5.2 AIR QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the air quality impacts based on the following technical studies prepared by Urban Crossroads, Inc. for the proposed Agua Mansa Commerce Park Specific Plan.

- *Agua Mansa Commerce Park Specific Plan, Air Quality Impact Analysis, City of Jurupa Valley*, Urban Crossroads, January 28, 2019.
- *Agua Mansa Commerce Park Specific Plan, Diesel Mobile Source Health Risk Assessment, City of Jurupa Valley*, Urban Crossroads, November 6, 2018.
- *Agua Mansa Commerce Park Specific Plan Supplemental Air Quality Assessment,* Urban Crossroads, January 28, 2019.

Complete copies of these studies are included as technical appendices to this Draft EIR (Appendices C1 and C2, respectively).

The purpose of this section is to evaluate the potential impacts to air quality associated with construction and operation of the proposed project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the South Coast Air Quality Management District (SCAQMD) for projects in the South Coast Air Basin (SoCAB).

The following are definitions for terms used throughout this section.

- **AAQS:** Ambient Air Quality Standards
- **CAA:** Clean Air Act
- **Concentrations:** Refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter ($\mu g/m^3$).
- **Criteria Air Pollutants:** Those air pollutants specifically identified for control under the Federal Clean Air Act (currently six: carbon monoxide, nitrogen oxides, lead, sulfur oxides, ozone and particulates).
    - **CO.** Carbon monoxide, a common product of incomplete combustion. A criteria pollutant with state and federal standards. Not a primary photochemical reaction compound but involved in photochemical reactions. Dissipates rapidly and is therefore only important on a local scale near sources.
    - **NO_X.** Nitrogen oxides, a common product of combustion in the presence of nitrogen. Includes nitrogen dioxide (NO_2), which is a criteria pollutant with state and federal standards. Locally and regionally important due to its involvement in the photochemical formation of ozone (O_3).
    - **O_3.** Ozone, a gas mainly produced by a photochemical reaction between reactive organic gases and oxides of nitrogen in the presence of sunlight (also produced by molecular oxygen in the presence of

ultraviolet light or electrical discharge). A strong oxidant that is damaging at ground level but necessary at high altitude (in the stratosphere, where it absorbs dangerous ultraviolet light). Also considered an important greenhouse gas. A criteria pollutant with state and federal standards.

- **Pb.** Lead is heavy metal, present in the environment mainly due to historical use in motor vehicle fuel. Primarily associated with lead smelting operations. A criteria pollutant with state and federal standards. Primarily of concern near sources.
- **PM_{10}/$PM_{2.5}$.** Coarse particulate matter/fine particulate matter, that portion of particulate matter that tends to penetrate into the human lung. The subscript refers to aerodynamic diameter. Criteria pollutants with state and federal standards. Locally and regionally important.
- **SO_X.** Sulfur oxides, a common product of combustion in the presence of sulfur. Associated primarily with diesel and coal burning. Includes SO_2, a criteria pollutant with state and federal standards.

- **DPM.** Diesel particulate matter
- **HRA.** health risk assessment
- **OEHHA.** Office of Environmental Health Hazard Assessment
- **ppm.** parts per million
- **VOCs.** Volatile organic compounds, a portion of total organic compounds or gases; excludes methane, ethane, and acetone (due to low photochemical reactivity). Regionally important due to their involvement in the photochemical reaction that produces ozone.
- **TAC.** toxic air contaminant
- **Tpy.** tons per year
- **µg/m³.** micrograms per cubic meter

5.2.1 Environmental Setting

5.2.1.1 REGULATORY BACKGROUND

Federal and State

Ambient Air Quality Standards

US Environmental Protection Agency

The EPA is responsible for setting and enforcing the National AAQS for O_3, CO, NO_x, SO_2, PM_{10}, $PM_{2.5}$, and lead. The EPA has jurisdiction over emissions sources that are under the authority of the federal government, including aircraft, locomotives, and emissions sources outside state waters (outer continental shelf). The EPA

also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the California Air Resources Board (CARB).

The federal Clean Air Act was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the National AAQS, and specifies future dates for achieving compliance. The CAA also mandates that states submit and implement State Implementation Plans for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the National AAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the project site include Title I (Non-attainment Provisions) and Title II (Mobile Source Provisions). Title I provisions were established with the goal of attaining the National AAQS for the following criteria pollutants—O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and lead. The National AAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a National AAQS for $PM_{2.5}$.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and nitrogen oxides (NOx). NOx is a collective term that includes all forms of nitrogen oxides (NO, NO_2, NO_3), which are emitted as byproducts of the combustion process.

California Air Resource Board

The CARB, which became part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and regulating emissions from consumer products and motor vehicles. The California CAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the California AAQS by the earliest practical date. The CARB established the California AAQS for all pollutants for which the federal government has National AAQS, and also establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. However, at this time, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the SoCAB because they are not considered a regional air quality problem. Generally, the California AAQS are more stringent than the National AAQS. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety to protect the public health and welfare. National and California AAQS currently in effect are shown in Table 5.2-1.

5. Environmental Analysis
AIR QUALITY

Table 5.2-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1 hour	0.09 ppm	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 hours	0.070 ppm		0.070 ppm (137 µg/m^3)		
Respirable Coarse Particulate Matter (PM_{10})[9]	24 hours	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		-		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 hours	-	-	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	-	Non-Dispersive Infrared Photometry (NDIR)
	8 hours	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	-	
	8 hours (Lake Tahoe)	6 ppm (7 mg/m^3)		-	-	
Nitrogen Dioxide (NO_2)[10]	1 hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	0.100 ppm (188 µg/m^3)	-	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	-	Ultraviolet Fluorescence Spectrophotometry (Pararosaniline Method)
	3 Hour	-		-	0.5 ppm (1300 µg/m^3)	
	24 hours	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	-	
	Annual Arithmetic Mean	-		0.030 ppm (for certain areas)[11]	-	
Lead (Pb)[12,13]	30-Day Average	1.5 µg/m^3	Atomic Absorption	-	-	High Volume Sampler and Atomic Absorption
	Calendar Quarter	-		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	-		0.15 µg/m^3		

Table 5.2-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Visibility Reducing Particles[14]	8 hours	See Footnote 14	Beta Attenuation and Transmittance through Filter Tape	No Federal Standard		
Sulfates (SO_4)[5]	24 hours	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 hour	0.01 ppm	Gas Chromatography			

Source: Urban Crossroads 2019a

[1] California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

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

[4] Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

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

[9] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentration s at each site must not exceed 100ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted form ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 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 of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The ARB has identified lead and vinyl chloride as 'toxic air contaminants' 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 concentration specified for these pollutants.

[13] The national standard for leas was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

[14] In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards in Table 5.2-1. The air quality in a region is considered in attainment by the state if the measured ambient air pollutant levels for O_3, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are not equaled or exceeded at any time in any consecutive three-year period; and the federal standards (other than O_3, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O_3 standard is attained when the fourth highest eight-hour

concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

California Energy Commission

Energy Efficiency Standards

California Code of Regulations Title 24 Part 6, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2016 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2017, and is applicable to the project. The CEC indicates that the 2016 Title 24 standards will reduce energy consumption by 5 percent for nonresidential buildings above what was achieved by the 2013 Title 24 (CEC 2015).

California Green Building Standards

California Code of Regulations Title 24 Part 11, California Green Building Standards Code (CALGreen), is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went into effect on January 1, 2011, and is administered by the California Building Standards Commission. CALGreen is updated on a regular basis, with the most recent update consisting of the 2016 California Green Building Code Standards that became effective January 1, 2017. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official. CALGreen requires:

- **Short-term bicycle parking.** If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one 2-bike capacity rack. (CALGreen Section 5.106.4.1.1)

- **Long-term bicycle parking.** For new buildings with 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space. (Section 5.106.4.1.2)

- **Designated parking.** Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles, as shown in Table 5.106.5.2. (Section 5.106.5.2)

- **Recycling by occupants.** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling. (Section 5.410.1)

- **Construction waste.** A minimum 65 percent diversion of construction and demolition waste from landfills, increasing voluntarily to 80 percent for new homes and commercial projects (Sections 5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]). All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled. (Section 5.408.3)

- **Wastewater reduction.** Each building shall reduce the generation of wastewater by one of the following methods:

  - The installation of water-conserving fixtures (Section 5.303.3) or
  - Using nonpotable water systems (Section 5.303.4).

- **Water use savings.** 20 percent mandatory reduction of indoor water use with voluntary goal standards for 30, 35 and 40 percent reductions. (Sections 5.303.2, A5303.2.3 [nonresidential])

- **Water meters**. Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day. (Section 5.303.1)

- **Irrigation efficiency.** Moisture-sensing irrigation systems for larger landscaped areas. (Section 5.304.3)

- **Materials pollution control.** Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard. (Section 5.404)

- **Building commissioning.** Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies. (Section 5.410.2)

Air Pollutants of Concern

Criteria Air Pollutants

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified below:

- **Carbon Monoxide (CO).** A colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter mornings, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the SoCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

- **Sulfur Dioxide (SO_2).** A colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SOx).

- **Nitrogen Oxides (NOx).** Nitrogen oxides (NOx) consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with oxygen (O_2). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. Because ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by the regional monitoring station.

- **Ozone (O_3).** A highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOx), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.

- **PM_{10} (Particulate Matter less than 10 microns).** A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles (10 microns or smaller, about 0.0004 inch or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. PM_{10} also causes visibility reduction and is a criteria air pollutant.

- **$PM_{2.5}$ (Particulate Matter less than 2.5 microns).** A similar air pollutant consisting of tiny solid or liquid particles which are 2.5 microns or smaller (often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NOx release from power plants, automobiles, and other combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant.

- **Volatile Organic Compounds (VOC).** Volatile organic compounds are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include: carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The SCAQMD uses the terms VOC and ROG (see below) interchangeably.

- **Reactive Organic Gases (ROG).** Similar to VOC, ROGs are also precursors in forming ozone and consist of compounds containing methane, ethane, propane, butane, and longer-chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight. ROGs are a criteria pollutant since they are a

precursor to O_3, which is a criteria pollutant. The SCAQMD uses the terms ROG and VOC (see previous) interchangeably.

- **Lead (Pb).** Lead is a heavy metal that is highly persistent in the environment. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. As a result of the removal of lead from gasoline, there have been no violations at any of the SCAQMD's regular air monitoring stations since 1982. Currently, emissions of lead are largely limited to stationary sources such as lead smelters. It should be noted that the project is not anticipated to generate a quantifiable amount of lead emissions. Lead is a criteria air pollutant.

Health Effects of Criteria Air Pollutants

- **Ozone (O_3).** Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for ozone effects. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels. Ozone exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

- **Carbon Monoxide (CO).** Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes. Reduction in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO, resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels; these include preterm births and heart abnormalities.

- **Particulate Matter (PM_{10} and $PM_{2.5}$).** A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks, and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association

between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and an increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter. The elderly, people with preexisting respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.

- **Nitrogen Dioxide (NO_2).** Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increases in resistance to air flow and airway contraction are observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these subgroups. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO_2.

- **Sulfur Dioxide.** A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow and reduction in breathing capacity leading to severe breathing difficulties are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.

- **Lead (Pb).** Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death, although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland), and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.

- **Odors.** The science of odor as a health concern is still new. Merely identifying the hundreds of VOCs that cause odors poses a big challenge. Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

Toxic Air Contaminants

In 1984, as a result of public concern for exposure to airborne carcinogens, the CARB adopted regulations to reduce the amount of air toxic contaminant emissions resulting from mobile and area sources, such as cars, trucks, stationary products, and consumer products. According to the Ambient and Emission Trends of Toxic Air Contaminants in California journal article which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (between 1990 and 2012). The seven TACs studied include those that are derived from mobile sources: diesel particulate matter (DPM), benzene, and 1,3-butadiene; those that are derived from stationary sources: perchloroethylene and hexavalent chromium; and those derived from photochemical reactions of emitted VOCs: formaldehyde and acetaldehyde. TACs data was gathered at monitoring sites from both the Bay Area and South Coast Air Basins. Several of the sites in the SoCAB include Reseda, Compton, Rubidoux, Burbank, and Fontana. The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

Regional

The project is within the jurisdiction of the SCAQMD. In 1976, California adopted the Lewis Air Quality Management Act, which created SCAQMD from a voluntary association of air pollution control districts in Los Angeles, Orange, Riverside, and San Bernardino counties. The geographic area that SCAQMD covers is the SoCAB. SCAQMD develops comprehensive plans and regulatory programs for the region to attain federal standards by dates specified in federal law. The agency is also responsible for meeting state standards by the earliest date achievable, using reasonably available control measures.

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated attainment or nonattainment for each California AAQS.

Serious nonattainment areas are required to prepare air quality management plans that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of "best available retrofit control technology" to existing sources.

- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g. motor vehicle use generated by residential and commercial development).

- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions.
- Implementing reasonably available transportation control measures and ensuring a substantial reduction in the growth rate of vehicle trips and miles traveled.
- Significant use of low emissions vehicles by fleet operators.
- Sufficient control strategies to achieve a 5 percent or more annual reduction in emissions or 15 percent or more in a period of three years for ROGs, NOx, CO, and PM_{10}. However, air basins may use an alternative emission reduction strategy that achieves a reduction of less than 5 percent per year under certain circumstances.

Currently, the National and California AAQS are exceeded in most parts of the SoCAB for PM_{10}, $PM_{2.5}$, and ozone. In response, the SCAQMD has adopted a series of air quality management plans (AQMP) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the SCAQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the National AAQS and explores new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 RTP/SCS and updated emission inventory methodologies for various source categories.

SCAQMD rule development through the 1970s and 1980s resulted in dramatic improvement in Basin air quality. Nearly all control programs developed through the early 1990s relied on (1) the development and application of cleaner technology; (2) add-on emission controls, and (3) uniform CEQA review throughout the Basin. Industrial emission sources have been significantly reduced by this approach, and vehicular emissions have been reduced by technologies implemented at the state level by CARB (see Appendix C1 for a discussion of trends in regional air quality and toxic air contaminants).

Local

City General Plan Policies

The specific General Plan policies relating to air quality are listed in Table 5.9-2, *City of Jurupa Valley General Plan Consistency Analysis*.

5.2.1.2 EXISTING CONDITIONS

The project site is in the 6,745-square-mile SoCAB within the jurisdiction of SCAQMD. Under the 1977 Lewis-Presley Air Quality Management Act, the SCAQMD is responsible for bringing air quality in areas under its

jurisdiction into conformity with federal and state air quality standards. The SoCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east.

Regional Climate

The regional climate has a substantial influence on air quality in the SoCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SoCAB vary from the low to middle 60s (degrees Fahrenheit). Due to a decreased marine influence, the eastern portion of the SoCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SoCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SoCAB have recorded maximum temperatures above 100°F.

Although the climate of the SoCAB can be characterized as semiarid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SoCAB climate. Humidity restricts visibility in the SoCAB, and the conversion of sulfur dioxide to sulfates is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity in the SoCAB is 71 percent along the coast and 59 percent inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent, and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90 percent of the SoCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SoCAB, with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SoCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year, there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SoCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods each year of strong, dry offshore winds, locally called "Santa Anas." During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering

terrain toward the ocean. Another characteristic wind regime in the SoCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island that results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SoCAB, two distinct temperature inversion structures control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing, which effectively acts as a lid to pollutants over the entire SoCAB. The mixing height for the inversion structure is normally 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NOx and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

Wind Patterns and Project Location

The distinctive climate of the project area and the SoCAB is determined by its terrain and geographical location. The Basin is in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant and high mountains forming the remainder of the perimeter.

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

Attainment Designations

The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source lead (Pb) air monitoring sites throughout the air district. In 2017, the federal and state AAQS were exceeded on one or more days for ozone, PM_{10}, and $PM_{2.5}$ at most monitoring locations. No areas of the SoCAB exceeded federal or state standards for NO_2, SO_2, CO, sulfates or lead. See Table 5.2-2 for attainment designations for the SoCAB. Appendix 2.1 in Appendix C of this EIR provides geographic representation of the state and federal attainment status for applicable criteria pollutants in the SoCAB.

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

Pollutant	State Designation	Federal Designation
Ozone – 1-hour	Nonattainment	Nonattainment ("Extreme")
Ozone – 8-hour	Nonattainment	Nonattainment ("Extreme")
PM_{10}	Nonattainment	Attainment (Maintenance)
$PM_{2.5}$	Nonattainment	Nonattainment ("Serious)
CO	Attainment	Attainment (Maintenance)
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Attainment	Unclassifiable/Attainment
Lead	Attainment	Nonattainment (Partial)
All others	Attainment/Unclassified	Attainment/Unclassified

Source: Urban Crossroads 2019a

Local Air Quality

Criteria Air Pollutants

The nearest long-term air quality monitoring site to the project site for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ is the SCAQMD's Metropolitan Riverside County[1] monitoring station (SRA 23), which is approximately 2.2 miles southwest of the project site. The most recent three years of data available is shown in Table 5.2-3 and identifies the number of days AAQS were exceeded for the study area, which is considered to be representative of the local air quality at the project site. Data for O_3, NO_2, PM_{10}, and $PM_{2.5}$ for 2015 through 2017 were obtained from CARB's iADAM Air Quality Data Statistics. Data for CO were obtained from the SCAQMD Air Quality Data Tables. It should be noted that the CO data for 2017 is currently unavailable from both CARB and SCAQMD. Additionally, data for SO_2 has been omitted because attainment is regularly met in the South Coast Air Basin, and few monitoring stations measure SO_2 concentrations.

[1] The federal nonattainment designation for lead is only applicable to the Los Angeles County portion of the SoCAB.

Table 5.2-3 Project Area Air Quality Monitoring Summary 2015–2017

Pollutant/Standard	Number of Days Thresholds Were Exceeded and Maximum Levels		
	2015	2016	2017
Ozone (O_3)[1]			
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	0.132	0.142	0.145
State 8-hour ≥ 0.07 ppm (days exceed threshold)	0.105	0.104	0.118
Federal 8-Hour > 0.075 ppm (days exceed threshold)	1	1	2
Max. 1-Hour Conc. (ppm)	31	33	47
Max. 8-Hour Conc. (ppm)	55	69	81
	59	71	82
Carbon Monoxide (CO)[1]			
Max. 1-Hour Conc. > 35 ppm	2.5	1.7	—
Max. 8-Hour Conc. > 20 ppm	1.7	1.3	—
Nitrogen Dioxide (NO_2)[2]			
Max. Federal 1-Hour Conc. > 0.100 ppm	0.057	0.073	0.063
Max. State 1-Hour Conc. (ppm) > 0.18 ppm	0.057	0.073	0.063
Federal Stand. Design Value	14	15	15
State Stand. Design Value	15	15	14
Federal 1-Hour > 0.18 ppm (days exceed threshold)	0	0	0
State 1-Hour > 0.18 ppm (days exceed threshold)	0	0	0
Coarse Particulates (PM_{10})[1]			
Max. Federal 24-Hour Conc. > 150 µg/m^3	107.4	170.5	137.6
Federal Arithmetic Mean µg/m^3	32.2	38.1	39.0
Federal 24-Hour Conc. > 150 µg/m^3 (days exceed threshold)	0	0	0
Fine Particulates ($PM_{2.5}$)[1]			
Max. Federal 24-Hour Conc. > 0.35 µg/m^3	54.7	51.5	50.3
Max. State 24-Hour Conc. µg/m^3	61.1	60.8	50.3
Federal Arithmetic Mean µg/m^3	11.8	12.5	12.2
N. Samples Exceeding Federal 24-Hour Standard	9	5	7

Source: Urban Crossroads 2019a
Sources: Data for O_3, NO_2, PM_{10}, and $PM_{2.5}$ from CARB's iADAM; data for CO from SCAQMD Air Quality Data Tables.
— = data not available from CARB or SCAQMD

Cancer Risk

Based on information from CARB, overall cancer risk throughout the Basin has had a declining trend since 1990. In 1998, following an exhaustive 10-year scientific assessment process, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. The SCAQMD initiated a comprehensive urban toxic air pollution study, called MATES-II (for Multiple Air Toxics Exposure Study). DPM accounts for more than 70 percent of the cancer risk. In 2008 the SCAQMD prepared an update to the MATES-II study, referred to as MATES-III. MATES-III estimates the average excess cancer risk level from exposure to TACs is an approximately 17 percent decrease in comparison to the MATES-II study. Nonetheless, the SCAQMD's most recent in-depth analysis of the toxic air contaminants and their resulting health risks for all of southern California was from the *Multiple Air Toxics Exposure Study in the South Coast Air Basin, MATES IV,* which shows that cancer risk has decreased more than 55 percent between MATES III (2005) and MATES IV (2015).

MATES-IV study represents the baseline health risk for a cumulative analysis. It calculated cancer risks based on monitoring data collected at 10 fixed sites within the SoCAB. None of the fixed monitoring sites are within the local area of the project site. However, MATES-IV has extrapolated the excess cancer risk levels throughout the Basin by modeling the specific grids. MATES-IV modeling predicted an excess cancer risk of 797.48 in one million for the project area. DPM is included in this cancer risk along with all other TAC sources. DPM accounts for 68 percent of the total risk shown in MATES-IV. Cumulative project-generated TACs are limited to DPM.

Sensitive Receptors

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors"; they are also locations where individuals may remain for 24 hours.

Sensitive receptors in the vicinity of the project site are illustrated in Figure 5.2-1, *Sensitive Receptor Locations*. The nearest sensitive receptors are represented by locations R2 and R10. Location R2 represents existing residential homes that are approximately 133 feet from the project site across El Rivino Road. Location R10 represents the residential homes that are 111 feet from the project site across Rubidoux Boulevard.

R1: Approximately 347 feet north of the project site, R1 represents existing residential homes east of Cedar Avenue, north of El Rivino Road.

R2: Location R2 represents the existing residential homes north of the project site at roughly 133 feet across El Rivino Road.

R3: Location R3 represents the existing residential homes on El Rivino Road approximately 297 feet east of the project site.

R4: Location R4 represents the existing residential homes east of the project site, across the Hall Avenue, south of El Rivino Road.

R5: Approximately 2,232 feet southeast of the project site, R5 represents an existing residential home on Wilson Street.

R6: Location R6 represents the existing residential homes south of the project site at roughly 3,018 feet on Hall Avenue.

R7: Location R7 represents the existing Avalon Park at approximately 2,172 feet southwest of the project site.

R8: Location R8 represents the existing residential homes west of the project site on Castellano Road.

R9: Location R9 represents the existing residential homes at approximately 585 feet west of the project site on Castellano Road.

R10: Location R10 represents the existing residential homes west of the project site at roughly 111 feet across Cedar Avenue.

5.2.2 Notice of Preparation / Scoping Comments

A Notice of Preparation (NOP) for the proposed project was circulated for public review on July 17, 2017. The comments from the NOP review that will be addressed in the air quality section are in Table 5.2-4.

Table 5.2-4 NOP Written Comments Summary

Commenting Agency/Person	Letter Dated	Summary of Comments	Issue Addressed In:
South Coast Air Quality Management District Lijin Sun, J.D. Program Supervisor, CEQA IGR, Planning, Rule Development & Area Sources	8/10/17	States that the lead agency should use SCAQMD's CEQA Air Quality Handbook and CalEEMod land use emissions software when preparing its air quality analysis. The EIR should identify any potential adverse air quality impacts (construction and operation) that could occur from all phases of the project and all air pollutant sources related to the project. The EIR should quantify criteria pollutant emissions and localized significance thresholds and compare the results to the regional and localized significant thresholds, respectively. Air quality impacts from all phases (construction and operations) should be calculated. A mobile health risk assessment is recommended if the proposed project generates or attracts substantial vehicular trips, especially heavy-duty diesel-fueled vehicles. All feasible mitigation measures should be utilized for significant adverse air quality impacts. If impacts remain significant, project alternatives shall be considered and discussed to avoid or substantially lessen the air quality and health risk impacts. If the proposed project requires a permit from SCAQMD, SCAQMD should be identified as a responsible agency for the proposed project.	Section 5.2, *Air Quality* Section 5.6, *Greenhouse Gas Emissions*

In addition, a scoping meeting was held on July 27, 2017, at the Jurupa Valley City Hall, 8930 Limonite Avenue, Jurupa Valley, CA 92509, to elicit comments on the scope of the DEIR. A list of attendees is provided in Appendix A; no verbal or written comments were received during the scoping meeting.

Figure 5.2-1 - Sensitive Receptor Locations

5. Environmental Analysis

Receptor Locations —— Distance from Receptor to Project Site Boundary (in feet)

0 1,400
Scale (Feet)

Source: Urban Crossroads, 2019

5. Environmental Analysis
AIR QUALITY

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5.2.3 Thresholds of Significance

The City of Jurupa Valley has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. Criteria for determining the significance of impacts related to air quality are based on criteria in Appendix G of the CEQA Guidelines.

AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.

AQ-2 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

AQ-3 Expose sensitive receptors to substantial pollutant concentrations.

AQ-4 Create objectionable odors affecting a substantial number of people.

5.2.3.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

The SCAQMD has developed regional and localized significance thresholds for regulated pollutants, as summarized at Table 5.2-5. The SCAQMD's CEQA Air Quality Significance Thresholds (March 2015) indicate that any projects in the SoCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact. It should be noted that the SCAQMD provides a threshold for emissions of lead; however, for purposes of this analysis no lead emissions are calculated because there are no substantive sources of lead emissions. Additionally, the air quality modeling program (discussed below) does not calculate any emissions of lead from typical construction or operational activities.

Table 5.2-5 Maximum Daily Emissions Thresholds

Air Pollutant	Construction	Operations
Regional Thresholds		
Reactive Organic Gases (ROGs)/Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Nitrogen Oxides (NO_X)	100 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 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
Localized Thresholds[1]		
NOX	281 lbs/day (Grading)	281 lbs/day
CO	1,789 lbs/day (Grading)	1,789 lbs/day
PM10	23 lbs/day (Grading)	6 lbs/day
PM2.5	9 lbs/day (Grading)	2 lbs/day

Source: Urban Crossroads 2019a

Notes: Regional Thresholds presented in this table are based on the SCAQMD Air Quality Significance Thresholds, March 2015. Localized Thresholds presented in this table are based on the SCAQMD Final Localized Significance Threshold Methodology, July 2008.

[1] Based on SCAQMD Air Quality Significance Thresholds, March 2015

5.2.4 Applicable Policies and Design Features

5.2.4.1 PLANS, POLICIES, AND PROGRAMS

These include existing regulatory requirements, such as plans, policies, or programs, applied to the project based on federal, state, or local law currently in place and which effectively reduce impacts related to air quality. These requirements are included in the project's Mitigation Monitoring and Reporting Program to ensure compliance:

PPP AIR-1 The project is required to comply with the provisions of South Coast Air Quality Management District Rule 401, "Visible Emissions." Rule 401 requires that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the U. S. Bureau of Mines.

PPP AIR-2 The project is required to comply with the provisions of South Coast Air Quality District Rule 402, "Nuisance." Rule 402 requires that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause injury or damage to business or property.

PPP AIR-3 The project is required to comply with the provisions of South Coast Air Quality Management District Rule 1113, "Architectural Coatings." Rule 1113 limits the release of volatile organic compounds into the atmosphere during painting and application of other surface coatings.

PPP AIR-4 The project is required to comply with the provisions of South Coast Air Quality Management District Rule 1301, "General." This rule is intended to provide pre-construction review requirements to ensure that new or relocated facilities do not interfere with progress in attainment of the NAAQS, while future economic growth within SCAQMD is not unnecessarily restricted. The specific air quality goal is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors. Rule 1301 also limits emission increases of ammonia, and Ozone Depleting Compounds (ODCs) from new, modified or relocated facilities by requiring the use of Best Available Control Technology (BACT).

PPP AIR-5 The proposed project is required to comply with Title 24 of the CCR established by the California Energy Commission regarding energy conservation standards.

5.2.4.2 PROJECT DESIGN FEATURES

The project incorporates the following design features, including requirements from the Agua Mansa Commerce Park Specific Plan. Because these features are integral to the project and/or are regulatory requirements, the features are not considered mitigation measures.

PDF-AQ-1 **Require Equipment to Turn Off When Not in Use**. The project will require building operators to ensure (by contract specifications) that equipment, including heavy-duty equipment, motor vehicles, and portable equipment, will be turned off when not in use for more than five minutes. Truck idling shall not exceed five minutes. All facilities will post signs requiring that trucks shall not be left idling for more than five minutes pursuant to Title 13 of the California Code of Regulations, Section 2485. Nighttime (after 10:00 PM) truck idling would not be permitted.

PDF-AQ-2 **Use of 2010 or better model year engines**. The project requires contractors and building operators (by contract specifications) using on-road heavy-duty diesel trucks with a gross vehicle weight rating greater than 14,000 pounds to have a 2010 model year engine or newer or be equipped with a particulate matter trap, as available. Pursuant to a phase-in schedule established by the EPA and the California Air Resources Board, all heavy- and heavier-duty diesel-fueled trucks must have a 2010 Model Year engine or newer by 2023. Thus, this measure shall be in effect on the project until 2023. It is recommended that the above options be included as a condition of project approval, and that the building user keep a truck log that would be available to the City or its designee upon request to verify compliance.

PDF-AQ-3 **Ridesharing and Transit Incentives**. The building operator will support and encourage ridesharing and transit incentives for the construction crew by providing crews with the needed resources to organize rideshares, such as bulletin boards or email announcements. The construction contractor will also fully or partially subsidize transit fares or passes for the construction crew members who can feasibly use transit.

PDF-AQ-4 **Alternative Fueled Outdoor Cargo Handling Equipment.** All on-site outdoor cargo-handling equipment (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) will be powered by compressed natural gas, propane, or electric engines.

5.2.5 Environmental Impacts

5.2.5.1 METHODOLOGY

Detailed methodology of the proposed project air quality analysis is provided in Appendix C1 for criteria air pollutants and Appendix C2 for cancer risk and hazards.

5.2.5.2 IMPACT ANALYSIS

Impact AQ-1: Threshold: Would the project conflict with or obstruct implementation of the applicable air quality plan?

The project site is located within the SoCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743-square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments, county transportation commissions, local governments, and state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the Basin. In response, the SCAQMD has adopted a series of Air Quality Management Plans to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the SCAQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the National AAQS as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 RTP/SCS and updated emission inventory methodologies for various source categories. The project's consistency with the AQMP will be determined using the 2016 AQMP, as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's *CEQA Air Quality Handbook* (1993). These indicators are discussed below:

Consistency Criterion No. 1

- **Consistency Criterion No. 1:** The proposed project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Construction Impacts

The violations that Consistency Criterion No. 1 refer to are the California and National AAQS. California and National AAQS violations would occur if LSTs or regional significance thresholds were exceeded. The SCAQMD developed Local Significance Threshold (LST) methodology that can be used to determine whether or not a project may generate significant adverse localized air quality impacts.

SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003 (revised in 2009), recommending that all air quality analyses include an assessment of both construction and

operational impacts on the air quality of nearby sensitive receptors. The project would not exceed any of the applicable LSTs. The project would exceed the applicable regional significance thresholds for emissions of VOCs and NO_X. Therefore, the project would have the potential to conflict with the AQMP according to this criterion.

Operational Impacts

The violations that Consistency Criterion No. 1 refers to are the California and National AAQS violations, which would occur if LSTs or regional significance thresholds were exceeded. The project would not exceed any of the applicable LSTs. The project would have the potential to exceed the applicable regional significance thresholds for operational activity for emissions of VOCs, NO_X, and PM_{10}. Therefore, the project would have the potential to conflict with the AQMP according to this criterion.

On the basis of the preceding discussion, the project would be inconsistent with the first criterion.

Consistency Criterion No. 2

- **Consistency Criterion No. 2:** The project would not exceed the assumptions in the AQMP based on the years of project buildout phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the Southern California Association of Governments, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Jurupa Valley General Plan is considered to be consistent with the AQMP.

Construction Impacts

Peak day emissions generated by construction activities are largely independent of land use assignments but are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities.

Operational Impacts

The City's General Plan designated the project site "Business Park with Specific Plan Overlay." The project is proposing a general plan amendment for:

- Heavy Industrial/Specific Plan Overlay land use designation for the Industrial Park District

- Light Industrial/Specific Plan Overlay land use designation for the Business Park with Retail Overlay District
- Open Space–Recreation for the Open Space District

The project proposes to construct industrial and non-industrial land uses that would likely exceed the growth intensities allowed in the General Plan. Therefore, the project would have the potential to conflict with the AQMP.

On the basis of the preceding discussion, the project would be inconsistent with the second criterion.

AQMP Consistency Conclusion

The project has the potential to result in or cause National or California AAQS violations. Construction-source emissions would exceed the applicable SCAQMD regional thresholds for NO_X. Operational-source emissions would exceed the applicable SCAQMD regional thresholds for NO_X, VOCs, and PM_{10}. Additionally, the project proposes a General Plan Amendment (GPA) to convert the site to industrial warehousing. Because the project requires a GPA, emissions from the project are not included in the current AQMP. Therefore, the project would have the potential to conflict with the AQMP.

Level of Significance before Mitigation: Even with implementation of PPP's AIR-1 through PPP AIR-5, Impact AQ-1 would remain potentially significant. There are no mitigation measures that would reduce the impact to less than significant, and Impact AQ-1 is considered significant and unavoidable.

Impact AQ-2 **Threshold: Would the project 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?**

Construction Emissions

The estimated maximum daily construction emissions without mitigation are summarized on Table 5.2-6. Detailed construction model outputs are presented in Appendix 3.1 of the Air Quality Study in Appendix C1. The PPP's that are currently applicable during construction activity for this project are PPP AIR-1 through PPP AIR-4 above. Rule 401 (Visible Emissions), Rule 402 (Nuisance), and Rule 1113 (Architectural Coatings). Under the assumed scenarios, emissions resulting from the project construction would exceed criteria pollutant thresholds established by the SCAQMD for emissions of VOCs and NOx even with implementation of the PPP's.

Table 5.2-6 Maximum Daily Peak Construction Emissions Summary (without mitigation)

Year	Emissions (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2019	16.80	205.46	122.05	0.33	27.28	12.011
2020	371.34	348.13	209.99	0.44	37.94	23.10
2021	486.11	280.80	205.58	0.46	34.10	18.96
2022	176.89	228.33	185.61	0.39	27.20	15.84
2023	49.26	26.04	36.94	0.06	2.27	1.39
Maximum Daily Emissions	**486.11**	**348.13**	**209.99**	**0.46**	**37.94**	**23.10**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	NO	NO	NO	NO

Source: Urban Crossroads 2019a.
Note: Emissions represent the worst-case scenario for development under Alternatives 1 and 2.

Operational Emissions

It is anticipated that the first building of this project would be completed and occupied sometime in 2020 and the last building would be completed into 2023. It is important to note that a 2020 year will be used for operational analysis purposes for all buildings (consistent with the project's traffic impact analysis). For the long-term operation emissions analysis, Alternatives 1 and 2 are analyzed.

Alternative 1

Project operational-source emissions are summarized on Table 5.2-7. Alternative 1 of the proposed project consists of five high-cube warehouse distribution center buildings totaling 4,216,000 square feet (3,452,000-square-foot building footprint with 764,000 square feet of mezzanine), an approximately 71.3-acre regional park, and 200,000 square feet of light industrial. As indicated, project emissions would exceed regional thresholds of significance established by the SCAQMD for emissions of VOCs, NO_X, and PM_{10}.

Table 5.2-7 Operational Emissions for Alternative 1 (Without Mitigation)

Operational Activities	Emissions (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer Scenario						
Area Source	100.29	4.32E-03	0.48	3.00E-05	1.68E-03	1.68E-03
Energy Source	0.51	4.60	3.87	0.03	0.35	0.35
Mobile (Passenger Cars)	6.39	9.09	134.32	0.48	56.27	15.11
Mobile (Trucks)	20.12	712.61	146.53	2.74	93.14	29.94
Mobile (Other Uses)[1]	1.69	12.06	20.17	0.08	5.60	1.55
On-site Equipment	2.35	28.59	12.49	0.05	0.94	0.86
Max Daily Operational Emissions	131.33	766.95	317.83	3.38	156.31	47.81
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	NO	NO	**YES**	NO
Winter Scenario						
Area Source	100.29	4.32E-03	0.48	3.00E-05	1.68E-03	1.68E-03
Energy Source	0.51	4.60	3.87	0.03	0.35	0.35
Mobile (Passenger Cars)	5.04	9.37	107.19	0.43	56.27	15.11
Mobile (Trucks)	20.50	733.79	153.69	2.72	93.16	29.95
Mobile (Other Uses)	1.44	12.10	17.47	0.07	5.60	1.55
On-site Equipment	2.35	28.59	12.49	0.05	0.94	0.86
Max Daily Operational Emissions	130.13	788.45	295.17	3.29	156.33	47.82
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	NO	NO	**YES**	NO

Source: Urban Crossroads 2019a.
[1] Mobile-source emissions from Alternative 1 Land Uses (Research & Development and Regional Park)

Alternative 2

Project operational-source emissions without mitigation are summarized on Table 5.2-8. Alternative 2 of the Proposed project consists of 170,000 square feet of business park and 25,000 square feet of commercial retail. As indicated, project emissions would exceed regional thresholds of significance established by the SCAQMD for emissions of VOCs, NO_X, and PM_{10}.

Table 5.2-8 Operational Emissions for Alternative 2 (Without Mitigation)

Operational Activities –	Emissions (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer Scenario						
Area Source	100.17	4.31E-03	0.47	3.00E-05	1.67E-03	1.67E-03
Energy Source	0.33	3.01	2.52	0.02	0.23	0.23
Mobile (Passenger Cars)	5.26	7.49	110.72	0.39	46.39	12.45
Mobile (Trucks)	18.34	656.15	131.91	2.54	85.21	27.41
Mobile (Other Uses)[1]	8.12	57.29	92.56	0.36	25.45	7.02
On-site Equipment	2.35	28.59	12.49	0.05	0.94	0.86
Max Daily Operational Emissions	134.58	752.53	350.98	3.36	158.21	47.98
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	NO	NO	**YES**	NO
Winter Scenario						
Area Source	100.17	4.31E-03	0.47	3.00E-05	1.67E-03	1.67E-03
Energy Source	0.33	3.01	2.52	0.02	0.23	0.23
Mobile (Passenger Cars)	4.16	7.72	88.36	0.35	46.39	12.45
Mobile (Trucks)	18.70	675.44	138.67	2.51	85.22	27.42
Mobile (Other Uses)	6.89	57.39	80.89	0.33	25.45	7.03
On-site Equipment	2.35	28.59	12.49	0.05	0.94	0.86
Max Daily Operational Emissions	132.60	772.15	323.39	3.26	158.23	48.00
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	YES	YES	NO	NO	YES	NO

Source: Urban Crossroads 2019a.
[1] Mobile-source emissions from Alternative 2 Land Uses (Business Park, Commercial Retail, Research & Development and Regional Park)

Overlap of Construction and Operational Phase

Based on the assumed construction and buildout schedule of the proposed project, there is potential for overlap between construction and operational activity. It should be noted that based on the estimated construction schedule, the demolition, grading (i.e. rough grading), and site remediation phase would precede occupancy of any of the proposed buildings within the project site. There would be no overlap between the site remediation and rough grading operations with the occupancy of the buildings. The vertical construction phase of the six warehouse buildings within the project site would occur on an individual basis and could result in an overlap with occupancy. Combining the maximum daily construction emissions with the maximum daily operational emissions would give a maximum daily emission representing peak construction activity and full buildout of

the project, a scenario that would not occur. At the request of SCAQMD, potential hypothetical overlap of construction and operational activities is shown in Table 5.2-9. SCAQMD does not have a significance threshold for construction/operation overlap; therefore, this analysis is included for informational purposes only.

Table 5.2-9 Potential Overlap of Construction and Operational Activities

	Emissions (pounds per day)					
Maximum Daily Emissions	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction Peak Emissions	105.11	194.20	239.50	0.46	30.80	9.93
Maximum Operational Emissions	134.58	584.91	350.98	3.36	158.21	47.98
Max Daily Combined Emissions	239.69	779.11	590.48	3.82	189.01	57.91

Source: Urban Crossroads 2019a.

Level of Significance before Mitigation: Even with implementation of PPP's AIR-1 through PPP AIR-5, Impact AQ-2 would remain potentially significant. Mitigation Measures AQ-1 to AQ-6 are required to reduce construction impacts to less than significant. There are no mitigation measures that would reduce the operational impact to less than significant, and Impact AQ-2 is considered significant and unavoidable.

Impact AQ-3 Threshold: Would the project expose sensitive receptors to substantial pollutant concentrations?

Construction LST Analysis (Criteria Air Pollutants)

The maximum disturbed acreage during peak grading activity would be approximately six acres per day. Although the daily grading area is greater than five acres, the applicable SCAQMD localized thresholds for a five-acre site from the "Final Localized Significance Threshold Methodology" document's mass rate look-up tables are used to first provide a conservative screening analysis of the construction emissions. This is conservative because it estimates emissions of the six-acre area and concentrates them into a five-acre site. If the emissions from the six-acre area are less than the thresholds for a five-acre area, it can be assumed that impacts would be less than significant. A 34-meter receptor distance is utilized to determine the LSTs for emissions of CO, NO_2, PM_{10}, and $PM_{2.5}$.

Table 5.2-10 identifies the localized impacts at the nearest receptor location in the vicinity of the project. Without mitigation, localized construction emissions would not exceed the applicable SCAQMD LSTs during grading for emissions of any criteria pollutant. Outputs from the model runs for construction LSTs are provided in Appendix 3.1 of the Air Quality Study in Appendix C1.

Table 5.2-10 Construction Localized Significance Summary

	Emissions (pounds per day)			
On-Site Grading Emissions	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	128.45	79.26	12.59	8.16
SCAQMD Localized Threshold	281	1,789	23	9
Threshold Exceeded?	NO	NO	NO	NO

Source: Urban Crossroads 2019a.

Operational LSTs (Criteria Air Pollutants)

For projects that exceed five acres, the five-acre LST look-up tables can be used as a screening tool to determine which pollutants require additional detailed analysis. As with construction LSTs, this approach is conservative because it assumes that all on-site emissions associated with the project would occur within a concentrated five-acre area. Therefore, LSTs for a five-acre site during operations are used as a screening tool to determine if further detailed analysis is required.

Alternative 1

As shown on Table 5.2-11, operational emissions would not exceed the LST thresholds for the nearest sensitive receptor. Therefore, the project would have a less than significant localized impact during operational activity.

Table 5.2-11 shows the calculated emissions for the project's operational activities compared with the applicable LSTs. The LST analysis includes on-site sources only; however, the CalEEMod outputs do not separate on-site and off-site emissions from mobile sources. In an effort to establish a maximum potential impact scenario for analytic purposes, the emissions shown on Table 5.2-11 represent all on-site project-related stationary (area) sources and project-related mobile sources. It is assumed that the maximum distance a passenger car and/or truck would travel through the project site is equivalent to the length from one end of the project site to the other. Therefore, an on-site travel distance of approximately 0.40 mile/2,112 feet for each passenger car and truck trip will be used for analytical purposes. It should be noted that not all passenger cars or trucks would travel the entire distance through the site, but as a conservative measure, this distance was applied to all vehicles. Modeling based on these assumptions demonstrates that even within broad encompassing parameters, project operational-source emissions would not exceed applicable LSTs.

Table 5.2-11 Localized Significance Operations Summary for Alternative 1

	Emissions (pounds per day)			
Peak Operational Emissions	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	40.94	21.68	3.71	1.91
SCAQMD Localized Threshold	281	1,789	6	2
Threshold Exceeded?	NO	NO	NO	NO

Source: Urban Crossroads 2019a.

Alternative 2

As shown on Table 5.2-12 operational emissions would not exceed the LST thresholds for the nearest sensitive receptor. Therefore, the project would have a less than significant localized impact during operational activity.

Table 5.2-12 Localized Significance Operations Summary for Alternative 2

	Emissions (pounds per day)			
Peak Operational Emissions	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	39.82	21.32	3.75	1.84
SCAQMD Localized Threshold	281	1,789	6	2
Threshold Exceeded?	NO	NO	NO	NO

Source: Urban Crossroads 2019a.

Level of Significance before Mitigation: Impact AQ-3 for LSTs for criteria air pollutants would be less than significant.

Operational Community Risk and Hazards (Diesel PM)

The Health Risk Assessment (HRA) evaluates the potential mobile source health risk impacts to sensitive receptors (residents) and adjacent workers associated with the development of the proposed project, more specifically, health risk impacts as a result of exposure to diesel particulate matter (DPM) as a result of heavy-duty diesel trucks accessing the site. Additional analysis is provided for Site Access Alternatives 1A and 2A, consistent with the traffic impact analysis in Appendix K of this EIR, which evaluates Site Access Alternatives 1A and 2A if connectivity between Buildings 1 to 5 (Industrial Park) and Rubidoux Boulevard does not exist because access is not possible across the railroad spur line.

Per the traffic impact analysis, the project is expected to generate a total of approximately 7,674 trip-ends per day (actual vehicles) and includes 2,457 truck trip-ends per day under Alternative 1. Under Alternative 2 conditions, the project is expected to generate a total of approximately 9,741 trip-ends per day (actual vehicles), with truck trips reduced to 2,245 truck trip-ends per day. The HRA relies on the net project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck trips on the study area roadway network.[2] The summary of health and cancer risk for the four project alternatives are shown in Table 5.2-13 and described in more detail below.

[2] Net project truck trip ends are used for the HRA to best estimate diesel particulate emissions directly from the number of diesel-fueled trucks. Passenger car equivalents (PCEs) are typically used in traffic analyses to normalize and compare truck trips to passenger vehicles.

Table 5.2-13 Summary of Cancer and Non-Carcinogenic Risks

	Cancer Risk (per million)					
Location	Alternative 1	Alternative 2	Site Access Alternative 1A[1]	Site Access Alternative 2A[1]	Significance Threshold	Exceeds Significance Threshold?
Maximum Exposed Sensitive Receptor	3.93	3.68	3.92	3.68	10	NO
Maximum Exposed Worker Receptor	0.65	0.60	0.65	0.61	10	NO
	Hazard Index					
Location	Alternative 1	Alternative 2	Site Access Alternative 1A[1]	Site Access Alternative 2A [1]	Significance Threshold	Exceeds Significance Threshold?
Maximum Exposed Sensitive Receptor	0.001	0.001	0.001	0.001	1.0	NO
Maximum Exposed Worker Receptor	0.002	0.002	0.002	0.002	1.0	NO

Source: Urban Crossroads 2018b.

[1] Connectivity between Buildings 1 through 5 (Industrial Park) and Rubidoux Boulevard may not be possible because access across the railroad spur line may not be granted. If access across the rail line is not permitted, then trip distribution for the project would be altered slightly from the analysis for Alternative 1 and 2. This is identified as Site Access Alternative 1A and 2A.

Alternative 1

Residential Exposure Scenario:

The residential land use with the greatest potential exposure to project DPM source emissions is located immediately adjacent to the project site, approximately 133 feet across and to the north of El Rivino Road at an existing residential dwelling unit. At the maximally exposed individual receptor, the maximum incremental cancer risk attributable to project DPM source emissions is estimated at 3.93 in one million, which is less than the threshold of 10 in one million.[3] At this same location, non-carcinogenic risks were estimated to be 0.001, which would not exceed the applicable threshold of 1.0.[4] Therefore, the project would not cause a significant human health or cancer risk to adjacent residences.

Worker Exposure Scenario:

Potential risk to on-site workers is not required to be addressed through the typical health risk assessment process employed by SCAQMD and OEHHA. Further, the California Air Pollution Control Officers Association (CAPCOA) in their 2009 report "Health Risk Assessments for Proposed Land Use Projects," indicates that on-site receptors should only be included in health risk assessments if they are persons not employed by the project and if they would remain on- site for long periods of time (e.g. a caretaker residence that would reside there for most of the day and could be there for 24 hours per day for an extended period of

[3] Threshold is based on guidance from the South Coast Air Quality Management District (SCAQMD) as described in Section 1.0 of this report.

[4] Threshold is based on guidance from the South Coast Air Quality Management District (SCAQMD) as described in Section 1.0 of this report.

time). Persons not employed by the project would not remain on-site for any significant period. Therefore, a health risk assessment for on-site workers is not required or recommended.

The worker receptor land use with the greatest potential exposure to project DPM source emissions is located off-site at the Aramark Uniform Services building (1135 Hall Avenue) immediately adjacent to the east of proposed Building 1 due to the meteorological conditions and due to the proximity of on-site idling. At the maximally exposed individual worker, the maximum incremental cancer risk impact at this location is 0.65 in one million, which is less than the threshold of 10 in one million. Maximum non-carcinogenic risks at this same location were estimated to be 0.002, which would not exceed the applicable threshold of 1.0. Therefore, the project would not cause a significant human health or cancer risk to adjacent workers.

Alternative 2

Residential Exposure Scenario:

The residential land use with the greatest potential exposure to project DPM source emissions is located immediately adjacent to the project site approximately 133 feet across and to the north of El Rivino Road at an existing residential dwelling unit. At the maximally exposed individual receptor, the maximum incremental cancer risk attributable to project DPM source emissions is estimated at 3.68 in one million, which is less than the threshold of 10 in one million. At this same location, non-carcinogenic risks were estimated to be 0.001, which would not exceed the applicable threshold of 1.0. Therefore, the project would not cause a significant human health or cancer risk to adjacent residences.

Worker Exposure Scenario:

The worker receptor land use with the greatest potential exposure to project DPM source emissions is located off-site at the Aramark Uniform Services building (1135 Hall Avenue), immediately adjacent to the east of proposed Building 1 due to the meteorological conditions and due to the proximity of on-site idling. At the maximally exposed individual worker, the maximum incremental cancer risk impact at this location is 0.60 in one million, which is less than the threshold of 10 in one million. Maximum non-carcinogenic risks at this same location were estimated to be 0.002, which would not exceed the applicable threshold of 1.0. Therefore, the project would not cause a significant human health or cancer risk to adjacent workers.

Site Access Alternative 1A

Residential Exposure Scenario:

The residential land use with the greatest potential exposure to project DPM source emissions is located immediately adjacent to the project site approximately 133 feet across and to the north of El Rivino Road at an existing residential dwelling unit. At the maximally exposed individual receptor, the maximum incremental cancer risk attributable to project DPM source emissions is estimated at 3.92 in one million, which is less than the threshold of 10 in one million. At this same location, non-carcinogenic risks were estimated to be 0.001, which would not exceed the applicable threshold of 1.0. Therefore, the project would not cause a significant human health or cancer risk to adjacent residences.

Worker Exposure Scenario:

The worker receptor land use with the greatest potential exposure to project DPM source emissions is located off-site at the Aramark Uniform Services building (1135 Hall Avenue) immediately adjacent to the east of proposed Building 1 due to the meteorological conditions and due to the proximity of on-site idling. At the maximally exposed individual worker, the maximum incremental cancer risk impact at this location is 0.65 in one million, which is less than the threshold of 10 in one million. Maximum non-carcinogenic risks at this same location were estimated to be 0.002, which would not exceed the applicable threshold of 1.0. Therefore, the project would not cause a significant human health or cancer risk to adjacent workers.

Site Access Alternative 2A

Residential Exposure Scenario:

The residential land use with the greatest potential exposure to project DPM source emissions is located immediately adjacent to the project site approximately 133 feet across and to the north of El Rivino Road at an existing residential dwelling unit. At the maximally exposed individual receptor, the maximum incremental cancer risk attributable to project DPM source emissions is estimated at 3.68 in one million, which is less than the threshold of 10 in one million. At this same location, non-carcinogenic risks were estimated to be 0.001, which would not exceed the applicable threshold of 1.0. Therefore, the project would not cause a significant human health or cancer risk to adjacent residences.

Worker Exposure Scenario:

The worker receptor land use with the greatest potential exposure to project DPM source emissions is located off-site at the Aramark Uniform Services building (1135 Hall Avenue) immediately adjacent to the east of proposed Building 1 due to the meteorological conditions and due to the proximity of on-site idling. At the maximally exposed individual worker, the maximum incremental cancer risk impact at this location is 0.61 in one million, which is less than the threshold of 10 in one million. Maximum non-carcinogenic risks at this same location were estimated to be 0.002, which would not exceed the applicable threshold of 1.0. Therefore, the project would not cause a significant human health or cancer risk to adjacent workers.

Level of Significance before Mitigation: Impact AQ-3 for cancer risk and hazards would be less than significant.

CO Hotspot Analysis

As discussed below, the project would not result in potentially adverse CO concentrations or hotspots. Further, detailed modeling of project-specific carbon monoxide (CO) hotspots is not needed to reach this conclusion. An adverse CO concentration, known as a hotspot, would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the 1993 Handbook, the basin was designated nonattainment under the California AAQS and National AAQS for CO.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for

passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SoCAB is now designated as attainment, as previously noted in Table 5.2-2. Also, CO concentrations in the project vicinity have steadily declined, as indicated by historical emissions data in Table 2-3 of the Air Quality Study, "Project Area Air Quality Monitoring Summary 2015-2017" (see Appendix C1 of this EIR).

To establish a more accurate record of baseline CO concentrations affecting the basin, a CO hotspot analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This hotspot analysis did not predict any violation of CO standards (see Table 3-15, "CO Model Results," in the Air Quality Study [Appendix C1]).

As identified within SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the basin were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm CO concentration measured at the Long Beach Boulevard and Imperial Highway intersection (intersection generating highest CO within the hotspot analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared. Therefore, even if the traffic volumes for the proposed project were double or even triple the traffic volumes generated at the Long Beach Boulevard / Imperial Highway intersection, coupled with the ongoing improvements in ambient air quality, the project would not be capable of resulting in a CO hotspot at any study area intersections.

Similar considerations are also employed by other air districts when evaluating potential CO concentration impacts. The Bay Area Air Quality Management District concludes that under existing and future vehicle emission rates, a given 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.

Traffic volumes generating the CO concentrations for the hotspot analysis (see Table 3-16 of the Air Quality Study in Appendix C1). The busiest intersection evaluated was Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).[5] At buildout of the project, the highest daily traffic volumes generated at the roadways within the vicinity of the project are expected to generate less than the highest daily traffic volumes generated at the busiest intersection in the CO hotspot analysis. Therefore, the project would not likely exceed the most stringent 1-hour CO standard.

The proposed project considered herein would not produce the volume of traffic required to generate a CO hotspot either in the context of the 2003 Los Angeles hot spot study (see Appendix C1) or based on

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

representative Bay Area Air Quality Management District CO threshold considerations. Therefore, CO hotspots are not an environmental impact of concern for the proposed project.

Level of Significance before Mitigation: Impact AQ-3 for CO hotspots would be less than significant.

Impact AQ-4: Threshold: Would the project create objectionable odors affecting a substantial number of people?

The potential for the project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential sources of operational odors generated by the project would include disposal of miscellaneous commercial refuse. Consistent with City requirements, all project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations, thereby precluding substantial generation of odors due to temporary holding of refuse on-site. Moreover, SCAQMD Rule 402 acts to prevent occurrences of odor nuisances.

Level of Significance before Mitigation: Impact AQ-4 would be less than significant.

5.2.6 Cumulative Impacts

The project area is designated as an extreme non-attainment area for ozone, and a non-attainment area for PM_{10}, $PM_{2.5}$, and lead. SCAQMD has published a report on how to address cumulative impacts from air pollution: "White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution." In this report the AQMD clearly states:

> "…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the

> cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts. (p. D-3)

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 cumulatively significant.

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions of those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

Construction Impacts

Project construction-source air pollutant emissions would exceed the SCAQMD regional thresholds for emissions of NOx. Per SCAQMD significance guidance, NOx impacts are considered cumulatively significant and would persist over the life of the project. NOx emissions are ozone precursors and would therefore have the potential to contribute considerably to existing ozone non-attainment conditions within the Basin. Therefore, project construction-source emissions would be considered significant on a project-specific and cumulative basis.

Operational Impacts

Project operational-source VOCs, NO_X, and PM_{10} emissions would exceed applicable SCAQMD regional thresholds. Per SCAQMD significance guidance, these impacts at the project level are also considered cumulatively significant and would persist over the life of the project. VOCs and NO_X emissions are ozone precursors and would therefore contribute considerably to existing ozone non-attainment conditions within the Basin. This is a cumulatively significant impact persisting over the life of the project.

Health Impacts

A recent Supreme Court of California decision, *Sierra Club v. County of Fresno (Friant Ranch)*, found an EIR inadequate and states that:

> The EIR should be revised to relate the expected adverse air quality impacts to likely health consequences or explain in meaningful detail why it is not feasible at the time of drafting to provide such an analysis, so that the public may make informed decisions regarding the costs and benefits of the Project.[6]

[6] It should be noted that the EIR for Friant Ranch did not include a health risk assessment report. The project's EIR includes a detailed mobile source health risk assessment that evaluates the project's potential health impacts to sensitive land uses as a result of diesel exhaust generated by the project's ongoing operations.

Given that the analysis for this project identifies a significant and unavoidable project level and cumulative impacts with regard to VOC, NOx, and PM_{10} emissions, the following assessment serves to provide an analysis in conformance with the *Friant Ranch* decision, which further clarifies, amplifies, and augments the air quality analysis already undertaken for the project.

As summarized in the AQIA, the project's construction-source NOx and PM_{10} and operational-source VOC, NOx, and PM_{10} emissions will exceed applicable SCAQMD numeric regional mass daily thresholds. Per SCAQMD significance guidance, these impacts at the project level are also considered cumulatively significant and would persist over the life of the proposed project. VOC and NOx emissions are ozone precursors. Emissions of VOC, NOx, and PM_{10} have the potential to contribute considerably to existing ozone non-attainment conditions within the SoCAB. This is a cumulatively significant impact persisting over the life of the proposed project.

As noted in the "Brief of Amicus Curiae" by the South Coast Air Quality Management District (April 6, 2015, Attachment A in Appendix C1 of the Supplemental Air Quality Analysis), the SCAQMD has acknowledged that for criteria pollutants it would be extremely difficult, if not impossible to quantify health impacts for various reasons, including modeling limitations as well as where in the atmosphere air pollutants interact and form. Furthermore, as noted in the Brief of Amicus Curiae by the San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) (April 13, 2015, Attachment B in Appendix C1 of the Supplemental Air Quality Analysis), SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts (see page 4 of SJVAPCD Brief of Amicus Curiae, Attachment B of the Supplemental Air Quality Analysis). SCAQMD states that based on their own modeling in the SCAQMD's 2012 AQMP, a reduction of 432 tons/864,000 pounds per day of NOx and a reduction of 187 tons/374,000 pounds per day of VOCs would reduce ozone levels at highest monitored site by only 9 parts per billion. As such, the SCAQMD concludes that it is not currently possible to accurately quantify ozone-related health impacts caused by NOx or VOC emissions from relatively small projects (defined as projects with regional scope) due to photochemistry and regional model limitations (see page 11 of SCAQMD Brief of Amicus Curiae). To underscore this point, the SCAQMD goes on to state that it has only been able to correlate potential health outcomes for very large emissions sources as part of its rulemaking activity—specifically, 6,620 pounds per day of NOx and 89,180 pounds per day of VOC were expected to result in approximately 20 premature deaths per year and 89,947 school absences due to ozone. The proposed project does not generate anywhere near 6,620 pounds per day of NOx or 89,190 pounds per day of VOC emissions. (The project generates 584.91 pounds per day of NOx and 132.60 pounds per day of VOC emissions.) Therefore, the project's emissions are not high enough to use a regional modeling program to correlate health effects on a basin-wide level. Further, SJVAPCD acknowledges the same: "…the Air District is simply not equipped to analyze and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area…even for projects with relatively high levels of emissions of criteria pollutant precursor emissions" (see page 8 of SJVAPCD Brief of Amicus Curiae).

Although the project is expected to exceed the SCAQMD's numeric regional mass daily emission thresholds, this does not in itself constitute a significant health impact to the population adjacent to the project and within

the SoCAB. As noted in the Supplemental Air Quality Assessment in Appendix C1b, ozone, NOx, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020. These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NOx and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. Ozone levels in the SoCAB have decreased substantially over the last 30 years. Today, the maximum measured concentrations are approximately one-third of concentrations in the late 1970s.

To correlate health effects from project-related criteria air pollutant emissions, SCAQMD developed a methodology to assist lead agencies in analyzing localized air quality impacts from a proposed project as they relate to CO, NOx, $PM_{2.5}$, and PM_{10}. This methodology is collectively referred to as the localized significance thresholds (LSTs). The LSTs differ from the numeric regional mass daily thresholds since the LSTs are based on the amount of emissions generated from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state AAQS, and are based on the ambient concentrations of the pollutant and the relative distance to the nearest sensitive receptor (the SCAQMD performed air dispersion modeling to determine what amount of emissions generated a particular concentration at a particular distance). This analysis is included in Impact AQ-3 for operational activities.

Unfortunately, current scientific, technological, and modeling limitations prevent the relation of expected adverse air quality impacts to likely health consequences. For this reason, the Supplemental Air Quality Assessment in Appendix C1b explains in detail why it is not feasible to provide such an analysis.

5.2.7 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: AQ-3, and AQ-4.

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

- **Impact AQ-1** Operation of the proposed project would conflict with or obstruct implementation of the applicable air quality plan.
- **Impact AQ-2** Construction activities associated with the proposed project could generate short-term emissions in exceedance of SCAQMD'S regional construction significance thresholds for VOC and NO_X. Operation activities associated with the proposed project could generate long-term emissions in exceedance of SCAQMD'S regional construction significance thresholds for VOC, NO_X, and PM_{10}.

5.2.8 Mitigation Measures

Impact AQ-2

Construction Phase

MM AQ-1 For construction equipment greater than 150 horsepower (>150 HP), the Construction Contractor shall use off-road diesel construction equipment that complies with EPA/CARB Tier 3 emissions standards during all construction phases and will ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.

MM AQ-2 The project shall utilize "Super-Compliant" low-VOC paints that have been reformulated to exceed the regulatory VOC limits of SCAQMD's Rule 1113 (RR-AQ-4). Super-Compliant low VOC paints shall be no more than 10g/L of VOC. Alternatively, the applicant may utilize tilt-up concrete buildings that do not require the use of architectural coatings.

MM AQ-3 Prior to the issuance of any grading permits, the applicant and/or building operators shall submit construction plans and a construction vehicle management plan to the City of Jurupa Valley denoting the proposed schedule and projected equipment use. The construction vehicle management plan shall include such things as: idling time requirements; requiring hour meters on equipment; and documenting the serial number, horsepower, age, and fuel of all onsite equipment. The plan shall include that California state law requires equipment fleets to limit idling to no more than 5 minutes. Construction contractors shall provide evidence that low emission mobile construction equipment will be utilized or that their use was investigated and found to be infeasible for the project as determined by the City.

Operational Phase

MM AQ-4 The project shall place signs that identify CARB anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for trucks drivers to restrict idling to no more than 5 minutes once the vehicle is stopped, the transmission is set to "neutral" or "park", and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and CARB to report violations.

MM AQ-5 The City shall require operators of the proposed facilities to encourage the vendor trucks to incorporate energy efficiency improvement features through the Carl Moyer Program—including truck modernization, retrofits, and/or aerodynamic kits and low rolling resistance tires—to reduce fuel consumption.

MM AQ-6 All buildings shall be designed to provide infrastructure to support use of electric-powered forklifts and/or other on-site equipment.

5.2.9 Level of Significance After Mitigation

Impact AQ-1

The project has the potential to result in or cause National AAQS or California AAQS violations. Construction-source emissions would exceed the applicable SCAQMD regional thresholds for NO_X. Operational-source emissions would exceed the applicable SCAQMD regional thresholds for NO_X, VOCs, and PM_{10}. Additionally, the project proposes a General Plan Amendment (GPA) to industrial warehousing, and the GPA is not included in the current AQMP. Therefore, the project would have the potential to conflict with the AQMP, and impacts are considered significant and unavoidable.

Impact AQ-2

The estimated maximum daily construction emissions with mitigation are summarized in Table 5.2-14 below. Detailed construction model outputs are presented in Appendix 3.2 of the Air Quality Study (Appendix C1 of this EIR). MM AQ-1 through MM AQ-3 are recommended to reduce the severity of the impacts. After implementation of MM AQ-1 through AQ-3, project construction-source emissions would still potentially exceed the applicable SCAQMD thresholds for VOCs and NO_X due to the potential of construction overlapping. No feasible mitigation measures exist that would reduce these emissions to levels that are less than significant. Moreover, the majority of construction-source NO_X emissions would be generated from the hauling of soil during grading activities from trucks that cannot be mitigated. Since the project does not have regulatory authority to control tailpipe emissions, no feasible mitigation measures exist that would reduce NO_X emissions to levels that are less than significant; thus, these emissions are considered **significant and unavoidable**.

Table 5.2-14 Maximum Daily Peak Construction Emissions Summary (With Mitigation)

	Emissions (pounds per day)					
Year	VOC	NOX	CO	SOX	PM10	PM2.5
2019	7.58	142.83	149.38	0.33	24.57	9.93
2020	83.58	194.20	239.50	0.44	30.80	16.99
2021	105.11	189.07	234.47	0.46	29.69	15.35
2022	42.52	171.77	221.30	0.39	21.41	13.69
2023	12.18	24.96	36.94	0.06	2.22	1.34
Maximum Daily Emissions	**105.11**	**194.20**	**239.50**	**0.46**	**30.80**	**9.93**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**

Source: Urban Crossroads 2019a

Impact AQ-2

Alternative 1

Project operational-source emissions with mitigation are summarized on Table 5.2-15. MM AQ-4 through MM AQ-6 are recommended to reduce the severity of the impacts. Even with implementation of MM AQ-4 through MM AQ-6 and PDF-AQ-1 through PDF-AQ-4, project emissions would still exceed regional thresholds of significance established by the SCAQMD for emissions of VOCs, NO_X, and PM_{10}. It is important to note that the majority of VOC emissions are derived from consumer products. For analytical purposes, consumer products include cleaning supplies, aerosols, and other industrial consumer products. Therefore, the project applicant cannot meaningfully control the use of consumer products by future building users via mitigation; thus, VOC emissions are considered significant and unavoidable, as no feasible mitigation measure exists that would reduce this impact to less than significant levels. Additionally, approximately 87 percent of all operational- source emissions (by weight) would be generated by project mobile sources (traffic). Neither the project applicant nor the lead agency (City of Jurupa Valley) can substantively or materially reduce project mobile-source emissions beyond the recommended mitigation measures. Therefore, project operational-source VOCs, NO_X, and PM_{10} emissions exceedances of applicable SCAQMD regional thresholds would be considered **significant and unavoidable**.

Table 5.2-15 Operational Emissions for Alternative 1 (With Mitigation)

Operational Activities	Emissions (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer Scenario						
Area Source	100.29	4.32E-03	0.48	3.00E-05	1.68E-03	1.68E-03
Energy Source	0.51	4.60	3.87	0.03	0.35	0.35
Mobile (Passenger Cars)	6.39	9.09	134.32	0.48	56.27	15.11
Mobile (Trucks)	20.12	515.05	146.53	2.74	93.14	29.94
Mobile (Other Uses)[6]	1.69	12.06	20.17	0.08	5.60	1.55
On-site Equipment	2.35	28.59	12.49	0.05	0.94	0.86
Max Daily Operational Emissions	**131.33**	**569.39**	**317.83**	**3.38**	**156.31**	**47.81**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**YES**	**NO**

Table 5.2-15 Operational Emissions for Alternative 1 (With Mitigation)

Operational Activities	Emissions (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Winter Scenario						
Area Source	100.29	4.32E-03	0.48	3.00E-05	1.68E-03	1.68E-03
Energy Source	0.51	4.60	3.87	0.03	0.35	0.35
Mobile (Passenger Cars)	5.04	9.37	107.19	0.43	56.27	15.11
Mobile (Trucks)	20.50	522.61	153.69	2.72	93.16	29.95
Mobile (Other Uses)	1.44	12.10	17.47	0.07	5.60	1.55
On-site Equipment	2.35	28.59	12.49	0.05	0.94	0.86
Max Daily Operational Emissions	**130.13**	**577.28**	**295.17**	**3.29**	**156.33**	**47.83**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**YES**	**NO**

Source: Urban Crossroads 2019a

Alternative 2

Project operational-source emissions with mitigation are summarized on Table 5.2-16. MM AQ-4 through MM AQ-6 are recommended to reduce the severity of the impacts. Even with implementation of MM AQ-4 through MM AQ-5 and PDF-AQ-1 through PDF-AQ-4, project emissions would still exceed regional thresholds of significance established by the SCAQMD for emissions of VOCs, NO_X, and PM_{10}. It is important to note that the majority of VOC emissions are derived from consumer products. For analytical purposes, consumer products include cleaning supplies, aerosols, and other industrial consumer products. Therefore, the project applicant cannot meaningfully control the use of consumer products by future building users via mitigation; thus, VOC emissions are considered significant and unavoidable, as no feasible mitigation measure exists that would reduce this impact to less than significant levels. Additionally, approximately 87 percent of all operational-source emissions (by weight) would be generated by project mobile sources (traffic). Neither the project applicant nor City of Jurupa Valley can substantively or materially affect reduce project mobile-source emissions beyond the recommended mitigation measures. Therefore, project operational-source VOCs, NO_X, and PM_{10} emissions exceedances of applicable SCAQMD regional thresholds would be considered **significant and unavoidable**.

Table 5.2-16 Operational Emissions for Alternative 2 (With Mitigation)

Operational Activities	Emissions (pounds per day)					
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Summer Scenario						
Area Source	100.17	4.31E-03	0.47	3.00E-05	1.67E-03	1.67E-03
Energy Source	0.33	3.01	2.52	0.02	0.23	0.23
Mobile (Passenger Cars)	5.26	7.49	110.72	0.39	46.39	12.45
Mobile (Trucks)	18.34	481.16	131.91	2.54	85.21	27.41
Mobile (Other Uses)	8.12	57.29	92.86	0.36	25.45	7.02
On-site Equipment	2.35	28.59	12.49	0.05	0.94	0.86
Max Daily Operational Emissions	**134.58**	**577.54**	**350.98**	**3.36**	**158.21**	**47.98**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**YES**	**NO**
Winter Scenario						
Area Source	100.17	4.31E-03	0.47	3.00E-05	1.67E-03	1.67E-03
Energy Source	0.33	3.01	2.52	0.02	0.23	0.23
Mobile (Passenger Cars)	4.16	7.72	88.36	0.35	46.39	12.45
Mobile (Trucks)	18.70	488.20	138.67	2.51	85.22	27.42
Mobile (Other Uses)	6.89	57.39	80.89	0.33	25.45	7.03
On-site Equipment	2.35	28.59	12.49	0.05	0.94	0.86
Max Daily Operational Emissions	**132.60**	**584.91**	**323.39**	**3.26**	**158.23**	**48.00**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**YES**	**NO**

Source: Urban Crossroads 2019a

5.2.10 References

Urban Crossroads. 2018, November 6. Agua Mansa Commerce Park Specific Plan, Diesel Mobile Source Health Risk Assessment, City of Jurupa Valley.

———. 2019a, January 28 (Revised). Agua Mansa Commerce Park Specific Plan, Air Quality Impact Analysis, City of Jurupa Valley.

———. 2019b, January. Aqua Mansa Commerce Park Specific Plan Supplemental Air Quality Assessment.