflict with or obstruct implementation of the applicable air quality plan would be less than significant. Therefore, no mitigation measures are required.

(3) Level of Significance After Mitigation

Impacts related to the Project's potential to conflict with or obstruct implementation of the applicable air quality plan would be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

Threshold (b): Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard?

(4) Impact Analysis

The SCAB has been designated as federal nonattainment area for lead,[71] O_3, and $PM_{2.5}$, and a State nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. This nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SCAB.

Construction and operation of the Project may result in emissions of criteria air pollutants from mobile, area, and stationary sources, which may cause exceedances of federal and State ambient air quality standards or contribute substantially to existing nonattainment of ambient air quality standards. The following discussion identifies potential construction and operational impacts that would result from implementation of the Project.

71 The phase-out of leaded gasoline started in 1976. Since gasoline no longer contains lead, the proposed project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

(a) Construction Emissions

Construction of the Project would result in the addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emissions levels can only be estimated, with a corresponding uncertainty in precise ambient air quality impacts.

Implementation of the Project would generate construction-related air pollutant emissions from three general activity categories: entrained dust, equipment and vehicle exhaust emissions, and architectural coatings. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. The Project would implement dust control strategies as a project design feature (Project Design Feature **PDF-AIR-2**). To reflect implementation of proposed dust control strategies, the following was assumed in CalEEMod:

- Water exposed area three times per day (61-percent reduction in PM_{10} and $PM_{2.5}$).
- Limit vehicle travel on unpaved roads to 15 miles per hour.

Exhaust from internal combustion engines used by construction equipment and vendor trucks (delivery trucks) and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior/interior paint and other finishes, would also produce VOC emissions; however, per SCAQMD's Rule 1113,[72] the VOC content of most non-specialty architectural coatings would be limited to 50 grams of VOC per liter of coating, less water and exempt compounds, (g/L VOC) (Project Design Feature **PDF-AIR-1**), which is, therefore, reflected in CalEEMod.

Table IV.B-5 presents the estimated maximum unmitigated daily construction emissions generated during construction of Phase 1 in each year.[73] The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emissions calculations are provided in Appendix B-2.

72 Effective January 1, 2014, the VOC content of architectural coatings, excluding specified specialty coatings, is limited to 50 grams per liter (g/L) VOC, less water and exempt compounds. Thus, the architectural coating factor in CalEEMod has been set to 50 g/L VOC for interior coatings.

73 The analysis assumes a construction start date of April 2020, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years

TABLE IV.B-5
PHASE 1 ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS – UNMITIGATED

Year	VOCs	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
			Pounds per Day			
2020	5.0	53.0	37.5	0.1	4.7	2.6
2021	4.1	34.6	33.0	0.1	3.9	2.0
2022	39.3	31.3	31.8	0.1	3.7	1.8
2023	2.2	20.8	21.9	<0.1	1.6	1.1
Maximum daily emissions	**39.3**	**53.0**	**37.5**	**0.1**	**4.7**	**2.6**
SCAQMD threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

NOTES:
VOC = volatile organic compound; NOx = oxides of nitrogen; CO = carbon monoxide; SOx = sulfur oxides; PM10 = coarse particulate matter; PM2.5 = fine particulate matter.
See Appendix B-2 for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect compliance with requirements of SCAQMD's Rule 1113 (refer to Project Design Feature PDF-AQ-1) and control of fugitive dust required by SCAQMD Rule 403 (refer to Project Design Feature PDF-AQ-2), which are factored into the CalEEMod "mitigated" outputs, even though compliance with these rules is not considered mitigation.

As shown in Table IV.B-5, daily construction emissions during Phase 1 of the Project would not exceed the SCAQMD significance thresholds for VOC, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$ during construction in all of the Phase 1 construction years. As such, criteria air pollutant impacts associated with Phase 1 construction would be less than significant.

The same sources of emissions and implementation of dust control strategies (Project Design Feature **PDF-AIR-2**) and architectural coating VOC limits (Project Design Feature **PDF-AIR-1**) included in Phase 1 were modeled using CalEEMod. **Table IV.B-6** presents the estimated maximum unmitigated daily construction emissions generated during construction of Phase 2 in each year. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emissions calculations are provided in Appendix B-2.

TABLE IV.B-6
PHASE 2 ESTIMATED UNMITIGATED MAXIMUM DAILY CONSTRUCTION EMISSIONS – UNMITIGATED

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
			Pounds per Day			
2024	1.7	29.7	17.6	0.1	3.2	1.3
2025	7.1	37.7	31.9	0.1	6.2	3.0
2026	2.1	17.0	18.6	<0.1	1.4	0.8
2027	33.3	17.0	18.5	<0.1	1.4	0.8
Maximum daily emissions	**33.3**	**37.7**	**31.9**	**0.1**	**6.2**	**3.0**
SCAQMD threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

NOTES:
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix B-2 for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect compliance with requirements of SCAQMD's Rule 1113 (refer to Project Design Feature **PDF-AQ-1**) and control of fugitive dust required by SCAQMD Rule 403 (refer to Project Design Feature **PDF-AQ-2**), which are factored into the CalEEMod "mitigated" outputs, even though compliance with these rules is not considered mitigation.

As shown in Table IV.B-6, daily construction emissions during Phase 2 of the Project would not exceed the SCAQMD significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all of the Phase 2 construction years. As such, criteria air pollutant impacts associated with Phase 2 construction would be less than significant.

The same sources of emissions and implementation of dust control strategies (Project Design Feature **PDF-AIR-2**) and architectural coating VOC limits (Project Design Feature **PDF-AIR-1**) included in Phase 1 were modeled using CalEEMod. **Table IV.B-7** presents the estimated maximum unmitigated daily construction emissions generated during construction of Phase 3 in each year. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emissions calculations are provided in Appendix B-2.

TABLE IV.B-7
PHASE 3 ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS – UNMITIGATED

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
			Pounds per Day			
2028	2.0	39.3	22.1	0.2	4.5	1.6
2029	35.7	30.8	26.2	0.1	3.4	1.5
Maximum daily emissions	**35.7**	**39.3**	**26.2**	**0.2**	**4.5**	**1.6**
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

NOTES:
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix B-2 for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect compliance with requirements of SCAQMD's Rule 1113 (refer to Project Design Feature **PDF-AQ-1**) and control of fugitive dust required by SCAQMD Rule 403 (refer to Project Design Feature **PDF-AQ-2**), which are factored into the CalEEMod "mitigated" outputs, even though compliance with these rules is not considered mitigation.

As shown in Table IV.B-7, daily construction emissions during Phase 3 of the Project would not exceed the SCAQMD significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all of the Phase 3 construction years. As such, criteria air pollutant impacts associated with Phase 3 construction would be less than significant.

(b) Operational Emissions

Following the completion of construction activities, the Project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicular traffic generated by patients, visitors, physicians/staff, and emergency vehicles (i.e., ambulance), energy sources (including combustion of fuels used for space and water heating), area sources (i.e., use of consumer products, architectural coatings for repainting, landscaping equipment), and stationary sources (emergency diesel generators). Notably, operation of natural gas-fired boilers and chillers are captured in emissions associated with the building energy sources. Existing land uses to be demolished include the majority of these sources, which were modeled in order t1o determine the baseline emissions and net increase in emissions associated with each phase of Project development, based on incremental demolition of existing uses and construction of new uses.

Total existing land uses to be demolished under the Project include a duplex, 234,220 square feet of MOB space, a 114,736-square-foot parking structure, and approximately

1 acre of surface parking. After demolition activities in Phase 1, a 19,199-square-foot MOB, the 114,736-square-foot parking structure, and 0.3-acre surface parking area would remain in operation. After Phase 2, only the 0.3-acre surface parking area would remain under either Option A or Option B, which would be demolished in Phase 3.

Operation at the end of Phase 1 of the Project would include a 130,000-square-foot MOB and a 50,000-square-foot Procedure Center. Operation at the end of Phase 2 of the Project would include a 2,300-square-foot retail/commercial space and either a 177,300-square-foot MOB under Option A, or a 105-bed, 177,300-square-foot hospital under Option B. Operation at the end of Phase 3 of the Project would include the uses in Phases 1 and 2 along with a 41,500-square-foot MOB under Option A, or a 73,500-square-foot MOB under Option B. Parking structures would not generate additional criteria air pollutants. The motor vehicles utilizing the parking structures and their associated emissions would be captured from the development (e.g., MOBs, hospital, retail/commercial building, Procedure Center) on site.

Summary – Option A

Table IV.B-8 presents the maximum daily emissions associated with the operation after each phase of the Project (Option A). Notably, each phase of Project development accounts for new land uses, as well as existing land uses to be demolished that are still in operation at that time. Complete details of the emissions calculations are provided in Appendix B-2. Figures depicting the phased operational emissions in Table IV.B-8 of the Project are shown in **Figure IV.B-3** and **Figure IV.B-4**.

TABLE IV.B-8
OPTION A – ESTIMATED DAILY MAXIMUM OPERATIONAL EMISSIONS

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Existing Baseline				**Pounds per Day**		
Area	5.13	<0.01	0.21	<0.01	<0.01	<0.01
Energy	0.35	3.19	2.68	0.02	0.24	0.24
Mobile	20.77	92.86	287.99	0.75	54.61	15.29
Stationary	N/A	N/A	N/A	N/A	N/A	N/A
Total	**26.25**	**96.05**	**290.88**	**0.77**	**54.85**	**15.53**
Phase 1 Scenario[a]						
Area	4.45	<0.01	0.06	0.00	<0.01	<0.01
Energy	0.10	0.89	0.74	0.01	0.07	0.07
Mobile	9.63	41.94	132.27	0.52	45.35	12.39

TABLE IV.B-8
OPTION A – ESTIMATED DAILY MAXIMUM OPERATIONAL EMISSIONS

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Existing Baseline				**Pounds per Day**		
Stationary	9.24	4.01	23.66	0.04	0.18	0.18
Total	**23.42**	**46.83**	**156.73**	**0.57**	**45.61**	**12.64**
Net (Phase 1 Scenario minus Existing Baseline)	**(2.84)**	**(49.23)**	**(134.14)**	**(0.20)**	**(9.24)**	**(2.89)**
Emissions Threshold	***55***	***55***	***550***	***150***	***150***	***55***
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Phases 1 and 2 Scenario[b]						
Area	7.94	<0.01	0.09	<0.01	<0.01	<0.01
Energy	0.14	1.24	1.04	0.01	0.09	0.09
Mobile	14.49	68.32	193.70	0.85	81.94	22.30
Stationary	18.05	8.32	46.19	0.09	0.38	0.38
Total	**40.62**	**77.88**	**241.02**	**0.95**	**82.40**	**22.77**
Net (Phases 1 and 2 Scenario minus Existing Baseline)	**14.36**	**(18.17)**	**(49.86)**	**0.18**	**27.55**	**7.24**
Emissions Threshold	***55***	***55***	***550***	***150***	***150***	***55***
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Phases 1 through 3 Buildout[c]						
Area	8.87	<0.01	0.11	<0.01	<0.01	<0.01
Energy	0.15	1.38	1.16	0.01	0.11	0.11
Mobile	14.89	73.42	198.14	0.92	91.29	24.79
Stationary	20.69	9.09	52.95	0.10	0.42	0.42
Total	**44.60**	**83.89**	**252.36**	**1.03**	**91.82**	**25.32**
Net (Phases 1 through 3 Buildout minus Existing Baseline)	**18.35**	**(12.16)**	**(38.52)**	**0.26**	**36.97**	**9.79**
Emissions Threshold	***55***	***55***	***550***	***150***	***150***	***55***

TABLE IV.B-8
OPTION A – ESTIMATED DAILY MAXIMUM OPERATIONAL EMISSIONS

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Existing Baseline				**Pounds per Day**		
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

SOURCE: See Appendix B-2 for complete results.
NOTES:
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Values in (parentheses) represent negative numbers. The values shown are the maximum summer or winter daily emissions results from CalEEMod, though totals may not sum due to rounding.
[a] The Phase 1 Scenario includes all land uses developed under Phase 1 of the Project, as well as existing uses that are still in operation at buildout of Phase 1 (year 2024). The existing uses still in operation include a 19,199-square-foot MOB, 114,736-square-foot parking structure, and an approximately 0.3-acre parking lot, which does not generate air quality emissions.
[b] The Phases 1 and 2 Scenario includes all land uses developed under both Phase 1 and Phase 2 of the Project, as well as existing uses that are still in operation at buildout of Phase 2 (year 2028). The existing uses still in operation only include an approximately 0.3-acre parking lot.
[c] Phases 1 through 3 Buildout includes all land uses developed under Phase 1, Phase 2, and Phase 3 of the Project. All existing baseline uses have been demolished by this time.

As shown in Table IV.B-8, the net increase in Project (Option A) emissions at Phases 1, 2, and 3 buildout would not exceed the SCAQMD operational thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Impacts associated with Project-generated operational criteria air pollutant emissions would be less than significant.

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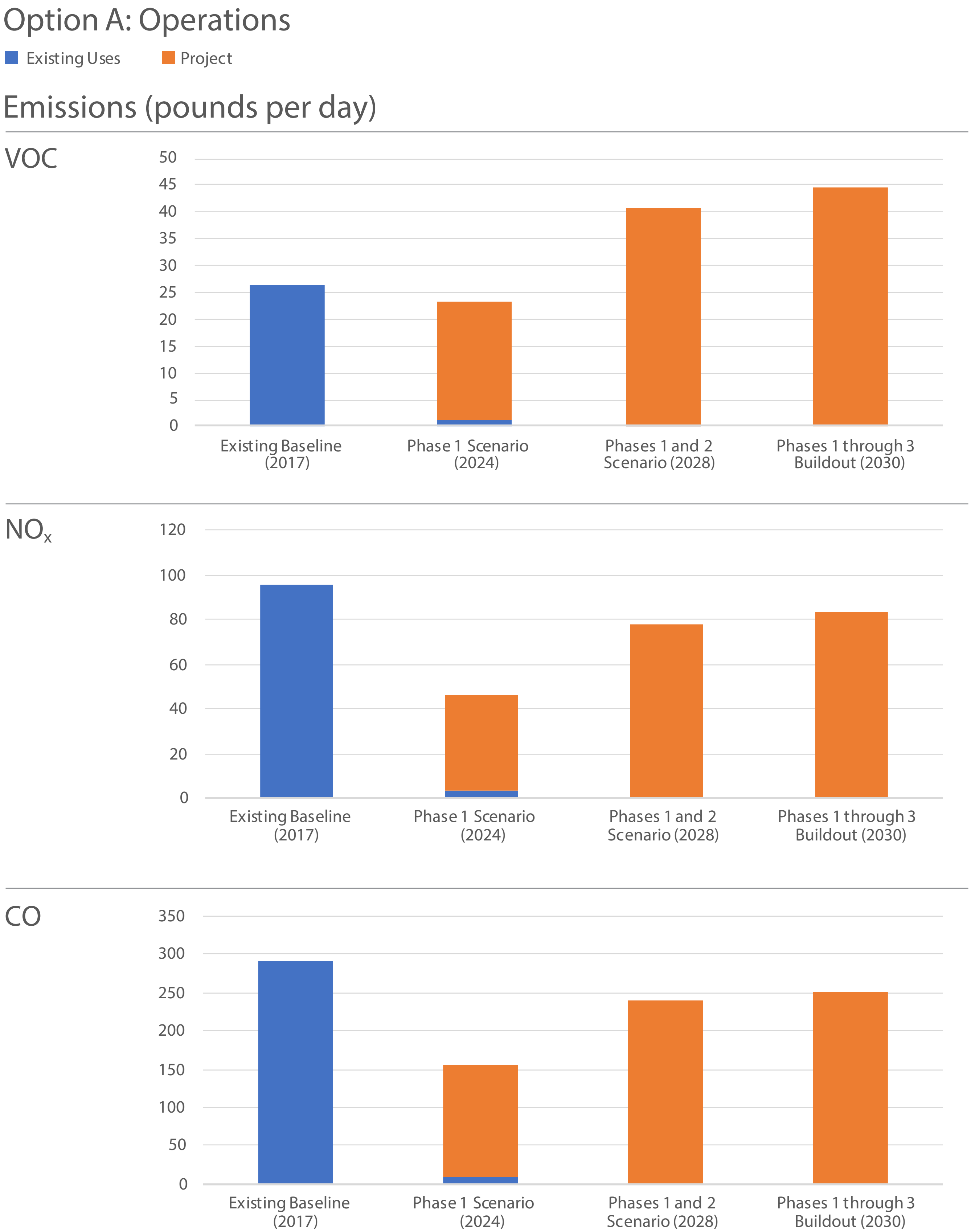

FIGURE IV.B-3

Option A: Operational Emissions of VOC, NO_X, and CO

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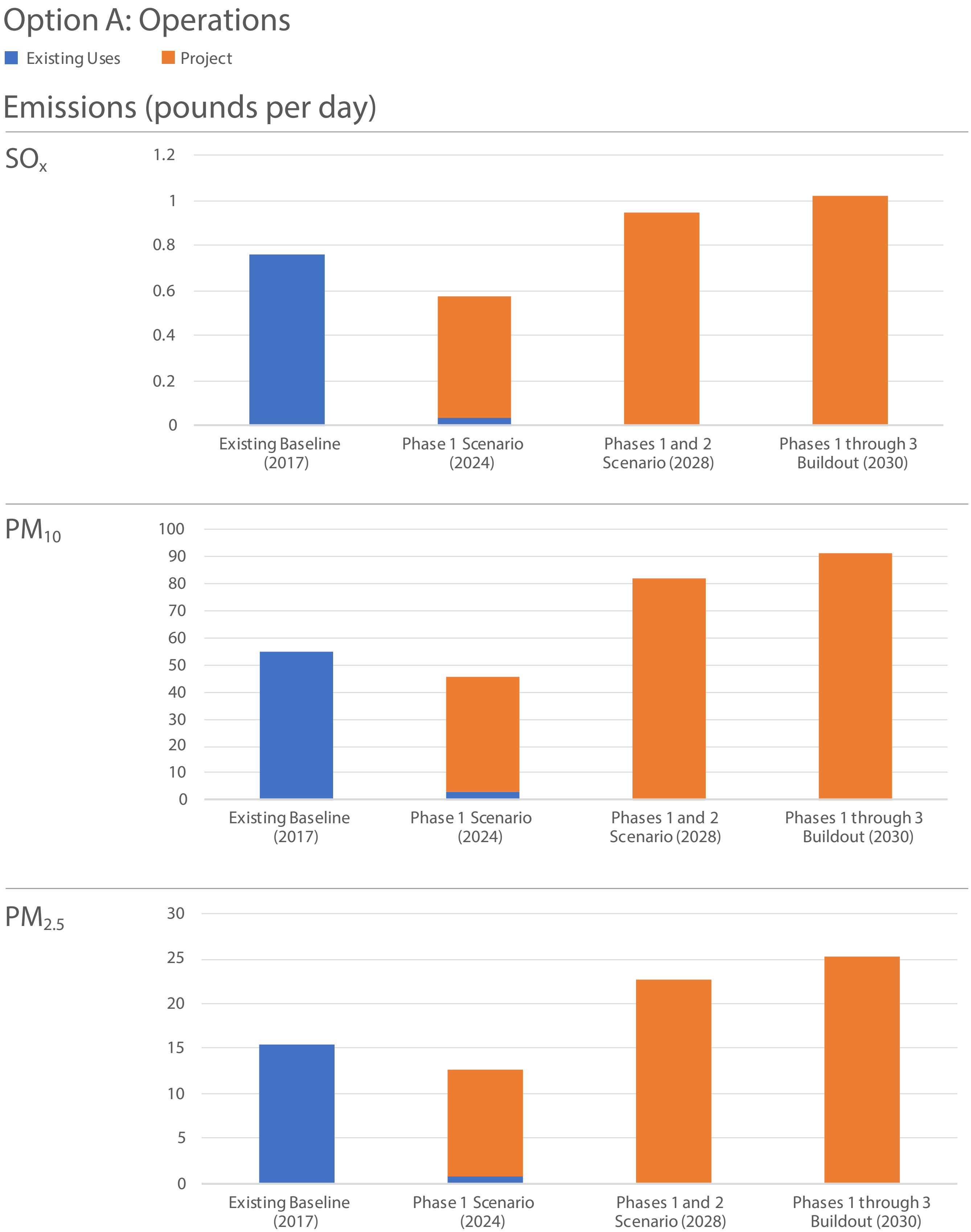

FIGURE IV.B-4

Option A: Operational Emissions of SO_x, PM_{10} and $PM_{2.5}$

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Summary – Option B

Table IV.B-9 presents the maximum daily emissions associated with the operation after each phase of the Project (Option B). Notably, each phase of Project development accounts for new land uses, as well as existing land uses to be demolished that are still in operation at that time. Complete details of the emissions calculations are provided in Appendix B-2. Figures depicting the phased operational emissions in Table IV.B-9 of the Project are shown in **Figure IV.B-5 and Figure IV.B-6**.

TABLE IV.B-9
OPTION B – ESTIMATED DAILY MAXIMUM OPERATIONAL EMISSIONS (POUNDS/DAY)

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Existing Baseline			**Pounds per Day**			
Area	5.13	<0.01	0.21	<0.01	<0.01	<0.01
Energy	0.35	3.19	2.68	0.02	0.24	0.24
Mobile	20.77	92.86	287.99	0.75	54.61	15.29
Stationary	N/A	N/A	N/A	N/A	N/A	N/A
Total	**26.25**	**96.05**	**290.88**	**0.77**	**54.85**	**15.53**
Phase 1 Scenario[a]						
Area	4.45	<0.01	0.06	0.00	<0.01	<0.01
Energy	0.10	0.89	0.74	0.01	0.07	0.07
Mobile	9.63	41.94	132.27	0.52	45.35	12.39
Stationary	9.24	4.01	23.66	0.04	0.18	0.18
Total	**23.42**	**46.83**	**156.73**	**0.57**	**45.61**	**12.64**
Net (Phase 1 Scenario minus Existing Baseline)	**(2.84)**	**(49.23)**	**(134.14)**	**(0.20)**	**(9.24)**	**(2.89)**
Emissions Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

TABLE IV.B-9
OPTION B – ESTIMATED DAILY MAXIMUM OPERATIONAL EMISSIONS (POUNDS/DAY)

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Existing Baseline			**Pounds per Day**			
Phases 1 and 2 Scenario[b]						
Area	7.94	<0.01	0.08	<0.01	<0.01	<0.01
Energy	0.14	1.36	1.14	0.01	0.10	0.10
Mobile	9.17	43.32	125.93	0.56	53.73	14.62
Stationary	22.45	10.48	57.45	0.11	0.47	0.47
Total	**39.70**	**55.16**	**184.60**	**0.67**	**54.30**	**15.19**
Net (Phases 1 and 2 Scenario minus Existing Baseline)	**13.44**	**(40.90)**	**(106.27)**	**(0.09)**	**(0.55)**	**(0.34)**
Emissions Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Phases 1 through 3 Buildout[c]						
Area	9.56	<0.01	0.10	<0.01	<0.01	<0.01
Energy	0.18	1.62	1.36	0.01	0.12	0.12
Mobile	11.18	55.11	151.76	0.70	70.37	19.11
Stationary	25.97	11.51	66.47	0.12	0.52	0.52
Total	**46.89**	**68.24**	**219.68**	**0.84**	**71.02**	**19.76**
Net (Phases 1 through 3 Buildout minus Existing Baseline)	**20.63**	**(27.82)**	**(71.19)**	**0.07**	**16.17**	**4.23**
Emissions Threshold	*55*	*55*	*550*	*150*	*150*	*55*

TABLE IV.B-9
OPTION B – ESTIMATED DAILY MAXIMUM OPERATIONAL EMISSIONS (POUNDS/DAY)

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Existing Baseline				**Pounds per Day**		
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

SOURCE: See Appendix B-2 for complete results.
NOTES:
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Values in (parentheses) represent negative numbers. The values shown are the maximum summer or winter daily emissions results from CalEEMod, though totals may not sum due to rounding.

[a] The Phase 1 Scenario includes all land uses developed under Phase 1 of the Project, as well as existing uses that are still in operation at buildout of Phase 1 (year 2024). The existing uses still in operation include a 19,199-square-foot MOB, 114,736-square-foot parking structure, and an approximately 0.3-acre parking lot, which does not generate air quality emissions.

[b] The Phases 1 and 2 Scenario includes all land uses developed under both Phase 1 and Phase 2 of the Project, as well as existing uses that are still in operation at buildout of Phase 2 (year 2028). The existing uses still in operation only include an approximately 0.3-acre parking lot.

[c] Phases 1 through 3 Buildout includes all land uses developed under Phase 1, Phase 2, and Phase 3 of the Project. All existing baseline uses have been demolished by this time.

Option B would have the same impacts and conclusions as Option A, discussed previously. As shown in Table IV.B-9, the net increase in Project emissions at Phases 1, 2, and 3 buildout would not exceed the SCAQMD operational thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Impacts associated with Project-generated operational criteria air pollutant emissions would be less than significant.

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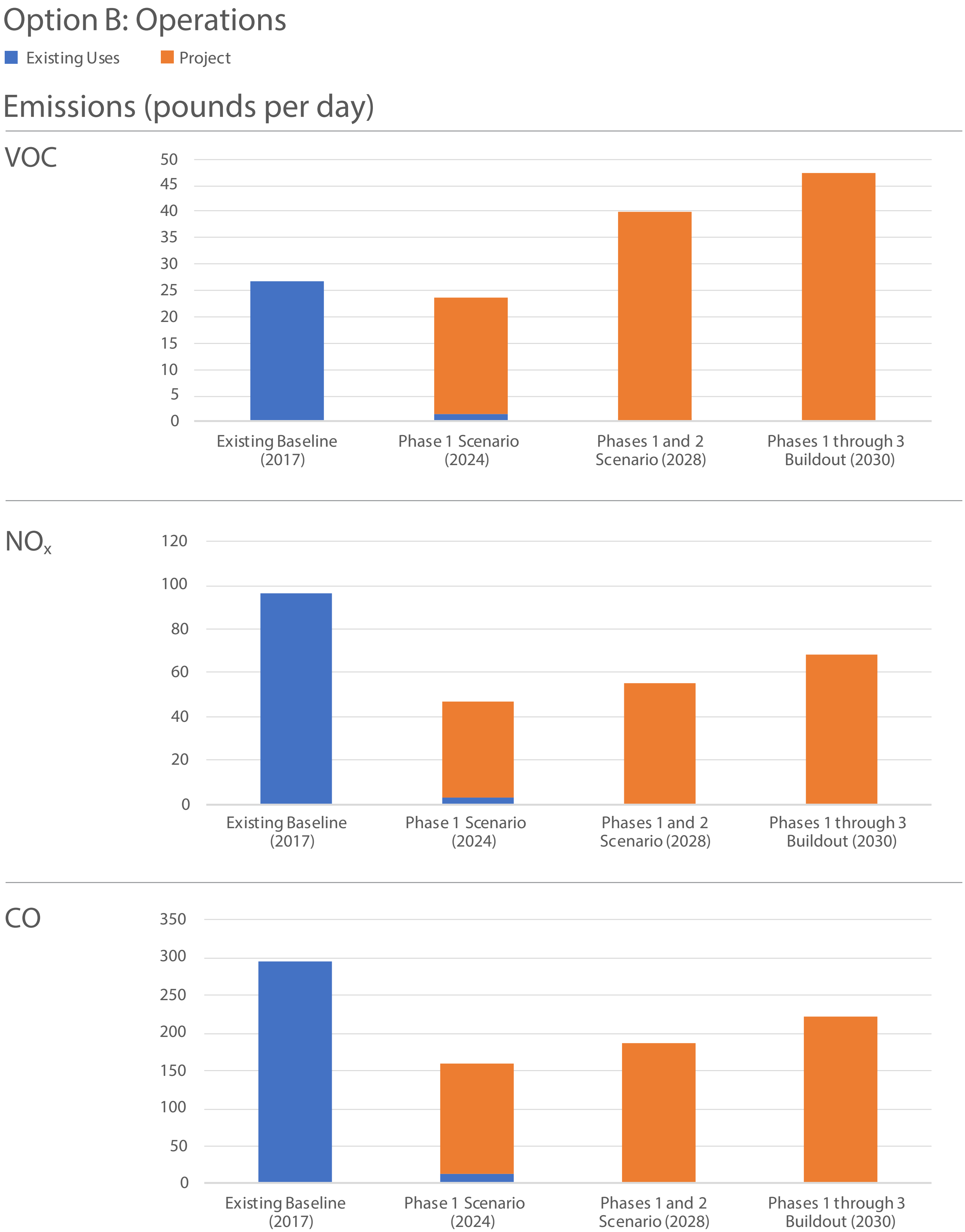

FIGURE IV.B-5

Option B: Operational Emissions of VOC, NO_x, and CO

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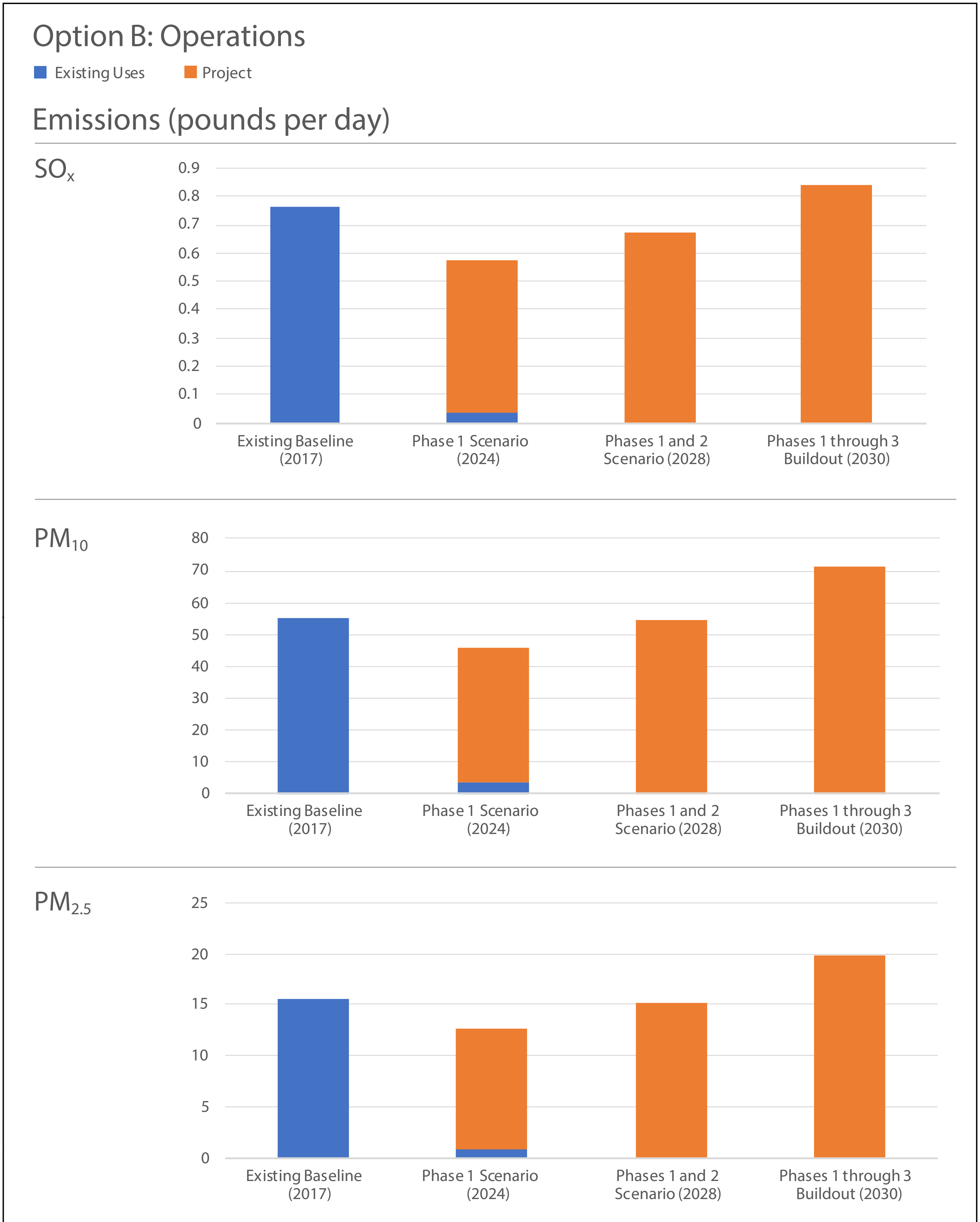

FIGURE IV.B-6

Option B: Operational Emissions of SO_X , PM_{10} and $PM_{2.5}$

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(5) Mitigation Measures

Impacts related to the Project resulting in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard during construction and operation would be less than significant. Therefore, no mitigation measures are required.

(6) Level of Significance After Mitigation

Impacts related to the Project resulting in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard during construction and operation would be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

Threshold (c): Would the project expose sensitive receptors to substantial pollutant concentrations?

(1) Impact Analysis

(a) Localized Significance Thresholds Analysis

(i) Construction

Construction activities associated with the Project would result in temporary sources of on-site fugitive dust and construction equipment emissions. Hauling of materials associated with Project construction is not expected to cause substantial air quality impacts to sensitive receptors along off-site roadways. Emissions from the truck pass-bys would be relatively brief in nature and would cease once the trucks pass through the main streets. In addition, diesel equipment would also be subject to the CARB ATCM for in-use off-road diesel fleets, which would minimize DPM emissions. Thus, Project construction emissions include those from on-site activities but do not include emissions from off-site mobile emissions. The maximum allowable daily emissions that would satisfy the SCAQMD localized significance criteria for SRA 1 are presented in **Table IV.B-10** and compared to the maximum daily on-site construction emissions generated over the span of all construction phases of the Project. Construction emissions associated with development Option B, which included the 105-bed hospital addition, were modeled as the worst-case scenario, based on the greater quantity of proposed land use square footage. For NO_X and CO, maximum emissions would be generated in Phase 1 (Year 2020) during the overlap of building construction on Site 1 and grading on Site 2. For PM_{10} and $PM_{2.5}$, maximum emissions would be generated in Phase 2 (Year 2025) during the overlap of building construction on Site 5 and grading on Site 4. The distance of the nearest sensitive receptor to the Project construction activities are listed in Sensitive Receptor Locations above. The closest sensitive receptors are located approximately 120 feet (36 meters) from the Project. However, the LST for receptors located at 25 meters (the shortest distance provided by SCAQMD) was conservatively used for this analysis. Although activities would occur on different sites during the worst-case emissions generation, the emissions were summed to provide a conservative LST analysis.

TABLE IV.B-10
LOCALIZED SIGNIFICANCE THRESHOLDS ANALYSIS FOR PROJECT CONSTRUCTION

Pollutant	Project Construction Emissions (pound/day)	LST Criteria (pounds/day)	Exceeds LST?
NO_2	31.64	74	No
CO	27.02	680	No
PM_{10}	3.49	5	No
$PM_{2.5}$	2.27	3	No

SOURCE SCAQMD, Final Localized Significance Threshold Methodology, July 2009.
NOTES:
LST = localized significance threshold; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix B-2 for complete results.
Localized significance thresholds are shown for 1-acre project sites corresponding to a distance to a sensitive receptor of 25 meters.
NO_x emissions from CalEEMod are compared to the NO_2 LST threshold.
These estimates reflect control of fugitive dust required by Rule 403.

LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable NAAQS or CAAQS at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area, project size, and distance to the nearest sensitive receptor. As shown in Table IV.B-10, construction activities would not generate emissions in excess of site-specific LSTs; therefore, site-specific construction impacts during construction of the Project would be less than significant because they would not expose sensitive receptors to substantial pollutant concentrations.

(ii) Operation

For operations, the LST analysis was based on values in the SCAQMD look-up tables for 5-acre sites with receptors 25 meters away, within SRA 1. The LST emissions include all on-site sources plus the on-site portion of all vehicular travel (assuming 500 meters of travel on site, which is the greatest source-to-receptor distance provided in the SCAQMD look-up tables). Although activities would occur on different sites during long-term operations, the emissions were summed to provide a conservative LST analysis. The maximum allowable daily operational emissions that would satisfy the SCAQMD localized significance criteria for SRA 1 are presented in **Tables IV.B-11 and IV.B-12** and compared to the maximum daily on-site operational emissions during implementation of the Project for Options A and B, respectively.

TABLE IV.B-11
OPTION A – LOCALIZED SIGNIFICANCE THRESHOLDS ANALYSIS FOR PROJECT OPERATIONS

Pollutant	Project On-Site Operational Emissions (pound/day)	LST Criteria (pounds/day)	Exceeds LST?
NO_2	12.87	161	No
CO	60.70	1,861	No
PM_{10}	3.51	4	No
$PM_{2.5}$	1.34	2	No

SOURCE: SCAQMD, Final Localized Significance Threshold Methodology, July 2009.
NOTES:
LST = localized significance threshold; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix B-2 for complete results.
Localized significance thresholds are shown for 5-acre project sites corresponding to a distance to a sensitive receptor of 25 meters.

TABLE IV.B-12
OPTION B – LOCALIZED SIGNIFICANCE THRESHOLDS ANALYSIS FOR PROJECT OPERATIONS

Pollutant	Project On-Site Operational Emissions (pound/day)	LST Criteria (pounds/day)	Exceeds LST?
NO_2	14.83	161	No
CO	72.89	1,861	No
PM_{10}	2.82	4	No
$PM_{2.5}$	1.23	2	No

SOURCE: SCAQMD, Final Localized Significance Threshold Methodology, July 2009.
NOTES:
LST = localized significance threshold; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix B-2 for complete results.
Localized significance thresholds are shown for 5-acre project sites corresponding to a distance to a sensitive receptor of 25 meters.

LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable NAAQS or CAAQS at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area, project size, and distance to the nearest sensitive receptor. As shown in Tables IV.B-11 and IV.B-12, operational activities associated with the Project (Option A or B) would not generate emissions in excess of site-specific LSTs; therefore, site-specific operational impacts of the Project would be less than significant because they would not expose sensitive receptors to substantial pollutant concentrations.

(b) Mobile Source Carbon Monoxide Hotspots

Mobile source impacts occur basically on two scales of motion. Regionally, Project-related travel will add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SCAB. Locally, proposed Project traffic will be added to roadways within the proposed Project area. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-Project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB is steadily decreasing.

CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, school children, hospital patients, and older adults. Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable LOS. Projects contributing to adverse traffic impacts may result in the formation of such CO hotspots.

Consistent with the CO methodology above, if a project intersection does not exceed 400,000 vehicles per day, the project does not need to prepare a detailed CO hot spot analysis.

At Project buildout, the highest average daily trips at an intersection would be approximately 4,672 at the Vermont Avenue and Sunset Boulevard intersection, which is substantially below the daily traffic volumes that would be expected to generate CO exceedances, as evaluated in the 2003 AQMP.[74] This daily trip estimate is based on the peak hour conditions of the intersection. There is no reason unique to the SCAB

[74] The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm, which indicates that the most stringent 1-hour CO standard (20.0 ppm) would likely not be exceeded until the daily traffic at the intersection exceeded more than 400,000 vehicles per day.

meteorology to conclude that the CO concentrations at the Vermont Avenue and Sunset Boulevard intersection would exceed the 1-hour CO standard if modeled in detail, based on the studies undertaken for the 2003 AQMP.[75] Therefore, the Project does not trigger the need for a detailed CO hotspots model and would not cause any new or exacerbate any existing CO hotspots. As a result, impacts related to localized mobile-source CO emissions are considered less than significant.

The Project's off-site operational activities, including the peak hour conditions, would not expose sensitive receptors to substantial pollutant concentrations. Accordingly, the Project's CO hotspot impacts would be less than significant because they would not expose sensitive receptors to substantial pollutant concentrations.

(c) Toxic Air Contaminants

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the State and federal government as TACs or HAPs. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California. The State has formally identified more than 200 substances as TACs, including the federal HAPs, and is adopting appropriate control measures for sources of these TACs.

The following ATCMs are required by state law to reduce DPM emissions (DPMs are considered TACs):

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use Off-road Diesel Vehicles,[76] the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.
- All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading is required to be limited to 5 minutes; electric auxiliary power units should be used whenever possible.

"Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 30-year exposure period would contract cancer based on the use of standard OEHHA risk-assessment methodology.[77] In addition, some TACs have non-carcinogenic effects. The greatest

[75] It should be noted that CO background concentrations with the vicinity of the modeled intersection have substantially decreased since preparation of the 200 AQMP. In 2003, the 1-hour background CO centration was 5 ppm and has decreased to 2 ppm in 2014.

[76] 13 California Code of Regulations, Chapter 9, Section 2449.

[77] Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments, 2015.

potential for TAC emissions during construction would be DPM emissions from heavy equipment operations and heavy-duty trucks during construction of the proposed Project and the associated health impacts to sensitive receptors. Additionally, the existing buildings on site would be demolished and may contain asbestos based on the age of original construction.

As shown in Table IV.B-5 and Table IV.B-6, maximum daily particulate matter (PM_{10} or $PM_{2.5}$) emissions generated by construction equipment operation and from haul trucks (exhaust particulate matter, or DPM), combined with fugitive dust generated by equipment operation and vehicle travel, would be well below the SCAQMD significance thresholds. Moreover, total construction of the Project would last approximately 9 years and 9 months, much less than the OEHHA recommended 30-year exposure period, after which Project construction-related TAC emissions would cease. Based on the short-term duration of construction and compliance with applicable regulations to minimize TAC exposure, Project construction would not result in exposure of sensitive receptors to substantial air pollutant concentrations.

Regarding operations, the proposed Project would not result in non-permitted stationary sources that would emit substantial air pollutants or TACs. Routine testing and maintenance of the diesel emergency generators and operation of the natural gas boilers would result in emissions of DPM and TAC emissions. However, the applicant would be required to work with the SCAQMD in order to obtain permits to operate. As part of the permit process, SCAQMD will evaluate compliance with Rule 1401, New Source Review of Toxic Air Contaminants, and Rule 1401.1, Requirements for New and Relocated Facilities Near Schools. Rule 1401 identifies acceptable risk levels and emissions control requirements for new and modified facilities that may emit additional TACs. Under Rule 1401, permits to operate may not be issued when emissions of TACs result in a maximum incremental cancer risk greater than 1 in 1 million without application of best available control technology for toxics (T-BACT), or a maximum incremental cancer risk greater than 10 in 1 million with application of T-BACT, or if the cumulative cancer burden (i.e., increase in cancer cases in the population) from all TACs emitted from a single piece of equipment exceeds 0.5, or a health hazard index (chronic and acute) greater than 1.0.[78]

Based on the close proximity of the Los Feliz Elementary School, Mary's Schoolhouse, Rose and Alex Pilibos Armenian School, and Pacific Southwest Lutheran Learning Center (the closest located approximately 250 feet from the Project), Rule 1401.1 would also apply, which is designed to be more health protective for school children than Rule 1401. For new facilities, Rule 1401.1 requires the facility-wide cancer risk to be less than 1 in a million at any school or school under construction within 500 feet of a facility. The human health risk analysis is based on the time, duration, and exposures expected. T-BACT is determined on a case-by-case basis; however, an example of T-BACT

[78] SCAQMD, Risk Assessment Procedures for Rules 1401, 1401.1, and 212, September 1, 2017.

includes diesel particulate filters for stationary engines. Unlike other SCAQMD risk-based rules, however, the required risk thresholds of Rule 1401.1 do not change based on whether or not the source is equipped with T-BACT. As such, compliance with Rule 1401.1 would provide additional protections for nearby sensitive receptors from the effects of emergency generator operation.

Overall, the proposed emergency diesel generators would be operated for a limited time (30 hours or less per year for testing and maintenance) and would be required to meet the required emissions rates for DPM at the time of installation. The proposed emergency diesel generators and natural gas boilers must be demonstrated to meet the requirements of all applicable rules before the SCAQMD can issue the permits to operate stationary source equipment.

Based on the above considerations, the Project would not expose sensitive receptors to substantial pollutant concentrations or health risk during construction or operations, and this impact would be less than significant.

(2) Mitigation Measures

Impacts related to the Project exposing sensitive receptors to substantial pollutant concentrations would be less than significant. Therefore, no mitigation measures are required.

(3) Level of Significance After Mitigation

Impacts related to the Project exposing sensitive receptors to substantial pollutant concentrations would be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

Threshold (d): Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

(1) Impact Analysis

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the Project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and to architectural coatings. Such odors would cease upon completion of construction. Construction of the Project would involve the use of conventional building materials typical of construction projects of similar type and size. Any odors that may be generated during construction would be localized and temporary in nature and would not be sufficient to affect a substantial number of people. Therefore, impacts associated with odors during construction are considered less than significant because these odors would not affect a substantial number of people.

Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project would not result in the creation of a land use that is commonly associated with odors. Therefore, Project operations would result in an odor impact that is less than significant.

In addition, the construction and operation of the Project would also comply with SCAQMD Rules 401, 402, and 403 regarding visible emissions violations.[79] In particular, SCAQMD Rule 402 provides that a person may 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.[80] Therefore, with compliance with existing regulatory requirements, the Project would not create odors that would adversely affect a substantial number of people.

Based on the above, the potential odor impact during construction and operation of the Project would be less than significant.

(2) Mitigation Measures

Impacts related to the Project resulting in other emissions (such as those leading to odors) adversely affecting a substantial number of people would be less than significant. Therefore, no mitigation measures are required.

(3) Level of Significance

Impacts related to the Project resulting in other emissions (such as those leading to odors) adversely affecting a substantial number of people would be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

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79 SCAQMD, Visible Emissions, Public Nuisance, and Fugitive Dust, 2021.

80 SCAQMD, Rule 402, Nuisance, adopted May 7, 1976.

e) Cumulative Impacts

(1) Impact Analysis

The City has identified a number of related projects located in the Project area that have not yet been built or that are currently under construction. Since both the timing and the sequencing of the construction of the related projects are unknown, any quantitative analysis to ascertain daily construction emissions that assumes multiple, concurrent construction projects would be speculative. For this reason, the SCAQMD's recommended methodology for assessing a project's cumulative impacts differs from the cumulative impacts methodology employed elsewhere in this Draft EIR. The SCAQMD recommends using two different methodologies: (1) use project-specific air quality impacts to determine the project's potential cumulative impacts to regional air quality[81] or (2) use a project's consistency with the current AQMP to determine its potential cumulative impacts.

As stated in the 2006 L.A. CEQA Thresholds Guide, the "City of Los Angeles has not adopted specific Citywide significance thresholds for air quality impacts. However, because of the SCAQMD's regulatory role in the SCAB, this Thresholds Guide references the screening criteria, significance thresholds and analysis methodologies in the CEQA Air Quality Handbook to assist in evaluating projects proposed within the City."[82] The SCAQMD CEQA Air Quality Handbook states that the "Handbook is intended to provide local governments, project proponents, and consultants who prepare environmental documents with guidance for analyzing and mitigating air quality impacts of projects."[83] The SCAQMD CEQA Air Quality Handbook also states that "[f]rom an air quality perspective, the impact of a project is determined by examining the types and levels of emissions generated by the project and its impact on factors that affect air quality. As such, projects should be evaluated in terms of air pollution thresholds established by the District."[84] The SCAQMD has also provided guidance on an acceptable approach to addressing the cumulative impacts issue for air quality as discussed below:[85]

> As Lead Agency, the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR… Projects that exceed the Project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and

81 SCAQMD, Potential Control Strategies to Address Cumulative Impacts from Air Pollution White Paper, Appendix D, page D-3, August 2003.
82 City of Los Angeles, 2006 L.A. CEQA Thresholds Guide, page B-1, 2006.
83 SCAQMD, CEQA Air Quality Handbook, page iii, 1993.
84 SCAQMD, CEQA Air Quality Handbook, page 6-1, 1993.
85 SCAQMD, Cumulative Impacts White Paper, Appendix D, August 2003.

cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

In accordance with State CEQA Guidelines Section 15064.7, the City has determined to rely on thresholds established by the SCAQMD to assess the Project's cumulative impacts. While it may be possible to sum emissions from the list of related projects and the Project, it would not provide meaningful data for evaluating cumulative impacts under CEQA because neither the City nor the SCAQMD have established numerical thresholds applicable to the summation of multiple project emissions for comparison purposes. Additionally, regional emissions from a project have the potential to affect the SCAB as a whole, and, unlike other environmental issues areas, such as aesthetics or noise, it is not possible to establish a geographical radius from a specific project site where potential cumulative impacts from regional emissions would be limited. Meteorological factors, such as wind, can disperse pollutants, often times tens of miles downwind from a project site. Therefore, consistent with accepted and established SCAQMD cumulative impact evaluation methodologies, the potential for the Project to results in cumulative impacts from regional emissions is assessed based on the SCAQMD thresholds.

Air pollution, by nature, is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, Project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. The potential for the Project to result in a cumulatively considerable impact, specifically a cumulatively considerable new increase of any criteria pollutant for which the project region is nonattainment under an applicable NAAQS and/or CAAQS, is addressed in Section 3.d., Threshold (b) above. As previously discussed, daily construction emissions of the Project would not exceed the SCAQMD significance thresholds for VOC, NO_x. CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all construction years. The net increase in Project-generated operational emissions at Phases 1, 2, and 3 buildouts would not exceed the SCAQMD operational thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$.

Cumulative Impacts of Option A or B

As discussed above, daily construction emissions during Phases 1, 2, and 3 of the Project (Option A or B) would not exceed the SCAQMD significance thresholds for VOC, $NO_{x.}$ CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all construction years. Construction activities required for the implementation of the Project would be considered typical of a healthcare facility. Cumulative localized impacts would potentially occur if construction of the Project were to occur concurrently with another proximate off-site project. However, air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SCAQMD. The maximum daily PM_{10} and $PM_{2.5}$ concentrations would not exceed thresholds during Project construction activities, although fugitive dust and vehicle and equipment exhaust generated during Project construction would contribute to the SCAB nonattainment designation for $PM_{2.5}$; however, this contribution would not be considered cumulatively considerable. Project construction would generate VOC and NO_x emissions; however, they would not exceed the SCAQMD significance thresholds. Therefore, Project construction would not considerably contribute to the SCAB's O_3 nonattainment designation, and impacts would be less than significant.

In regard to operations, the Project would result in a net increase in emissions that would not exceed the SCAQMD operational thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Impacts associated with Project-generated operational criteria air pollutant emissions would be less than significant for Option A or B.

The SCAQMD has established these emission-based thresholds in order to provide project-level estimates of criteria air pollutant quantities that the SCAB can accommodate without affecting the attainment dates for the CAAQS. Additionally, the EPA and CARB have established the NAAQS and CAAQS, respectively, at levels above which concentrations could be harmful to human health and welfare, with an adequate margin of safety. This impact is discussed further under Threshold (c).

(2) Mitigation Measures

Impacts related to the Project's potential cumulative impacts to air quality would be less than significant. Therefore, no mitigation measures are required.

(3) Level of Significance after Mitigation

Impacts related to the Project's potential cumulative impacts to air quality would be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

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