

5.3 AIR QUALITY

This section of The Ontario Plan Draft EIR (DEIR) evaluates the potential for The Ontario Plan to impact air quality in the local and regional contexts. The analysis in this section is based on an air quality analysis completed by The Planning Center in January 2009, which is based on land uses associated with buildout of the Proposed Land Use Plan for year 2035 (see Table 3-4) and traffic volumes, trip generation, and vehicle miles traveled provided by Kimley-Horn Associates. The air quality model output sheets are included as Appendix D.

5.3.1 Environmental Setting

South Coast Air Basin

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

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest the site is in Pomona (ID No. 041779). The average low is reported at 38.6°F in January and the average high is 90.4°F in July. All areas in the SoCAB have recorded temperatures above 100°F in recent years. January is typically the coldest month in this area of the SoCAB, with minimum temperatures in the 30s.

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast with slightly heavier shower activity in the east and over the mountains. Rainfall averages around 16.95 inches per year in the project area, as measured in Pomona.

Humidity

Although the SoCAB has a semiarid climate, the air near the surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the ocean effect is dominant. Periods of heavy fog, especially along the coastline, are frequent; low stratus clouds, often called high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the east portions of the SoCAB.

Wind

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. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.



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

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

Inversions

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

Air Pollutants of Concern

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These are known as criteria air pollutants and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. VOC and NO_x are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and nitrogen dioxide (NO₂) are the principal secondary pollutants.

Presented below is a description of each of the primary and secondary criteria air pollutants and their known health effects. Other pollutants, such as carbon dioxide, a natural by-product of animal respiration that is also produced in the combustion process, have been linked to such phenomena as global warming (see Section 5.6, *Global Climate Change*).

Carbon Monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (SCAQMD 2005).

Volatile Organic Compounds (VOC) are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. VOCs are synonymous with reactive organic gases. Other sources of VOC include evaporative emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by VOC, but rather by reactions of VOC to form secondary pollutants such as ozone (SCAQMD 2005).

Nitrogen Oxides (NO_x) serve as integral participants in the process of photochemical smog production. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO₂ is a reddish-brown irritating gas formed by the combination of NO and oxygen. NO_x acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens (SCAQMD 2005).

NO₂ is a by-product of fuel combustion. The principal form of NO₂ produced by combustion is NO, but NO reacts with oxygen to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO₂ is only potentially irritating. There is some indication of a relationship between NO₂ and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 part per million (ppm). NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO₂ also contributes to the formation of PM₁₀, PM_{2.5}, and ozone (SCAQMD 2005).

Sulfur Dioxide (SO₂) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. Fuel combustion is the primary source of SO₂. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue. A primary source of SO₂ emissions is high-sulfur-content coal. Gasoline and natural gas have very low sulfur content and hence do not release significant quantities of SO₂ (SCAQMD 2005).

Particulate Matter (PM) consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized. Inhalable coarse particles, or PM₁₀, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 one-millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns (i.e., 2.5 one-millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on arid landscapes also contributes substantially to local particulate loading. Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems (SCAQMD 2005). Diesel particulates are classified by the CARB as a carcinogen.

Fugitive dust primarily poses two public health and safety concerns. The first concern is that of respiratory problems attributable to the particulates suspended in the air. The second concern is that of motor vehicle accidents caused by reduced visibility during severe wind conditions. Fugitive dust may also cause significant property damage during strong windstorms by acting as an abrasive (much like sandblasting). Finally, fugitive dust can result in a nuisance factor due to the soiling of proximate structures and vehicles (SCAQMD 2005).

Ozone (O₃), or smog, is one of a number of substances called photochemical oxidants that are formed when VOC and NO_x (both by-products of the internal combustion engine) react with sunlight. O₃ is present in relatively high concentrations in the SoCAB, and the damaging effects of photochemical smog are generally related to the concentrations of O₃. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Additionally, O₃ has been tied to crop damage, typically in the form of stunted growth and premature death. O₃ can also be a corrosive, resulting in property damage such as the degradation of rubber products (SCAQMD 2005).

Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to



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reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal Clean Air Act (42 United States code Section 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency (EPA), acting through the California Air Resources Board (CARB), is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

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

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

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

In 1998, the CARB identified particulate emissions from diesel-fueled engines (diesel PM) as a TAC. Previously, the individual chemical compounds in the diesel exhaust were considered as TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

In 2000, the South Coast Air Quality Management District (SCAQMD) conducted a study on ambient concentrations of TACs and estimated the potential health risks from air toxics. The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,400 in a million. The largest contributor to this risk was diesel exhaust, accounting for 71 percent of the air toxics risk. In 2008, the SCAQMD conducted its third update to their study on ambient concentrations of TACs and estimated the potential health risks from air toxics. The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, accounting for approximately 84 percent of the air toxics risk (SCAQMD 2008).

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site and the City of Ontario are best documented by measurements made by the SCAQMD. The City is in the central portion of Source Receptor Area (SRA) 33 – San Bernardino Valley (Southwest San Bernardino Valley). The SCAQMD air quality monitoring station in the SRA 33 that is closest to the City is the Ontario Monitoring

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Station. However, this station only monitors PM₁₀ and PM_{2.5}. Consequently, data was supplemented from the Fontana-Arrow Highway Monitoring Station for SO₂, NO₂, and O₃ and the Upland Monitoring Station for CO. Data from these two stations are summarized in Table 5.3-1. The data show recurring violations of both the state and federal O₃ standards. The data also indicate that the area regularly exceeds the state PM₁₀ and federal PM_{2.5} standards. The CO, SO₂, and NO₂ standards have not been violated in the last five years at the stations. However, the area regularly exceeds the state PM₁₀ and federal PM_{2.5} standards.

**Table 5.3-1
Ambient Air Quality Monitoring Summary**

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
	2003	2004	2005	2006	2007
Ozone (O₃)¹					
State 1-Hour ≥ 0.09 ppm	65	48	49	48	40
State 8-Hour ≥ 0.070 ppm	69	70	66	67	58
Federal 8-Hour > 0.075 ² ppm	63	48	45	48	41
Max. 1-Hour Conc. (ppm)	0.176	0.149	0.150	0.159	0.144
Max. 8-Hour Conc. (ppm)	0.149	0.124	0.129	0.124	0.123
Carbon Monoxide (CO)³					
State/Federal 8-Hour > 9.0 ppm	0	0	0	0	0
Max. 8-Hour Conc. (ppm)	0.271	0.220	0.185	0.190	0.165
Nitrogen Dioxide (NO₂)¹					
State 1-Hour ≥ 0.18 ⁴ ppm	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.117	0.104	0.101	0.094	0.093
Sulfur Dioxide (SO₂)¹					
State 24-Hour ≥ 0.04 ppm	0	0	0	0	0
Federal 24-Hour ≥ 0.14 ppm	0	0	0	0	0
Max 24-Hour Conc. (ppm)	0.004	0.003	0.004	0.003	0.004
Coarse Particulates (PM₁₀)⁵					
State 24-Hour > 50 µg/m ³	15	14	18	14	12
Federal 24-Hour > 150 µg/m ³	0	0	0	0	1
Max. 24-Hour Conc. (µg/m ³)	149.0	93.0	77.0	78.0	275.0
Fine Particulates (PM_{2.5})⁵					
Federal 24-Hour > 35 ⁵ µg/m ³	20	14	8	7	6
Max. 24-Hour Conc. (µg/m ³)	88.9	86.1	87.7	53.6	72.8

Source: South Coast Air Quality Management District, Ambient Air Quality Monitoring Data, obtained January 2009.

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

¹ Data obtained from the Fontana-Arrow Highway Monitoring Station.

² The USEPA recently revised the 8-hour O₃ standard from 0.08 ppm to 0.075 ppm, effective May 2008.

³ Data obtained from the Upland Monitoring Station

⁴ The NO₂ standard was amended on February 22, 2007, to lower the 1-hr standard from 0.25 ppm to 0.18 ppm.

⁵ Data obtained from the Ontario Monitoring Station.

⁶ The USEPA recently revised the 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³. However, this standard did not take effect until December 2006. Federal exceedance based on measured day the ambient air quality concentrations exceeded the 24-hour standard.

Sensitive Receptors

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



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

Regulatory Setting

Development of The Ontario Plan has the potential to release gaseous emissions of criteria pollutants and dust into the ambient air; therefore, it falls under the ambient air quality standards promulgated at the local, state, and federal levels. The project site is in the SoCAB and is subject to the rules and regulations imposed by the SCAQMD. However, the SCAQMD reports to CARB, and all criteria emissions are also governed by the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to The Ontario Plan are summarized below.

Ambient Air Quality Standards

The federal Clean Air Act (CAA) was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act Amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting NAAQS and the Prevention of Significant Deterioration program. The 1990 Amendments are the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollutant. The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. The CAAQS tend to be more restrictive than the NAAQS and are based on even greater health and welfare concerns.

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

Both the State of California and the federal government have established health-based AAQS for seven air pollutants. As shown in Table 5.3-2, these pollutants are O₃, NO₂, CO, SO₂, PM₁₀, PM_{2.5}, and Pb. In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 5.3-2
Ambient Air Quality Standards for Criteria Pollutants

<i>Pollutant</i>	<i>Averaging Time</i>	<i>California Standard</i>	<i>Federal Primary Standard</i>	<i>Major Pollutant Sources</i>
Ozone (O ₃)	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.075 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9.0 ppm	
Nitrogen Dioxide (NO ₂)	Annual Average	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	*	
Sulfur Dioxide (SO ₂)	Annual Average	*	0.03 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	*	
	24 hours	0.04 ppm	0.14 ppm	
Suspended Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m ³ (PM ₁₀)	150 µg/m ³ (PM ₁₀)	
Suspended Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m ³	
Lead (Pb)	Monthly	1.5 µg/m ³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	*	1.5 µg/m ³	
Sulfates (SO ₄)	24 hours	25 µg/m ³	*	Industrial processes.

Source: CARB 2008

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

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



Air Quality Management Planning

The SCAQMD and the Southern California Association of Governments (SCAG) are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the SoCAB. Since 1979, a number of AQMPs have been prepared.

The most recent adopted comprehensive plan is the 2007 AQMP, adopted on June 1, 2007, which incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2007 AQMP proposes attainment demonstration of the federal PM_{2.5} standards through a more focused control of SO_x, directly emitted PM_{2.5}, and focused control of NO_x and VOC by 2015. The eight-hour ozone control strategy builds

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upon the PM_{2.5} strategy, augmented with additional NO_x and VOC reductions to meet the standard by 2024, assuming an extended attainment date is obtained.

The AQMP provides local guidance for the State Implementation Plan, which provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. Severity classifications for ozone nonattainment range in magnitude: marginal, moderate, serious, severe, and extreme. The attainment status for the SoCAB is included in Table 5.3-3. The SoCAB is also designated as attainment of the CAAQS for SO₂, lead, and sulfates. According to the 2007 AQMP, the SoCAB will have to meet the new federal PM_{2.5} standards by 2015 and the 8-hour ozone standard by 2024, and will most likely have to achieve the recently revised 24-hour PM_{2.5} standard by 2020.

**Table 5.3-3
Attainment Status of Criteria Pollutants in the South Coast Air Basin**

<i>Pollutant</i>	<i>State</i>	<i>Federal</i>
Ozone – 1-hour	Extreme Nonattainment	Extreme Nonattainment ¹
Ozone – 8-hour	Extreme Nonattainment	Severe-17 Nonattainment ²
PM ₁₀	Serious Nonattainment	Serious Nonattainment ³
PM _{2.5}	Nonattainment	Nonattainment
CO	Attainment	Attainment ⁴
NO ₂	Attainment	Attainment/Maintenance
SO ₂	Attainment	Attainment
Lead	Attainment	Attainment
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resource Board, based on 2006 State Area Designations and National Area Designations current as of July 2007.

¹ Under prior standard.

² May petition for Extreme.

³ Annual Standard Revoked September 2006.

⁴ The USEPA granted the request to redesignate the SoCAB from nonattainment to attainment for the CO NAAQS on May 11, 2007 (Federal Register Volume 71, No. 91), which became effective as of June 11, 2007.

5.3.2 Thresholds of Significance

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

- AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.
- AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- AQ-3 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- AQ-4 Expose sensitive receptors to substantial pollutant concentrations.
- AQ-5 Create objectionable odors affecting a substantial number of people.

South Coast Air Quality Management District Thresholds**Regional Significance Thresholds**

CEQA allows for the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. The SCAQMD has established thresholds of significance for air quality for construction activities and project operation as shown in Table 5.3-4:

Table 5.3-4
SCAQMD Regional Significance Thresholds

<i>Air Pollutant</i>	<i>Construction Phase</i>	<i>Operational Phase</i>
Volatile Organic Compounds (VOC)	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
Fine particulates (PM _{2.5})	55 lbs/day	55 lbs/day

Source: SCAQMD 2007

CO Hotspot Analysis

Localized CO impacts are determined based on the presence of congested intersections. The significance of localized project impacts depends on whether the project would cause substantial concentrations of CO. A project is considered to have significant impacts if project-related mobile-source emissions result in an exceedance of the California one-hour and eight-hour CO standards, which are:

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

Localized Significance Thresholds

The SCAQMD has developed localized significance thresholds (LSTs) for emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at a project site (off-site mobile-source emissions are not included in the LST analysis). LSTs are the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS. LSTs are based on the ambient concentrations of that pollutant within the project SRA and the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects of five acres and less. Projects larger than five acres can determine the localized significance for construction by performing dispersion modeling using the thresholds in Table 5.3-5.



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Table 5.3-5
SCAQMD Localized Significance Thresholds

<i>Air Pollutant (Relevant AAQS)</i>	<i>Concentration</i>
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO ₂ Standard (CAAQS)	0.18 ppm
24-Hour PM ₁₀ Standard (SCAQMD) ¹	10.4 µg/m ³
24-Hour PM ₁₀ Standard (SCAQMD) ¹	2.5 µg/m ³

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

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

5.3.3 Environmental Impacts

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.3-1: BUILDOUT OF THE CITY OF ONTARIO IN ACCORDANCE WITH THE PROPOSED LAND USE PLAN WOULD POTENTIALLY CONFLICT WITH THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S AIR QUALITY MANAGEMENT PLAN. [THRESHOLD AQ-1]

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

Indicator 1: Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the AAQS or interim emission reductions in the AQMP.

Indicator 2: Whether the project would exceed the assumptions in the AQMP. The AQMP strategy is, in part, based on projections from local general plans.

Indicator 1

The SoCAB is designated by the state and USEPA as nonattainment for O₃, PM₁₀, and PM_{2.5}. Because the project involves long-term growth associated with buildout of the City of Ontario, cumulative emissions generated by construction and operation of individual projects would exceed the SCAQMD regional and localized thresholds (see Impact 5.3-2 and Impact 5.3-3). Consequently, emissions generated by development projects in addition to existing sources within the City are considered to cumulatively contribute to the nonattainment designations of the SoCAB. Buildout of The Ontario Plan would therefore contribute to an increase in frequency or severity of air quality violations and delay attainment of the AAQS or interim emission reductions in the AQMP, and emissions generated from buildout of the Proposed Land Use Plan

would result in a significant air quality impact. The project would not be consistent with the AQMP under the first indicator.

Indicator 2

The land use designations of the Policy Plan form, in part, the foundation for the emissions inventory for the SoCAB in the AQMP. The AQMP is based on projections in population, employment, and vehicle miles traveled (VMT) in the SoCAB region projected by SCAG. Table 5.3-6 compares the trip generation of the Proposed Land Use Plan compared to the existing conditions and projections based on the current General Plan. SCAG projections for the City are based on the current General Plan. As shown in this table, the Proposed Land Use Plan would exceed projections in VMT for the City of Ontario. In addition, according to population projections from SCAG (see Section 5.13, *Population and Housing*, Table 5.13-12, *Comparison of SCAG 2030 and The Ontario Plan Buildout Projections*), The Ontario Plan would generate substantially more growth in population and employment than SCAG projections. It should be noted that the growth projected by SCAG is based on demographic trends in the region; whereas, growth projections of the Ontario Plan assume full buildout of the City in approximately 20-25 years, since there is no schedule for when this development would occur (see Section 5.13, *Population and Housing*). As a result, the growth projections that are based on SCAG’s Regional Transportation Plan and the associated emissions inventory in SCAQMD’s AQMP do not include the additional growth forecast in The Ontario Plan. Consequently, the 2007 AQMP does not consider emissions associated with the Proposed Land Use Plan. Once The Ontario Plan is adopted and the AQMP is revised, SCAG and SCAQMD will incorporate the growth projections associated with buildout of the Proposed Land Use Plan in their regional planning projections and The Ontario Plan would be consistent with the AQMP. However, since full buildout associated with The Ontario Plan is not currently included in the emissions inventory for the SoCAB, impacts associated with the second indicator are also considered significant.



**Table 5.3-6
Increase in Trip Generation and Vehicle Miles Traveled at Buildout**

Scenario	Trip Generation	Estimated Vehicle Miles Traveled (VMT)
Existing Land Uses (Baseline)	1,263,405	10,909,413
Existing General Plan	2,702,272	29,242,954
Proposed Land Use Plan	3,053,263	32,258,293
Increase from Existing	1,789,858	21,348,880
Increase Compared to Existing General Plan	350,991	3,015,339

Source: Kimley Horn Associates 2009.

Summary

As described above, the project would not be consistent with the AQMP because air pollutant emissions associated with buildout of the City of Ontario would cumulatively contribute to the nonattainment designations in the SoCAB. Furthermore, buildout of the Proposed Land Use Plan would exceed current estimates of population, employment, and VMT for Ontario and therefore these emissions are not included in the current regional emissions inventory for the SoCAB. Therefore the project would be considered inconsistent with the AQMP resulting in a significant impact in this regard.

IMPACT 5.3-2: CONSTRUCTION ACTIVITIES ASSOCIATED WITH BUILDOUT OF THE ONTARIO PLAN WOULD GENERATE SHORT-TERM EMISSIONS THAT EXCEED SOUTH

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COAST AIR QUALITY MANAGEMENT DISTRICT'S REGIONAL SIGNIFICANCE THRESHOLDS FOR VOC, CO, NO_x, PM₁₀, AND PM_{2.5}; CUMULATIVELY CONTRIBUTE TO THE SOUTH COAST AIR BASIN NONATTAINMENT DESIGNATIONS FOR O₃, PM₁₀, AND PM_{2.5}; AND POTENTIALLY ELEVATE CONCENTRATIONS OF AIR POLLUTANTS AT SENSITIVE RECEPTORS. [THRESHOLDS AQ-2, AQ-3, AND AQ-4]

Impact Analysis: Construction activities associated with the Proposed Land Use Plan would occur over the buildout horizon of The Ontario Plan, which would cause short-term emissions of criteria air pollutants. The primary source of NO_x, CO, and SO_x emissions is the operation of construction equipment. The primary sources of particulate matter (PM₁₀ and PM_{2.5}) emissions include activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary source of VOC emissions is the application of architectural coating and off-gas emissions associated with asphalt paving. A discussion of health impacts associated with air pollutant emissions generated by construction activities is included in section 5.3-1, *Environmental Setting, Air Pollutants of Concern*.

Information regarding specific development projects, soil types, and the locations of receptors would be needed in order to quantify the level of impact associated with construction activity. Due to the scale of development activity associated with buildout of the Proposed Land Use Plan, emissions would likely exceed the SCAQMD regional significance thresholds. In accordance with the SCAQMD methodology, emissions that exceed the regional significance thresholds would cumulatively contribute to the nonattainment designations of the SoCAB. The SoCAB is designated as nonattainment for O₃ and particulate matter (PM₁₀ and PM_{2.5}). Emissions of VOC and NO_x are precursors to the formation of O₃. In addition, NO_x is a precursor to the formation of particulate matter (PM₁₀ and PM_{2.5}). Therefore, the project would cumulatively contribute to the nonattainment designations of the SoCAB for O₃ and particulate matter (PM₁₀ and PM_{2.5}). Air quality emissions related to construction must be addressed on a project-by-project basis. For this broad-based Policy Plan, it is not possible to determine whether the scale and phasing of individual projects would result in the exceedance of SCAQMD's short-term regional or localized construction emissions thresholds. In addition to regulatory measures (e.g., SCAQMD Rule 201, Rule 403, Rule 1113, Rule 1403, and CARB Rule 2840), mitigation may include extension of construction schedules and/or use of special equipment. Nevertheless, the likely scale and extent of construction activities pursuant to The Ontario Plan would likely continue to exceed the relevant SCAQMD thresholds for at least some projects. Consequently, construction-related air quality impacts associated with development of the Proposed Land Use Plan are deemed to be significant.

IMPACT 5.3-3: BUILDOUT OF THE ONTARIO PLAN WOULD GENERATE LONG-TERM EMISSIONS THAT EXCEED SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S REGIONAL SIGNIFICANCE THRESHOLDS FOR VOC, CO, NO_x, PM₁₀, AND PM_{2.5} AND CUMULATIVELY CONTRIBUTE TO THE SOUTH COAST AIR BASIN NONATTAINMENT DESIGNATIONS FOR O₃, PM₁₀, AND PM_{2.5}. [THRESHOLDS AQ-2 AND AQ-3]

Impact Analysis: The Ontario Plan guides growth and development within the City of Ontario by designating land uses in the Proposed Land Use Plan and through implementation of the goals and policies of the Policy Plan. With growth comes additional emissions generated by stationary and vehicular sources. These emissions contribute to the overall emissions inventory in the SoCAB. A discussion of health impacts associated with air pollutant emissions generated by construction activities is included in section 5.3-1, *Environmental Setting, Air Pollutants of Concern*.

The project includes the planned development of residential, commercial, office, institutional, and industrial uses within developed and undeveloped portions of the City. The majority of undeveloped land lies within the New Model Colony (NMC) area in the southern portion of the City. However, the Proposed Land Use Plan also intensifies existing land uses in the Original Model Colony (OMC) area. Upon buildout of the Proposed Land Use Plan, the City of Ontario would be comprised of the land uses shown previously in Table 3-4. The increase in trip generation and VMT from existing conditions, provided by Kimley-Horn and Associates, is shown in Table 5.3-6 above.

City of Ontario Emissions Inventory

The increase in air pollutant emissions associated with buildout of the Proposed Land Use Plan was estimated using the UBEMIS2007 emissions inventory model. The increase is based on the difference between existing land uses (see Table 4-1) and land uses associated with buildout of the Proposed Land Use Plan (see Table 3-4). While buildout would ultimately be market driven, for modeling purposes this analysis is based on the assumption that all uses are on the ground by the year 2035.

Emissions within the City of Ontario include local and regional vehicle emissions, AND stationary-source emissions from the use of natural gas, landscape maintenance equipment, fireplaces, and consumer products such as aerosol sprays. Various industrial and commercial processes (e.g., dry cleaning) allowed under The Ontario Plan would also be expected to release emissions, some of which could be hazardous. Those emissions would be controlled at the local and regional level through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under SCAQMD Rule 1401. Because the nature of those emissions cannot be determined at this time and are subject to further regulation and permitting, they will not be addressed further in this analysis. For transportation emissions, the daily number of vehicle trips and VMT associated with buildout of the Proposed Land Use Plan and existing conditions was based on the traffic study conducted by Kimley-Horn Associates. VMT provided by Kimley-Horn Associates was then multiplied by emission rates obtained from CARB's EMFAC2007 composite emission factor model for year 2035. Table 5.3-7 compares the increase in the emissions inventory for the City of Ontario to the SCAQMD regional emissions thresholds. It should be noted that the SCAQMD regional emissions thresholds were designed for individual projects.



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**Table 5.3-7
City of Ontario Regional Emissions Inventory
(in pounds per day)**

Year 2035 ¹	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Existing Land Uses (Table 4-1)						
Transportation	11,667	9,544	39,820	198	1,552	1,537
Area Sources						
Natural Gas	73	969	539	0	2	2
Hearth ²	7,253	626	20,114	56	3,119	3,003
Landscape	263	17	1,468	0	4	4
Consumer Products	2,374	—	—	—	—	—
Architectural Coatings	662	—	—	—	—	—
Total Area Sources	10,363	1,595	20,653	56	3,121	3,005
Existing Land Uses Total	22,030	11,138	60,473	254	4,674	4,542
Proposed Land Use Plan (Table 3-4)						
Transportation	29,625	27,819	111,058	582	4,557	4,512
Area Sources						
Natural Gas	168	2,231	1,361	<1	4	4
Hearth ²	16,323	1,317	45,243	127	7,015	6,753
Landscape	271	3	276	<1	1	1
Consumer Products	5,345	—	—	—	—	—
Architectural Coatings	1,945	—	—	—	—	—
Total Area Sources	23,781	3,548	46,604	127	7,019	6,757
Proposed Land Use Plan Total	53,406	31,367	157,662	709	11,576	11,269
Increase in Emissions	31,376	20,229	97,189	455	6,903	6,727
SCAQMD Regional Significance Threshold	55	55	550	150	150	55
Significant?	Yes	Yes	Yes	Yes	Yes	Yes

Source: URBEMIS2007, Version 9.2.4 for area sources and EMFAC2007 for transportation sources.

¹ Based on worst-case summer or winter emissions: stationary source based on VOC (except landscaping), NO_x, CO, SO₂, PM₁₀ and PM_{2.5} in winter. VOC (landscaping) based on summer emission rates.

² Does not include emissions reduction associated with SCAQMD Rule 445, Wood Burning Devices, which prohibit installation of wood-burning stoves and/or fireplaces in new development.

As shown in Table 5.3-7, buildout of the Proposed Land Use Plan would generate long-term emissions that exceed the daily SCAQMD thresholds for all criteria pollutants. Emissions of VOC and NO_x are precursors to the formation of O₃. In addition, NO_x is a precursor to the formation of particulate matter (PM₁₀ and PM_{2.5}). Consequently, emissions of VOC and NO_x that exceed the SCAQMD regional significance thresholds would contribute to the O₃ nonattainment designation of the SoCAB, while emissions of NO_x, PM₁₀, and PM_{2.5} that exceed the SCAQMD regional significance thresholds would contribute to the particulate matter (PM₁₀ and PM_{2.5}) nonattainment designation of the SoCAB under the national and California AAQS. Consequently, operational-related air quality impacts associated with development of the Proposed Land Use Plan are significant.

IMPACT 5.3-4: INCREASE IN TRAFFIC CONGESTION IN THE CITY OF ONTARIO AT BUILDOUT OF THE PROPOSED LAND USE PLAN WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS. [THRESHOLD AQ-4]

Impact Analysis: The project would expose sensitive receptors to elevated pollutant concentrations if it would cause or contribute significantly to elevated pollutant concentration levels. Unlike the mass (weight) of

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operational emissions shown in Tables 5.3-7 (pounds per day), localized concentrations refer to the amount of pollutant in a volume of air (ppm or $\mu\text{g}/\text{m}^3$) and can be correlated to potential health effects.

Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Areas of vehicle congestion have the potential to create pockets of CO called hot spots. These pockets have the potential to exceed the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9.0 ppm. Note that the federal levels are based on one- and eight-hour standards of 35 and 9 ppm, respectively. Thus, an exceedance condition would occur based on the state standards before the federal standards.

Hot spots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. Typically, for an intersection to exhibit a significant CO concentration, it would operate at level of service (LOS) E or worse without improvements (Caltrans 1997, CALINE4). The following intersections are projected to operate at LOS E or worse without improvements to intersections:

- Mountain Avenue and Mission Boulevard (PM peak hour)
- Mountain Avenue and SR-60 eastbound ramps (AM and PM peak hours)
- Grove Avenue and Airport Drive (PM peak hour)
- Vineyard Avenue and I-10 eastbound ramps (PM peak hour)
- Vineyard Avenue and Holt Boulevard (PM peak hour)
- Vineyard Avenue and Philadelphia Street (PM peak hour)
- Vineyard Avenue and SR-60 westbound ramps (PM peak hour)
- Archibald Avenue and SR-60 eastbound ramps (PM peak hour)
- Haven Avenue and Jurupa Street (PM peak hour)
- Haven Avenue and SR-60 eastbound ramps (AM peak hour)
- Milliken Avenue and Ontario Mills Parkway (PM peak hour)
- Milliken Avenue and Airport Drive (PM peak hour)
- Milliken Avenue and Mission Boulevard (AM and PM peak hours)
- Fourth Street and I-15 southbound ramps (PM peak hour)
- Fourth Street and I-15 northbound ramps (PM peak hour)
- Jurupa Street and I-15 southbound ramps (PM peak hour)
- Jurupa Street and I-15 northbound ramps (PM peak hour)

Eight of these intersections with the highest volumes were modeled because they would experience levels of traffic congestion that are most conducive to the formation of CO hot spots. Table 5.3-8 lists the one-hour and eight-hour CO concentrations that would occur at these intersections at buildout of the Proposed Land Use Plan. Based on the CALINE4 analyses, traffic is not anticipated to exceed any of the state one-hour or eight-hour CO AAQS at this intersection. Consequently, sensitive receptors in the area would not be significantly adversely affected by CO emissions generated at buildout of the Proposed Land Use Plan. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.



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Table 5.3-8
Opening Year CO Concentrations at Congested Intersections in the Project Vicinity
(parts per million)

Intersection	Highest 1-Hour CO Concentration	1-Hour CAAQS	Highest 8-Hour CO Concentration	8-Hour CAAQS	Exceeds CAAQS	
					1-Hour	8-Hour
Vineyard and Holt	4.0	20	2.8	9	No	No
Haven and Jurupa	4.1	20	2.9	9	No	No
Milliken and Ontario Mills	4.1	20	2.9	9	No	No
Milliken and Airport	4.1	20	2.9	9	No	No
Milliken and Mission	4.1	20	2.9	9	No	No
Fourth and I-15 SB	4.2	20	2.9	9	No	No
Jurupa and I-15 SB	4.6	20	3.2	9	No	No
Jurupa and I-15 NB	4.6	20	3.2	9	No	No

Source: CALINE4, Version 1.31. Based on traffic volumes, roadway configurations, and speed limits obtained from the traffic study prepared by Kimley-Horn Associates, 2009. CO concentrations include a background ambient CO concentration of 3.6 ppm obtained from the SCAQMD, <http://www.aqmd.gov/ceqa/handbook/CO/CO.html>, for SRA 33 in year 2035. 8-Hour CO concentrations obtained by multiplying 1-Hour CO concentrations by a persistence factor of 70 percent.

IMPACT 5.3-5: APPROVAL OF RESIDENTIAL AND OTHER SENSITIVE LAND USES WITHIN 500 FEET OF I-10, I-15, OR SR-60 WOULD RESULT IN EXPOSURE OF PERSONS TO SUBSTANTIAL CONCENTRATIONS OF DIESEL PARTICULATE MATTER. [THRESHOLD AQ-4]

Impact Analysis: Because placement of sensitive land uses falls outside CARB jurisdiction, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* in May 2005 to address the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when placing sensitive receptors near existing pollution sources. However, CARB has not made recommendations on the siting of sensitive land uses near an airport, such as the Los Angeles/Ontario International Airport, because air pollutant emissions sources from these types of facilities are complex. CARB is currently evaluating these types of facilities and developing methods to identify them.

CARB's recommendations on the siting of new sensitive land uses were developed from a compilation of recent studies that evaluated data on the adverse health effects ensuing from proximity to air pollution sources. The key observation in these studies is that close proximity to air pollution sources substantially increases both exposure and the potential for adverse health effects. There are three carcinogenic toxic air contaminants that constitute the majority of the known health risks from motor vehicle traffic: diesel PM from trucks, and benzene and 1,3 butadiene from passenger vehicles. On a typical urban freeway (truck traffic of 10,000 to 20,000/day), diesel PM makes up approximately 84 percent of the potential cancer risk from the vehicle traffic. Table 5.3-9 shows a summary of CARB recommendations for siting new sensitive land uses within the vicinity of air-pollutant-generating sources. Recommendations in Table 5.3-9 are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

**Table 5.3-9
CARB Recommendations for Siting New Sensitive Land Uses**

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

Source: CARB 2005.



New development in accordance with The Ontario Plan surrounding the I-10, I-15, and SR-60 has the potential to expose sensitive receptors to substantial pollutant concentrations from diesel exhaust. While much of the freeway corridors has been developed, the Proposed Land Use Plan would potentially intensify uses surrounding the freeway at buildout. The association of truck-related diesel emissions with adverse health effects is generally strongest between 300 and 1,000 feet, and diminishes further with distance. The impact of traffic emissions is on a gradient that at some point becomes indistinguishable from the regional air pollution problem. CARB recommends avoiding siting new sensitive land uses within “500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.” As roadway volumes on these freeways would have greater than 100,000 vehicles per day, buildout of the Proposed Land Use Plan has the potential to expose sensitive receptors to substantial concentrations of air pollutant emissions if constructed within 500 feet of these freeways. In addition, Table 5.3-9 lists other air-pollutant-generating sources that can affect localized air quality. If new sensitive development, consistent with The Ontario Plan, were placed in the vicinity of any of these sources, then sensitive receptors may be exposed to significant concentrations of air pollutants.

SCAQMD’s Multiple Air Toxic Exposure Study III shows that average health risk from all sources in the SoCAB in the City ranges from 766 to 1,777 in a million (SCAQMD 2008a). As shown in Figure 3-3, *Proposed Land Use Plan*, in Chapter 3, *Project Description*, much of the new residential development in the existing portions of the City would be concentrated around the I-10 corridor. This includes the Meredith Mixed-Use,

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Ontario Center Mixed-Use, and I-10/Grove Interchange area fronting I-10. In accordance with CEQA, new development would be required to assess the localized air quality impacts from placement of new sensitive uses within the vicinity of sources. Installation of high-efficiency filtration systems (i.e., Minimum Efficiency Reporting Value) can reduce indoor concentrations of particulate matter in interior living spaces of sensitive development adjacent to the freeways. It is the policy of the City of Ontario to minimize impacts between land uses by providing buffers or mitigation to reduce impacts (Policies LU2-1 and LU2-2). However, outdoor areas within 500 feet of the freeway or within 1,000 feet of distribution centers with 100 trucks per day would be exposed to elevated levels of diesel particulates that would be unmitigated. Placement of sensitive uses near major pollutant sources would result in significant air quality impacts from the exposure of persons to substantial pollutant concentrations.

IMPACT 5.3-6: CONVERSION OF AGRICULTURAL LAND TO NONAGRICULTURAL USES WOULD TEMPORARILY EXPOSE RESIDENTS TO OBJECTIONABLE ODORS. [THRESHOLD AQ-5]

Impact Analysis: Construction activity would require the operation of equipment that may generate exhaust from either gasoline or diesel fuel. Construction and development would also require the application of paints and the paving of roads, which could generate odors from materials such as paints and asphalt. As these odors are short-term in nature and quickly disperse into the atmosphere, this is not considered significant.

Future residential and commercial development would involve minor odor-generating activities, such as backyard barbecue smoke, lawn mower exhaust, application of exterior paints for home improvement, etc. These types and concentrations of odors are typical of residential communities and are not considered significant air quality impacts. However, much of the NMC is currently used for dairy production and other livestock use. Conversion of these agricultural areas to nonagricultural land uses has the potential to expose people to objectionable odors because the new sensitive uses would be adjacent to agricultural uses. In January 2001, the City adopted the Agricultural Overlay Zone, or the Right to Farm ordinance, to act as a “buffering” device between existing agricultural uses and urban development (Ontario Municipal Code, Section 6, Ordinance 2726). Homeowners near existing farm uses would be given notice, in the form of a deed disclosure, that agricultural nuisances (odors, noises, etc.) may be present and that they have a right to exist as long as the land is not developed otherwise. The Right to Farm ordinance would allow for the continuation of agricultural uses even though odor complaints may arise from the proximity of such agricultural uses to new residential uses. However, at buildout of The Ontario Plan, no agricultural uses are anticipated to remain in the NMC. Consequently, these impacts would be temporary.

Individual projects, including commercial, industrial, and residential projects, associated with The Ontario Plan are also required to comply with SCAQMD Rule 402 to prevent occurrence of public nuisances. As a result, project-related odors are required to avoid the creation of a public nuisance. Odorous emissions attributable to the proposed project are not considered a significant adverse impact to air quality.

5.3.4 Relevant Policy Plan Policies and Programs

Environmental Resources Element

Energy

ER3-1 Conservation Strategy. We promote conservation as the first strategy to be employed to meet applicable energy-saving standards.

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- ER3-2 Green Development – Communities. We encourage the use of the LEED Neighborhood Development rating system to guide the planning and development of all new communities.
- ER3-3 Transportation Energy. We promote development that reduces the energy associated with getting people to and from buildings. Community facilities should be sited in areas accessible to public transportation.
- ER3-4 Green Development – Public Buildings. We require all new and renovated City buildings in excess of 10,000 square feet to achieve a LEED Silver Certification standard, as determined by the US Green Building Council.
- ER3-5 Fuel Efficient and Alternative Energy Vehicles and Equipment. We should purchase and use vehicles and equipment that are fuel efficient and meet or surpass state emissions requirements and/or use renewable sources of energy.
- ER3-6 Generation – Renewable Sources. We promote the use of renewable energy sources (e.g., solar, wind, biomass) in public and private sector development.

Air Quality

- ER4-1 Land Use. We support the reduction of GHG and other local pollutant emissions through compact, mixed-use, and transit-oriented development and development that improves the regional jobs/housing balance.
- ER4-2 Sensitive Land Uses. We prohibit the future siting of sensitive land uses within the distances defined by the California Air Resources Board for specific source categories without sufficient mitigation.
- ER4-3 Greenhouse Gases (GHG) Emissions Reductions. We will actively pursue the reduction of GHG emissions in accordance with regional, state, and federal regulations.
- ER4-4 Indoor Air Quality. We require all building materials, including interior finishes, in new development and major renovations meet the air quality standards and regulations set forth by the South Coast Air Quality Management District.
- ER4-5 Mobile Sources in Interior Spaces. We encourage the use of low or zero emission interior mobile equipment within commercial and industrial buildings.
- ER4-6 Transportation. We promote mass transit and nonmotorized mobility options (walking, biking,) to reduce air pollutant emissions.
- ER4-7 Particulate Matter. We support efforts to reduce particulate matter to meet state and federal clean air standards.
- ER4-8 Other Agency Collaboration. We collaborate with other agencies within the South Coast Air Basin to improve regional air quality at the emission source.
- ER4-9 Tree Planting. We support the protection of healthy trees within the City and the planting of new trees to increase carbon sequestration and help the regional/local air quality.



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Community Design Element

- CD2-2 Neighborhood Design. We create distinct residential neighborhoods that are functional, have a sense of community, emphasize livability and social interaction, and are uniquely identifiable places through such elements as:
- a pattern of smaller, walkable blocks that promote access, activity and safety;
 - variable setbacks and parcel sizes to accommodate a diversity of housing types;
 - traffic calming measures to slow traffic and promote walkability while maintaining acceptable fire protection and traffic flows;
 - floor plans that encourage views onto the street and deemphasize the visual and physical dominance of garages (introducing the street frontage as the “outdoor living room”); and
 - landscaped parkways, with sidewalks separated from the curb.
- CD2-3 Commercial Centers. We desire commercial centers to be distinctive, pedestrian friendly, functional, and vibrant with a range of businesses, places to gather, and connectivity to the neighborhoods they serve.
- CD2-4 Mixed Use, Urban Office, and Transit Serving Areas. We require mixed use, urban office, and transit serving areas to be designed and developed as pedestrian-oriented “villages” that promote a vibrant, comfortable, and functional environment.
- CD2-5 Streetscapes. We design new and, when necessary, retrofit existing streets to improve walkability, bicycling, and transit integration, to strengthen connectivity, and enhance community identity through improvements to the public right of way such as sidewalks, street trees, parkways, curbs, street lighting, and street furniture.
- CD2-6 Connectivity. We promote development of local street patterns and pedestrian networks that create and unify neighborhoods, rather than divide them, and create cohesive and continuous corridors, rather than independent “islands” through the following means:
- local street patterns that provide access between subdivisions and within neighborhoods and discourage through traffic;
 - a local street system that is logical and understandable for the user. A grid system is preferred to avoid circuitous and confusing travel paths between internal neighborhood areas and adjacent arterials; and
 - neighborhoods, centers, public schools, and parks that are linked by pedestrian greenways/open space networks. These may also be used to establish clear boundaries between distinct neighborhoods and/or centers.
- CD2-7 Sustainability. We collaborate with the development community to design and build neighborhoods, streetscapes, sites, outdoor spaces, landscaping, and buildings to reduce energy demand through solar orientation, maximum use of natural daylight, passive solar and

- natural ventilation, building form, mechanical and structural systems, building materials, and construction technique.
- CD2-8 **Safe Design.** We incorporate defensible space design into new and existing developments to ensure the maximum safe travel and visibility on pathways, corridors, and open space and at building entrances and parking areas by avoiding physically and visually isolated spaces, maintenance of visibility and accessibility, and use of lighting.
- CD2-9 **Landscape Design.** We encourage durable landscaping materials and designs that enhance the aesthetics of structures, create and define public and private spaces, and provide shade and environmental benefits.
- CD2-10 **Surface Parking Areas.** We require parking areas visible to or used by the public to be landscaped in an aesthetically pleasing, safe, and environmentally sensitive manner. Examples include shade trees, pervious surfaces, urban runoff capture and infiltration, and pedestrian paths to guide users through the parking field.
- CD2-14 **Availability of Information.** We provide easy access to information for developers, builders, and the public about design quality, construction quality, and sustainable building practices.

Pedestrian Environments

- CD3-1 **Pedestrian Circulation.** We require that pedestrian, vehicular, and bicycle circulation on both public and private property be coordinated and designed to maximize safety, comfort, and aesthetics.
- CD3-2 **Connectivity between Streets, Sidewalks, Walkways, and Plazas.** We require that landscaping and paving be used to optimize visual connectivity between streets, sidewalks, walkways, and plazas for pedestrians.
- CD3-3 **Building Entrances.** We require all building entrances to be accessible and visible from adjacent streets, sidewalks, or public open spaces.
- CD3-4 **Ground Floor Usage of Commercial Buildings.** We create lively pedestrian streetscapes by requiring the location of uses, such as shopping, galleries, restaurants, etc., on ground floors adjacent to sidewalks.
- CD3-5 **Paving.** We require sidewalks and road surfaces to be of a type and quality that contributes to the appearance and utility of streets and public spaces.
- CD3-6 **Landscaping.** We utilize landscaping to enhance the aesthetics, functionality, and sustainability of streetscapes, outdoor spaces, and buildings.
- CD3-7 **Transit Stops.** We require transit stops to be well lit, safe, appealing to, and accessible by pedestrians.



5. Environmental Analysis

AIR QUALITY

Community Economic Element

Complete Community

- CE1-1 Jobs/Housing Balance. We pursue improvement to the Inland Empire's balance between jobs and housing by promoting job growth that reduces the regional economy's reliance on out-commuting.
- CE1-12 Circulation. We continuously plan and improve public transit and non-vehicular circulation for the mobility of all, including those with limited or no access to private automobiles.

Land Use Element

Balance

- LU1-2 Sustainable Community Strategy. We integrate state, regional, and local Sustainable Community/Smart Growth principles into the development and entitlement process.
- LU1-4 Mobility. We promote development and urban design that reduces reliance on the automobile and capitalizes on multimodal transportation opportunities.
- LU1-5 Jobs/Housing Balance. We coordinate land use, infrastructure, and transportation planning and analysis with regional, county, and other local agencies to further regional and subregional goals for jobs/housing balance.
- LU1-6 Complete Community. We encourage a variety of land uses and building types that result in a complete community where residents at all stages of life, employers, workers, and visitors have a wide spectrum of choices of where they can live, work, shop, and recreate within Ontario.

Compatibility

- LU2-1 Land Use Decisions. We site land uses to minimize adverse impacts between uses.
- LU2-2 Buffers. We require new uses to provide mitigation or buffers between existing uses where potential adverse impacts could occur.
- LU2-3 Hazardous Uses. We regulate the development of industrial and similar uses that use, store, produce, or transport toxic substances, air emissions, other pollutants, and hazardous materials.
- LU2-4 Regulation of Nuisances. We regulate the location, concentration, and operations of potential nuisances.
- LU2-5 Regulation of Uses. We regulate the location, concentration, and operations of uses that have impacts on surrounding land uses.
- LU2-9 Methane Gas Sites. We require sensitive land uses and new uses on former dairy farms or other methane-producing sites be designed to minimize health risks.

Flexibility

LU3-3 Land Use Flexibility. We consider uses not typically permitted within a land use category if doing so improves livability, reduces vehicular trips, creates community gathering places and activity nodes, and helps create identity.

Mobility Element

Roadway System

- M1-1 Roadway Design and Maintenance. We require our roadways to:
- comply with federal, state, and local design and safety standards.
 - meet the needs of multiple transportation modes and users.
 - handle the capacity envisioned in the Functional Roadway Classifications Plan.
 - maintain a peak hour Level of Service (LOS) E or better at all intersections.
 - be compatible with the streetscape and surrounding land uses.
 - be maintained in accordance with best practices and our Right-of-Way Management Plan.
- M1-2 Mitigation of Impacts. We require development to mitigate its traffic impacts.
- M1-3 Roadway Improvements. We work with Caltrans, SANBAG, and others to identify, fund, and implement needed improvements to roadways identified in the Functional Roadway Classification Plan.
- M1-4 Adjacent Jurisdictions. We work with neighboring jurisdictions to meet our level of service standards at the City limits.

Bicycles and Pedestrians

- M2-1 Bikeway Plan. We maintain our Multipurpose Trails and Bikeway Corridor Plan to create a comprehensive system of on-and off-street bikeways that connect residential areas, businesses, schools, parks, and other key destination points.
- M2-2 Bicycle System. We provide off-street multipurpose trails and Class II bikeways as our primary paths of travel and use the Class III for connectivity in constrained circumstances.
- M2-3 Pedestrian Walkways. We require walkways that promote safe and convenient travel between residential areas, businesses, schools, parks, recreation areas, and other key destination points.
- M2-4 Network Opportunities. We explore opportunities to expand the pedestrian and bicycle networks. This includes consideration of utility easements, levees, drainage corridors, road rights-of-way, medians, and other potential options.



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Public Transit

- M3-1 Transit Partners. We maintain a proactive working partnership with transit providers to ensure that adequate public transit service is available.
- M3-2 Transit Facilities at New Development. We require new development to provide transit facilities, such as bus shelters and turnouts, as necessary.
- M3-3 Transit-Oriented Development. We consider the provision of development-related incentives for projects that promote transit use.
- M3-4 Bus Rapid Transit (BRT) Corridors. We work with regional transit agencies to implement BRT service to target destinations and along corridors, as shown in the Transit Plan.
- M3-5 Light Rail. We support extension of the Metro Rail Gold Line to Ontario, and will work to secure station locations adjacent to the Meredith site and at the proposed multimodal transit center.
- M3-6 Metrolink Expansion. We advocate expansion of Metrolink service to include the Downtown and the multimodal transit center.
- M3-7 High Speed Rail. We encourage the development of high-speed rail systems that would enhance regional mobility in southern California and serve the City of Ontario.
- M3-8 Feeder Systems. We work with regional transit agencies to secure convenient feeder service from the Metrolink station and the proposed multimodal transit center to employment centers in Ontario.
- M3-9 Ontario Airport Metro Center Circulator. We will explore development of a convenient mobility system, including but not limited to shuttle service, people mover, and shared car system, for the Ontario Airport Metro Center.
- M3-10 Multimodal Transit Center. We will explore development of a multimodal transit center near LAONT to serve as a transit hub for local buses, BRT, the Gold Line, high-speed rail, the proposed Ontario Airport Metro Center circulator and other future transit modes.

Goods Movement

- M4-1 Truck Routes. We designate and maintain a network of City truck routes that provide for the effective transport of goods while minimizing negative impacts on local circulation and noise-sensitive land uses, as shown in the Truck Routes Plan.
- M4-2 Regional Participation. We work with regional and subregional transportation agencies regarding planning and implementation of regional goods movement strategies.
- M4-3 Railroad grade separations. We eliminate at-grade rail crossings identified on the Functional Roadway Classifications Plan.
- M4-4 Environmental Considerations. We support efforts to reduce/eliminate the negative environmental impacts of goods movement.

M4-5 Truck Parking. We limit truck parking to appropriate locations.

Regional Transportation

M5-1 Regional Leadership. We maintain a leadership role to help identify and implement potential solutions to long-term regional transportation problems.

M5-2 Land Use Compatibility with Regional Transportation Facilities. We work with LAWA, railroads, Caltrans, SANBAG, and other transportation agencies to minimize impacts.

Safety Element

Wind-Related Hazards (e.g., Dust, Blowing Sand)

S5-2 Dust Control Measures. We require the implementation of best management practices for dust control at all excavation and grading projects.

S5-3 Grading in High Winds. We prohibit excavation and grading during strong wind conditions, as defined by the Building Code.

Hazardous Materials/Waste

S6-5 Location of Hazardous Material Facilities. We regulate facilities that will be involved in the production, use, storage, transport, or disposal of hazardous materials, pursuant to federal, state, and local regulations so that impacts to the environment and sensitive land uses are mitigated.

S6-6 Location of Sensitive Uses. We prohibit new sensitive land uses from locating near existing sites that use, store, or generate large quantities of hazardous materials.

S6-9 Remediation of Methane. We require development to assess and mitigate the presence of methane, per regulatory standards and guidelines.

Social Resources Element

Education

SR2-5 School Facilities. We plan and coordinate with school districts for designing and locating school facilities to meet the City's goals, such as for health, walkability, and safety, and to minimize impacts to existing neighborhoods.

Housing Element

Neighborhoods and Housing

H1-3 Community Amenities. We shall provide adequate public services, infrastructure, open space, parking and traffic management, pedestrian and bicycle routes, and public safety for neighborhoods consistent with City master plans and neighborhood plans.



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Housing Supply and Diversity

- H2-1 Corridor Housing. We revitalize transportation corridors by encouraging the production of higher density residential and mixed uses that are architecturally, functionally, and aesthetically suited to corridors.
- H2-2 Historic Downtown. We foster a vibrant historic downtown through facilitating a wide range of housing types and affordability levels for households of all ages, housing preferences, and income levels.
- H2-3 Ontario Airport Metro Center. We foster a vibrant, urban, intense, and highly amenitized community in the Ontario Airport Metro Center Area through a mix of residential, entertainment, retail, and office-oriented uses.
- H2-4 New Model Colony. We support a premier lifestyle community in the New Model Colony, distinguished by diverse housing, highest design quality, and cohesive and highly amenitized neighborhoods.
- H2-5 Housing Design. We require architectural excellence through adherence to City design guidelines, thoughtful site planning, environmentally sustainable practices, and other best practices.
- H2-6 Infill Development. We support the revitalization of neighborhoods through the construction of higher-density residential developments on underutilized residential and commercial sites.

5.3.5 Existing Regulations and Standard Conditions

Future development projects that were considered for approval pursuant to the proposed Ontario Plan would be required to comply with the following laws and regulations:

State and Federal Regulations

- SCAQMD Rule 201: Permit to Construct
- SCAQMD Rule 402: Nuisance Odors
- SCAQMD Rule 403: Fugitive Dust
- SCAQMD Rule 1113: Architectural Coatings
- SCAQMD Rule 1401: New Source Review of Carcinogenic Air Contaminants
- SCAQMD Rule 1403: Asbestos Emissions from Demolition/Renovation
- CARB Rule 2840: Airborne Toxics Control Measure
- Building Energy Efficiency Standards (Title 24)
- Appliance Energy Efficiency Standards (Title 20)
- Motor Vehicle Standards (AB 1493)

5.3.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and compliance with The Ontario Plan policies and programs, the following impacts would be less than significant: 5.3-4.

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

- Impact 5.3-1 Buildout of the City of Ontario in accordance with the Proposed Land Use Plan would potentially conflict with the South Coast Air Quality Management District's Air Quality Management Plan.
- Impact 5.3-2 Construction activities associated with buildout of The Ontario Plan would generate short-term emissions that exceed South Coast Air Quality Management District's regional significance thresholds for VOC, CO, NO_x, PM₁₀, and PM_{2.5}; cumulatively contribute to the South Coast Air Basin nonattainment designations for O₃, PM₁₀, and PM_{2.5}; and potentially elevate concentrations of air pollutants at sensitive receptors.
- Impact 5.3-3 Buildout of The Ontario Plan would generate long-term emissions that exceed South Coast Air Quality Management District's regional significance thresholds for VOC, CO, NO_x, PM₁₀, and PM_{2.5} and cumulative contribute to the SoCAB nonattainment designations for O₃, PM₁₀ and PM_{2.5}.
- Impact 5.3-5 Approval of residential and other sensitive land uses within 500 feet of I-10, I-15, or SR-60 would result in exposure of persons to substantial concentrations of diesel particulate matter from the freeways.
- Impact 5.3-6 Conversion of agricultural land to nonagricultural uses would temporarily expose residents to objectionable odors.

5.3.7 Mitigation Measures

Impact 5.3-1

Goals and policies are included in The Policy Plan that would facilitate continued City cooperation with the SCAQMD and SCAG to achieve regional air quality improvement goals, promotion of energy conservation design and development techniques, encouragement of alternative transportation modes, and implementation of transportation demand management strategies. However, no mitigation measures are available that would reduce impacts associated with consistency with the AQMP.

Impact 5.3-2

3-1 The City of Ontario Building Department shall require that all new construction projects incorporate all feasible mitigation measures to reduce air quality emissions. Potential measures shall be incorporated as conditions of approval for a project and may include:

- Requiring fugitive dust control measures that exceed South Coast Air Quality Management District's Rule 403, such as:
 - Requiring use of nontoxic soil stabilizers to reduce wind erosion.
 - Applying water every four hours to active soil-disturbing activities.
 - Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.



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- Using construction equipment rated by the United States Environmental Protection Agency as having Tier 3 or higher exhaust emission limits.
- Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limiting nonessential idling of construction equipment to no more than five consecutive minutes.
- Using Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufactures can be found on the South Coast Air Quality Management District's website at: http://www.aqmd.gov/prdas/brochures/Super-Compliant_AIM.pdf.

Impact 5.3-3

- 3-2 The City of Ontario shall evaluate new development proposals within the City and require all developments to include access or linkages to alternative modes of transportation, such as transit stops, bike paths, and/or pedestrian paths (e.g., sidewalks).

Impact 5.3-5

- 3-3 The City of Ontario shall evaluate new development proposals within the City for potential incompatibilities with regard to the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Health Perspective* (April 2005). New development that is inconsistent with the recommended buffer distances shall only be approved if all feasible mitigation measures, such as high efficiency Minimum Efficiency Reporting Value filters have been incorporated into the project design to protect future sensitive receptors from harmful concentrations of air pollutants as a result of proximity to existing air pollution sources.

Impact 5.3-6

The existing Agricultural Overlay District would require notification of new residents of the potential odors generated from adjacent agricultural land uses. No feasible mitigation measures are available to reduce impacts associated with locating sensitive uses adjacent to existing livestock operations in the NMC.

5.3.8 Level of Significance After Mitigation

Despite the application of mitigation measures, Impact 5.3-1, Impact 5.3-2, Impact 5.3.3, Impact 5.3-5, and Impact 5.3-6 were found to still result in a **significant and unavoidable** air quality impacts due to the magnitude of emissions that would be generated.