

## 2.3 Air Quality

This section of the EIR evaluates the potential for impacts to air quality and climate change associated with implementation of the County of San Diego General Plan Update. It examines the existing air quality in the County, evaluates County-wide and regional air quality impacts, and identifies mitigation measures to lessen those impacts. The information in this section was based on the County of San Diego General Plan Update Conservation and Open Space Element Background Report (DPLU 2007b), County of San Diego Guidelines for Determining Significance, Air Quality (DPLU 2007g), and the Air Quality Technical Report prepared by Scientific Resources Associated (SRA 2009), included as Appendix B to this EIR. Analysis regarding unincorporated County of San Diego greenhouse gas emissions and the potential for the proposed General Plan Update to conflict with the goals and strategies of AB 32 is discussed in Section 2.17, Global Climate Change of this EIR.

A summary of the impacts to air quality identified in Section 2.5.3 is provided below.

### Air Quality Summary of Impacts

Issue Number	Issue Topic	Project Direct Impact	Project Cumulative Impact	Impact After Mitigation
1	Air Quality Plans	Less Than Significant	Less Than Significant	Less Than Significant
2	Air Quality Violations	Potentially Significant	Potentially Significant	Significant and Unavoidable
3	Non-Attainment Criteria Pollutants	Potentially Significant	Potentially Significant	Significant and Unavoidable
4	Sensitive Receptors	Potentially Significant	Potentially Significant	Significant and Unavoidable
5	Objectionable Odors	Less Than Significant	Less Than Significant	Less Than Significant

### 2.3.1 Existing Conditions

Air pollution is a general term used to describe undesirable amounts of particulate or gaseous matter in the atmosphere. Air pollution can be natural or human-made. It occurs naturally during volcanic eruptions, forest fires, and dust storms and has been an occasional problem for humans over time. However, during the past one hundred years, air pollution created by humans has become a major, persistent public health problem.

#### 2.3.1.1 *Meteorology and Climate*

The unincorporated portion of the County of San Diego is located in the San Diego Air Basin (SDAB). The boundaries of the SDAB are contiguous with the political boundaries of San Diego County, and encompasses approximately 4,260 square miles. The County is divided by the Laguna Mountain Range which runs generally parallel to the coast approximately 45 miles inland and separates the coastal area from the desert area. The Laguna Mountains have peaks reaching over 6,000 feet, with the highest point in the County being Hot Springs Mountain rising to 6,533 feet. The coastal region is made up of coastal terraces that rise from the ocean into wide mesas that then transition into the Laguna foothills farther to the east. From the foothills, the topography gradually rises to the rugged Laguna Mountain range. On the east side, the mountains drop off rapidly to the Anza-Borrego Desert, which is characterized by several broken

mountain ranges with desert valleys in between. The Santa Ana Mountains are located north of the County along the coast of Orange County before turning east to join with the Laguna Mountains near the San Diego-Orange County border.

Given the diverse nature of the microclimates that exist in San Diego County, only a general discussion of the meteorological conditions that affect the entire air basin is provided in this section. The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. The combination of topography and climate influence air quality in the SDAB and are constraints to efforts to reduce air pollution in the region. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. This warm upper layer forms a cap over the cool marine layer and inhibits pollutants in the marine layer from dispersing away from the surface. In addition, light winds during the summer further limit ventilation. The SDAB experiences more days of sunlight than many other urban areas in the nation, and sunlight triggers the photochemical reactions that produce ozone (O<sub>3</sub>), a criteria pollutant as described in Section 2.3.1.3.

### **2.3.1.2 Measuring Air Quality**

Air quality at a given location can be described by units of concentration that are generally expressed in parts per million (ppm) or micrograms per cubic meter (µg/m<sup>3</sup>). The significance of a pollutant concentration is typically determined by comparing the concentration to ambient air quality standards (AAQS), described below. The standards represent the allowable atmospheric concentrations at which the public health and welfare are protected, and include a reasonable margin of safety to protect the more sensitive receptors in the population. Sensitive receptors are defined by air quality regulators as schools (preschool through 12<sup>th</sup> grade), hospitals, resident care facilities, daycare centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. The County of San Diego also includes residences in the definition of sensitive receptors. Table 2.3-1 describes the Air Quality Index Levels of Health Concern that are used to indicate current air quality conditions in an area.

### **2.3.1.3 Ambient Air Quality Standards**

Air quality is defined by ambient air concentrations of specific pollutants identified by the U.S. Environmental Protection Agency (EPA) to be of concern with respect to health and welfare of the general public. The EPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the EPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the EPA established both primary and secondary standards for several pollutants (called "criteria" pollutants). Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere.

The CAA allows states to adopt AAQS and other regulations provided they are at least as stringent as federal standards. The California Air Resources Board (CARB) has established the more stringent California Ambient Air Quality Standards (CAAQS) through the California CAA of

1988, and also has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide (H<sub>2</sub>S), vinyl chloride and visibility-reducing particles. Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be “nonattainment areas” for that pollutant.

### **Criteria Pollutants**

NAAQS have been established for the following seven pollutants: O<sub>3</sub>; Respirable Particulate Matter (PM<sub>10</sub>); Fine Particulate Matter (PM<sub>2.5</sub>); Carbon Monoxide (CO); Nitrogen Dioxide (NO<sub>2</sub>); Lead (Pb); and Sulfur Dioxide (SO<sub>2</sub>). These pollutants are commonly known as “criteria” pollutants because their standards are based on certain criteria regarding impacts to health and human welfare. In addition to the seven pollutant standards established by NAAQS, the CAAQS has also established pollutant standards for the following pollutants of concern: Sulfates (SO<sub>4</sub><sup>2-</sup>), H<sub>2</sub>S, Vinyl Chloride, and Visibility Reducing Particulates. Table 2.3-2 lists the NAAQS and CAAQS. Table 2.3-3 contains a list of typical sources of each of the criteria pollutants, its recognized health effects, and the typical controls applied for each pollutant.

O<sub>3</sub> is not emitted directly, but is formed in the atmosphere through complex chemical reactions between nitrogen oxides and hydrocarbons in the presence of sunlight. These substances are therefore considered as O<sub>3</sub> precursors. Hydrocarbon is a general term to describe compounds comprised of hydrogen and carbon atoms. Hydrocarbons are classified as to how photochemically reactive they are in the atmosphere, which provides a measure of their potential to contribute to ambient O<sub>3</sub> concentrations. Reactive organic gases (ROGs), also referred to as VOCs, is a term that is used to describe those hydrocarbons that are most chemically reactive, and are the primary pollutants of concern. The main sources of ROG in the SDAB include motor vehicle emissions and evaporative sources, including solvents and paints. Pesticide use, industrial processes, and non-highway mobile sources (such as construction equipment or aircraft) are also contributors to regional O<sub>3</sub> problems.

PM<sub>10</sub> and PM<sub>2.5</sub> emissions come from a broad range of sources. Sources of PM<sub>10</sub> include those emissions associated with on-road vehicles (including vehicle exhaust and re-entrained road dust), as well as natural wind-blown dust and activities that cause surface disturbance such as grading and agricultural operations. PM<sub>2.5</sub> is a result of direct emissions from these sources, but is also formed through complex secondary reactions in the atmosphere.

### **Toxic Air Contaminants (TACs)**

Table 2.3-3 also provides a general description of TACs, a category of pollutants for which specific federal or State AAQS have not been established. TACs include pollutants known or suspected to cause cancer or other adverse health effects such as respiratory irritation or reproductive effects. The regulatory structure for TACs is different than for criteria pollutants. Regulatory standards for most TACs consider the levels of public health risk from exposure, rather than specific concentrations of the pollutant.

#### **2.3.1.4 San Diego Air Basin Attainment Status**

The EPA designates all areas of the U.S. as having air quality better than the NAAQS (attainment), worse than the NAAQS (non-attainment), or “unclassified” in areas where insufficient data exists. An area or region is designated in attainment for a particular pollutant

when it is in compliance with an air quality standard for that pollutant. A non-attainment designation means that a primary NAAQS has been exceeded in a given area for a certain amount of time depending on the pollutant. Pollutants in an area are often designated as unclassified when there is a lack of data for the EPA to form a basis of attainment status. Just as the EPA designates air basins as being in “attainment” or “non-attainment” of the NAAQS, the CARB designates areas of the State as either in attainment or non-attainment of the CAAQS.

The San Diego Air Pollution Control District (APCD) operates and maintains ten monitoring stations located throughout the San Diego region. The purpose of these stations is to measure ambient concentrations of criteria pollutants and determine whether the ambient air quality meets the NAAQS and CAAQS. The stations are located in Alpine, Camp Pendleton, Chula Vista, Del Mar, El Cajon, Escondido, Kearny Mesa, Otay Mesa, and two in downtown San Diego. The location of these stations and annual average PM<sub>10</sub> emissions at each station are shown on Figure 2.3-1. Data from the ambient air monitoring stations are summarized in the APCD’s Annual Report. The most recently published report is the 2007 Annual Report, which provides information on the number of days exceeding the NAAQS and CAAQS for each pollutant at each monitoring station that the pollutant is measured, and the maximum ambient concentrations measured. The monitoring data for the SDAB is summarized in Table 2.3-4.

San Diego County is currently designated as an attainment area for CO, NO<sub>2</sub>, Pb, SO<sub>2</sub>, and SO<sub>4</sub><sup>2-</sup>. The SDAB has not violated the annual NAAQS for NO<sub>2</sub> since 1978 and has not violated the one-hour CAAQS for NO<sub>2</sub> since 1988; and has never recorded violations of the SO<sub>2</sub> standard. Federal standards for Pb have not been exceeded since 1980, and State standards for Pb have not been exceeded since 1987. The SDAB was once a non-attainment area for CO, but has not violated the CO standard since 1990. When an area is reclassified from non-attainment to attainment, it becomes a “maintenance” area, and a maintenance plan must be prepared and implemented. The SDAB is a maintenance area for CO and is included in the California State Implementation Plan (SIP) for CO, revised in 2004, which documents how ten areas of the State, including the SDAB, will continue to maintain compliance with the CO standards.

The county is a non-attainment area for O<sub>3</sub> and PM<sub>10</sub>, and PM<sub>2.5</sub>. As identified in Table 2.3-2, the federal 8-hour O<sub>3</sub> standard is 0.075 ppm (147 µg/m<sup>3</sup>). There is no 1-hour federal O<sub>3</sub> standard. The State 1-hour O<sub>3</sub> standard is 0.09 ppm (180 µg/m<sup>3</sup>) and the 8-hour standard is 0.070 ppm (137 µg/m<sup>3</sup>). Over the past several years, San Diego County has experienced substantial improvement in ambient O<sub>3</sub> levels according to data collected at the monitoring stations. The number of days above the State 1-hour standard has decreased from 139 days in 1990 to 16 days in 2005. According to the APCD’s 2007 Annual Report, San Diego County reached a major milestone when it was redesignated in 2003 as an attainment area for the federal 1-hour O<sub>3</sub> standard prior to that standard being revoked in 2005. The region still has not met the more restrictive one-hour CAAQS for O<sub>3</sub>, or the federal or State 8-hour O<sub>3</sub> standards. O<sub>3</sub> concentrations have declined significantly during the past 20 years, along with the number of days each year that the air basin exceeds the CAAQS and NAAQS. Prior to the wildfires that occurred in October 2007, O<sub>3</sub> levels declined during summer 2007 except for one very warm Saturday during Labor Day weekend in Alpine. On this day, September 1, 2007, O<sub>3</sub> levels reached 13.4 parts per hundred million (pphm), which was the highest concentration recorded in six years. A health advisory is issued when O<sub>3</sub> levels reach 15 pphm. The last health advisory for O<sub>3</sub> occurred in July 1998.

With the exception of the wildfires that occurred in October 2003 and 2007, particulate matter levels in the SDAB have also improved. The annual average has declined approximately 25 percent since 1986, the earliest year with comparable particulate measurements. This is in part due to reductions in emissions of O<sub>3</sub> precursors, which also contribute to the formation of fine particulates.

The federal 24-hour standard for PM<sub>10</sub> is 150 µg/m<sup>3</sup>. The State 24-hour standard is 50 µg/m<sup>3</sup> and the annual arithmetic mean standard is 20 µg/m<sup>3</sup>. The federal standard for PM<sub>10</sub> has not been exceeded enough times for the SDAB to be considered in non-attainment. However, the stricter State standards for PM<sub>10</sub> have not been met in San Diego County or in most other parts of California; therefore, these areas are considered to be in non-attainment for the State PM<sub>10</sub> standards.

The EPA created a new standard targeting particle matter 2.5 microns or less in diameter in 1997 based on medical studies showing the tiny particles could lodge deeply into the lungs. The federal 24-hour standard for PM<sub>2.5</sub> is 35 µg/m<sup>3</sup> and the annual arithmetic mean standard is 15 µg/m<sup>3</sup>. There is no separate State 24-hour standard, but the State annual arithmetic mean standard is 12 µg/m<sup>3</sup>. In 2005, the EPA designated San Diego County as an attainment area for the federal PM<sub>2.5</sub> standard. However, during this same time, the County was in non-attainment for the State PM<sub>2.5</sub> standard.

A complete listing of the current attainment status by pollutant for San Diego County is shown on Table 2.3-5. Table 2.3-6 provides a list of the primary source categories of emissions that contribute to air pollution. As identified in this table, mobile, stationary, area-wide and natural sources are the major source of air pollution in San Diego County.

### **2.3.1.5 Regional Air Quality Strategies**

As discussed above, air quality in San Diego County does not meet State and federal health standards for O<sub>3</sub> or the State standard for particulate matter. On-road motor vehicles (car, trucks and buses) are responsible for approximately 60 percent of regional smog-forming emissions. However, off-road sources such as utility engines, construction and farm equipment, ships, planes, trains, and off-highway recreational vehicles are also significant sources.

Since 1976, vehicle travel within the County has grown faster than the rate of population growth. This trend is observed nationally and attributed to several factors including population demographics, more women in the workforce, travel preferences, tax policies, and land markets. The outcome of these factors is the strict separation of land uses seen in most suburbs, which result in more vehicle trips and longer trip distances. Additionally, during the last 60 years, new land uses have been arranged in a low- density pattern, fostering almost complete dependence on automobiles for transportation. This dependence has resulted in traffic congestion and air quality problems throughout the County.

One of the only remaining approaches for large emissions reductions that the government has is to focus on measures that would reduce the number of vehicle trips. The State and federal governments have recognized the problems caused by vehicular emissions and have placed stronger emphasis on programs to change travel behavior. For example, since 1991, more State and federal funding has been designated for pedestrian and bicycle facilities. States have been given discretion to use certain federal highway funds for pedestrian, bicycle, and transit

facilities. The 1990 CAA Amendments required employer-based ridesharing, though these were later repealed as cost-ineffective. At the local level, municipal governments, acting through SANDAG, have created a regional system to address eroding quality of life factors including air quality and traffic congestion.

While emissions levels of criteria pollutants in the SDAB have been decreasing overall since 1990 (with the exception of particulate matter), as described below, air pollutants still have the potential to result in human health impacts to sensitive receptors. For instance, even with the best available control technology (BACT), some projects that are sited very close to homes, schools, and other public places can result in elevated air pollution exposures. The reverse is also true. Siting a new school or home too close to an existing source of air pollution can pose a public health risk.

### **2.3.1.6 Toxic Air Contaminants in the San Diego Air Basin**

As described above, TACs can have serious adverse health effects and are controlled under a different regulatory process than criteria pollutants. Of particular concern are cancer-causing pollutants. Because no safe level of emissions can be established for TACs region-wide, the regulation of TACs is based on the levels of cancer risk and other health risks posed to persons who may be exposed.

Based on 2006 estimates from the APCD, inventoried stationary sources of TACs emit more than 2.4 million pounds of TACs annually. These sources included industrial, commercial, and governmental facilities. Although TAC emissions from stationary sources in San Diego County have been reduced by approximately 82 percent since 1989, large amounts of toxic compounds are still emitted into the air from a wide variety of sources including motor vehicles, industrial facilities, household products, area sources, and natural processes. Motor vehicles and natural sources emit more than 26 million pounds per year (APCD 2007a). Prioritizing and reducing these emissions further will require a continued, cooperative effort by the public, industry, environmental groups, CARB, and APCD.

Local emissions of TACs from industrial sources have decreased approximately 82 percent since 1989. The APCD monitors TACs at two sites in the SDAB: El Cajon and Chula Vista. Based on data from these monitoring stations, incremental cancer risk from exposure to TACs has steadily decreased since monitoring began in 1989.

Diesel particulates are also emitted from mobile sources such as traffic and temporary construction equipment. Diesel particulates contribute significantly to ambient cancer risk levels. Although no method exists to directly monitor diesel particulate concentrations, CARB has suggested methods that can be used to estimate diesel concentrations. Based on CARB estimates, diesel particulate emissions could add an additional 420 in one million to the ambient health risk levels in San Diego County. CARB estimates that health risk from diesel particulate has decreased by approximately 50 percent between 1990 and 2006 (APCD 2007a).

APCD continues to work with the operators of regulated stationary sources to produce more comprehensive and accurate emissions inventories. With the release of CARB's health risk assessment (HRA) software, the APCD is able to quantitatively evaluate HRAs and continues to modify priorities based on the recently approved inventories. Ongoing implementation of toxic air contaminant control programs such as the Air Toxics "Hot Spots" Program, District Rules

1200 (Toxic Air Contaminants - New Source Review) and 1210 (Toxic Air Contaminant Public Health Risks - Public Notification and Risk Reduction) serve to reduce local public health risks associated with emissions of TACs. Those efforts also improve information on levels of exposure and risk as well as identify the compounds, processes, and facilities that are potentially causing significant risks. Additionally, the APCD continues to implement State diesel engine air toxic control measures which significantly reduce public risk from exposure to diesel engine particulate matter. Measures to reduce vehicle trips and miles traveled reduce toxic emissions which result from the burning gasoline. Finally, measures to reduce emissions of volatile organic compounds (VOCs) as O<sub>3</sub> precursors also decrease emissions of toxic VOCs.

### **2.3.1.7 Greenhouse Gases (GHG)**

Gases that trap heat in the atmosphere come from both natural and human activities. GHG emissions produced from natural sources serve as an agent to warm the Earth's surface. Human-produced GHG emissions (i.e., emissions from electricity production and vehicles) have also been shown to elevate the concentration of emissions levels in the atmosphere above normal standards. These gases have varying atmospheric lifetimes in which they serve as a potential contributor to increased heat insulation and poor air quality. Examples of GHGs include water vapor, carbon dioxide, methane, nitrous oxides (NO<sub>x</sub>), chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, O<sub>3</sub>, and aerosols.

California has produced legislation that has sought to cut GHG emissions throughout the State. California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings allow for the incorporation of new energy efficiency technologies and methods to minimize usage in buildings. Governor Arnold Schwarzenegger's Executive Order S-3-05 seeks to ultimately reduce GHG emissions 80 percent below 1990 levels by 2050. In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. By focusing on reducing GHG in California, Assembly Bill (AB) 32 requires CARB to regulate statewide air quality through adopting statewide regulations to achieve GHG equivalent to levels in 1990 by 2020.

The County of San Diego has taken the initiative to regulate sources of air pollution within its jurisdiction that are sources of GHG emissions through implementation of AB 32 and SB 375. AB 32 requires the CARB to prepare a Scoping Plan to achieve reductions in GHG emissions in California. SB 375 requires metropolitan planning organizations (MPOs) to include strategies for sustainable communities, as defined, in their regional transportation plans (RTPs) for the purpose of reducing greenhouse gas emissions, to align planning for transportation and housing, and create specified incentives for the implementation of the strategies. As a part of SB 375, CARB is required to establish GHG emission reduction targets for each region (as opposed to individual cities or households) and to review the region's determination that its plan achieves those targets. The County's compliance with AB 32 is discussed in detail in Section 2.17.3.1, Issue 1: Compliance with AB 32. The County will be working with SANDAG in developing the new RTP expected to be complete by 2011, to ensure the goals of SB 375 are met for our region.

## **2.3.2 Regulatory Framework**

### **2.3.2.1 Federal**

#### **Federal Clean Air Act (CAA)**

The CAA was enacted in 1970 and amended in 1977 and 1990 [42 U.S.C. 7506(c)] for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. The CAA, in Section 107(d), provides the designations "non-attainment," "attainment," and "unclassifiable" to describe the long-term, ambient air quality of a particular region.

In 1971, in order to achieve the purposes of Section 109 of the CAA, the EPA developed primary and secondary national AAQS, shown in Table 2.3-2. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Seven pollutants of primary concern ("criteria pollutants") were designated: O<sub>3</sub>, CO, SO<sub>2</sub>, NO<sub>2</sub>, Pb, PM<sub>2.5</sub>, and PM<sub>10</sub>. If an air basin is not in attainment of federal standards for O<sub>3</sub>, the basin is classified as marginal, moderate, serious, severe, or extreme. In 2003, the SDAB was classified as an attainment area for the one-hour NAAQS for O<sub>3</sub>. In 2004, the SDAB was designated as a "basic" non-attainment area for the 8-hour NAAQS federal standard for O<sub>3</sub>.

#### **National Emissions Standards for Hazardous Air Pollutants (NESHAPS) Program**

Under federal law, 188 substances are listed as Hazardous Air Pollutants (HAPs). Major sources of specific HAPs are subject to the requirements of the NESHAPS program. The EPA is establishing regulatory schemes for specific source categories, and requires implementation of Maximum Achievable Control Technologies (MACTs) for major sources of HAPs in each source category. State law has established the framework for California's toxic air contaminant identification and control program, which is generally more stringent than the federal program, and is aimed at HAPs that are a problem in California. The State has formally identified more than 200 substances as TACs, and is adopting appropriate control measures for each. Once adopted at the State level, each district will be required to adopt a measure that is equally or more stringent.

#### **New Source Review (NSR) and Prevention of Significant Deterioration (PSD)**

Federal and State law requires that air districts in non-attainment areas conduct NSR prior to permitting "major" sources, or modifying existing "major" sources. The purpose of NSR is to allow continued industrial growth in non-attainment areas and, at the same time, ensure that new and modified sources do not aggravate existing air quality problems and/or negate emissions reductions from other sources.

The SIP for the SDAB also requires non-major sources to undergo NSR. Under NSR, all existing and new stationary sources of emissions are required to conduct a BACT analysis to evaluate the feasibility of implementing emission control devices. In some instances, new sources have to offset their own emission increases using Emission Reduction Credits (ERCs). In general, technological feasibility, economic, environmental, and energy issues must be taken into account when determining the applicable appropriate control technology.



In addition, Rule 20 provides for the protection of Class I Airsheds. Class I Airsheds are federal protected lands designated under Title I, Part C of the CAA. The object of the PSD regulations is to prevent deterioration of air quality within attainment areas. Federal PSD regulations state that major sources of air pollution may not impact a Class I Airshed within 100 km of it. As of 2008, there were six Class I Airsheds within 100 km of San Diego County, with only one, the Agua Tibia National Wilderness Area, within the boundaries San Diego County.

### **2.3.2.2 State**

#### **California Clean Air Act (CAA)**

The CAA allows states to adopt AAQS and other regulations provided they are at least as stringent as federal standards. The CARB has established the more stringent CAAQS for the criteria pollutants through the California CAA of 1988, and also has established CAAQS for additional pollutants.

The CARB is the State regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The CARB is responsible for the development, adoption, and enforcement of the State's motor vehicle emissions program, as well as the adoption of the CAAQS. The CARB also reviews operations and programs of the local air districts, and requires each air district with jurisdiction over a nonattainment area to develop its own strategy for achieving the NAAQS and CAAQS. The local air district has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations.

California Health and Safety Code section 39607(e) requires the CARB to establish and periodically review area designation criteria. These designation criteria provide the basis for the designation of areas in the State as "attainment," "nonattainment," or "unclassified" for the CAAQS. On April 15, 2004, the SDAB was designated a basic nonattainment area for the 8-hour NAAQS for O<sub>3</sub>. The SDAB is currently classified as a nonattainment area under the CAAQS for O<sub>3</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. Table 2.3-5 summarizes the attainment classification for each pollutant in the SDAB.

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) are also responsible for the determination if a substance should be formally identified as a TAC in California. Several of the components of diesel engine exhaust, including the particulate emissions from diesel-fueled engines, have been listed by CARB as TACs, or are recognized by CARB or OEHHA as toxic air pollutants.

#### **California State Implementation Plan (SIP)**

The CAA (and its subsequent amendments) required each State to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA, and will achieve air quality goals when implemented. The CARB adopts the California SIP. The APCD has developed the

SDAB's input to the SIP, which is required under the federal CAA for areas that are out of attainment of air quality standards. The SIP includes the APCD's plans and control measures for attaining the O<sub>3</sub> NAAQS. The SIP is also updated on a triennial basis. The CARB adopted its 2007 State Strategy for California's 2007 SIP on September 27, 2007. The State Strategy was submitted to the EPA on November 16, 2007 for their review and approval. As part of the State Strategy, the APCD developed its Eight-Hour O<sub>3</sub> Attainment Plan for San Diego County (APCD 2007c), which provides plans for attaining and maintaining the 8-hour NAAQS for O<sub>3</sub>. This plan accommodates emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the EPA and the CARB, and the emissions and reduction strategies related to mobile sources are considered in the SIP. The SIP does not address impacts from sources of PM<sub>10</sub> or PM<sub>2.5</sub>, although it does include control measures (rules) to regulate stationary source emissions of those pollutants. Additionally, the 2004 Revisions to the California SIP for CO were adopted on July 22, 2004. The original SIP for CO was adopted in 1996. The SIP for CO demonstrates how the SDAB would continue to maintain compliance with federal CO standards.

**Assembly Bill 32, the California Climate Solutions Act of 2006 (Health and Safety Code Section 38500 et seq.)**

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. In general, AB 32 directs the CARB to do the following:

- In October 2007, the CARB publicly made available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit;
- On November 16, 2007, the CARB made publicly available the staff report California 1990 GHG Emissions Level and 2020 Emissions Limit that determined the statewide levels of GHG emissions in 1990, and recommended 427 million metric tonnes of CO<sub>2</sub> as the total statewide aggregated GHG 1990 emissions level and 2020 emissions limit;
- On or before January 1, 2010, the CARB shall adopt regulations to implement the early action GHG emission reduction measures;
- On or before January 1, 2011, the CARB shall adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and nonmonetary incentives that reduce GHG emissions from any sources or categories of sources that CARB finds necessary to achieve the statewide GHG emissions limit; and
- The CARB shall monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

AB 32 also takes into account the relative contribution of each source or source category to protect adverse impacts on small businesses and others by requiring the CARB to recommend a de minimis threshold of GHG emissions below which emissions reduction requirements would not apply. AB 32 also allows the Governor to adjust the deadlines mentioned above for

individual regulations or the entire State to the earliest feasible date in the event of extraordinary circumstances, catastrophic events, or threat of significant economic harm.

### **Executive Order #S-3-05**

Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions by 2050. Executive Order S-3-05 also calls for the California EPA (CalEPA) to prepare biennial science reports on the potential impact of continued global warming on certain sectors of the California economy. The first of these reports, *Our Changing Climate: Assessing Risks to California*, and its supporting document, *Scenarios of Climate Change in California: An Overview* (herein referred to as the Climate Scenarios report), was published by the California Climate Change Center in 2006.

### **California Air Toxics “Hot Spots” Information and Assessment Act (AB 2588)**

The California Air Toxics “Hot Spots” Information and Assessment Act (AB 2588) is a State-wide program enacted in 1987. AB 2588 requires hundreds of facilities in San Diego County to quantify the emissions of TACs, and in some cases conduct a HRA, and notify the public, while developing risk reduction strategies. In San Diego County, APCD Rule 1210 implements the public notification and risk reduction requirements of the State Air Toxics “Hot Spots” Act, and requires facilities to reduce risks to acceptable levels within five years. In addition, Rule 1200 establishes acceptable risk levels, and emission control requirements for new and modified facilities that may emit additional TACs.

Typically, land development projects generate diesel emissions from construction vehicles during the construction phase, as well as some diesel emissions from small trucks during the operational phase. Diesel exhaust is mainly composed of particulate matter and gases, which contain potential cancer-causing substances. Emissions from diesel engines currently include over 40 substances that are listed by EPA as HAPs and by the CARB as TACs. On August 27, 1998, the CARB identified particulate matter in diesel exhaust as a toxic air contaminant, based on data linking diesel particulate emissions to increased risks of lung cancer and respiratory disease.

In September 2000, CARB adopted a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce diesel particulate matter emissions and the associated health risk by 75 percent in 2010 and by 85 percent by 2020. The plan identifies 14 measures that CARB will implement over the next several years, and diesel engines in both on-road and off-road mobile sources are already regulated by the EPA.

### **2.3.2.3 Local**

#### **San Diego County Regional Air Quality Strategy (RAQS)**

The APCD is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County. The APCD and the SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the AAQS in the SDAB. The strategy, called the San Diego County RAQS, outlines APCD’s plans and control measures

specifically designed to attain the CAAQS for O<sub>3</sub>. The RAQS was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, and most recently in 2004. The APCD is currently developing its update to the RAQS, though as of January 2009 a draft has not been released for review. The RAQS outlines APCD's plans and control measures designed to attain the State air quality standards for O<sub>3</sub>. Like the SIP, this plan accommodates emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Emissions and reduction strategies related to mobile sources are also considered in the RAQS. As described above in Section 2.3.2.2, the APCD has also developed the air basin's input to the SIP, which is required under the federal CAA for areas that are out of attainment of air quality standards.

The RAQS and the SIP do not address impacts from sources of PM<sub>10</sub> or PM<sub>2.5</sub>, although the SIP does include control measures (rules) to regulate stationary source emissions of those pollutants. However, in addition to the RAQS and SIP, the APCD has developed its Measures to Reduce Particulate Matter in San Diego County (APCD 2005). These measures address both directly emitted particulate matter and emissions of precursors to particulate matter, including oxides of nitrogen (NO<sub>x</sub>), oxides of sulfur (SO<sub>x</sub>), VOCs, and ammonia.

The RAQS relies on information from CARB and SANDAG, including mobile (vehicular) and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. Since APCD only regulates non-mobile (stationary and some area) sources, only the stationary and area source control measures identified in the RAQS and SIP have been developed by the APCD into regulations. The rules are developed to set limits on the amount of emissions from various types of sources and/or require specific emission control technologies (ECTs). Following rule adoption, a permit system is used to require air pollution controls on new and modified stationary sources and to ensure compliance with regulations by prescribing specific operating conditions, monitoring, record keeping, reporting, and emissions testing. Stationary sources are inspected by APCD on a regular basis to ensure compliance with all emissions, maintenance and operating requirements.

The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of the County's General Plan. The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the SDAB. The SIP also includes rules and regulations that have been adopted by the APCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for O<sub>3</sub>.

### **APCD Rules and Regulations**

As discussed above, State law provides that local air districts such as the APCD have primary responsibility for controlling emissions from non-mobile (stationary) sources.

The stationary source control measures identified in the RAQS and SIP have been developed by the APCD into regulations through a formal rulemaking process. Rules are developed to set limits on the amount of emissions from various types of sources and/or by requiring specific

ECTs. Following rule adoption, a permit system is used to impose controls on new and modified stationary sources and to ensure compliance with regulations by prescribing specific operating conditions or equipment on a source.

It is difficult to ensure that new or modified sources do not interfere with attainment or maintenance of the established air quality standards for O<sub>3</sub>. Since O<sub>3</sub> is a secondary pollutant (i.e., O<sub>3</sub> is not directly emitted, but results from complex chemical reactions in the atmosphere from precursor pollutants) control of the precursors is required. Therefore, control of emissions of VOCs and NO<sub>x</sub>, the O<sub>3</sub> precursors, is essential.

Additionally, the APCD is currently developing Rule 55, the Fugitive Dust Rule. This regulation would prohibit dust impacts from construction impacts. The rule would not specify particular measures to be implemented to reduce impacts; it would only define impacts that must be avoided.

**County of San Diego Code of Regulatory Ordinances, Title 8, Division 7, Chapter 4, Section 87.428, Dust Control Measures**

County Code Section 87.428, Dust Control Measures, requires all clearing and grading to be carried out with dust control measures adequate to prevent creation of a nuisance to persons or public or private property. Clearing, grading or improvement plans shall require that measures such as the following be undertaken to achieve this result: watering, application of surfactants, shrouding, control of vehicle speeds, paving of access areas, or other operational or technological measures to reduce dispersion of dust. These project design measures are to be incorporated into all earth disturbing activities to minimize the amount of particulate matter emissions from construction.

### **2.3.3 Analysis of Project Impacts and Determination of Significance**

#### **2.3.3.1 Issue 1: Air Quality Plans**

**Guidelines for Determination of Significance**

Based on Appendix G of the CEQA Guidelines, and the County of San Diego Guidelines for Determining Significance, Air Quality, the proposed General Plan Update would have a significant impact if it would conflict with or obstruct implementation of the RAQS, applicable portions of the SIP, and/or any local air quality plans.

**Impact Analysis**

The RAQS relies on information from CARB and SANDAG, including projected growth in the County, and mobile, area source and all other source emissions, in order to project future emissions and determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County. As such, projects that propose development that is consistent with the growth anticipated by the city and County general plans would be consistent with the RAQS. In the event that a project would propose development which is less dense than was anticipated

within the applicable general plan, the project would be consistent with the RAQS. If a project proposes development that is greater than that anticipated in regional planning documents, the project would be in conflict with the RAQS and SIP because this growth would result in additional emissions not accounted for during preparation of the RAQS and SIP, and might have a potentially significant impact on air quality.

The current RAQS and SIP are based on projections for residential, commercial, industrial, and recreational land uses contained in the existing General Plan. The proposed General Plan Update would accommodate less growth at build-out than the existing General Plan, as described in Chapter 4.0, Project Alternatives. The development capacity of the existing General Plan would result in more future dwelling units (119,033 additional units) than the proposed General Plan Update (71,540 additional units). However, future development consistent with the land use designations identified in the General Plan Update would result in increased development beyond existing levels currently on the ground. Build-out of development that would be accommodated under General Plan Update provides the basis for emission estimates that would be included in the future RAQS and SIP attainment demonstrations for nonattainment pollutants.

Based on the requirements for consistency with emission control strategies in the RAQS and SIP, the General Plan Update would not conflict with or obstruct the implementation of the San Diego RAQS and/or applicable portions of the SIP.

### **Federal, State, and Local Regulations and Existing Regulatory Processes**

The RAQS focuses on attainment of the CAAQS for O<sub>3</sub>, and addresses emission reduction measures designed to reduce emissions of O<sub>3</sub> precursors (VOCs and NO<sub>x</sub>) to meet the California CAA goal of reducing O<sub>3</sub> precursor emissions by 5 percent per year or, if that goal is not achievable, to develop an expeditious schedule for adopting every feasible control measure under the APCD's purview. Specific VOC emission reduction strategies included in the RAQS that apply to the General Plan Update are listed in Table 2.3-7. Specific NO<sub>x</sub> emission reduction strategies included in the RAQS that apply to future development consistent with the General Plan Update are listed in Table 2.3-8. Additional specific control measures for VOC and NO<sub>x</sub> emissions that apply to specific industrial sources are not included in Tables 2.3-7 or 2.3-8, but compliance with these rules must be demonstrated through permitting requirements with the APCD. In addition to these measures, the RAQS adopts strategies to reduce emissions from other categories of sources such as on-road vehicles, lawnmowers, and backup generators. The SIP provides plans for attaining and maintaining the 8-hour NAAQS for O<sub>3</sub> and demonstrates how the SDAB would continue to maintain compliance with federal CO standards. This plan accommodates emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the EPA and the CARB, and the emissions and reduction strategies related to mobile sources are considered in the SIP. Future development occurring under the General Plan Update would be required to be consistent with the emission reduction strategies in the RAQS and SIP in order to comply with APCD rules and regulations and obtain required APCD permits. All future development projects under the General Plan Update would be required to demonstrate consistency with the RAQS and the SIP during the environmental review process and identify mitigation measures for any potentially significant conflicts in order for the project to be approved by the County.

In addition to the RAQS and SIP, the General Plan Update is required to comply with local air quality plans. The APCD's Measures to Reduce Particulate Matter in San Diego County (APCD 2005) identifies fugitive dust as the major source of directly emitted particulate matter in the County, with mobile sources and residential wood combustion as minor contributors. Data on PM<sub>2.5</sub> source apportionment indicates that the main contributors to PM<sub>2.5</sub> in the County are combustion organic carbon, and ammonium sulfate and ammonium nitrate from combustion sources. The main contributors to PM<sub>10</sub> include resuspended soil and road dust, such as from unpaved and paved roads, construction and demolition sites, and mineral extraction and processing. Based on an evaluation of control measures recommended by the CARB to reduce particulate matter emissions, the APCD will adopt Rule 55, which will require control of fugitive dust emissions. Rule 55 prohibits construction or demolition activity that would discharge into the atmosphere, beyond the property line, dust emissions of 10 percent opacity or greater for a period of 3 minutes in any 60-minute period. Rule 55 also requires minimization of visible roadway dust as a result of active operations that generate fugitive dust. DPLU implements fugitive dust control measures through County Code Section 87.428. Should Rule 55 be adopted by the APCD, the County General Plan would be consistent with the adopted measure because future construction would be required by DPLU to comply with the dust control measures in order to obtain a construction permit.

### **Proposed General Plan Update Goals and Policies**

The General Plan Update Conservation and Open Space Element includes Goal COS-14 regarding land use development which implements policies designed to reduce emissions of criteria pollutants while protecting public health. The policies that support this goal are Policies COS-14.1 through COS-14.13. These policies include requirements for new development design and construction methods to minimize impacts to air quality; encourage future development to reduce vehicular trips by utilizing compact regional and community-level development patterns; encourage new development to reduce air pollution by incorporating a mixture of uses within villages and rural town centers that encourage people to walk, bicycle, or use public transit; minimize land use conflicts that expose people to significant amounts of air pollution; support transportation management programs that reduce the use of single-occupancy vehicles; and encourage the use of low emission vehicles and equipment to improve air quality and reduce GHG emissions.

### **Summary**

The proposed General Plan Update includes land use designations that would allow development of residential, commercial, industrial, and other land uses in the unincorporated County. Future development would be required to demonstrate compliance with the strategies and measures adopted as part of the RAQS and SIP during the County's environmental review process, as well as with the requirements of the County and/or APCD to reduce emissions of particulate matter. Based on the requirements for consistency with emission control strategies in the RAQS and SIP, the General Plan Update would not conflict with or obstruct the implementation of the San Diego RAQS and/or applicable portions of the SIP. Implementation of the General Plan Update would result in a less than significant impact associated with conflicts to applicable air quality plans.

### **2.3.3.2 Issue 2: Air Quality Violations**

#### **Guidelines for Determination of Significance**

Based on Appendix G of the CEQA Guidelines, and the County of San Diego Guidelines for Determining Significance, Air Quality, the proposed General Plan Update would have a significant impact if it would exceed the quantitative screening-level thresholds (SLTs) for attainment pollutants (NO<sub>2</sub>, SO<sub>2</sub>, and CO), and would result in a significant impact if they exceed the SLTs for nonattainment pollutants (O<sub>3</sub> precursors and particulate matter). Specifically, the proposed project would result in a significant impact if it would result in:

- a. Emissions that exceed 250 pounds per day of NO<sub>x</sub>, or 75 pounds per day of VOCs;
- b. Emissions of CO that when totaled with the ambient concentrations will exceed a 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm;
- c. Emissions of PM<sub>2.5</sub> that will exceed 55 pounds per day; or
- d. Emissions of PM<sub>10</sub> that exceed 100 pounds per day and increase the ambient PM<sub>10</sub> concentration by 5 µg/m<sup>3</sup> or greater at the maximum exposed individual.

#### **Impact Analysis**

##### **Emissions of Nonattainment Pollutants**

The air pollutants of greatest concern in San Diego County are O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> because of the current nonattainment status for the NAAQS (O<sub>3</sub>) and CAAQS (O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>) for these pollutants. Emission sources for these pollutants are categorized and identified in the CARB's Almanac and detailed emissions estimates for each source category are quantified in the CARB's emission inventories for existing and future years (CARB 2009). General source categories accounted for in the emission inventories include the following:

- Stationary sources: Fuel combustion, waste disposal processes, cleaning and surface coating processes, petroleum production and marketing, and industrial processes.
- Area-wide sources: Solvent evaporation sources from the use of consumer products and architectural coatings, and miscellaneous processes such as residential fuel combustion and fugitive dust generation
- Mobile sources: On-road and off-road vehicles

Stationary source emissions are reported to the APCD and are not anticipated to change unless new stationary sources are constructed. However, if new stationary sources were constructed, they would be subject to the APCD's requirements for permitting and must demonstrate that they will not cause or contribute to a violation of an air quality standard. Therefore, future emissions from stationary sources developed under the General Plan Update were not calculated because these sources would be required to demonstrate that they would not contribute to or violate any air quality standards in order to obtain required permits from the APCD. The largest stationary sources within San Diego County include the South Bay Power Plant, the Cabrillo Power Plant, and the National Steel and Shipbuilding Company. All are located in the incorporated areas of the County. Certain land uses proposed under the General Plan Update would be more likely to involve the development of stationary sources. These



include limited impact industrial, medium impact industrial, high impact industrial, neighborhood commercial, general commercial, and rural commercial. Future facility development of stationary sources, allowable under the land uses proposed by the General Plan Update, would be required to conduct environmental review pursuant to CEQA prior to approval. CEQA requires proposed projects to provide detailed information on the potentially significant environmental effects they are likely to have, list ways in which the significant environmental effects would be minimized, and identify alternatives that would reduce or avoid the significant impacts identified for the project. To the extent feasible, significant environmental impacts would be mitigated to below a level of significance, consistent with CEQA. However, some environmental impacts associated with the development of stationary source facilities may be significant and unavoidable, such as impacts associated with air quality, noise, hydrology/water quality, and/or biological resources.

Estimates of development associated with the proposed General Plan Update are based on the forecasted build-out of the General Plan Update land use designations. The County is anticipating the following growth to occur under the General Plan Update:

- Approximately 71,540 new housing units, of which approximately 52 percent would be village residential units, 33 percent would be semi-rural residential units, and 15 percent would be rural residential units.
- Approximately 176,478,135 square feet (sf) of commercial development.
- Approximately 47,760,463 sf of light and medium impact industrial development.
- Approximately 12,286,226 sf of heavy impact industrial development.
- Approximately 8,322,180 sf of office/professional development.
- Approximately 235,568,900 sf of public and semi-public development.
- Approximately 4,899,712 sf of development on tribal lands. Tribal land development is mainly associated with tribal gaming development with supporting facilities.

Emissions from area-wide sources were calculated using the URBEMIS Model, Version 9.2.4. SANDAG used the EMFAC2007 model to generate estimates of on-road vehicle emissions as a result of the proposed General Plan Update. The EMFAC2007 model provides area-wide estimates based on estimated vehicle miles traveled and vehicle types. Table 2.3-9 presents a summary of the area source and vehicular emissions associated with the General Plan Update. Emissions associated with implementation of the General Plan Update would exceed the SLTs for PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and VOCs. Therefore, future growth accommodated by the General Plan Update would result in a potentially significant impact associated with air quality standards.

Areas that experience traffic congestion may experience the formation of locally high concentrations of CO, known as CO “hot spots.” To evaluate the potential for growth anticipated under in the General Plan Update to result in CO “hot spots,” a review of the CO “hot spots” analysis conducted by the South Coast Air Quality Management District (SCAQMD) as part of their request to the USEPA for redesignation as a CO attainment area is hereby incorporated by reference (SCAQMD 2003). SCAQMD is the smog control agency for all or portions of Los Angeles, Orange, Riverside and San Bernardino Counties. The SCAQMD CO “hot spots” analysis is located within Appendix V of the South Coast Air Basin (SCAB) 2003 Air Quality Management Plan, available at <http://www.aqmd.gov> and summarized below.

In support of its redesignation request, the South Coast Air Quality Management District (SCAQMD 2003) modeled the four most congested intersections identified in the air basin to demonstrate that no exceedances of the CO standard would occur. The four selected intersections, and the reasons for their inclusion in the CO “hot spots” analysis, are listed below:

1. **Long Beach Boulevard and Imperial Highway.** This location was selected due to its proximity to the Lynwood monitoring station, which consistently records the highest 8-hour CO concentrations in the South Coast Air Basin (SCAB) each year.
2. **Wilshire Boulevard and Veteran Avenue.** This is considered to be the most congested intersection in Los Angeles County, with an average daily traffic volume of 100,000 vehicles/day.
3. **Highland Avenue and Sunset Boulevard.** This is one of the most congested intersections in the City of Los Angeles.
4. **Century Boulevard and La Cienega Boulevard.** This is one of the most congested intersections in the City of Los Angeles.

The analysis demonstrated that even the most congested intersections in the SCAB would not experience a CO “hot spot.” The CO “hot spots” analysis for these intersections indicated that the average 1-hour CO concentrations predicted by the models would be no more than 7.7 ppm, which is 38.5 percent of the 1-hour CO CAAQS of 20 ppm. No monitoring station located within the SDAB has experienced an exceedance of either the 1-hour or 8-hour CO standard in more than 10 years. As shown in Appendix G of this EIR, the County of San Diego Traffic and Circulation Assessment, none of the roadways/segments identified as deficient facilities (i.e., LOS E or F) for the cumulative scenario (i.e., worst case traffic) in the assessment have an ADT greater than 100,000, which was the amount of traffic anticipated for the intersection of Wilshire Boulevard and Veteran Avenue (the most congested intersection in Los Angeles County). The CO emissions modeled in the CO “hot spots” analysis for the SCAB included emissions for 1997 and emissions for 2002. As shown in Table 4-8 (pg. V-4-25) of Appendix V of the SCAB South Coast Air Basin 2003 Air Quality Management Plan, both running exhaust emission factors and idling emission factors predicted by the EMFAC model decreased from 1997 through 2002. CO emission factors decreased from a maximum of 13.13 grams CO/mile in 1997 to a maximum of 7.98 grams CO/mile in 2002 for running exhaust, and decreased from a maximum of 2.43 grams CO/idle-hour in 1997 to 1.30 grams CO/idle-hour for idling exhaust. These decreases in emission factors reflect phase-out of older vehicles and increasingly stringent emission standards implemented by the CARB that are taken into account in the EMFAC Model.

Emission factors for San Diego County from the EMFAC2007 Model are included in Appendix B of this EIR. The factors indicate that running exhaust emissions of CO would be less than 6.708 grams CO/mile in 2010 (based on an average speed of 5 mph), and the EMFAC2007 Model indicates that emissions of CO would decrease in future years. Because emissions would be lower and traffic projections for the General Plan Update do not approach the levels modeled by the SCAQMD in their attainment demonstration, CO concentrations would be lower within San Diego County. Therefore, no exceedances of the CO standard would be predicted to occur due to the growth anticipated under the General Plan Update.

In addition to impacts associated with area-wide sources, stationary sources, and vehicles, which are long-term emission sources, short-term emissions associated with construction would

occur within the County. Construction emissions would be associated with the development of land uses consistent with the General Plan Update, and would include emissions associated with off road equipment, vehicles, fugitive dust from surface disturbance, and architectural coatings use. Construction emissions are included in the CARB's Almanac under these categories, and the CARB projects a certain amount of construction to occur each year based on growth projections for the region. Construction emissions for individual projects would be temporary, and the total duration would vary from project to project.

### **Federal, State and Local Regulations and Existing Regulatory Processes**

Measures would be implemented by federal, State and local agencies and the County that would reduce emissions of criteria pollutants in the unincorporated County. These measures include the CARB motor vehicle standards (CARB 2008b), use of reduced-VOC architectural coatings, and the requirement for projects to exceed Title 24 Energy Efficiency Standards (CEC 2006). Additionally, discretionary projects processed by the County are evaluated based on the County's Guidelines for Determining Significance which utilized screening thresholds for criteria air pollutants. Uses suspected of exceeding the thresholds would require the preparation of a technical study to determine potential impacts and mitigation.

#### ***Implementation of CARB Motor Vehicle Standards***

The main contributor to emissions for the General Plan Update is vehicular emissions. Implementation of programs to reduce emissions from vehicles is the responsibility of the CARB, and the CARB has implemented and continues to implement programs such as increasingly stringent emission standards, smog check programs, and inspection and maintenance programs for fleet vehicles. The CARB has also implemented programs such as restriction of idling for greater than 5 minutes for heavy-duty vehicles. These programs are taken into account in the EMFAC2007 Model. To show the emissions reductions that are projected, taking into account growth associated with the General Plan Update, Table 2.3-10 presents a comparison of vehicular emissions for the current inventory year (2007) versus the vehicular emissions associated with the General Plan Update.

As shown in Table 2.3-10, emission reductions implemented through CARB programs would substantially reduce emissions of VOCs, NO<sub>x</sub>, and CO from 2007 to 2030. Emissions of SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> would only increase slightly despite an increase of 3,594,100 additional vehicle trips with implementation of the General Plan Update. Thus, while emissions from on-road vehicles would not be reduced to below the SLTs with implementation of motor vehicle mitigation measures, emissions would be reduced as compared to current levels due to CARB standards that require increasingly stringent emission standards, smog check programs, and inspection and maintenance programs for fleet vehicles.

#### ***Use of Reduced-VOC Architectural Coatings***

The APCD adopted Rule 67.0, which governs the VOC content of architectural coatings and requires coatings to meet increasingly stringent VOC levels. All future development that would use architectural coatings would be required to use coatings that comply with Rule 67.0.

#### ***Requirement for Projects to Exceed 2006 Title 24 Energy Efficiency Standards***

The County encourages new development to reduce energy impacts from new buildings by exceeding Title 24 energy standards. DPLU, through its programs to reduce emissions of GHGs, would require projects undergoing review to demonstrate that they would meet the goals

of AB 32, the Global Warming Solutions Act. Projects would be required to implement energy efficiency measures that exceed current energy standards identified in the Building Energy Efficiency Standards for Residential and Nonresidential Buildings, most recently revised by the California Energy Commission in September 2006 (CEC 2006).

Table 2.3-11 presents a summary of the emissions associated with the implementation of the General Plan Update (at build out), assuming use of low-VOC architectural coatings, as required by law, and implementation of a requirement to exceed Title 24 standards by 20 percent. As shown in Table 2.3-11, even with these emissions reduction measures in place, pollutant emissions in the County would remain above the SLTs.

### **Proposed General Plan Update Goals and Policies**

As shown in Table 2.3-11 and discussed above, implementation of the General Plan Update would result in emission of criteria pollutants that would exceed SLTs. The proposed General Plan Update includes goals and policies would reduce emissions associated with future development under the General Plan Update.

In addition to Goal COS-14 and supporting policies, described above in Section 2.3.3.1, Issue 1, the General Plan Update Conservation Element also includes Goals COS-15, COS-16, and COS-20. Goal COS-15 which is building design and construction techniques that reduce emissions of criteria pollutants and GHGs, while protecting public health and contributing to a more sustainable environment. This goal is supported by Policies COS-15.1 through COS-15.5. Policy COS-15.1 encourages the design and construction of new buildings in accordance with “green building” programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHG and TACs. Policies COS-15.2 through COS-15.5 would include the following:

- Promote and, as appropriate, develop standards for the retrofit of existing buildings to incorporate design elements, heating and cooling, water, energy, and other elements that improve their environmental sustainability and reduce GHG (and emissions of criteria pollutants).
- Encourage energy conservation and efficiency in existing development through energy efficiency audits and adoption of energy saving measures resulting from the audits.
- Require all new County facilities and the renovation and expansion of existing buildings to meet identified “green building” programs, and encourage the use of energy recovery, photovoltaic and wind energy in appropriate areas and with appropriate new land development projects.
- Require new development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.

Incorporation of green building practices, energy conservation and efficiency would reduce emissions of criteria pollutants that would otherwise be associated with construction and operations of future development in the unincorporated County. Additionally, Goal COS-16 is transportation and mobility systems that contribute to environmental and human sustainability and minimize GHG and other air pollutant emissions. Supporting Policies COS-16.2 and COS-16.3 support programs that reduce the use of single-occupancy vehicles, and encourage and provide incentives for the use of low- and zero-emission vehicles. Policy COS-20.3 requires

coordinated air quality planning efforts with federal and State agencies, SANDAG, and other jurisdictions. This policy supports Goal COS-20, which is a reduction of local GHG emissions contributing to climate change that will meet or exceed the requirements of the Global Warming Solutions Act of 2006.

### **Summary**

Emissions of criteria pollutants associated with future development consistent with the General Plan Update would exceed the SLTs for PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and VOCs. Future development under the General Plan Update would be required to comply with CARB motor vehicle standards, APCD regulations from stationary sources and architectural coatings, Title 24 energy efficiency standards, and the General Plan Update goals and policies. While existing County policies and regulations and proposed General Plan Update goals and policies are intended to reduce impacts associated with air quality violations, specific measures that implement these policies and regulations are proposed to ensure that the intended environmental protections are achieved. Therefore, the proposed project is concluded to result in a potentially significant impact associated with air quality violations and specific implementation programs are identified as mitigation.

### **2.3.3.3 Issue 3: Non-Attainment Criteria Pollutants**

#### **Guidelines for Determination of Significance**

Based on Appendix G of the CEQA Guidelines, and the County of San Diego Guidelines for Determining Significance, Air Quality, the proposed County General Plan Update would have a significant impact if it would result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is non-attainment under an applicable federal or State AAQS (including emissions which exceed the SLTs for O<sub>3</sub> precursors listed in Table 2.3-12).

#### **Impact Analysis**

As discussed in Section 2.3.3.2, Issue 2, emissions associated with implementation of the General Plan Update would exceed the SLTs for PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and VOCs. These emissions would primarily come from vehicles trips associated with new development under the General Plan Update, and equipment and construction materials used during construction of future development and infrastructure. Cumulatively considerable net increases during the construction phase would typically happen if two or more projects near each other are simultaneously constructed. A project that has a potentially significant direct impact on air quality with regard to emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, or VOCs during construction would also have a significant cumulatively considerable net increase. In the event direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other cumulative projects with the potential to impact air quality in the SDAB, are in excess of the guidelines identified in Table 2.3-12.

Emissions associated with implementation of the General Plan Update would exceed the SLTs for NO<sub>x</sub> and VOCs. The SDAB is currently classified as a non-attainment area for the NAAQS and CAAQS for O<sub>3</sub>, which is caused by contributions from O<sub>3</sub> precursors NO<sub>x</sub> and VOCs. The APCD's Eight-Hour O<sub>3</sub> Attainment Plan for San Diego County (APCD 2007c) recognizes that

one of the key contributors to O<sub>3</sub> levels in the County is emissions from motor vehicles. Motor vehicle emissions account for 48 percent of the O<sub>3</sub> precursor emissions in the SDAB, with other mobile sources such as off-road vehicles accounting for an additional 33 percent of the O<sub>3</sub> precursor emissions. As discussed above in Section 2.3.3.2, Issue 2, implementation of programs to reduce emissions from vehicles is the responsibility of the CARB, and the CARB has implemented and continues to implement programs that would reduce emissions of O<sub>3</sub> precursors from motor vehicles. Implementation of County measures such as requiring energy efficiency beyond Title 24 and use of low-VOC paints would contribute to reductions in emissions of O<sub>3</sub> precursors. However, the General Plan Update would result in increases in vehicular emissions that would exceed the SLTs for NO<sub>x</sub> and VOCs. Therefore, the General Plan Update would result in a potentially significant direct impact on air quality for O<sub>3</sub> precursors NO<sub>x</sub> and VOCs and would contribute to cumulatively considerable net increase of a criteria pollutant for which the SDAB is non-attainment (O<sub>3</sub>).

### **Federal, State and Local Regulations and Existing Regulatory Processes**

Provided the County is consistent with the measures outlined in the RAQS and SIP, and provided the SDAB attains and maintains the NAAQS for O<sub>3</sub>, the implementation of the County General Plan Update would not result in a cumulatively significant impact due to emissions of O<sub>3</sub> precursors for the NAAQS. Attainment is based on the more intensive existing General Plan. Therefore, O<sub>3</sub> attainment would not be impacted by the implementation of the proposed General Plan Update because it is less intensive than the existing General Plan. The project's compliance with the RAQS and SIP, and measures designed to reduce emissions of O<sub>3</sub> precursors, are discussed in Section 2.3.3.1, Issue 1, above. As discussed in this section, the General Plan Update would not conflict with or obstruct the implementation of the San Diego RAQS and/or applicable portions of the SIP.

The SDAB is currently classified as an attainment area for the NAAQS for both PM<sub>10</sub> and PM<sub>2.5</sub>, but the 24-hour NAAQS for PM<sub>2.5</sub> was lowered in September 2006 from 65 µg/m<sup>3</sup> to 35 µg/m<sup>3</sup>. The SDAB experienced five exceedances of the new NAAQS for PM<sub>2.5</sub> in 2007. The SDAB is currently classified as a nonattainment area for the CAAQS for PM<sub>10</sub>. To date, the APCD has not been required to prepare a SIP or other air quality planning documents to address exceedances of the particulate standards. Accordingly, because the implementation of the General Plan Update would allow for the development of land uses that would increase County-wide emissions of PM<sub>10</sub> and PM<sub>2.5</sub>, the General Plan Update would result in a cumulatively significant impact on the air quality.

### **Proposed General Plan Update Goals and Policies**

The General Plan Update includes land use planning goals and policies designed to promote continued reductions in air emissions in the SDAB. These policies described in Section 2.3.3.2, Issue 2: Air Quality Violations, regarding land use development. These goals and policies would be consistent with the attainment plan for the SDAB. The General Plan Update goals and policies described above in Section 2.3.3.2, Issue 2, are designed to reduce O<sub>3</sub> precursors.

### **Summary**

Emissions of criteria pollutants associated with future development consistent with the General Plan Update would result in a cumulatively significant impact associated with PM<sub>10</sub> and PM<sub>2.5</sub>, and O<sub>3</sub> precursors under CAAQS. Future development under the General Plan Update would

be required to comply with the RAQS, SIP, CARB motor vehicle standards, APCD regulations for stationary sources and architectural coatings, Title 24 energy efficiency standards, and the General Plan Update goals and policies. While existing County policies and regulations and proposed General Plan Update goals and policies are intended to minimize impacts associated with non-attainment criteria pollutants, specific measures that implement these policies and regulations are proposed to ensure that the intended environmental protections are achieved. Therefore, the proposed project is concluded to result in a potentially significant impact associated with non-attainment criteria pollutants and specific implementation programs are identified as mitigation.

### **2.3.3.4 Issue 4: Sensitive Receptors**

#### **Guidelines for Determination of Significance**

Based on Appendix G of the CEQA Guidelines, and the County of San Diego Guidelines for Determining Significance, Air Quality, the proposed County General Plan Update would have a significant impact if it would directly impact a sensitive receptor and result in a cancer risk of greater than 1 in one million without implementation of Toxics Best Available Control Technology (T-BACT), 10 in one million with implementation of T-BACT, or health hazard index of one or more, consistent with the APCD's Rule 1210 requirements for stationary sources.

#### **Impact Analysis**

In addition to impacts from criteria pollutants described in Section 2.10.3.2, Issue 2, above, project impacts may include emissions of pollutants identified by the federal and State government as TACs. TACs are defined by the California Health and Safety Code as air pollutants 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. The CalEPA Office of Environmental Health Hazard Assessment has identified approximately 192 TACs in California (OEHHA 2001). These TACs include acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter. Some of these TACs are groups of compounds which contain many individual substances (for example, copper compounds, polycyclic organic matter).

The CARB has established a State-wide program to monitor ambient concentrations of TACs and to assess potential background health risks associated with those levels. To that end, the CARB established monitoring stations to measure the ten TACs posing the greatest health risk in California, based on ambient air quality data. The CARB established two monitoring sites in San Diego County: Chula Vista and El Cajon. A third monitoring location, which was operated as part of a special study, measured ambient concentrations of TACs in the Logan Heights/Barrio Logan area of the City of San Diego from October 1999 through February 2001. As discussed in the APCD's 2007 Annual Report, monitoring station locations were selected because they are located nearby and downwind of transportation, industrial, and other air pollutant sources and were designed to provide conservative estimates of concentrations of TACs (APCD 2007b). The monitoring station locations represent areas that have a higher proportion of TAC sources than most areas in San Diego County.

Using the data from the monitoring stations, the CARB estimated background excess cancer risks associated with exposure to ambient levels of TACs. The background cancer risk to individuals in San Diego County was estimated as 607 in one million based on ambient pollutant levels measured in 2000 (CARB 2009). Diesel particulate matter was estimated to account for the greatest amount of risk: 69.2 percent of the risk (420 in one million). Benzene and 1,3-butadiene each contribute approximately 10 percent of the risk. Diesel particulate matter is composed of a complex mixture of substances emitted from diesel sources, and there is no means of directly measuring this TAC. Heavy-duty trucks that utilize diesel as a fuel emit diesel particulate matter. Diesel particulate matter from diesel-fueled engines is responsible for most of the airborne cancer risk from TACs in California. Accordingly, the CARB used elemental carbon as a surrogate for diesel particulate in its monitoring program because of the relatively high fraction of elemental carbon in diesel particle matter (CARB 2004). Emissions of diesel particulate matter, benzene, and 1,3-butadiene are mainly attributable to on-road mobile sources.

In its EMFAC2007 emissions evaluation, SANDAG included estimates of  $PM_{2.5}$  from vehicles, which includes emissions from diesel truck traffic based on vehicle miles traveled and the estimated number of truck trips. As noted in the paragraph above, the CARB has identified diesel particulate matter as the greatest contributor to excess cancer risk in San Diego County.

The APCD maintains a record of emission inventory reports that are submitted by facilities subject to the Air Toxics “Hot Spots” Information and Assessment Act. The Act requires facilities to submit periodic emission inventories and, if requested by the APCD, to prepare periodic HRAs based on their approved inventories. Most of the TAC-emitting facilities within the SDAB are located in incorporated areas of the County, as shown in Table 2.3-14.

Current background risks measured in San Diego County are above both the significance threshold of 1 in a million excess cancer risk without T-BACT, and 10 in a million excess cancer risk with application of T-BACT. The risks are mainly attributable to exposure to emissions from on-road vehicles. CARB programs designed to reduce emissions, as well as phase-out of older vehicles, would reduce emissions of these pollutants, but not to less than significant levels. Furthermore, growth anticipated by implementation of the General Plan Update would result in the need to develop and expand transportation corridors to allow for the movement of goods within the County; therefore, it is projected that truck trips would increase in the County. The Mobility Element roadway network is described in Section 1.7.1.3, Mobility. The Traffic and Circulation Assessment identified the total number of average daily trips generated under the General Plan Update to be 5,237,405, including truck and non-truck trips (Wilson and Company 2008a). Because the number of truck trips and other vehicle trips would increase under the General Plan Update, emissions of diesel particulates would also increase. The current background risk exceeds the significance threshold; therefore, any proposed general plan update would result in a potentially significant impact.

### **Federal, State and Local Regulations and Existing Regulatory Processes**

The California Air Toxics “Hot Spots” Information and Assessment Act (AB 2588) requires facilities that exceed recommended OEHHA levels to reduce risks to acceptable levels. In the SDAB, APCD Rule 1210 implements this program. Facilities that have emissions above levels recommended by OEHHA would be required to develop and implement plans to reduce risks below these levels. Additionally, the CARB has implemented an ongoing program to study the potential health effects of diesel particulate matter, to identify sources of diesel particulate



matter, and to develop programs to reduce emissions. These programs include development and implementation of control strategies for off-road, on-road, and marine vessel diesel sources. These sources are already regulated by the EPA and operation of diesel engines must comply with these standards. However, as described above in the previous paragraph, while these standards reduce diesel emissions, emissions may not be reduced to below a significant level. Discretionary projects considered by the County are also evaluated for health risks pursuant to the County's Guidelines for Determining Significance. Depending on the uses proposed and/or the proximity to emission sources or sensitive receptors, a health risk assessment may be required to evaluate potential impacts and require mitigation.

### **Proposed General Plan Update Goals and Policies**

In the Air Quality and Land Use Handbook (CARB 2005), the CARB presents its recommendations for the siting of new sensitive land uses. The Handbook makes specific recommendations for a number of source types such as freeways, refineries, and dry cleaners, which are summarized in Table 2.3-13. According to the Handbook, the primary purpose of planning is to protect public health, safety, and welfare. A local government's General Plan expresses the community's development goals and embodies public policy relative to the distribution of future land uses, forming the basis for most land use decisions. The General Plan intends to avoid incompatible land uses by incorporating air quality considerations into the Conservation and Open Space Element. However, the General Plan Update does not include policies relating specifically to sensitive receptors.

### **Summary**

Future development consistent with the General Plan Update would result in potentially significant emissions of diesel particulate matter. Land development projects are required to comply with AB 2588, APCD Rule 1210, and CARB standards for diesel engines. While existing County policies and regulations and proposed General Plan Update goals and policies are intended to minimize impacts associated with sensitive receptors, specific measures that implement these policies and regulations are proposed to ensure that the intended environmental protections are achieved. Therefore, the proposed project is concluded to result in a potentially significant impact associated with sensitive receptors and specific implementation programs are identified as mitigation.

### **2.3.3.5 Issue 5: Objectionable Odors**

#### **Guidelines for Determination of Significance**

Based on Appendix G of the CEQA Guidelines, and the County of San Diego Guidelines for Determining Significance, Air Quality, the proposed County General Plan Update, with the exception of agricultural operations, are subject to APCD Rule 51, and would have a significant impact if it would result in the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health or safety of any person. A project that proposes a use which would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

## **Impact Analysis**

Sources of objectionable odors as defined by the SCAQMD (1999) include the following:

- Landfills
- Agricultural operations
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting
- Dairies
- Fiberglass molding

There are seven active landfills in the San Diego region that serve the residents, businesses, and military operations of both incorporated and unincorporated areas of the County. These include Borrego Landfill in the Desert Subregion, Miramar Landfill in the City of San Diego, Otay Landfill in the City of Chula Vista, Ramona Landfill in the Ramona CPA, Sycamore Landfill in the City of Santee, and Las Pulgas and San Onofre Landfills on United States Marine Corps (USMC) Camp Pendleton. The Sycamore, Otay, Ramona, and Borrego landfills are owned and operated by the private waste service company, Allied Waste Industries. Las Pulgas and San Onofre landfills are owned and operated by the USMC, and the Miramar Landfill is owned and operated by the City of San Diego. The USMC-operated landfills are not available for public disposal. The landfills located in the unincorporated County with the potential to impact unincorporated County residents are the Borrego Landfill and Ramona Landfill. Odor control practices are in place at all landfills, and odor control is under the purview of the APCD. Landfill odor control practices include application of odor absorbing materials or collecting and treating gases from the landfill before they are released into the surrounding community.

Major agricultural areas are located in the Bonsall CPA, Fallbrook CPA, Jamul/Dulzura CPA, Lakeside CPA, Mountain Empire Subregion, North County Metro Subregion, North Mountain Subregion, Pala/Pauma Valley Subregion, Pendleton/De Luz CPA, Rainbow CPA, Ramona CPA, and Valley Center CPA. Other odor sources are present within the County, including wastewater treatment plants, food processing plants, chemical plants, composting, dairies, and fiberglass molding facilities. Wastewater treatment plants located in the unincorporated County are the Ralph W. Chapman Water Reclamation Facility in Valle de Oro CPA; Rams Hill Water Reclamation Plant in the Desert Subregion; Rancho Del Campo Wastewater Pollution Control Facility in the Mountain Empire Subregion; Fairbanks Ranch Water Reclamation Facility, Rancho Santa Fe Water Reclamation Facility, Santa Fe Valley Water Reclamation Facility, Whispering Palms Wastewater Reclamation Facility, and 4S Wastewater Treatment Plant in San Dieguito CPA; Fallbrook Public Utility District Water Treatment Plant in Fallbrook CPA; Julian Wastewater Pollution Control Facility in Julian CPA; Pauma Valley Community Services District Treatment Facility in Pala\Pauma Valley Subregion; Pine Valley Wastewater Pollution Control Facility in Central Mountain Subregion; Rainbow Municipal Water District Sewage Facility in Rainbow CPA; Santa Maria and San Vicente Wastewater Treatment Facilities in Ramona CPA; and the Lower Moosa Canyon Water Reclamation Facility, Skyline Ranch Country Club Water Reclamation Facility, and the Woods Valley Ranch Water Reclamation Facility in Valley Center CPA. Food processing plants, chemical plants, composting, dairies, and fiberglass molding facilities are located throughout the County. Areas that would accommodate industrial operations under the General Plan Update, which may include these types of facilities or other odor generating industrial processes, are Alpine CPA, Fallbrook CPA,

Jamul/Dulzura CPA, Lakeside CPA, Mountain Empire Subregion, North County Metro Subregion, Pala/Pauma Valley Subregion, Pendleton/De Luz CPA, Ramona CPA, San Dieguito CPA, Spring Valley CPA, and Valle de Oro CPA. Industrial facilities, especially those located in the CPAs proposed for higher density development such as Fallbrook CPA, Lakeside CPA, Spring Valley CPA, and Valle de Oro CPA, may be located near residential developments that would be sensitive to odors. For example, limited impact industrial land uses would be accommodated in an area surrounded by land proposed for village residential use along the western edge of the Fallbrook CPA. However, as described below, regulations are currently in place that would prohibit land uses such as agricultural operations, and industrial facilities, from emitting nuisance odors in the unincorporated County.

### **Federal, State, and Local Regulations and Existing Regulatory Processes**

Agricultural operations are subject to San Diego County Code of Regulatory Ordinances, Title 6, Division 3, Chapter 4, Sections 63.401 and 63.402, the Agricultural Enterprises and Consumer Information Ordinance. County Code Sections 63.401 and 63.402 define and limit the circumstances under which agricultural enterprises, activities, operations, and facilities constitute a nuisance, including nuisance odors. Agricultural operations would not be allowed to result in nuisance odors. All other sources of odor discussed above are subject to APCD Rule 51 regarding odor control and are not permitted to allow nuisance odors to affect nearby receptors.

Facilities that cause nuisance odors are subject to enforcement action by the APCD. The APCD responds to odor complaints by investigating the complaint determining whether the odor violates APCD Rule 51. The inspector will take enforcement action if the source is not in compliance with the APCD rules and regulations and will inform the complainant of investigation results (APCD 2000). In the event of enforcement action, odor-causing impacts must be mitigated by appropriate means to reduce the impacts to sensitive receptors to less than significant. Such means include shutdown of odor sources or requirements to control odors using add-on equipment.

Discretionary projects considered by the County are evaluated for objectionable odors pursuant to the County's Guidelines for Determining Significance. Depending on the uses proposed and the proximity off-site receptors, mitigation may be required as part of this process.

### **Proposed General Plan Update Goals and Policies**

The proposed General Plan Update does not include any goals and policies specifically related to objectionable odors.

### **Summary**

While odor sources are present within San Diego County, such as agricultural operations and landfills, the County odor policies enforced by the APCD, including Rule 51 and County Code Sections 63.401 and 63.402, prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. Development of land uses consistent with the General Plan Update that would have the potential to result in nuisance odors, such as new industrial facilities, would be required to comply with these regulations. Therefore, impacts associated with objectionable odors would be less than significant.

## **2.3.4 Cumulative Impacts**

The geographic scope of cumulative impact analysis for air quality includes the County and surrounding vicinity. This includes the San Diego region or the airshed for reactive air pollutants and surrounding vicinity for nonreactive or less reactive pollutants.

### **2.3.4.1 Issue 1: Air Quality Plans**

Cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality plans if, in combination, they would conflict with or obstruct implementation of the RAQS and/or applicable portions of the SIP. Projects that are inconsistent with the regional planning documents that the RAQS and SIP are based on would have the potential to result in cumulative impacts if they would include development beyond regional projections. For example, the proposed Meadowood Development in Fallbrook, included in Table 1-11, Projects Not Included In the Proposed General Plan Update Land Use Map, would construct 1,200 new residential units. The project would require an amendment to the existing General Plan, and therefore may propose development beyond what is accounted for in the RAQS and SIP, which is based on General Plan projections. However, cumulative projects shown in Table 1-11, Projects Not Included in the Proposed General Plan Update, such as the Meadowood project, are still required to show compliance with applicable air quality plans during CEQA review and prior to project approval. Cumulative projects located in adjacent jurisdictions, including incorporated cities, adjacent counties, and State-managed lands, would be required to comply with the SIP, and the RAQS or other applicable regional air quality plan. Projects in Mexico and on tribal lands and federally managed lands would not be subject to the SIP or the RAQS. Therefore, cumulative projects in the region would not result in a significant cumulative impact associated with conflicts with air quality plans. The proposed project would ultimately be used as the basis for future updates to applicable air quality plans. Development in the County would be required to comply with the General Plan Update or would not be approved. Additionally, cumulative projects not included in the proposed General Plan Update would be required to show compliance with applicable air quality plans or would not be approved. Therefore, the proposed General Plan Update would not contribute to a significant cumulative impact.

### **2.3.4.2 Issue 2: Air Quality Violations**

Cumulative projects located in the San Diego region would have the potential to result in a significant cumulative air quality violation if, in combination, they would violate any air quality standard or contribute to an existing or projected air quality violation. New stationary sources of criteria pollutants or projects that would increase vehicle trips may result in increases in pollutant emissions that would violate an air quality standard. For example, the proposed Jacumba Valley Ranch project, included in Table 1-11, Projects Not Included in the Proposed General Plan Update Land Use Map, would construct 2,100 new residential units in the Mountain Empire Subregion, a relatively undeveloped area of the County. A new residential development would increase vehicle trips to this area of the County and would have the potential to result in an associated air quality violation of the CAAQS or NAAQS from the emission of criteria pollutants due to increased vehicle trips. These projects, and the other cumulative projects located in the unincorporated County and adjacent jurisdictions, including incorporated cities, adjacent counties, and federal and State-managed lands, would be required to comply with NAAQS and CAAQS pursuant to CEQA prior to approval. CEQA requires

proposed projects provide detailed information on the potentially significant environmental effects they are likely to have, list ways in which the significant environmental effects would be minimized, and identify alternatives that would reduce or avoid the significant impacts identified for the project. To the extent feasible, significant environmental impacts would be mitigated to below a level of significance, consistent with CEQA. However, some environmental impacts associated with the development of such projects may be significant and unavoidable, such as impacts associated with air quality, noise, hydrology/water quality, and/or biological resources. Additionally, cumulative projects in Mexico would not be required to comply with the NAAQS or CAAQS and would have the potential to exceed these standards. Therefore, cumulative projects in the region would result in a significant cumulative impact associated with air quality violations. As discussed above in Section 2.3.3.2, the proposed project would result in a potentially significant impact associated with air quality violations. In combination with other cumulative projects, the proposed project's contribution to this significant cumulative impact would be cumulatively considerable.

#### **2.3.4.3 Issue 3: Non-attainment Criteria Pollutants**

Cumulative projects located in the San Diego region would have the potential to result in a significant cumulative impact associated with non-attainment criteria pollutants if, in combination, they would result in a net increase of any criteria pollutant for which the SDAB is non-attainment. The SDAB is designated a basic nonattainment area for the 8-hour NAAQS for O<sub>3</sub> and as a nonattainment area under the CAAQS for O<sub>3</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. Development of cumulative projects in the region would have the potential to result in new sources of particulate matter from construction activities. In addition, the operation of proposed cumulative projects would result in increases in vehicle trips that would increase emissions of O<sub>3</sub> precursors. For example, the proposed Jacumba Valley Ranch project, a cumulative project discussed above in Section 2.3.4.2, proposes 2,100 new residential units in the Mountain Empire Subregion, which would result in an increase in vehicle trips on County roads which would increase emissions of O<sub>3</sub> precursors. In addition, construction of the proposed residential units would result in particulate matter emissions from off-road equipment, vehicles, and fugitive dust from surface disturbance. Additionally, proposed projects in Mexico would not be required to comply with the NAAQS or the CAAQS and would have the potential to result in an increase of criteria pollutant emissions for which the region is in non-attainment. The SDAB is already in non-attainment for O<sub>3</sub> and PM<sub>10</sub> and PM<sub>2.5</sub>, therefore, implementation of the General Plan Update would result in pollutants which would be cumulatively considerable, requiring the incorporation of mitigation. Therefore, cumulative projects in the region would result in a significant cumulative impact associated with non-attainment of criteria pollutants. As discussed above in Section 2.3.3.3, the proposed project would result in a potentially significant direct impact associated with non-attainment criteria pollutants. In combination with other cumulative projects, the proposed project's contribution to this significant cumulative impact would be cumulatively considerable.

#### **2.3.4.4 Issue 4: Sensitive Receptors**

Cumulative projects located in the San Diego region would have the potential to result in a significant cumulative impact associated with sensitive receptors if, in combination, they would expose sensitive receptors to a substantial concentration of TACs or HAPs that would significantly increase cancer risk. Implementation of cumulative projects would have the potential to result in new sources of TACs or HAPs, especially diesel particulate matter from truck trips. In general, construction of cumulative projects would result in a temporary increase

in truck trips to haul construction materials to and from the site. In addition, new industrial or commercial developments would have the potential to result in permanent increases in truck trips to an area due to project operation. For example, the retail shopping center on the Viejas Reservation, included as a cumulative project in Table 1-12, Projects on Tribal Lands in San Diego County, would result in an increase in truck trips to and from the area surrounding the Viejas Reservation to transport retail merchandise for the commercial outlet center. This project would be required to comply with the federal NESHAPS program, which identifies 188 substances as HAPs and establishes requirements for these pollutants, including implementation of MACTs for major sources of HAPs. Also, placement of new sensitive receptors near existing TAC or HAP emissions would have the potential to result in a significant cumulative impact. An example of this situation would be the Magnolia Courts project, listed in Table 1-11, Projects Not Included in the Proposed General Plan Update Land Use Map. This project proposes 38 residential units in the Lakeside CPA which currently includes heavy industrial land uses and extractive operations and would accommodate additional industrial development under the General Plan Update. If the Magnolia Courts project were to be located in close proximity to industrial or extractive land uses, residents may be exposed to TACs of HAPs. Cumulative projects located in adjacent jurisdictions, including incorporated cities, adjacent counties, and State-managed lands, would be required to comply with the CARB's recommendations for siting new sensitive receptors, and stationary sources in the SDAB would be required to comply with emission thresholds for TACs or HAPs. However, some cumulative projects are located outside of the SDAB and/or may not be subject to State and local emissions regulations, such as projects located in Mexico or on tribal land. Therefore, cumulative projects in the region would result in a significant cumulative impact associated with sensitive receptors. As discussed above in Section 2.3.3.4, the proposed project would result in a potentially significant impact associated with sensitive receptors. In combination with other cumulative projects, the proposed project's contribution to this significant cumulative impact would be cumulatively considerable.

#### **2.3.4.5 Issue 5: Objectionable Odors**

Cumulative projects located in the San Diego region would have the potential to result in a significant cumulative impact associated with objectionable odors if, in combination, they would create objectionable odors or place sensitive receptors next to existing objectionable odors. As an example, the proposed Ramona Ridge Estates residential project, included as a cumulative project in Table 1-11, Projects Not Included In the Proposed General Plan Update Land Use Map, would be located in the Ramona CPA, which also contains the Ramona Landfill, a potential source of objectionable odors. However, the Ramona Landfill is required to comply with APCD Rule 51, which prohibits objectionable odors from the landfill that would impact off-site land uses. Therefore, odor impacts to the proposed Ramona Ridge Estates project would not occur. Cumulative projects located in incorporated cities and on-going projects not included in the General Plan Update would be required to comply with APCD's rules and regulations regarding odor control. Some projects are located outside of the SDAB and/or may not be subject to similar emissions regulations, such as projects in Mexico, tribal projects, and projects in adjacent counties. However, odor impacts are localized in nature and cumulative projects would not combine to result in a cumulative odor impact. Therefore, the proposed General Plan Update would not contribute to a significant cumulative impact.

### 2.3.5 Significance of Impact Prior to Mitigation

The proposed General Plan Update would result in potentially significant direct and cumulative impacts associated with air quality violations, non-attainment criteria pollutants, and sensitive receptors. The proposed project would result in a less than significant direct impact associated with air quality plans and objectionable odors, and would not contribute to a significant cumulative impact associated with air quality plans or objectionable odors.

### 2.3.6 Mitigation

#### 2.3.6.1 Issue 1: Air Quality Plans

The proposed project would not conflict with or obstruct the implementation of the RAQS or SIP. Therefore, no mitigation is necessary.

#### 2.3.6.2 Issue 2: Air Quality Violations

Emissions of criteria pollutants associated with future development consistent with the General Plan Update would exceed the SLTs for PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and VOCs. General Plan Update policies and mitigation measures (described below), have been identified that would minimize the potentially significant impact associated with air quality violations. Some mitigation measures have been identified that would reduce impacts associated with air quality violations to below a level of significance; however, the County has determined that their implementation would be infeasible. A discussion of infeasible mitigation measures, as well as General Plan policies and feasible mitigation measures is provided below.

#### Infeasible Mitigation Measures

The following measures (and variations of these measures) were considered in attempting to reduce impacts associated with air quality to below a level of significance. However, the County has determined that these measures would be infeasible to implement for the reasons below; therefore, these mitigation measures would not be implemented.

- Require all construction activities to use equipment that is CARB certified Tier 3 or better. This measure could not be accomplished because it would require all construction contractors working within the County to turn over their existing equipment which remains usable, and would require a more stringent emissions standard than implemented by CARB. The CARB is currently implementing regulations that will require turnover of equipment to meet its regulatory standards for large vehicle fleets. The measure would limit which construction contractors would be allowed to work within the County and could result in undue costs to project applicants.
- Prohibit new development that would result in emissions from new vehicle trips that would exceed the screening level thresholds. This measure would result in restrictions on future development in areas identified for increased growth in the General Plan Update because, with current vehicle emissions standards, it would severely limit development densities. This would conflict with the project's objective to support a reasonable share of projected regional population growth, because it would prohibit new

development in the unincorporated County. In addition, if vehicle trips exceed screening level thresholds but a project is not proposing densities greater than what was expected by the general plan, those trips are accounted for in the RAQS and does not automatically mean the actual ambient air quality standards will be exceeded.

- Prohibit use of architectural coatings or other building materials that may result in emissions of VOCs. Only zero-VOC coatings and building materials would be allowed for use in the County. This measure would result in undue hardship on the entitlement process because most architectural coatings contain some VOCs and the measure would restrict the types of coatings that could be used to a limited type and number of formulations that may not be feasible for all applications. The VOC content in architectural coatings is regulated by the APCD, which has established a phase-in schedule for reduction of VOCs in accordance with the SIP requirements. The measure would also require the County to monitor and enforce the use of architectural coatings at all construction projects within its jurisdiction, which it does not have the funding or staffing available to accomplish.
- Encourage the construction of new development that would result in a reduction of vehicle trips because developers are able to demonstrate that they tie into an existing or planned alternative transportation network, such as transit (bus, train, trolley), bicycle network, walkways, and trails. This measure would result in restrictions on future development in areas identified for increased growth in the General Plan Update because not all areas of planned growth have an existing or planned alternative transportation network that new development could tie into. Implementation of this mitigation measure would conflict with the proposed project's objective to reinforce the vitality, local economy and individual character of existing communities by restricting future development to areas with existing alternative transportation networks, which excludes many rural areas.
- Require all applicants to provide on-site renewable energy systems, including solar, wind, geothermal, low-impact hydro power, biomass, and bio-gas. This measure would not be feasible because all applicants may not be able to provide renewable energy systems at all proposed locations. In addition, some energy systems may trigger additional regulatory requirements from the CPUC or CEC that would make individual projects infeasible to construct. Implementation of this measure would potentially increase infrastructure costs, which would conflict with the proposed project's objective to minimize public costs of infrastructure and services. However, in circumstances where feasible, applicants will be encouraged to provide on-site renewable energy systems.
- Install vegetated roofs that cover at least 50 percent of roof area. This measure would be infeasible because residential and commercial buyers may find vegetated roofs to be undesirable, and it places the burden of developing the vegetated roof on the project applicant. The measure may also add additional monitoring requirements on the County to verify that vegetated roofs are properly maintained.
- Provide a spur at nonresidential projects to use nearby rail for goods movement. This measure would not be feasible because it would depend on the rail system and the availability of rail transit to individual projects, most of which would not be located near railroad networks. Implementation of this measure would conflict with the proposed



project's objective to ensure that development accounts for physical constraints, since much of the unincorporated County has limited access to the existing rail system.

- Require the use of locally made building materials for construction projects. This measure would not be feasible because it would severely limit development projects, as some specialized building materials for projects may not be available locally. The measure would also require the County to monitor and enforce building material purchases at construction projects within its jurisdiction, which it does not have the funding or staffing available to accomplish.

Because the measures listed above have been found to be infeasible, impacts would remain significant and unavoidable. Chapter 4.0, Project Alternatives, provides a discussion of several land use alternatives to the proposed project that would result in some reduced impacts associated with air quality violations as compared to the proposed project.

### **General Plan Update Policies**

The following policies would reduce impacts associated with air quality violations, but not to a less than significant level.

**COS-14.1 Land Use Development Form.** Require that development be located and designed to reduce vehicular trips (and associated air pollution) by utilizing compact regional and community-level development patterns while maintaining community character.

**COS-14.2 Villages and Rural Villages.** Incorporate a mixture of uses within Villages and Rural Villages that encourage people to walk, bicycle, or use public transit to reduce air pollution and GHG emissions.

**COS-14.8 Minimize Air Pollution.** Minimize land use conflicts that expose people to significant amounts of air pollutants.

**COS-14.9 Significant Producers of Air Pollutants.** Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.

**COS-14.10 Low-Emission Construction Vehicles and Equipment.** Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.

**COS-15.1 Design and Construction of New Buildings.** Require that new buildings be designed and constructed in accordance with "green building" programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.

**COS-15.3 Green Building Programs.** Require all new County facilities and the renovation and expansion of existing County buildings to meet identified "green building" programs that demonstrate energy efficiency, energy conservation, and renewable technologies.

**COS-15.4 Title 24 Energy Standards.** Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.

**COS-15.5 Energy Efficiency Audits.** Encourage energy conservation and efficiency in existing development through energy efficiency audits and adoption of energy saving measures resulting from the audits.

**COS-16.2 Single-Occupancy Vehicles.** Support transportation management programs that reduce the use of single-occupancy vehicles.

**COS-16.3 Low-Emissions Vehicles and Equipment.** Require County operations and encourage private development to provide incentives (such as priority parking) for the use of low- and zero-emission vehicles and equipment to improve air quality and reduce GHG emissions. [Refer also to Policy M-9.3 (Preferred Parking) in the Mobility Element.]

**COS-20.3 Regional Collaboration.** Coordinate air quality planning efforts with federal and State agencies, SANDAG, and other jurisdictions.

### **Mitigation Measures**

The following mitigation measures would reduce impacts associated with air quality violations, but not to below a significant level. The mitigation measures identified in Section 2.17.6.1, Issue 1: Compliance with AB 32, are applicable to this issue and are incorporated here by reference.

**Air-2.1** Provide incentives such as preferential parking for hybrids or alternatively fueled vehicles such as compressed natural gas (CNG) vehicles or hydrogen- or electric-powered vehicles. The County shall also establish programs for priority or free parking on County streets or in County parking lots for hybrids or alternatively fueled vehicles.

**Air-2.2** Replace existing vehicles in the County fleet as needed with the cleanest vehicles commercially available that are cost-effective and meet vehicle use needs.

**Air-2.3** Implement transportation fleet fueling standards to improve the number of alternatively fueled vehicles in the County fleet.

**Air-2.4** Provide incentives to promote the siting or use of clean air technologies where feasible. These technologies shall include, but not be limited to, fuel cell technologies, renewable energy sources, and hydrogen fuel.

**Air-2.5** Require that the following measures be implemented on all construction projects where project emissions are above the SLTs:

- Multiple applications of water during grading between dozer/scrapper passes
- Paving, chip sealing or chemical stabilization of internal roadways after completion of grading

- Use of sweepers or water trucks to remove “track-out” at any point of public street access
- Termination of grading if winds exceed 25 miles per hour
- Stabilization of dirt storage piles by chemical binders, tarps, fencing or other erosion control
- Use of low-sulfur fuels in construction equipment
- Use of low-VOC paints
- Projects exceeding SLTs will require ten percent of the construction fleet to use any combination of diesel catalytic converters, diesel oxidation catalysts, diesel particulate filters and/or CARB certified Tier I, II, III, IV equipment. Equipment is certified if it meets emission standards established by the EPA for mobile non-road diesel engines of almost all types. Standards established for hydrocarbons, oxides of nitrogen (NO<sub>x</sub>), carbon monoxide, and particulate matter. Tier I standards are for engines over 50 hp (such as bulldozers) built between 1996 and 2000, and engines under 50 hp (such as lawn tractors) built between 1999 and 2000. Tier II standards are for all engine sizes from 2001 to 2006, and Tier III standards are for engines rated over 50 hp from 2006 to 2008 (EPA 1998). Tier IV standards apply to engines of all sizes built in 2008 or later. Standards are increasingly stringent from Tier I to Tier IV (EPA 2004).

- Air-2.6** Use County Guidelines for Determining Significance for Air Quality to identify and mitigate adverse environmental effects on air quality.
- Air-2.7** Implement County Air Pollution Control District (APCD) regulations for air emissions from all sources under its jurisdiction.
- Air-2.8** Require NSRs to prevent permitting projects that are “major sources.”
- Air-2.9** Implement the Grading, Clearing, and Watercourses Ordinance by requiring all clearing and grading to be conducted with dust control measures
- Air-2.10** Revise Board Policy F-50 to strengthen the County’s commitment and requirement to implement resource-efficient design and operations for County-funded renovation and new building projects. This could be achieved by making the guidelines within the policy mandatory rather than voluntary.
- Air-2.11** Implement County Regional Air Quality Strategy (RAQS) to attain State air quality standards for O<sub>3</sub>.
- Air-2.12** Revise Board Policy G-15 to require County facilities to comply with Silver Leadership in Energy and Environmental Design (LEED) standards or other equivalent Green Building rating systems.

**Air-2.13** Revise Board Policy G-16 to require the County to:

- Adhere to the same or higher standards it would require from the private sector when locating and designing facilities concerning environmental issues and sustainability; and
- Require government contractors to use low emission construction vehicles and equipment.

### **2.3.6.3 Issue 3: Non-Attainment Criteria Pollutants**

Emissions of criteria pollutants associated with future development consistent with the General Plan Update would result in a cumulatively significant impact associated with PM<sub>10</sub> and PM<sub>2.5</sub>, and O<sub>3</sub> precursors under CAAQS. The General Plan Update policies and mitigation measures identified above in Section 2.3.6.2 for Issue 2: Air Quality Violations would minimize impacts associated with non-attainment criteria pollutants. However, the General Plan policies and feasible mitigation measures would not fully reduce impacts to below a level of significance. As described above in Section 2.3.6.2, additional mitigation measures were considered in attempting to reduce impacts associated with air quality violations to a less than significant level; however, the County determined that these measures would be infeasible to implement for the reasons outlined above. Therefore, the infeasible mitigation measures identified in Section 2.3.6.2 would not be implemented, and impacts would remain significant and unavoidable from the General Plan Update standpoint. However, future development projects may be able to mitigate emissions associated with their individual development.

### **2.3.6.4 Issue 4: Sensitive Receptors**

Future development consistent with the General Plan Update would result in potentially significant emissions of diesel particulate matter that would result in a potentially significant impact to sensitive receptors. Mitigation Measure Air-4.1 (discussed below) has been identified that would minimize the potentially significant impact associated to sensitive receptors. Some additional mitigation measures have been identified that would reduce impacts associated with sensitive receptors to below a level of significance; however, the County has determined that their implementation would be infeasible. A discussion of both infeasible and feasible mitigation measures identified for the proposed project is provided below. The General Plan Update does not include policies relating specifically to sensitive receptors.

#### **Infeasible Mitigation Measures**

The following measures (and variations of these measures) were considered in attempting to reduce impacts associated with sensitive receptors to below a level of significance. However, the County has determined that these measures would be infeasible to implement for the reasons below; therefore, these mitigation measures would not be implemented.

- Require that all off-road or non-road diesel engines, such as those associated with construction or extraction operations, be replaced by an alternative power source, such as electricity. This measure would limit which construction contractors would be allowed to work within the County because not all contractors have alternative power source equipment available and the measure could result in undue costs to the project applicant. Limiting the construction contractors allowed to work within the County would

conflict with the proposed project's objective to reinforce the vitality, local economy, and individual character of existing communities while balancing housing, employment and recreational opportunities. In addition, the County cannot monitor and enforce all construction activities within its jurisdiction due to funding and staffing deficiencies and ultimately because CARB has the responsibility of regulating emissions from off-road construction equipment.

- Require all diesel trucks that travel on County roads to be equipped with filters or other devices that would limit diesel emissions to below a significant level. This measure is considered to be infeasible the County cannot monitor all diesel traffic within its jurisdiction due to funding and staffing deficiencies and ultimately because CARB has the responsibility of regulating emissions from vehicles. Implementing this measure would result in increased public costs, which would conflict with the proposed project's objective to minimize public costs of infrastructure and services.

Because the measures listed above have been found to be infeasible, impacts would remain significant and unavoidable. Chapter 4.0, Project Alternatives, provides a discussion of several land use alternatives to the proposed project that would result in some reduced impacts associated with sensitive receptors as compared to the proposed project.

### **Mitigation Measures**

The following mitigation measure would reduce impacts associated with impacts to sensitive receptors, but not to below a significant level.

**Air-4.1** Use the policies set forth in the CARB's Land Use and Air Quality Handbook (CARB 2005) as a guideline for siting sensitive land uses. Implementation of this measure will ensure that sensitive land uses such as residences, schools, day care centers, playgrounds, and medical facilities are sited appropriately to minimize exposure to emissions of TACs.

### **2.3.6.5 Issue 5: Objectionable Odors**

The proposed project would not result in a significant direct or cumulative impact associated with objectionable odors. Therefore, no mitigation is necessary.

## **2.3.7 Conclusion**

The discussion below provides a synopsis of the conclusion reached in each of the above impact analyses, and the level of impact that would occur after mitigation measures are implemented.

### **2.3.7.1 Issue 1: Air Quality Plans**

The proposed General Plan Update would not conflict with or obstruct implementation of the RAQS or SIP. Therefore, impacts would be less than significant. Additionally, the proposed project would not contribute to a significant cumulative impact.

### **2.3.7.2 Issue 2: Air Quality Violations**

The proposed General Plan Update would have the potential to result in a violation of an air quality standard. Therefore, impacts would be potentially significant. Additionally, the proposed project would contribute to a significant cumulative impact. The proposed General Plan Update policies and mitigation measures, in combination with the State and local programs, would reduce direct and cumulative impacts to air quality violations; however, not to below a significant level. Impacts would remain significant and unavoidable. Alternatives that would reduce this impact are discussed in Chapter 4.0, Project Alternatives.

### **2.3.7.3 Issue 3: Non-Attainment Criteria Pollutants**

The proposed General Plan Update would have the potential to result in a cumulatively considerable net increase in pollutants for which the SDAB is listed as non-attainment. Therefore, impacts would be potentially significant. This is both a direct and cumulative impact. The proposed General Plan Update policies and mitigation measures, in combination with compliance with the RAQS and SIP, would reduce direct and cumulative impacts associated with non-attainment criteria pollutants; however, not to a level below significance. Impacts would remain significant and unavoidable. Alternatives that would reduce this impact are discussed in Chapter 4.0, Project Alternatives.

### **2.3.7.4 Issue 4: Sensitive Receptors**

The proposed General Plan Update would have the potential to result in the exposure of sensitive receptors to substantial amounts of TACs or HAPs that would result in a potentially significant increase in cancer risk. Therefore, impacts would be potentially significant. Additionally, the proposed project would contribute to a significant cumulative impact. Mitigation measure Air-4.1 would reduce direct and cumulative impacts to sensitive receptors; however, not to below a significant level. Impacts would remain significant and unavoidable. Alternatives that would reduce this impact are discussed in Chapter 4.0, Project Alternatives.

### **2.3.7.5 Issue 5: Objectionable Odors**

The proposed General Plan Update would comply with APCD regulations that require odor sources to reduce impacts to nearby receptors. Therefore, impacts would be less than significant. Additionally, the proposed project would not contribute to a significant cumulative impact.

**Table 2.3-1. Air Quality Descriptors**

<b>Air Quality Index Levels of Health Concern</b>	<b>Numerical Value</b>	<b>Meaning</b>
Good	0-50	Air quality is considered satisfactory, and air pollution poses little or no risk.
Moderate	51-100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	101-150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	151-200	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	201-300	Health alert: everyone may experience more serious health effects.
Hazardous	> 300	Health warnings of emergency conditions. The entire population is more likely to be affected.

Source: AirNow 2008

**Table 2.3-2. Federal and State Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards	Federal Standards	
		Concentration	Primary	Secondary
Ozone (O <sub>3</sub> )	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )	0.075 ppm (147 µg/m <sup>3</sup> )	Same as Primary Standard
	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	---	
Respirable Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	---	Same as Primary Standard
	24 Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	
Fine Particulate Matter (PM <sub>2.5</sub> )	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	Same as Primary Standard
	24 Hour	No Separate State Standard	35 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )	---	None
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )	9.0 ppm (10 mg/m <sup>3</sup> )	
	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	0.030 ppm (56 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard
	1 Hour	0.18 ppm (338 µg /m <sup>3</sup> )	---	
Lead (Pb)	Calendar Quarter	---	1.5 µg/m <sup>3</sup>	Same as Primary Standard
	30 Day Average	1.5 µg/m <sup>3</sup>	---	
	3-month Rolling Average	---	0.15 µg/m <sup>3</sup>	
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	---	0.030 ppm (80 µg/m <sup>3</sup> )	---
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )	0.14 ppm (365 µg/m <sup>3</sup> )	---
	3 Hour	---	---	0.5 ppm (1300 µg/m <sup>3</sup> )
	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	---	---
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more due to particles.	No Federal Standards	
Sulfates (SO <sub>4</sub> <sup>2-</sup> )	24 Hour	25 µg/m <sup>3</sup>	No Federal Standards	
Hydrogen Sulfide (H <sub>2</sub> S)	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	No Federal Standards	
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	No Federal Standards	

ppm=parts per million; mg/m<sup>3</sup>=milligrams per cubic meter; µg/m<sup>3</sup>=micrograms per cubic meter  
Source: CARB 2009



**Table 2.3-3. Criteria Pollutants and Pollutants of Concern, Sources, Recognized Health Effects and Controls**

Pollutant	Sources	Health Effects	Typical Controls
Ozone (O <sub>3</sub> )	O <sub>3</sub> is considered a photochemical oxidant, which is a chemical that is formed when VOCs and NO <sub>x</sub> , which are by-products of combustion, react in the presence of ultraviolet light, including sunlight.	Tropospheric (ground level) O <sub>3</sub> is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to O <sub>3</sub> .	Reduce motor vehicle ROG and NO <sub>x</sub> emissions through emission standards, reformulated fuels, inspections programs, and reduced vehicle use. Limit ROG emissions from commercial operations, gasoline refueling facilities, and consumer products. Limit ROG and NO <sub>x</sub> emissions from industrial sources such as power plants and manufacturing facilities.
Respirable Particulate Matter (PM <sub>10</sub> ) less than 10 microns in diameter and Fine Particulate Matter (PM <sub>2.5</sub> ) less than 2.5 microns in diameter	PM <sub>10</sub> refers to particulate matter with an aerodynamic diameter of 10 microns or less. PM <sub>2.5</sub> refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. PM <sub>10</sub> and PM <sub>2.5</sub> arise from a variety of sources, including road dust, diesel exhaust, combustion, tire and brake wear, construction operations and windblown dust.	Particulate matter in this size range has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM <sub>10</sub> and PM <sub>2.5</sub> can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. PM <sub>2.5</sub> is considered to have the potential to lodge deeper in the lungs.	Control dust sources, industrial particulate emissions, wood burning stoves and fireplaces. Reduce secondary pollutants which react to form PM <sub>10</sub> . Conserve energy. Reduce combustion emissions from motor vehicles, equipment, industries, and agricultural and residential burning. Precursor controls, like those for ozone, reduce fine particle formation in the atmosphere.
Carbon Monoxide (CO)	CO is a product of combustion, and the main source of CO in the SDAB is from motor vehicle exhaust.	CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease, and can also affect mental alertness and vision.	Control motor vehicle and industrial emissions. Use oxygenated gasoline during winter months. Conserve energy.
Nitrogen Dioxide (NO <sub>2</sub> )	NO <sub>2</sub> is also a by-product of fuel combustion, and is formed both directly as a product of combustion and in the atmosphere through the reaction of NO with oxygen.	NO <sub>2</sub> is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO <sub>2</sub> can also increase the risk of respiratory illness.	Control motor vehicle and industrial combustion emissions. Conserve energy.

Table 2.3-3 (Continued)

Pollutant	Sources	Health Effects	Typical Controls
Lead (Pb)	Pb in the atmosphere occurs as particulate matter. Pb has historically been emitted from vehicles combusting leaded gasoline, as well as from industrial sources. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions.	Pb has the potential to cause gastrointestinal, central nervous system, kidney and blood diseases upon prolonged exposure. Pb is also classified as a probable human carcinogen.	Control metal smelters. Ban lead in gasoline or paint.
Sulfur Dioxide (SO <sub>2</sub> )	SO <sub>2</sub> is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO <sub>2</sub> are found near large industrial sources.	SO <sub>2</sub> is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO <sub>2</sub> can cause respiratory illness and aggravate existing cardiovascular disease.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Sulfates (SO <sub>4</sub> <sup>2-</sup> )	Sulfates are the fully oxidized ionic form of sulfur. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO <sub>2</sub> during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO <sub>2</sub> to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.	Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms and an increased risk of cardiopulmonary disease. Sulfates are particularly effective in degrading visibility, and they are usually acidic, can harm ecosystems and damage materials and property.	See SO <sub>2</sub>
Hydrogen Sulfide (H <sub>2</sub> S)	H <sub>2</sub> S is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.	Breathing H <sub>2</sub> S at levels above the standard would result in exposure to a very disagreeable odor.	Control emissions from geothermal power plants, petroleum production and refining, sewers, and sewage treatment plants.
Visibility Reducing Particulates	See PM <sub>2.5</sub>	Reduces visibility (e.g., obscures mountains and other scenery), and reduces airport safety.	See PM <sub>2.5</sub>

**Table 2.3-3 (Continued)**

<b>Pollutant</b>	<b>Sources</b>	<b>Health Effects</b>	<b>Typical Controls</b>
Vinyl Chloride	Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants and hazardous waste sites, due to microbial breakdown of chlorinated solvents.	Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer, in humans.	Control emissions from plants that manufacture or process vinyl chloride, installation of monitoring systems.
Toxic Air Contaminants (TAC)	Combustion engines (stationary and mobile), diesel combustion, storage and use of TAC-containing substances (e.g., gasoline, or lead smelting)	Depends on the TAC, but may cause cancer, mutagenic and/or teratogenic effects, and other acute or chronic health effects.	Implement Toxic Best Available Control Technologies (T-BACT), and limit emissions from known sources.

Source: EPA 2007, CARB 2009, and DPLU 2007g

**Table 2.3-4. Summary of Ambient Background Data – San Diego Air Basin**

Pollutant	Averaging Time	Parameter	2007	2006	2005	2004	2003	NAAQS/CAAQS
Ozone (O <sub>3</sub> )	1 hour	Maximum Concentration	13	12	11	13	13	
	NAAQS	No. of Exceedances	1	0	0	1	1	12 pphm <sup>(1)</sup>
	CAAQS	No. of Exceedances	18	23	16	12	23	9 pphm
	8 hour	Maximum Concentration	9	10	9	10	10	
	NAAQS	No. of Exceedances	7	14	5	8	6	8.5 pphm <sup>(2)</sup>
	CAAQS	No. of Exceedances	43	68	N/A	N/A	N/A	7.0 pphm <sup>(3)</sup>
Carbon Monoxide (CO)	1 hour	Maximum Concentration	8.7	10.8	7.9	6.9	12.7	
	NAAQS	No. of Exceedances	0	0	0	0	0	20 ppm
	CAAQS	No. of Exceedances	0	0	0	0	0	35 ppm
	8 hour	Maximum Concentration	5.2	3.6	4.7	3.8	10.6	
	NAAQS	No. of Exceedances	0	0	0	0	0	9.0 ppm
	CAAQS	No. of Exceedances	0	0	0	0	0	9 ppm
Nitrogen Dioxide (NO <sub>2</sub> )	1 hour	Maximum Concentration	0.101	0.097	0.109	0.125	0.148	
	CAAQS	No. of Exceedances	0	0	0	0	0	0.25 ppm <sup>(4)</sup>
	Annual NAAQS	Maximum Concentration	0.022	0.024	0.024	0.023	0.020	0.053 ppm <sup>(4)</sup>
Respirable Particulate Matter (PM <sub>10</sub> )	24 hour	Maximum Concentration	143	133	155	137	130	
	NAAQS	No. of Exceedances <sup>(7)</sup>	2	0	1	0	1	50 µg/m <sup>3</sup>
	CAAQS	No. of Exceedances <sup>(7)</sup>	49	41	37	41	37	20 µg/m <sup>3</sup>
	Annual NAAQS <sup>(5)</sup> /CAAQS	Maximum Concentration	47	54	58	51	53	150 µg/m <sup>3</sup> /50 µg/m <sup>3</sup>
Fine Particulate Matter (PM <sub>2.5</sub> )	24 hour	Maximum Concentration	52	63	44	67	51	
	NAAQS <sup>(6)</sup>	No. of Exceedances <sup>(7)</sup>	5	1	0	0	4	35 µg/m <sup>3</sup>
	Annual NAAQS/CAAQS	Maximum Concentration	12	13	16	14	15	15 µg/m <sup>3</sup> /12 µg/m <sup>3</sup>

(1) Previous 1-hour NAAQS of 12 pphm was rescinded on June 15, 2005.

(2) 8-hour NAAQS of 8.5 pphm was lowered to 7.5 pphm on May 27, 2008.

(3) 8-hour CAAQS of 7.0 pphm was adopted in 2006.

(4) 1-hour CAAQS of 0.25 ppm was lowered to 0.18 ppm effective March 20, 2008. A new annual standard of 0.030 ppm was also adopted on that date.

(5) Annual NAAQS of 50 µg/m<sup>3</sup> was rescinded on December 17, 2006.

(6) 24-hour NAAQS of 65 µg/m<sup>3</sup> was lowered to 35 µg/m<sup>3</sup> on December 17, 2006.

(7) Measured exceedances.

pphm = parts per hundred million; ppm=parts per million; mg/m<sup>3</sup>=milligrams per cubic meter; µg/m<sup>3</sup>=micrograms per cubic meter

Source: SRA 2009

**Table 2.3-5. San Diego County Air Basin Attainment Status by Pollutant<sup>(1)</sup>**

Pollutant	Averaging Time	Federal Standards	California Standards
Ozone (O <sub>3</sub> )	8 Hour	Non-attainment	Non-attainment
	1 Hour	No Federal Standard	Non-attainment
Respirable Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	Unclassifiable	Non-attainment
	24 Hour	Unclassifiable	Non-attainment
Fine Particulate Matter (PM <sub>2.5</sub> )	Annual Arithmetic Mean	Attainment	Non-attainment
	24 Hour	Attainment	Non-attainment
Carbon Monoxide (CO)	8 Hour	Attainment	Attainment
	1 Hour	Attainment	Attainment
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	Attainment	Attainment
	1 Hour	Attainment	Attainment
Lead (Pb)	Calendar Quarter	No Federal Standard	Attainment
	30 Day Average	Attainment	No State Standard
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	Attainment	Attainment
	24 Hour	Attainment	Attainment
	3 Hour	Attainment	Attainment
	1 Hour	Attainment	Attainment
Sulfates (SO <sub>4</sub> <sup>2-</sup> )	24 Hour	No Federal Standard	Attainment
Hydrogen Sulfide (H <sub>2</sub> S)	1 Hour	No Federal Standard	Unclassified <sup>(2)</sup>
Visibility Reducing Particulates	8 Hour (10:00 a.m. to 6:00 p.m., PST)	No Federal Standard	Unclassified <sup>(2)</sup>

<sup>(1)</sup> Data reflects status as of March 19, 2007.

<sup>(2)</sup> Unclassified; indicates data are not sufficient for determining attainment or nonattainment.

Source: APCD 2007b

**Table 2.3-6. Emissions Inventories**

<b>Mobile Sources</b>	<b>Stationary Sources</b>	<b>Area-Wide Sources</b>	<b>Natural Sources</b>
<u>On-Road</u> Passenger Cars Trucks Motorcycles Urban Buses School Buses Motor Homes  <u>Other Mobile</u> Aircraft Trains Ships & Commercial Boats Recreational Boats Off-road Recreational Vehicles Off-road Equipment Farm Equipment Fuel Storage & Handling	<u>Fuel Combustion</u> Electric Utilities Cogeneration Manufacturing & Industrial Food & Agriculture Processing Service & Commercial Waste Disposal Sewage Treatment Landfills Incinerators Soil Remediation Cleaning & Surface Coatings Laundering Degreasing Coatings & Related Solvents Printing Adhesives & Sealants  <u>Petroleum Production &amp;            Marketing</u>  <u>Industrial Processes</u> Chemical Food & Agriculture Mineral Processes Metal Processes Wood & Paper	<u>Solvent Evaporation</u> Consumer Products Architectural Coatings Pesticides / Fertilizers Asphalt Paving / Roofing  <u>Miscellaneous Processes</u> Residential Fuel Combustion Farming Operations Construction and Demolition Paved Road Dust Unpaved Road Dust Fugitive Windblown Dust Fires Waste Burning/Disposal Cooking	Biogenic Geogenic Wildfires Windblown Dust

Source: DPLU 2007g

**Table 2.3-7. RAQS VOC Control Measures**

<b>Control Measure</b>	<b>SDAPCD Rule Number</b>	<b>Adoption Date</b>	<b>Full Implementation Date</b>	<b>Estimated Emission Reductions (tons/day)</b>
Enhanced Vapor Recovery	61.3.1 61.4.1	2006	2009	2
Further Control of Solvent Cleaning	67.6.1 67.6.2	2007	2008	1

Source: APCD 2009

**Table 2.3-8. RAQS NO<sub>x</sub> Control Measures**

Control Measure	SDAPCD Rule Number	Adoption Date	Full Implementation Date	Estimated Emission Reductions (tons/day)
Further Control of Stationary Combustion Turbines	69.3.1	2009	2011	0.19 average 1.65 peak
Small and Medium Boilers, Steam Generators, and Process Heaters Between 600,000 and 5 million British Thermal Unit (BTU)/hour	69.2.1 69.2.2	2009	2029	0.4
Further Control of Residential Water Heaters Smaller than 75,000 BTU/hour	69.5	Delayed	10 years after adoption	0.7

Source: APCD 2009

**Table 2.3-9. General Plan Update Area-wide and Vehicular Emissions**

Source	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Tons/day, Summer</b>						
Natural Gas Usage	0.148	2.012	1.554	0.000	0.004	0.004
Landscaping	0.180	0.011	1.002	0.000	0.003	0.003
Consumer Products	1.416	-	-	-	-	-
Architectural Coatings	1.782	-	-	-	-	-
Vehicular Emissions	23.58	194.96	34.50	0.62	7.723 <sup>(1)</sup>	4.08
<b>Total</b>	<b>27.11</b>	<b>196.98</b>	<b>37.06</b>	<b>0.62</b>	<b>0.01</b>	<b>4.09</b>
<b>Tons/day, Winter</b>						
Natural Gas Usage	0.148	2.012	1.554	0.000	0.004	0.004
Hearth	3.221	0.230	7.054	0.018	1.072	1.032
Consumer Products	1.416	-	-	-	-	-
Architectural Coatings	1.782	-	-	-	-	-
Vehicular Emissions	24.52	191.30	36.37	0.58	7.723 <sup>(1)</sup>	4.09
<b>Total</b>	<b>31.09</b>	<b>193.54</b>	<b>44.98</b>	<b>0.60</b>	<b>1.08</b>	<b>5.13</b>
<b>Tons/day, Annual (Average)</b>						
Natural Gas Usage	0.148	2.012	1.554	0.000	0.004	0.004
Hearth	0.727	0.025	1.573	0.004	0.239	0.230
Landscaping	0.089	0.006	0.494	0.000	0.001	0.001
Consumer Products	1.416	-	-	-	-	-
Architectural Coatings	1.782	-	-	-	-	-
Vehicular Emissions	22.85	193.09	33.88	0.59	7.723 <sup>(1)</sup>	4.09
<b>Total</b>	<b>27.01</b>	<b>195.13</b>	<b>37.50</b>	<b>0.59</b>	<b>0.24</b>	<b>4.33</b>

<sup>(1)</sup> Calculated based on assuming that tire and brake wear PM<sub>2.5</sub> fraction of PM<sub>10</sub> is 21 percent, exhaust PM<sub>2.5</sub> fraction of PM<sub>10</sub> is 99 percent.

Source: SANDAG 2008e, based on SANDAG projections of emissions for the year 2030.

**Table 2.3-10. Comparison of Current and Future Vehicular Emissions**

Year	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Tons/day, Summer</b>						
2007	53.30	554.77	105.59	0.49	6.786 <sup>(1)</sup>	3.96
2030	23.58	194.96	34.50	0.62	7.723 <sup>(1)</sup>	4.08
<b>Net Increase (Decrease)</b>	<b>(29.72)</b>	<b>(359.81)</b>	<b>(71.09)</b>	<b>0.13</b>	<b>0.937</b>	<b>0.12</b>
<b>Tons/day, Winter</b>						
2007	57.10	553.36	112.43	0.46	6.797 <sup>(1)</sup>	3.97
2030	24.52	191.30	36.37	0.58	7.723 <sup>(1)</sup>	4.09
<b>Net Increase (Decrease)</b>	<b>(32.58)</b>	<b>(362.06)</b>	<b>(76.06)</b>	<b>0.12</b>	<b>0.926</b>	<b>0.12</b>
<b>Tons/day, Annual (Average)</b>						
2007	52.93	557.40	103.78	0.47	6.786 <sup>(1)</sup>	3.97
2030	22.85	193.09	33.88	0.59	7.723 <sup>(1)</sup>	4.09
<b>Net Increase (Decrease)</b>	<b>(30.08)</b>	<b>(364.31)</b>	<b>(69.90)</b>	<b>0.12</b>	<b>0.937</b>	<b>0.12</b>

<sup>(1)</sup> Calculated based on assuming that tire and brake wear PM<sub>2.5</sub> fraction of PM<sub>10</sub> is 21 percent, exhaust PM<sub>2.5</sub> fraction of PM<sub>10</sub> is 99 percent.

Source: SANDAG 2008e



**Table 2.3-11. Mitigated Area-wide and Vehicular Emissions**

Source	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Tons/day, Summer</b>						
Natural Gas Usage	0.118	1.610	1.243	0.000	0.003	0.003
Landscaping	0.144	0.009	0.802	0.000	0.002	0.002
Consumer Products	1.416	-	-	-	-	-
Architectural Coatings	0.809	-	-	-	-	-
Vehicular Emissions	23.58	194.96	34.50	0.62	7.723 <sup>a</sup>	4.08
<b>Total</b>	<b>26.07</b>	<b>196.58</b>	<b>36.55</b>	<b>0.62</b>	<b>0.01</b>	<b>4.09</b>
<b>Tons/day, Winter</b>						
Natural Gas Usage	0.118	1.610	1.243	0.000	0.003	0.003
Hearth	3.221	0.230	7.054	0.018	1.072	1.032
Consumer Products	1.416	-	-	-	-	-
Architectural Coatings	0.809	-	-	-	-	-
Vehicular Emissions	24.52	191.30	36.37	0.58	7.723 <sup>a</sup>	4.09
<b>Total</b>	<b>30.08</b>	<b>193.14</b>	<b>44.67</b>	<b>0.60</b>	<b>1.08</b>	<b>5.13</b>
<b>Tons/day, Annual (Average)</b>						
Natural Gas Usage	0.118	1.610	1.243	0.000	0.003	0.003
Hearth	0.727	0.025	1.573	0.004	0.239	0.230
Landscaping	0.071	0.004	0.395	0.000	0.001	0.001
Consumer Products	1.416	-	-	-	-	-
Architectural Coatings	0.809	-	-	-	-	-
Vehicular Emissions	22.85	193.09	33.88	0.59	7.723 <sup>a</sup>	4.09
<b>Total</b>	<b>25.99</b>	<b>194.73</b>	<b>37.09</b>	<b>0.59</b>	<b>0.24</b>	<b>4.32</b>

<sup>(1)</sup> Calculated based on assuming that tire and brake wear PM<sub>2.5</sub> fraction of PM<sub>10</sub> is 21 percent, exhaust PM<sub>2.5</sub> fraction of PM<sub>10</sub> is 99 percent.

Source: SANDAG 2008e.

**Table 2.3-12. Screening-Level Thresholds for Air Quality Impact Analysis**

<b>Pollutant</b>	<b>Total Emissions</b>
<b>Construction Emissions</b>	<b>Pounds per Day</b>
Respirable Particulate Matter (PM <sub>10</sub> )	100
Fine Particulate Matter (PM <sub>2.5</sub> )	55
Oxides of Nitrogen (NO <sub>x</sub> )	250
Oxides of Sulfur (SO <sub>x</sub> )	250
Carbon Monoxide (CO)	550
Volatile Organic Compounds (VOCs) <sup>(1)</sup>	75

<b>Operational Emissions</b>	<b>Pounds Per Hour</b>	<b>Pounds per Day</b>	<b>Tons per Year</b>
Respirable Particulate Matter (PM <sub>10</sub> )	---	100	15
Fine Particulate Matter (PM <sub>2.5</sub> )	---	55	10
Oxides of Nitrogen (NO <sub>x</sub> )	25	250	40
Oxides of Sulfur (SO <sub>x</sub> )	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOC)	---	75	13.7

<b>Toxic Air Contaminant Emissions</b>	
Excess Cancer Risk	1 in 1 million without Best Available Control Technology (T-BACT) 10 in 1 million with T-BACT
Non-Cancer Hazard	1.0

<sup>(1)</sup> Source: DPLU 2007g

**Table 2.3-13. CARB Recommendations on Siting New Sensitive Land Uses**

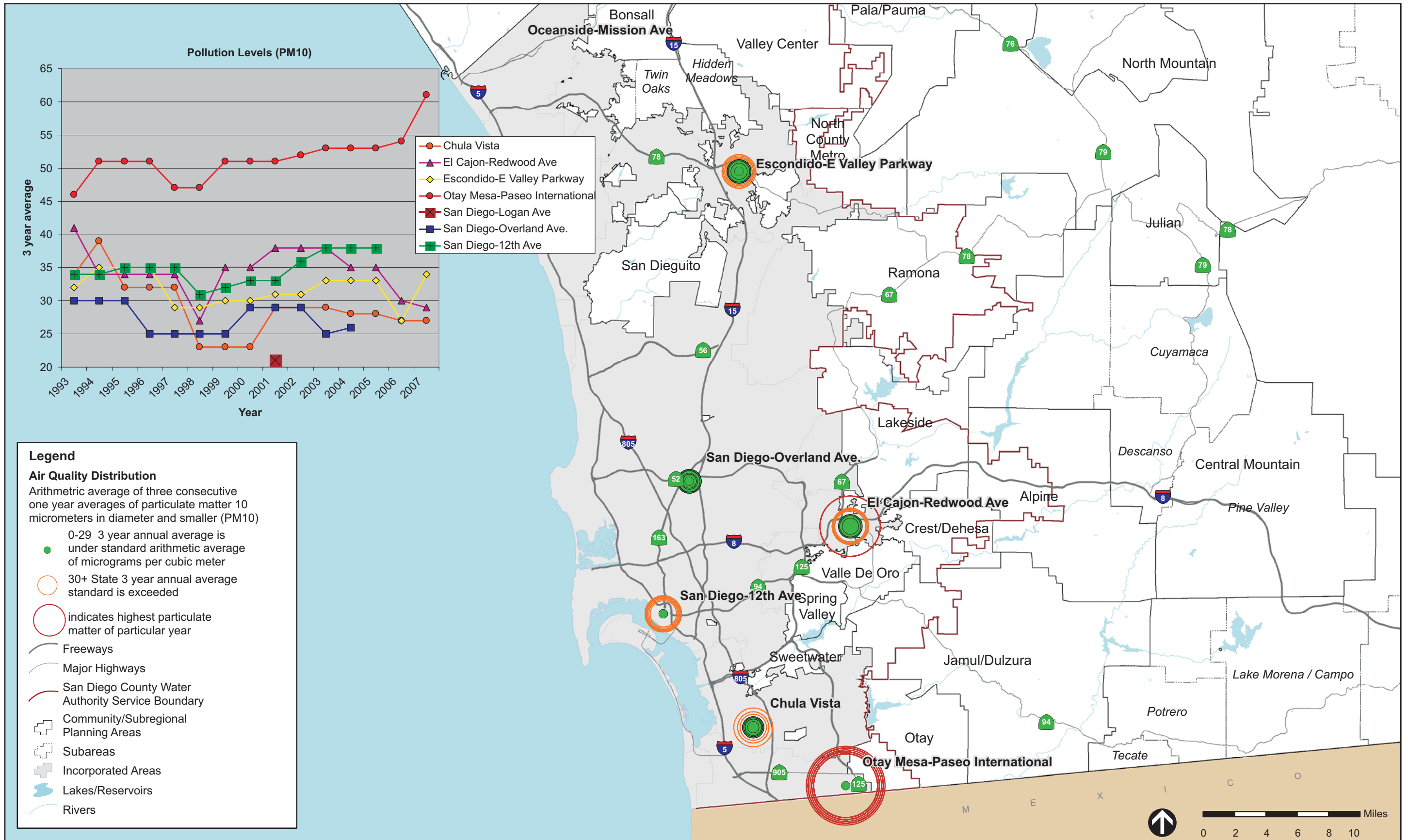
<b>Source Category</b>	<b>Advisory Recommendations</b>
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 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 new sensitive land uses near entry and exit points.
Rail Yards	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	Avoid siting new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	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	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	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 3 or more machines, consult with the local air district.  Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	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

**Table 2.3-14. TAC-Emitting Facilities within the SDAB 2007**

<b>TAC-Emitting Facility</b>	<b>Location</b>
Cabrillo Power II, LLC	City of San Diego
Cubic Corporation	City of San Diego
Salk Institute	City of San Diego
Flame Spray, Inc.	City of San Diego
Escondido Plating	City of Escondido
Plavan Petroleum, Inc.	City of Escondido
Specialized Processing Co., Inc.	City of El Cajon
Kyocera America, Inc.	City of San Diego
Gas Recovery System Inc.	City of Santee
Shelter Island Boat Yard	City of San Diego
Zoological Society of San Diego	City of San Diego
CA Commercial Asphalt – Hollister	City of San Diego
CP Manufacturing	City of National City
Bardon Enterprises	City of Santee
SDG&E Palomar Energy Center	City of Escondido
Agri Service	City of Oceanside

Source: APCD 2008



Source: California Air Resource Board, 2008; County of San Diego, 2008

SAN DIEGO AIR QUALITY MONITORING STATIONS AND ANNUAL AVERAGE PM<sub>10</sub> EMISSIONS

FIGURE 2.3-1