

5. Environmental Analysis

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This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for the Proposed Project to impact air quality in a local and regional context. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (SCAQMD). The analysis in this section is based on buildout of the Proposed Project, as modeled using the California Emissions Estimator Model (CalEEMod) and trip generation and vehicle miles traveled (VMT) provided by Fehr & Peers (see Appendix H to this DEIR). The criteria air pollutant emissions modeling for construction and operational phases are included in Appendix C of this DEIR.

5.2.1 Environmental Setting

5.2.1.1 SOUTH COAST AIR BASIN

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

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the Project Site is the Long Beach, California Monitoring Station (ID No. 045082). The average low is reported at 44.8°F in January, and the average high is 80.7°F in August (WRCC 2014).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall averages 12.72 inches per year in the project area (WRCC 2014).

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog, especially along the coast, are frequent. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (SCAQMD 2005).

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Wind

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

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

The mountain ranges to the east affect the transport and diffusion of pollutants by inhibiting their eastward transport. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (SCAQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These are the marine/subsidence inversion and the radiation inversion. The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area (SCAQMD 2005).

5.2.1.2 REGULATORY BACKGROUND

Ambient air quality standards (AAQS) have been adopted at state and federal levels for criteria air pollutants. In addition, both the state and federal government regulate the release of toxic air contaminants (TACs). The City of Long Beach is within the South Coast Air Basin (SoCAB). Land use is subject to the rules and regulations imposed by SCAQMD, as well as the California AAQS adopted by the California Air Resources Board (CARB) and National AAQS adopted by the United States Environmental Protection Agency (EPA). Federal, State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the Proposed Project are summarized below.

Federal and State Laws

Ambient Air Quality Standards

The Clean Air Act (CAA) was passed in 1963 by the U.S. Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air

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quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the State to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

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

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

Table 5.2-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Major Pollutant Sources
Ozone (O ₃)	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.075 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO ₂)	Annual Average	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	*	0.030 ppm ²	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm ¹	
	24 hours	0.04 ppm	0.014 ppm ²	
Respirable Coarse Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).
	24 hours	50 µg/m ³	150 µg/m ³	

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Table 5.2-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Major Pollutant Sources
Respirable Fine Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³ . ³	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m ³	
Lead (Pb)	Monthly	1.5 µg/m ³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	*	1.5 µg/m ³	
	3-Month Average	*	0.15 µg/m ³	
Sulfates (SO ₄)	24 hours	25 µg/m ³	*	Industrial processes.
Visibility-Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles ¹	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H ₂ S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2013.

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

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

¹ When relative humidity is less than 70 percent.

² On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

³ On December 14, 2012, EPA lowered the federal primary PM_{2.5} annual standard from 15.0 µg/m³ to 12.0 µg/m³. EPA made no changes to the primary 24-hour PM_{2.5} standard or to the secondary PM_{2.5} standards.

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Air Pollutants of Concern

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. Air pollutants are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. Of these, CO, SO₂, NO₂, PM₁₀, and PM_{2.5} are “criteria air pollutants,” which means that AAQS have been established for them. VOC and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and nitrogen dioxide (NO₂) are the principal secondary pollutants.

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

- **Carbon Monoxide** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (SCAQMD 2005; EPA 2012). The SoCAB is designated under the California and National AAQS as being in attainment of CO criteria levels (CARB 2014).
- **Volatile Organic Compounds** are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources of VOCs include evaporative emissions associated with paints and solvents, asphalt paving, and household consumer products such as aerosols (SCAQMD 2005). There are no ambient air quality standards established for VOCs. However, because they contribute to the formation of O₃, SCAQMD has established a significance threshold for this pollutant.
- **Nitrogen Oxides** are a by-product of fuel combustion and contribute to the formation of ground-level O₃, PM₁₀, and PM_{2.5}. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO_x produced by combustion is NO, but NO reacts quickly with oxygen to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO₂ is only potentially irritating. NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO₂ exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO₂ exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased

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respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO₂ concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (SCAQMD 2005; EPA 2012). The SoCAB is designated an attainment area for NO₂ under the National and California AAQS (CARB 2014).

- **Sulfur Dioxide** a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO₂. When sulfur dioxide forms sulfates (SO₄) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO₂ is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO₂, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing.) At lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (SCAQMD 2005; EPA 2012). The SoCAB is designated attainment under the California and National AAQS (CARB 2014).
- **Suspended Particulate Matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM₁₀, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤10 millionths of a meter or 0.0004 inch). Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤2.5 millionths of a meter or 0.0001 inch). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The EPA's scientific review concluded that PM_{2.5}, which penetrates deeply into the lungs, is more likely than PM₁₀ to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (SCAQMD 2005). There has been emerging evidence that even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), known as ultrafine particulates (UFPs), have human health implications, because UFPs toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (SCAQMD 2013). However, the EPA or CARB have yet to adopt AAQS to regulate these particulates. Diesel particulate matter (DPM) is classified by CARB as a carcinogen. Particulate matter can also cause environmental effects such as visibility impairment,¹ environmental damage,² and aesthetic damage³

¹ PM_{2.5} is the main cause of reduced visibility (haze) in parts of the United States.

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(SCAQMD 2005; EPA 2012). The SoCAB is a nonattainment area for PM_{2.5} under California and National AAQS and a nonattainment area for PM₁₀ under the California AAQS (CARB 2014).⁴

- **Ozone** is commonly referred to as “smog” and is a gas that is formed when VOCs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O₃ is a secondary criteria air pollutant. O₃ concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O₃ can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O₃ also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O₃ also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O₃ harms sensitive vegetation during the growing season (SCAQMD 2005; EPA 2012). The SoCAB is designated extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2014).

- **Lead** is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g. high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (SCAMQD 2005; EPA 2012). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA’s regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.⁵ As a result of these violations,

² Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

³ Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

⁴ CARB approved the SCAQMD’s request to redesignate the SoCAB from serious nonattainment for PM₁₀ to attainment for PM₁₀ under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM₁₀ standards from 2004 to 2007. The EPA approved the State of California’s request to redesignate the South Coast PM₁₀ nonattainment area to attainment of the PM₁₀ National AAQS, effective on July 26, 2013.

⁵ Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (SCAQMD 2012).

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the Los Angeles County portion of the SoCAB is designated as nonattainment under the National AAQS for lead (SCAQMD 2012, CARB 2014). Because emissions of lead are found only in projects that are permitted by SCAQMD, lead is not a pollutant of concern for the project.

Toxic Air Contaminants

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

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

Air toxics from stationary sources are also regulated in California under the Air Toxics “Hot Spot” Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a Health Risk Assessment (HRA), and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

In 1998, CARB identified diesel particulate matter as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs.

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Multiple Air Toxics Exposure Study IV

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on ambient concentrations of TACs and estimated the potential health risks from air toxics in the SoCAB. In 2008, SCAQMD conducted its third update to the MATES study (MATES-III). The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was approximately 1,200 in a million. The largest contributor to this risk was diesel exhaust, accounting for 84 percent of the cancer risk (SCAQMD 2008a).

In May 2015, SCAQMD released the final report of the fourth update (MATES IV). The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million. Compared to the previous update released in 2008 (MATES III), monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources while 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, accounting for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and associated decrease in air toxics exposure. As a result the estimated basin-wide population-weighted risk decreased by approximately 57 percent compared to the analysis done for the MATES III time period. For Los Angeles County, MATES III's estimated population-weighted average risk was 951 per million while MATES IV's estimated population-weighted average risk was 415 per million (SCAQMD 2015a). In the project vicinity, the MATES IV interactive map identifies risk to range from 465 per million to 603 per million (SCAQMD 2015b).

It should be noted that the Office of Environmental Health Hazard Assessment (OEHHA) is in the process of updating the methods for estimating cancer risks. The proposed new method includes utilizing higher estimates of cancer potency during early life exposures. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, SCAQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher using the proposed updated methods identified in MATES IV (SCAQMD 2015a).

Air Quality Management Planning

SCAQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

2012 AQMP

On December 7, 2012, SCAQMD adopted the 2012 AQMP, which employs the most up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources, and area sources. It also addresses several state and federal planning requirements, incorporating new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and new meteorological air quality models. The 2012 AQMP builds upon the approach identified in the 2007 AQMP for attainment of federal PM and ozone

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standards and highlights the significant amount of reductions needed and the urgent need to engage in interagency coordinated planning to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria air pollutant standards within the time frame allowed under the CAA. The 2012 AQMP demonstrates attainment of federal 24-hour PM_{2.5} standard by 2014 and the federal 8-hour ozone standard by 2023. It includes an update to the revised EPA 8-hour ozone control plan with new commitments for short-term NO_x and VOC reductions. The plan also identifies emerging issues of ultrafine particulate matter (PM_{1.0}) and near-roadway exposure, and an analysis of energy supply and demand.

Lead State Implementation Plan

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

Nonattainment Areas

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

Transportation conformity for nonattainment and maintenance areas is required under the federal CAA to ensure federally supported highway and transit projects conform to the SIP. The EPA approved California's SIP revisions for attainment of the 1997 8-hour O₃ National AAQS for the SoCAB in March 2012. Findings for the new 8-hour O₃ emissions budgets for the SoCAB and consistency with the recently adopted 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) were submitted to the EPA for approval.

The attainment status for the SoCAB is shown in Table 5.2-2. The SoCAB is also designated in attainment of the California AAQS for sulfates. The SoCAB would have to meet the new federal 8-hour O₃ standard by 2023, and the federal 24-hour PM_{2.5} standards by 2014 (with the possibility of up to a five-year extension to 2019, if needed). The SoCAB is designated nonattainment for lead (Los Angeles County only) under the National AAQS.

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Table 5.2-2 Attainment Status of Criteria Pollutants in the South Coast Air Basin

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

Source: CARB 2014.

¹ In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new federal and existing state AAQS as a result of large industrial emitters. Remaining areas within the SoCAB are unclassified.

5.2.1.3 EXISTING CONDITIONS

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the Project Site and its surroundings are best documented by measurements made by SCAQMD. The Project Site is in Source Receptor Area (SRA) 4 – South Los Angeles County Coastal. The air quality monitoring station closest to the Project Site is the Long Beach – 2425 Webster Street Monitoring Station. This station monitors O₃, CO, NO₂, and SO₂. Data for PM₁₀ and PM_{2.5} is supplemented by the South Long Beach Monitoring Station. The most current five years of data monitored at these monitoring stations are included in Table 5.2-3. The data shows that the area occasionally exceeded the state and federal O₃ and NO_x standards in the last five years. The state PM₁₀ and federal PM_{2.5} standards are regularly exceeded. The CO and SO₂ standards have not been exceeded in the last five years in the project vicinity.

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Table 5.2-3 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
	2010	2011	2012	2013	2014
Ozone (O₃)¹					
State 1-Hour \geq 0.09 ppm	1	0	0	0	0
State 8-hour \geq 0.07 ppm	1	0	0	0	1
Federal 8-Hour $>$ 0.075 ppm	1	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.099	0.074	0.080	0.090	0.087
Max. 8-Hour Conc. (ppm)	0.084	0.064	0.067	0.070	0.072
Carbon Monoxide (CO)¹					
State 8-Hour $>$ 9.0 ppm	0	0	0	*	*
Federal 8-Hour \geq 9.0 ppm	0	0	0	0	0
Max. 8-Hour Conc. (ppm)	2.60	3.31	2.57	*	*
Nitrogen Dioxide (NO₂)¹					
State 1-Hour \geq 0.18 ppm	0	0	0	0	0
Federal 1-Hour \geq 0.100 ppm	1	0	0	0	2
Max. 1-Hour Conc. (ppb)	117	90	97	81	135.9
Sulfur Dioxide (SO₂)¹					
State 1-Hour \geq 0.04 ppm	0	0	0	0	*
Max. 1-Hour Conc. (ppm)	0.003	0.013	0.004	0.004	*
Coarse Particulates (PM₁₀)²					
State 24-Hour $>$ 50 $\mu\text{g}/\text{m}^3$	2	0	1	1	2
Federal 24-Hour $>$ 150 $\mu\text{g}/\text{m}^3$	0	0	0	0	0
Max. 24-Hour Conc. ($\mu\text{g}/\text{m}^3$)	76	50	54	54	59
Fine Particulates (PM_{2.5})²					
Federal 24-Hour $>$ 35 $\mu\text{g}/\text{m}^3$	0	3	4	1	2
Max. 24-Hour Conc. ($\mu\text{g}/\text{m}^3$)	33.7	42.0	46.7	42.9	52.2

Source: CARB 2015

Notes: ppm = parts per million; ppb = parts per billion; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

* Data not available.

¹ Data obtained from the Long Beach – 2425 Webster Street Monitoring Station.

² Data obtained from the South Long Beach Monitoring Station.

Existing Setting

The Project Site is currently developed and consists of a mix of residential, commercial, medical, institutional, and open space and recreation uses. These uses currently generate criteria air pollutants from natural gas use for energy, heating and cooking, vehicle trips associated with each land use, and area sources such as landscaping equipment and consumer cleaning products. Table 5.2-4 shows criteria pollutants from existing land uses within the Project Site.

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Table 5.2-4 Existing Maximum Daily Operational Phase Criteria Air Pollutant Emissions

Phase	Operation-Related Regional Emissions (pounds/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Existing						
Area	194	10	645	2	79	79
Energy	4	31	23	<1	2	2
Transportation	428	979	4,078	8	519	148
Total	625	1,020	4,746	10	601	229

Source: CalEEMod Version 2013.2.2. Based on highest winter or summer emissions using 2015 emission rates. Totals may not equal 100 percent due to rounding.

Sensitive Receptors

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

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

The nearest sensitive receptors to the Project Site are the surrounding residential land uses along its boundaries. In addition, many existing sensitive land uses (e.g., residential) are within the boundaries of the Project Site.

5.2.2 Thresholds of Significance

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

- AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.
- AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- AQ-3 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

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AQ-4 Expose sensitive receptors to substantial pollutant concentrations.

AQ-5 Create objectionable odors affecting a substantial number of people.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following threshold would be less than significant:

- Threshold AQ-5

This impact will not be addressed in the following analysis.

5.2.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

The analysis of the Proposed Project's air quality impacts follows the guidance and methodologies recommended in SCAQMD's *CEQA Air Quality Handbook* and the significance thresholds on SCAQMD's website.⁶ CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. SCAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation. In addition to the daily thresholds listed above, projects are also subject to the AAQS. These are addressed through an analysis of localized CO impacts and localized significance thresholds (LSTs).

Regional Significance Thresholds

SCAQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB. Table 5.2-5, *SCAQMD Significance Thresholds*, lists SCAQMD's regional significance thresholds. These thresholds are applicable for all projects uniformly regardless of size or scope.

Table 5.2-5 SCAQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Nitrogen Oxides (NO _x)	100 lbs/day	55 lbs/day
Sulfur Oxides (SO _x)	150 lbs/day	150 lbs/day
Particulates (PM ₁₀)	150 lbs/day	150 lbs/day
Particulates (PM _{2.5})	55 lbs/day	55 lbs/day

Source: SCAQMD 2015c.

⁶ SCAQMD's Air Quality Significance Thresholds are current as of March 2011 and can be found at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook>.

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Localized Significance Thresholds

SCAQMD developed LSTs to determine if emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at a project site (offsite mobile-source emissions are not included in the LST analysis) would expose sensitive receptors to substantial concentrations of criteria air pollutants. Table 5.2-6 shows the localized significance thresholds for projects in the SoCAB.

Table 5.2-6 SCAQMD Localized Significance Thresholds

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

Source: SCAQMD 2015c.

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

¹ Threshold is based on SCAQMD Rule 403. Since the SoCAB is in nonattainment for PM₁₀ and PM_{2.5}, the threshold is established as an allowable change in concentration. Therefore, background concentration is not relevant.

To assist lead agencies, SCAQMD developed screening-level LSTs to back-calculate the mass amount (lbs. per day) of emissions generated onsite that would trigger the hourly levels shown in Table 5.2-6 for projects under five acres. LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS. LSTs are based on the ambient concentrations of that pollutant within the project SRA and the distance to the nearest sensitive receptor. However, an LST analysis can only be conducted at a project level, and quantification of LSTs is not applicable for this program-level environmental analysis.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots, which have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. Typically, for an intersection to exhibit a significant CO concentration, it would operate at level of service (LOS) E or worse without improvements (Caltrans 1997).

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Health Risk Analysis

Whenever a project would require use of chemical compounds that have been identified in SCAQMD Rule 1401; placed on CARB's air toxics list pursuant to AB 1807, the Air Contaminant Identification and Control Act (1983); or placed on the EPA's National Emissions Standards for Hazardous Air Pollutants, an HRA is required by SCAQMD. Table 5.2-7 lists SCAQMD's TAC incremental risk thresholds for operation of a project. Residential, commercial, and office uses do not use substantial quantities of TACs, and these thresholds are typically applied for new industrial projects. Although not officially adopted by SCAQMD, these thresholds are also commonly used to determine air quality land use compatibility of a project with major sources of TACs within 1,000 feet of a proposed project.

Table 5.2-7 SCAQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Individual Cancer Risk	≥ 10 in 1 million
Cancer Burden (in areas ≥ 1 in 1 million)	> 0.5 excess cancer cases
Hazard Index (project increment)	≥ 1.0
Source: SCAQMD 2015c.	

5.2.3 Environmental Impacts

Methodology

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with implementation of the Proposed Project. SCAQMD has published the *CEQA Air Quality Handbook* (Handbook) and updates on its website to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in environmental impact reports and was used extensively in the preparation of this analysis. SCAQMD has published additional guidance for LSTs—*Localized Significance Threshold Methodology for CEQA Evaluations* (SCAQMD 2008)—that are intended to provide guidance in evaluating localized effects from emissions generated by a project. These documents were also used in the preparation of this analysis. The analysis also makes use of the CalEEMod Version 2013.2.2, for determination of daily construction and operational emissions.

The following impact analysis addresses thresholds of significance and the applicable thresholds are identified in brackets after the impact statement.

Impact 5.2-1: Construction activities associated with implementation of the Proposed Project would generate short-term emissions that exceed the South Coast Air Quality Management District's regional construction thresholds. [Thresholds AQ-2 and AQ-3]

Impact Analysis: A project would normally have a significant effect on the environment if it violates any air quality standard or contributes substantially to an existing or projected air quality violation. Construction

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activities produce combustion emissions from various sources, such as onsite heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. Site preparation activities produce fugitive dust emissions (PM₁₀ and PM_{2.5}) from grading and excavation and from demolition. Exhaust emissions from construction onsite would vary daily. The potential construction-related air quality impacts resulting from the Proposed Project within each of the areas of the Project Site are addressed below.

Midtown Specific Plan Area

Construction activities would temporarily increase PM₁₀, PM_{2.5}, VOC, NO_x, SO_x, and CO regional emissions within the SoCAB. Construction activities associated with buildout of the Midtown Specific Plan area are anticipated to occur sporadically over an approximately 18-year period or longer. Buildout would comprise of multiple smaller projects undertaken by individual developers/project applicants, each having its own construction timeline and activities. Development of multiple properties could occur at the same time; however, there is no defined development schedule for these future projects at this time. For this analysis, the maximum daily emissions are based on a very conservative scenario, where several construction projects throughout the Midtown Specific Plan area would occur at one time and overlap of all construction phases occur at the same time. The amount of construction assumed is consistent with the approximately 18-year anticipated buildout of the Midtown Specific Plan area. An estimate of maximum daily construction emissions is provided in Table 5.2-8.

Table 5.2-8 Estimate of Regional Construction Emissions

Construction Phase ^{1,2}	Construction-Related Regional Emissions (pounds/day) ³					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Demolition	4	46	38	<1	4	2
Site Preparation	5	52	40	<1	11	7
Grading	6	70	48	<1	7	5
Building Construction	9	49	101	<1	14	5
Paving	2	20	16	<1	1	1
Architectural Coatings	124	3	14	<1	2	1
Worst-Case Day ⁴	150	240	256	<1	39	21
SCAQMD Standard	75	100	550	150	150	55
Significant?	Yes	Yes	No	No	No	No

Source: CalEEMod Version 2013.2.2.

¹ Construction equipment mix is based on CalEEMod default construction mix. See Appendix C for a list of assumptions on emissions generated on a worst-case day.

² Grading includes compliance with SCAQMD Rule 403 fugitive dust control measures. Measures include requiring an application of water at least twice per day to at least 80 percent of the unstabilized disturbed onsite surface areas, replacing disturbed ground cover quickly, and restricting speeds on unpaved roads to less than 15 miles per hour. Modeling also assumes a VOC of 100 g/L for interior paints pursuant to SCAQMD Rule 1113.

³ It is assumed that approximately 620,820 building square feet of the existing structures would be demolished.

⁴ Based on overlap of the Building Construction, Paving, and Architectural Coatings phases.

As shown in the table, construction activities associated with the Proposed Project could potentially exceed the SCAQMD regional thresholds for VOC and NO_x. The primary source of NO_x emissions is vehicle and construction equipment exhaust. NO_x is a precursor to the formation of both O₃ and particulate matter (PM₁₀ and PM_{2.5}). VOC is produced by equipment exhaust and off-gas of architectural coatings and paving.

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VOC is a precursor to the formation of O₃. Project-related emissions of VOC and NO_x would contribute to the O₃, NO₂, PM₁₀, and PM_{2.5} nonattainment designations of the SoCAB. Therefore, project-related construction activities would result in significant regional air quality impacts.

Area Outside the Midtown Specific Plan

Under the Proposed Project, the area that is outside the Midtown Specific Plan, which covers two residential blocks around Officer Black Park (approximately 4 acres) west of Pasadena Avenue between 21st Street and 20th Street (see Figure 3-5, *Current and Proposed Zoning Designations*), would be extracted from PD 29 and retain its underlying conventional zoning designations, which include Single-Family Residential, standard lot (R-1-N); Three-Family Residential (R-3-S); and Park (P). With the exception of the zoning designation revisions that would be undertaken, no physical change (e.g., additional development intensity, redevelopment) is expected to occur within this area and all existing uses (which include residential uses, a church, and Officer Black Park) are expected to remain. Therefore, no construction-related air quality impacts are anticipated to occur.

Impact 5.2-2: Long-term criteria air pollutant emissions associated with the Proposed Project would exceed the South Coast Air Quality Management District's regional operational significance thresholds. [Thresholds AQ-2 and AQ-3]

Impact Analysis: The potential operational-related air quality impacts resulting from the Proposed Project within each of the areas of the Project Site are addressed below.

Midtown Specific Plan Area

Buildout of the Midtown Specific Plan area would result in direct and indirect criteria air pollutant emissions from transportation, energy (natural gas use), and area sources (e.g., natural gas fireplaces, aerosols, landscaping equipment). Transportation sources of criteria air pollutant emission are based on the traffic impact analysis conducted by Fehr & Peers (see Appendix H of this DEIR). Development that would be accommodated by the Specific Plan would generate a net increase of 72,079 weekday average daily trips (ADT) and a net increase of 185,000 daily VMT (see Appendix C). The results of the CalEEMod modeling are included in Table 5.2-9.

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Table 5.2-9 Maximum Daily Operational Phase Regional Emissions

Phase	Operation-Related Regional Emissions (pounds/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Existing						
Area	193	10	642	2	79	79
Energy	4	31	23	<1	2	2
Transportation	206	440	2,069	8	519	147
Total	403	481	2,733	10	601	228
Project¹						
New Construction						
Area	121	9	620	2	79	79
Energy	1	12	8	<1	1	1
Transportation	78	158	757	3	181	51
Remaining Existing Land Uses						
Area	174	9	590	1	73	73
Energy	3	28	21	<1	2	2
Transportation	157	346	1,608	7	416	117
Total Project Buildout						
Area	295	18	1,210	3	152	152
Energy	5	40	29	<1	3	3
Transportation	235	504	2,365	9	597	168
Total	534	563	3,604	13	752	324
Net Increase						
Project Less Existing Emissions	131	81	870	3	151	95
SCAQMD Regional Threshold	55	55	550	150	150	55
Significant?	Yes	Yes	Yes	No	Yes	Yes

Source: CalEEMod Version 2013.2.2. Based on highest winter or summer emissions using 2035 emission rates. Totals may not equal 100 percent due to rounding.
¹ Assumes approximately 620,820 building square feet of the existing structures would be demolished.

As shown in Table 5.2-9, the operation phase of the Midtown Specific Plan at buildout would generate air pollutant emissions that exceed SCAQMD’s regional significance thresholds for VOC, NO_x, CO, PM₁₀, and PM_{2.5}. Construction of the new residential and non-residential uses would be based on market-demand and would be constructed over the approximate 18-year project buildout; therefore, emissions from construction activities could add to the total emissions during early phases. Table 5.2-9 shows maximum daily emissions at buildout once construction is complete. Emissions of VOC and NO_x that exceed the SCAQMD regional threshold would cumulatively contribute to the O₃ nonattainment designation of the SoCAB. Emissions of NO_x that exceed SCAQMD’s regional significance thresholds would cumulatively contribute to the O₃ and particulate matter (PM₁₀ and PM_{2.5}) nonattainment designations of the SoCAB. Emissions of PM₁₀ and PM_{2.5} would contribute to the PM₁₀ and PM_{2.5} nonattainment designations.

Therefore, implementation of the Midtown Specific Plan would result in a significant impact because it would significantly contribute to the nonattainment designations of the SoCAB.

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Area Outside the Midtown Specific Plan

As noted above, with the exception of the zoning designation revisions that would be undertaken in this area of the Project Site under the Proposed Project, no physical change (e.g., additional development intensity, redevelopment) is expected to occur within this area and all existing uses are expected to remain. Therefore, no operational-related air quality impacts are anticipated to occur.

Impact 5.2-3: Construction activities related to buildout of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-4]

Impact Analysis: The potential construction-related air quality impacts resulting from the Proposed Project within each of the areas of the Project Site are addressed below.

Midtown Specific Plan Area

Development that would be accommodated by the Midtown Specific Plan could expose sensitive receptors to elevated pollutant concentrations during construction activities if it would cause or contribute significantly to elevating those levels. Unlike the mass of construction emissions shown in Table 5.2-8, *Estimate of Regional Construction Emissions*, described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu\text{g}/\text{m}^3$) and can be correlated to potential health effects. LSTs are the amount of project-related emissions at which localized concentrations (ppm or $\mu\text{g}/\text{m}^3$) would exceed the ambient air quality standards for criteria air pollutants for which the SoCAB is designated a nonattainment area.

Table 5.2-8 provides an estimate of the magnitude of criteria air pollutant emissions generated by the development that would be accommodated by the Midtown Specific Plan for each construction subphase. Buildout of the Midtown Specific Plan would occur over a period of approximately 18 years or longer and would comprise several smaller projects with their own construction timeframe and construction equipment. Concentrations of criteria air pollutants generated by a development project depend on the emissions generated onsite and the distance to the nearest sensitive receptor.

Therefore, an LST analysis can only be conducted at a project-level, and quantification of LSTs is not applicable for this program-level environmental analysis. Because potential redevelopment could occur close to existing sensitive receptors, the development that would be accommodated by the Specific Plan has the potential to expose sensitive receptors to substantial pollutant concentrations. Construction equipment exhaust combined with fugitive particulate matter emissions has the potential to expose sensitive receptors to substantial concentrations of criteria air pollutant emissions and result in a significant impact.

Area Outside the Midtown Specific Plan

As noted above, with the exception of the zoning designation revisions that would be undertaken in this area of the Project Site under the Proposed Project, no physical change (e.g., additional development intensity, redevelopment) is expected to occur within this area and all existing uses are expected to remain. Therefore, no operational-related air quality impacts are anticipated to occur.

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Impact 5.2-4: Onsite operation-related emissions associated with the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-4]

Impact Analysis: The potential impacts to sensitive receptors resulting from the Proposed Project within each of the areas of the Project Site are addressed below.

Midtown Specific Plan Area

Operation Emissions

The Midtown Specific Plan would not result in the development of individual land uses that generate substantial quantities of onsite, stationary emissions. Land uses that have the potential to generate substantial emissions would require a permit from SCAQMD and include industrial land uses, such as chemical processing, and warehousing operations where substantial truck idling could occur onsite. These types of industrial land uses are not proposed under the Midtown Specific Plan, and any existing land uses of these types within the Midtown Specific Plan area are intended to be phased out for less intensive neighborhood commercial, retail, and housing. Operation of residential and nonresidential structures would include occasional use of landscaping equipment, natural gas consumption for heating, and nominal truck idling for vendor deliveries. Emissions generated from these activities are nominal and no significant impact would occur.

CO Hot Spot Analysis

Areas of vehicle congestion have the potential to create pockets of CO called hot spots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. At the time of the 1993 Handbook, the SoCAB was designated nonattainment under the California AAQS and National AAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and in the state have steadily declined. In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. As identified in SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection.

Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2011). Development that would be accommodated by the Midtown Specific Plan would not produce the volume of traffic at any one intersection required to generate a CO hot spot. Therefore, CO hot spots are not an environmental impact of concern for the Midtown Specific Plan. Localized air quality impacts related to CO hot spots would therefore be less than significant.

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Area Outside the Midtown Specific Plan

As noted above, with the exception of the zoning designation revisions that would be undertaken in this area of the Project Site under the Proposed Project, no physical change (e.g., additional development intensity, redevelopment) is expected to occur within this area and all existing uses are expected to remain. Therefore, no impacts are anticipated to occur.

Impact 5.2-5: The Proposed Project could site sensitive land uses in proximity to major air pollution sources. [Threshold AQ-4]

Impact Analysis: A project would normally have a significant effect on the environment if it would expose onsite sensitive receptors (new residents) to substantial pollutant concentrations emitted from offsite sources. Recent air pollution studies have shown an association between proximity to major air pollution sources and a variety of health effects. Because sensitive land uses are outside CARB jurisdiction, CARB established the *Air Quality and Land Use Handbook: A Community Health Perspective* in May 2005 to address the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed as a tool for assessing compatibility and associated health risks when placing sensitive receptors near existing pollution sources. CARB recommendations are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations, as shown in Table 5.2-10.

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Table 5.2-10 CARB Recommendations for Siting New Sensitive Land Uses

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	<ul style="list-style-type: none"> Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.
Distribution Centers	<ul style="list-style-type: none"> Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units [TRUs] per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other sensitive land uses near entry and exit points.
Rail Yards	<ul style="list-style-type: none"> Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	<ul style="list-style-type: none"> Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or CARB on the status of pending analyses of health risks.
Refineries	<ul style="list-style-type: none"> Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	<ul style="list-style-type: none"> Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	<ul style="list-style-type: none"> Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	<ul style="list-style-type: none"> Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

Source: CARB 2005.

CARB's recommendations on the siting of new sensitive land uses were developed from a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that close proximity to air pollution sources substantially increases exposure and the potential for adverse health effects relative to the existing background concentrations in the air basin. However, the impact of air pollution from these sources is on a gradient that at some point becomes indistinguishable from the regional air pollution problem.

The potential impacts to sensitive receptors resulting from the Proposed Project within each of the areas of the Project Site are addressed below.

Midtown Specific Plan Area

The Midtown Specific Plan area contains or is in proximity to various sources of pollution. Interstate 405 (I-405) runs along the northern portion of the Midtown Specific Plan area. Additionally, there are no roadways with daily roadway volumes of 100,000 or more either within or near the Midtown Specific Plan boundaries. However, there are also SCAQMD-permitted land uses (e.g., gas station) within and near the Midtown Specific Plan area that may generate stationary or mobile sources of TACs. While the existing light industrial

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uses within the Midtown Specific Plan boundaries would transition to commercial, office, and residential land uses, future sensitive land uses could still be exposed to existing facilities. Additionally, new residential land uses could also potentially be sited near I-405. Therefore, air quality compatibility impacts for new sensitive land uses are potentially significant.

Area Outside the Midtown Specific Plan

As noted above, with the exception of the zoning designation revisions that would be undertaken in this area of the Project Site under the Proposed Project, no physical change (e.g., additional development intensity, redevelopment) is expected to occur within this area and all existing uses are expected to remain. Therefore, no air quality compatibility impacts are anticipated to occur.

Impact 5.2-6: The Proposed Project is a regionally significant project that would contribute to an increase in frequency or severity of air quality violations in the South Coast Air Basin and would conflict with the assumptions of the applicable Air Quality Management Plan. [Threshold AQ-1]

Impact Analysis: CEQA requires that general plans be evaluated for consistency with the AQMP. A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental effects of a project under consideration at a stage early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals contained in the AQMP. Only new or amended general plan elements, specific plans, and major projects need to undergo a consistency review. This is because the AQMP strategy is based on projections from local general plans. Projects that are consistent with the local general plan are considered consistent with the air quality–related regional plan.

The regional emissions inventory for the SoCAB is compiled by SCAQMD and SCAG. Regional population, housing, and employment projections developed by SCAG are based, in part, on the local jurisdictions' general plan land use designations. These projections form the foundation for the emissions inventory of the AQMP. These demographic trends are incorporated into the 2012-2035 RTP/SCS, compiled by SCAG to determine priority transportation projects and VMT within the SCAG region.

The potential impacts resulting from the Proposed Project within each of the areas of the Project Site are addressed below.

Midtown Specific Plan Area

Per CEQA Guideline Section 15206, the Midtown Specific Plan is considered regionally significant by SCAG. Changes in the population, housing, or employment growth projections associated with this project have the potential to substantially affect SCAG's demographic projections and therefore the assumptions in SCAQMD's AQMP. The Midtown Specific Plan would increase the land use intensity within the Project Site, resulting in an increase in population and employment in the Midtown Specific Plan area. Additionally, the Midtown Specific Plan would require a general plan amendment to accommodate the change in land uses and

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increase in development intensity. Because regional transportation modeling is based on the underlying general plan land use designation, the Midtown Specific Plan could potentially change the assumptions of the AQMP.

The AQMP ensures that the region is on track to attain the California and federal AAQS. When a project has the potential to exceed the assumptions of the AQMP because it is more intensive than the underlying land use designation, criteria air pollutants generated during operation of development that would be accommodated by the Midtown Specific Plan are compared to SCAQMD's regional significance thresholds (see Impact 5.2-2), which were established to determine whether a project has the potential to cumulatively contribute to the SoCAB's nonattainment designations. Development that would be accommodated by the Midtown Specific Plan would exceed SCAQMD's regional operational thresholds. As a result, the Midtown Specific Plan could potentially exceed the assumptions in the AQMP and would not be considered consistent with the AQMP.

The Midtown Specific Plan would be consistent with SCAG's regional goals of integrating land uses near a major transportation corridor. The Midtown Specific Plan's Transit Node District supports compact, transit-oriented mixed-use and residential development centered on the three Metro Blue Line stations within the plan area. The Corridor District is intended to provide housing options and neighborhood serving uses within walking distance of a transit node. Enhancements to the Right-of-Way District include widened sidewalks, additional landscape planting zones, and separated bike lanes. Improvements to the public realm and right-of-way would improve the overall connectivity to public transit.

Also, the Midtown Specific Plan proposes implementation of 11 vehicular street closures to create parklets along Long Beach Boulevard, which would improve pedestrian and bicycle safety as well as encourage pedestrian and bicycle mobility, thereby decreasing associated criteria air pollutant emissions from mobile sources. Development of residential and nonresidential land uses in proximity to each other in addition to public transportation options would also likely reduce per capita VMT and associated criteria air pollutant emissions from mobile sources.

However, despite furthering the regional transportation and planning objectives to reduce per capita VMT and associated emissions, the Midtown Specific Plan would represent a substantial increase in emissions compared to existing conditions and would exceed SCAQMD's regional operational significance thresholds (see Table 5.2-9, *Maximum Daily Operational Phase Regional Emissions*). As a result, the Midtown Specific Plan could potentially exceed the assumptions in the AQMP and would not be considered consistent with the AQMP. Consequently, impacts would be potentially significant.

Area Outside the Midtown Specific Plan

As noted above, with the exception of the zoning designation revisions that would be undertaken in this area of the Project Site under the Proposed Project, no physical change (e.g., additional development intensity, redevelopment) is expected to occur within this area and all existing uses are expected to remain. Therefore, no impacts are anticipated to occur.

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5.2.4 Cumulative Impacts

In accordance with the SCAQMD methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Cumulative projects in the local area include new development and general growth within the project area. The greatest source of emissions within the SoCAB is mobile sources. Due to the extent of the area potentially impacted from cumulative project emissions, SCAQMD considers a project cumulatively significant when project-related emissions exceed the SCAQMD regional emissions thresholds shown in Table 5.2-5, *SCAQMD Significance Thresholds*.

Construction

The SoCAB is designated nonattainment for O₃, PM_{2.5}, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for PM₁₀ under the California AAQS.⁷ Construction of cumulative projects would further degrade the regional and local air quality. Air quality would be temporarily impacted during construction activities. Implementation of mitigation measures for related projects would reduce cumulative impacts. However, project-related construction emissions could still potentially exceed the SCAQMD significance thresholds on a project and cumulative basis. Consequently, the Proposed Project's contribution to cumulative air quality impacts would be cumulatively considerable and would therefore be significant.

Operation

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values is not considered by SCAQMD to be a substantial source of air pollution and does not add significantly to a cumulative impact. Operation of the Proposed Project would result in emissions in excess of the SCAQMD regional emissions thresholds for VOC, NO_x, CO, PM₁₀, and PM_{2.5} for long-term operation. Therefore, the Proposed Project's air pollutant emissions would be cumulatively considerable and therefore significant.

5.2.5 Existing Regulations

State

- CARB Rule 2480 (13 CCR 2480): Airborne Toxics Control Measure to Limit School Bus Idling and Idling at Schools: limits nonessential idling for commercial trucks and school buses within 100 feet of a school.
- CARB Rule 2485(13 CCR 2485): Airborne Toxic Control Measure to Limit Diesel-Fuel Commercial Vehicle Idling: limits nonessential idling to five minutes or less for commercial trucks.

⁷ CARB approved SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM₁₀ to attainment for PM₁₀ under the national AAQS on March 25, 2010, because the SoCAB has not violated federal 24-hour PM₁₀ standards during the period from 2004 to 2007. In June 2013, the EPA approved the State of California's request to redesignate the South Coast PM₁₀ nonattainment area to attainment of the PM₁₀ National AAQS, effective on July 26, 2013.

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- CARB Rule 2449(13 CCR 2449): In-Use Off-Road Diesel Idling Restricts: limits nonessential idling to five minutes or less for diesel-powered off-road equipment.
- Building Energy Efficiency Standards (Title 24)
- Appliance Energy Efficiency Standards (Title 20)
- Motor Vehicle Standards (AB 1493).

Regional

- SCAQMD Rule 201: Permit to Construct
- SCAQMD Rule 402: Nuisance Odors
- SCAQMD Rule 403: Fugitive Dust
- SCAQMD Rule 1113: Architectural Coatings
- SCAQMD Rule 1403: Asbestos Emissions from Demolition/Renovation Activities
- SCAQMD Rule 1186: Street Sweeping

5.2.6 Level of Significance Before Mitigation

Without mitigation, the following impacts would be **potentially significant**:

- Impact 5.2-1 The Proposed Project would generate short-term emissions that exceed the South Coast Air Quality Management District's regional construction significance thresholds and would significantly contribute to the nonattainment designations of the South Coast Air Basin.
- Impact 5.2-2 The Proposed Project would generate long-term emissions that exceed the South Coast Air Quality Management District's regional operational significance thresholds and would significantly contribute to the nonattainment designations of the South Coast Air Basin.
- Impact 5.2-3 Construction activities related to the buildout of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations NO_x, CO, PM₁₀, and PM_{2.5}.
- Impact 5.2-4 The Proposed Project would not result in the development of individual land uses that would expose sensitive receptors to substantial toxic air contaminant concentrations.
- Impact 5.2-5 The Proposed Project could site sensitive land uses in proximity to major air pollution sources.

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- Impact 5.2-6 The Proposed Project is a regionally significant project that would contribute to an increase in frequency or severity of air quality violations in the South Coast Air Basin and would conflict with the assumptions of the applicable Air Quality Management Plan.

5.2.7 Mitigation Measures

Impact 5.2-1

AQ-1 Applicants for new development projects within the Midtown Specific Plan area shall require the construction contractor to use equipment that meets the United States Environmental Protection Agency (EPA)-Certified emissions standards. All off-road diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine, as defined by the California Air Resources Board's (CARB) regulations.

Prior to construction, the project engineer shall ensure that all demolition and grading plans clearly show the requirement for EPA Tier 4 or higher emissions standards for construction equipment over 50 horsepower. During construction, the construction contractor shall maintain a list of all operating equipment in use on the construction site for verification by the City of Long Beach Building Official or their designee. The construction equipment list shall state the makes, models, and numbers of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations. Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to five minutes or less in compliance with California Air Resources Board's Rule 2449.

AQ-2 Applicants for new development projects within the Midtown Specific Plan area shall require the construction contractor to prepare a dust control plan and implement the following measures during ground-disturbing activities in addition to the existing requirements for fugitive dust control under South Coast Air Quality Management District (SCAQMD) Rule 403 to further reduce PM₁₀ and PM_{2.5} emissions. The City of Long Beach Building Official or their designee shall verify compliance that these measures have been implemented during normal construction site inspections.

- Following all grading activities, the construction contractor shall reestablish ground cover on the construction site through seeding and watering.
- During all construction activities, the construction contractor shall sweep streets with SCAQMD Rule 1186-compliant, PM₁₀-efficient vacuum units on a daily basis if silt is carried over to adjacent public thoroughfares or occurs as a result of hauling.

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- During all construction activities, the construction contractor shall maintain a minimum 24-inch freeboard on trucks hauling dirt, sand, soil, or other loose materials and tarp materials with a fabric cover or other cover that achieves the same amount of protection.
- During all construction activities, the construction contractor shall water exposed ground surfaces and disturbed areas a minimum of every three hours on the construction site and a minimum of three times per day.
- During all construction activities, the construction contractor shall limit onsite vehicle speeds on unpaved roads to no more than 15 miles per hour.

AQ-3 Applicants for new development projects within the Midtown Specific Plan area shall require the construction contractor to use coatings and solvents with a volatile organic compound (VOC) content lower than required under South Coast Air Quality Management District Rule 1113 (i.e., super compliant paints). The construction contractor shall also use precoated/natural-colored building materials, where feasible. Use of low-VOC paints and spray method shall be included as a note on architectural building plans and verified by the City of Long Beach Building Official or their designee during construction.

Impact 5.2-2

Stationary Source

AQ-4 Prior to issuance of a building permit for new development projects within the Midtown Specific Plan area, the property owner/developer shall show on the building plans that all major appliances (dishwashers, refrigerators, clothes washers, and dryers) to be provided/installed are Energy Star appliances. Installation of Energy Star appliances shall be verified by the City of Long Beach Building and Safety Bureau prior to issuance of a certificate of occupancy.

Transportation and Motor Vehicles

AQ-5 Prior to issuance of building permits for residential development projects within the Midtown Specific Plan area, the property owner/developer shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of Long Beach Building and Safety Bureau prior to issuance of a certificate of occupancy.

- For multifamily dwellings, electric vehicle charging shall be provided as specified in Section A4.106.8.2 (Residential Voluntary Measures) of the CALGreen Code.
- Bicycle parking shall be provided as specified in Section A4.106.9 (Residential Voluntary Measures) of the CALGreen Code.

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AQ-6 Prior to issuance of building permits for non-residential development projects within the Midtown Specific Plan area, the property owner/developer shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of Long Beach Building and Safety Bureau prior to issuance of a certificate of occupancy.

- For buildings with more than ten tenant-occupants, changing/shower facilities shall be provided as specified in Section A5.106.4.3 (Nonresidential Voluntary Measures) of the CALGreen Code.
- Preferential parking for low-emitting, fuel-efficient, and carpool/van vehicles shall be provided as specified in Section A5.106.5.1 (Nonresidential Voluntary Measures) of the CALGreen Code.
- Facilities shall be installed to support future electric vehicle charging at each non-residential building with 30 or more parking spaces. Installation shall be consistent with Section A5.106.5.3 (Nonresidential Voluntary Measures) of the CALGreen Code.

Impact 5.2-3

Mitigation measures applied for Impact 5.2-1 would also reduce the Proposed Project's localized construction-related criteria air pollutant emissions to the extent feasible.

Impact 5.2-5

AQ-7 Prior to issuance of building permits for development projects within the Midtown Specific Plan area that include sensitive uses (e.g., residential, day care centers), within the distances identified by the California Air Resources Board's (CARB) *Air Quality and Land Use Handbook*, the property owner/developer shall submit a health risk assessment (HRA) to the City of Long Beach Planning Bureau. The HRA shall be prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment (OEHHA) and the South Coast Air Quality Management District (SCAQMD).

If the HRA shows that the incremental cancer risk exceeds one in one hundred thousand (1.0E-05) or the appropriate noncancer hazard index exceeds 1.0, the following is required prior to issuance of building permits:

- The HRA shall identify the level of high-efficiency Minimum Efficiency Reporting Value (MERV) filter required to reduce indoor air concentrations of pollutants to achieve the cancer and/or noncancer threshold.
- Installation of high efficiency MERV filters in the intake of residential ventilation systems consistent with the recommendations of the HRA, shall be shown on plans. Heating, air conditioning, and ventilation (HVAC) systems shall be installed with a fan unit designed to force air through the MERV filter.

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- To ensure long-term maintenance and replacement of the MERV filters in the individual units, the property owner/developer shall record a covenant on the property that requires ongoing implementation of the actions below. The form of the covenant shall be approved by the Long Beach City Attorney's Office prior to recordation.
 - The property owner/developer shall provide notification to all future tenants or owners of the potential health risk for affected units and the increased risk of exposure to diesel particulates when windows are open.
 - For rental units, the property owner/developer shall maintain and replace MERV filters in accordance with the manufacturer's recommendations.
 - For ownership units, the Homeowner's Association shall incorporate requirements for long-term maintenance in the Covenant Conditions and Restrictions and inform homeowners of their responsibility to maintain the MERV filter in accordance with the manufacturer's recommendations.

Impact 5.2-6

Mitigation measures applied for Impact 5.2-1 and Impact 5.2-2 would reduce the Proposed Project's regional construction-related and operational phase criteria air pollutant emissions to the extent feasible.

5.2.8 Level of Significance After Mitigation

Impact 5.2-1

Mitigation Measures AQ-1 through AQ-3 would reduce criteria air pollutants generated from project-related construction activities. Buildout of the Proposed Project would occur over a period of approximately 18 years or longer. Construction time frames and equipment for individual site-specific projects are not available at this time. There is a potential for multiple developments to be constructed at any one time, resulting in significant construction-related emissions. Therefore, despite adherence to Mitigation Measures AQ-1 through AQ-3, Impact 5.2-1 would remain **significant and unavoidable**.

Impact 5.2-2

Incorporation of Mitigation Measures AQ-4 through AQ-6 would reduce operation-related criteria air pollutants generated from stationary and mobile sources. Mitigation Measures AQ-5 and AQ-6 would encourage and accommodate use of alternative-fueled vehicles and nonmotorized transportation. However, despite adherence to Mitigation Measures AQ-4 through AQ-6, Impact 5.2-2 would remain **significant and unavoidable** due to the magnitude of land use development associated with the Proposed Project.

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Impact 5.2-3

Mitigation Measures AQ-1 and AQ-2 applied for Impact 5.2-1 would reduce the Proposed Project's regional construction emissions and therefore also reduce the project's localized construction-related criteria air pollutant emissions to the extent feasible. However, because existing sensitive receptors may be close to project-related construction activities, construction emissions generated by individual development projects have the potential to exceed SCAMQD's LSTs. Therefore, Impact 5.2-3 would remain **significant and unavoidable**.

Impact 5.2-5

At buildout, the Proposed Project would result in construction of up to approximately 1,736 new residential units within the Project Site. The residential units would be allowed near sources of toxic air contaminants (e.g., I-405), which have the potential to affect residents of these units. Adherence to Mitigation Measure AQ-7 would require property owners/developers of new residential units that are proximate to major sources of toxic air contaminants, as determined by a Health Risk Assessment, to install high-efficiency MERV filters to reduce indoor concentrations particulates (including diesel particulate matter, which comprises the majority of risk) below SCAQMD's threshold. With implementation of Mitigation Measure AQ-7, Impact 5.2-5 would be reduced to a level of less than significant.

Impact 5.2-6

Mitigation measures applied for Impact 5.2-1 and Impact 5.2-2 would reduce the Proposed Project's regional construction-related and operational phase criteria air pollutant emissions to the extent feasible. However, given the potential increase in growth and associated increase in criteria air pollutant emissions, the Proposed Project would continue to be potentially inconsistent with the assumptions in the AQMP. Therefore, Impact 5.2-6 would remain **significant and unavoidable**.

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