4.2 AIR QUALITY

This section examines the climatic influences that affect air quality of the City of Rocklin General Plan Update Planning Area and describes available data on measured air pollution levels near the Planning Area. Key issues addressed in this section include 8-hour ozone attainment, short-term construction emissions, operational air pollutants, increases in criteria pollutants, odors, and regional air quality impacts. General Plan policies and mitigation measures that would serve to reduce impacts are also identified. This section has been prepared with assistance from Ambient Air Quality & Noise Consulting based on current traffic volume data and current air quality standards for the Sacramento Valley Air Basin. Relevant federal, state, and local regulatory and planning agencies and programs that pertain to air quality are also identified. Abbreviated citations for each information source are provided in the text, with full references provided at the end of this section.

4.2.1 EXISTING SETTING

AIR BASIN CHARACTERISTICS

Sacramento Valley Air Basin

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. The Planning Area is located within the Placer County Air Pollution Control District (PCAPCD) that is part of the ten-county Sacramento Valley Air Basin (SVAB), which includes all of Sacramento, Yolo, Yuba, Sutter, Colusa, Glenn, Tehama, and Shasta counties and parts of Solano and Placer counties. The modified Mediterranean climate in the area is characterized by hot, dry summers and mild, rainy winters. During the year, the temperature may range from 20 to 115 degrees Fahrenheit, with summer highs usually in the 90s and winter lows occasionally below freezing (32°F). Prevailing winds are moderate in strength and vary from dry land flows from the north to moist ocean breezes from the south. The mountains surrounding the Sacramento Valley create a barrier to airflow which, under the right meteorological conditions, can trap pollutants in the valley (Raney Planning & Management 2006, pg. 4.8-1).

AMBIENT AIR QUALITY STANDARDS

Both the U.S. Environmental Protection Agency (EPA) and CARB have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants that represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The federal and California state ambient air quality standards for important pollutants are summarized in **Table 4.2-1**. The federal and state ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and PM_{10}.

TABLE 4.2-1
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Federal Primary Standard[1]	State Standard[2]
Ozone	1-Hour	–	0.09 ppm
	8-Hour	0.075 ppm	0.07 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35 ppm	20.0 ppm
Nitrogen Dioxide	Annual Average	0.053 ppm	0.03 ppm
	1-Hour	0.100 ppm[3]	0.18 ppm
Sulfur Dioxide	Annual Average	0.03 ppm	–
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour		0.25 ppm
PM_{10}	Annual Average	–	20 µg/m^3
	24-Hour	150 µg/m^3	50 µg/m^3
$PM_{2.5}$	Annual	15 µg/m^3	12 µg/m^3
	24-Hour	35 µg/m^3	–

Source: CARB (02/16/10)

Notes: ppm = parts per million, ug/m^3 = micrograms per cubic meter

PM_{10} = particulate matter 10 microns or less, $PM_{2.5}$ = particulate matter 2.5 microns or less

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

[2] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[3] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010)

In March 2008, the EPA adopted new national air quality standards for ground-level ozone, reducing the 8-hour standard from 0.08 parts per million (ppm) to 0.075 ppm. National standards for fine particulate matter (diameter 2.5 microns or less) were amended in 2006 for 24-hour and annual averaging periods. The current PM_{10} standards were retained, but the method and form for determining compliance with the standards were revised.

AMBIENT AIR QUALITY

The Sacramento Metropolitan Air Quality Management District (SMAQMD) and CARB maintain several air quality monitoring sites in the Sacramento Valley area, including sites in Roseville and in North Highlands. The air quality monitoring site at the City of Auburn–C Avenue station is approximately 10 miles east of Rocklin and contains recent information for ozone. The Roseville monitoring site, approximately 3 miles to the southwest on North Sunrise Boulevard, measures the following pollutants: ozone, carbon monoxide, nitrogen dioxide, and particulate matter (PM_{10} and $PM_{2.5}$). The nearest monitoring site for sulfur dioxide is approximately 9.5 miles to the southwest on Blackfoot Way in North Highlands in Sacramento County. **Table 4.2-2** shows

historical occurrences of pollutant levels exceeding the state/federal ambient air quality standards for the three-year period 2006–2008. The number of days that each standard was exceeded is shown. All federal and state ambient air quality standards are met in the Rocklin area, with the exception of California ambient air quality standards (CAAQS) for ozone and for particulate matter (PM_{10}).

TABLE 4.2-2
AMBIENT AIR QUALITY MONITORING DATA FOR AUBURN (C AVENUE), ROSEVILLE (NORTH SUNRISE BOULEVARD), AND NORTH HIGHLANDS (BLACKFOOT WAY)

Pollutant Standards	2006	2007	2008
Ozone (Auburn–C Avenue)			
Maximum 1-hour concentration (ppm)	0.129	0.097	0.124
Maximum 8-hour concentration (ppm)	0.107	0.081	0.112
Number of days standard exceeded [a]			
CAAQS 1-hour (>0.09 ppm)	25	1	14
CAAQS 8-hour (>0.07 ppm)	67	21	36
NAAQS 8-hour (>0.08 ppm)	56	9	21
Ozone (Roseville)			
Maximum 1-hour concentration (ppm)	0.121	0.109	0.134
Maximum 8-hour concentration (ppm)	0.098	0.101	0.107
Number of days standard exceeded [a]			
CAAQS 1-hour (>0.09 ppm)	16	4	20
CAAQS 8-hour (>0.07 ppm)	38	20	38
NAAQS 8-hour (>0.08 ppm)	25	8	22
Carbon Monoxide (CO) (Roseville)			
Maximum 8-hour concentration (ppm)	No data	No data	No data
Number of days standard exceeded [a]			
NAAQS 8-hour (>9.0 ppm)	0	0	0
CAAQS 8-hour (>9.0 ppm)	0	0	0
NAAQS 1-hour (>35 ppm)	0	0	0
CAAQS 1-hour (>20 ppm)	0	0	0
Nitrogen Dioxide (NO_2) (Roseville)			
Maximum 1-hour concentration (ppm)	0.063	0.058	0.067
Annual concentration (ppm)	0.013	0.012	0.012
Number of days standard exceeded [a]			
CAAQS 1-hour (>0.25 ppm)	0	0	0
Sulfur Dioxide (SO_2) (North Highlands)			
Maximum 24-Hour concentration (ppm)	0.003	0.004	no data

Pollutant Standards	2006	2007	2008
Annual concentration (ppm)	0.001	0.001	no data
Number of days standard exceeded [a]			
CAAQS 24-hour (>0.04 ppm)	0	0	0
NAAQS 24-hour (>0.14 ppm)	0	0	0
Particulate Matter (PM_{10}) [b] (Roseville)			
Maximum 24-hour concentration ($\mu g/m^3$)	55	45	73.9
Annual average concentration ($\mu g/m^3$) [e]	22.0	17.0	22.4
Number of days standard exceeded [a]			
NAAQS 24-hour (>150 $\mu g/m^3$) [f]	0	0	0
CAAQS 24-hour (>50 $\mu g/m^3$) [f]	1	0	1
Particulate Matter ($PM_{2.5}$) [b] (Roseville)			
Maximum 24-hour concentration ($\mu g/m^3$)	54.7	48.7	149.7
Annual average concentration ($\mu g/m^3$)[e]	10.5	12.2	13.8
Number of days standard exceeded [a]			
NAAQS 24-hour (>65 $\mu g/m^3$) [f]	0	0	1

Sources: CARB 2006, 2007, and 2008
Notes:
CAAQS = California ambient air quality standards. NAAQS = national ambient air quality standards.
Highlighted cells indicate an exceedance.

a. *An exceedance is not necessarily a violation. It should be noted that the federal ozone 1-hour standard has been revoked by the EPA.*
b. *Measurements usually are collected every 6 days.*
c. *National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.*
d. *State statistics are based on local conditions data, except in the Sacramento Valley Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California-approved samplers.*
e. *State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.*
f. *Mathematical estimate of how many days' concentrations would have been measured as higher than the level of the standard had each day been monitored.*

AIR POLLUTANTS OF CONCERN AND HEALTH EFFECTS

Concentrations of the air pollutants ozone, respirable and fine particulate matter (PM_{10} and $PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead are used as indicators of ambient air quality conditions. Because these are the most prevalent air pollutants known to be harmful to human health and extensive information on the health effects of these pollutants is available, they are commonly referred to as criteria air pollutants. The health effects and major sources of these pollutants are described below. As noted in **Table 4.2-2**, the pollutants in the Rocklin area that have historically exceeded applicable air quality standards are ozone and particulate matter. Toxic air contaminants are a separate class of pollutants and are discussed later in this section.

Ozone

Ground-level ozone, commonly referred to as smog, is greatest on warm, windless, sunny days. Ozone is not emitted directly into the air, but formed through a complex series of chemical

reactions between reactive organic gases (ROG) and nitrogen oxides (NOx). These reactions occur over time in the presence of sunlight. Ground-level ozone formation can occur in a matter of hours under ideal conditions. The time required for ozone formation allows the reacting compounds to spread over a large area, producing a regional pollution concern. Once formed, ozone can remain in the atmosphere for one or two days.

Ozone is also a public health concern because it is a respiratory irritant that increases susceptibility to respiratory infections and diseases, and because it can harm lung tissue at high concentrations. In addition, ozone can cause substantial damage to leaf tissues of crops and natural vegetation and can damage many natural and manmade materials by acting as a chemical oxidizing agent.

The principal sources of the ozone precursors (ROG and NOx) are the combustion of fuels and the evaporation of solvents, paints, and fuels.

Particulate Matter

Particulate matter (PM) can be divided into several size fractions. Coarse particles are between 2.5 and 10 microns in diameter and arise primarily from natural processes, such as wind-blown dust or soil. Fine particles are less than 2.5 microns in diameter and are produced mostly from combustion or burning activities. Fuel burned in cars and trucks, power plants, factories, fireplaces, and woodstoves produces fine particles.

The level of fine particulate matter in the air is a public health concern because it can bypass the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. The health effects vary depending on a variety of factors, including the type and size of particles. Research has demonstrated a correlation between high PM concentrations and increased mortality rates. Elevated PM concentrations can also aggravate chronic respiratory illnesses such as bronchitis and asthma.

Carbon Monoxide

Carbon monoxide (CO) is an odorless, colorless gas that is formed by the incomplete combustion of fuels. Motor vehicle emissions are the dominant source of CO in the Sacramento Valley and foothill region. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can cause dizziness, headaches, unconsciousness, and even death. Carbon monoxide can also aggravate cardiovascular disease. Relatively low concentrations of CO can significantly affect the amount of oxygen in the bloodstream because CO binds to hemoglobin 220–245 times more strongly than oxygen.

CO emissions and ambient concentrations have decreased significantly in recent years. These improvements are due largely to the introduction of cleaner burning motor vehicles and motor vehicle fuels. CO is still a pollutant that must be closely monitored, however, due to its severe effect on human health.

Elevated CO concentrations are usually localized and are often the result of a combination of high traffic volumes and traffic congestion. Elevated CO levels develop primarily during winter periods of light winds or calm conditions combined with the formation of ground-level temperature inversions. Wintertime carbon monoxide concentrations are higher because of reduced dispersion of vehicle emissions and because CO emission rates from motor vehicles increase as temperature decreases.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of nitrogen dioxide are combustion devices such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Construction devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form nitrogen dioxide. The combined emissions of NO and NO_2 are referred to as NO_X. Because nitrogen dioxide is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographic area may not be representative of the local NO_X emission sources.

Inhalation is the most common route of exposure to nitrogen dioxide. Because nitrogen dioxide has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of adverse health effects depends primarily on the concentration inhaled rather than the duration of the exposure. Exposure can result in a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation. Symptoms that are more significant may include chemical pneumonitis or pulmonary edema with breathing abnormalities, cyanosis, chest pain, and rapid heartbeat.

Sulfur Dioxide

Sulfur dioxide (SO_2) is produced by such stationary sources as coal and oil combustion, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with exposure to sulfur dioxide pertain to the upper respiratory tract. Sulfur dioxide is a respiratory irritant, with constriction of the bronchioles occurring with inhalation of sulfur dioxide at 5 ppm or more. On contact with the moist mucous membranes, sulfur dioxide produces sulfurous acid, which is a direct irritant. Similar to nitrogen dioxide, the severity of adverse health effects depends primarily on the concentration inhaled rather than the duration of the exposure. Exposure to high concentrations of sulfur dioxide may result in edema of the lungs or glottis and respiratory paralysis.

Lead

Lead (Pb) is a metal naturally found in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. In the early 1970s, the EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters, and in December of 1995, the EPA banned the use of leaded gasoline in highway vehicles. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in the air are generally found near lead smelters, with other stationary sources being waste incinerators, utilities, and lead-acid battery manufacturers.

As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from transportation sources have declined dramatically (95 percent between 1980 and 1999) and levels of lead in the air decreased by 94 percent between 1980 and 1999. A National Health and Nutrition Examination Survey reported a 78 percent decrease in the levels of lead in people's blood between 1976 and 1991.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. A TAC is defined as an air pollutant that may cause or contribute

to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. TACs are considered either carcinogenic or non-carcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur and cancer risk is expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death. **Table 4.2-3** displays potential sources of TAC emissions for various land uses in the city. All gas stations, auto body and machine shops, dry cleaners, electrical and chemical manufacturers, and printing services located within the city are potential sources of TAC emissions.

TABLE 4.2-3
FACILITIES THAT EMIT AIR POLLUTANTS OF CONCERN[1]

Categories	Facility Type	Air Pollutants of Concern
Commercial	Autobody Shops	Metals, Solvents
	Furniture Repair	Solvents[2], Methylene Chloride
	Film Processing Services Distribution Centers	Solvents, Perchloroethylene
		Diesel Particulate Matter
	Printing Shops	Solvents
	Diesel Engines	Diesel Particulate Matter
Industrial	Construction	Particulate Matter, Asbestos
	Manufacturers	Solvents, Metals
	Metal Platers, Welders, Metal Spray (flame spray) Operations	Hexavalent Chromium, Nickel, Metals
	Chemical Producers	Solvents, Metals
	Furniture Manufacturers	Solvents
	Shipbuilding and Repair	Hexavalent Chromium and Other Metals, Solvents
	Rock Quarries and Cement Manufacturers	Particulate Matter, Asbestos
	Research and Development Facilities	Solvents, Metals, etc.

Source: CARB 2005
Not all facilities will emit pollutants of concern due to process changes or chemical substitution. Consult the local air district regarding specific facilities.
Some solvents may emit toxic air pollutants, but not all solvents are toxic air contaminants.

According to the California Almanac of Emissions and Air Quality (CARB 2006a), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel PM or DPM). The California Air Resources Board in 1998 identified diesel engine PM as a toxic air contaminant. Diesel PM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. The exhaust from diesel engines contains hundreds of different gaseous

and particulate components, many of which are toxic. Diesel engine particulate has been identified as a human carcinogen. Mobile sources, such as trucks, buses, automobiles, trains, ships, and farm equipment, are by far the largest source of diesel emissions. Studies show that diesel particulate matter concentrations are much higher near heavily traveled highways and intersections.

Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. No ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses CARB's emissions inventory PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene pose the greatest existing ambient risk, for which data are available, in California.

Wood Smoke

Wood smoke has long been identified as a significant source of pollutants in urban and suburban areas. Wood smoke contributes to particulate matter and carbon monoxide concentrations, reduces visibility, and contains numerous toxic air contaminants. Present controls on this source include the adoption of emission standards for woodstoves and fireplace inserts. Interest in wood smoke is likely to increase with the recent adoption of a $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter) national standard.

Asbestos

Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Naturally occurring asbestos, which was identified as a TAC in 1986 by CARB, is located in many parts of California, including several foothill areas of Placer County, and is commonly associated with serpentine. The City of Rocklin is not located near any areas that are likely to contain ultramafic rock, which is commonly associated with asbestos. For a complete discussion on asbestos and associated risks, the reader is referred to the ultramafic rock discussion in Section 4.7, Human Health/Hazards.

Odors

Typically odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

According to the CARB *Air Quality and Land Use Handbook: A Community Health Perspective* (2005), some of the most common sources of odor complaints received by local air districts are sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, autobody shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations (CARB 2005).

Sensitive Receptors and Pollution Sources

Sensitive receptors are facilities where sensitive receptor population groups (children, the elderly, the acutely ill, and the chronically ill) are likely to be located. These land uses include schools, retirement homes, convalescent homes, hospitals, residences, and medical clinics.

4.2.2 REGULATORY FRAMEWORK

Air quality in the Sacramento Valley Air Basin is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy making, education, and a variety of programs. The agencies primarily responsible for improving the air quality in the City of Rocklin are discussed below along with their individual responsibilities.

FEDERAL

United States Environmental Protection Agency

The U.S. Environmental Protection Agency is responsible for enforcing the 1990 amendments to the federal Clean Air Act (CAA) and the national ambient air quality standards (federal standards) that it establishes. These standards identify levels of air quality for six criteria pollutants, which are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect public health and welfare. The six criteria pollutants are ozone, carbon monoxide, nitrogen dioxide (NO_2 – a form of NO_X), sulfur dioxide (SO_2 – a form of SO_X), particulate matter 10 microns in size and smaller (PM_{10}), and lead.

The CAA also requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The EPA has responsibility to review all SIPs to determine conformation to the mandates of the CAA, and the amendments thereof, and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes

additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Western Placer County, including the City of Rocklin, is included in the Greater Sacramento ozone nonattainment area as delineated by the U.S. Environmental Protection Agency. The CAAA set deadlines for attaining the ozone standard. In 1994, the California Air Resources Board, in cooperation with the air districts of the Sacramento nonattainment area, which includes the Placer County Air Pollution Control District, prepared the 1994 Sacramento Area Regional Ozone Attainment Plan. The plan identified a detailed comprehensive strategy for reducing emissions to the level needed for attainment and showed how the region would make expeditious progress toward meeting this goal.

In July of 1997, the EPA promulgated a new 8-hour ozone standard. This change lowered the standard for ambient ozone from 0.12 ppm (parts per million) averaged over one hour to 0.08 ppm averaged over eight hours. In general, the 8-hour standard is more protective of public health and more stringent than the 1-hour standard. The promulgation of this standard prompted new designations and nonattainment classifications in June 2004 and resulted in the revocation of the 1-hour standard in June 2005. The region has been designated as a nonattainment (serious) area for the national (8-hour) ozone standard with an attainment deadline of June 2013.

On January 6, 2010, the EPA announced that it is reconsidering the ozone standards set in 2008. The EPA is proposing to strengthen the 2008 ozone 8-hour standards from 0.075 ppm down to a level within the range of 0.060–0.070 ppm and establish a seasonal "secondary" standard with the range of 7–15 ppm-hour to protect sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. According to the 2006–2008 air monitoring data, Placer County (including the Lake Tahoe area) would be designated as nonattainment along with El Dorado, Nevada, Sacramento, Sutter, Yolo, and Yuba counties. If the action of reconsideration results in the EPA issuing different ozone standards in August 2010, the new ozone standards would replace the 2008 ozone standards. The scheduled deadline for CARB to submit the new nonattainment recommendations to the EPA will be in January 2011. The EPA plans to publish the final area designations in July 2011, and the new SIP would then be due to the EPA in December 2013. **Table 4.2-4** shows the existing and proposed federal 8-hour ozone standards.

TABLE 4.2-4
EXISTING AND PROPOSED FEDERAL 8-HOUR OZONE STANDARDS

	8-hour Ozone Primary Standard	% Lower Than 1997 Standard
1997 Standard	0.084 ppm	
2008 Standard	0.075 ppm	11%
2010 Standard	0.060–0.070 ppm	23%

Source: PCAPCD 2010

However, since the Sacramento region needs to rely on the longer-term emission reduction strategies from state and federal mobile source control programs, the 2013 attainment date cannot be met. Consequently, on February 14, 2008, CARB, on behalf of the air districts in the Sacramento region, submitted a letter to the EPA requesting a voluntary reclassification (bump-

up) of the Sacramento Federal Nonattainment Area from a "serious" to a "severe" 8-hour ozone nonattainment area with an extended attainment deadline of June 15, 2019.[1] The air districts of the Sacramento nonattainment area have since prepared the 2008 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan to help meet this deadline.

STATE

California Air Resources Board

The California Air Resources Board, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both state and federal air pollution control programs within the state. In this capacity, CARB conducts research, sets state air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB also establishes emissions standards for motor vehicles sold in California, consumer products (such as aerosols, paints, barbecues, etc.), and commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

The California Clean Air Act (CCAA) requires that air quality plans be prepared for areas of the state that have not met state air quality standards for ozone, carbon monoxide, nitrogen dioxide, and sulfur dioxide. Areas that could meet standards by 1994 were classified as moderate, those that attained standards between 1994 and 1997 were classified as serious, and those that could not attain standards until after 1997 were classified as severe. The SVAB is classified as serious nonattainment for ozone, nonattainment for PM_{10} and $PM_{2.5}$, and attainment for carbon monoxide, nitrogen dioxide, and sulfur dioxide. CARB changed the $PM_{2.5}$ designation of the portion of Placer County in the SVAB from nonattainment to attainment in March 2010.

Land Use Compatibility with TAC Emission Sources

The location of a development project is a major factor in determining whether it will result in localized air quality impacts. The potential for adverse air quality impacts increases as the distance between the source of emissions and members of the public decreases. While impacts on all members of the population should be considered, impacts on sensitive receptors are of particular concern. Sensitive receptors are facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, residential dwellings, and convalescent-care facilities are examples of sensitive receptors (CARB 2005).

In 2005, CARB released an informational guide entitled, *Air Quality and Land Use Handbook: A Community Health Perspective.* The purpose of this guide is to provide information to aid local jurisdictions in addressing issues and concerns related to the siting of sensitive land uses near major sources of air pollution. The handbook includes recommended separation distances for various land uses. These recommendations were based on analyses that suggested that health risks associated with mobile sources, particularly diesel PM, increased within 300 feet of a major freeway and that a 70 percent reduction in ambient particulate levels occurs at 500 feet from the source (CARB 2005).

Within urbanized areas, the CARB handbook currently recommends that new sensitive land uses not be located within 500 feet of a freeway, urban roadways with 100,000 vehicles per day, or rural

1 In order to attain by June 15, the prior year's ozone season would need to be in attainment, making 2018 the attainment demonstration analysis year.

roads with 50,000 vehicles per day. However, these recommendations are not site-specific and should not be interpreted as defined "buffer zones." The recommendations of the handbook are advisory and need to be balanced with other state and local policies (CARB 2005).

California Diesel-Risk Reduction Plan

In September 2000, CARB adopted the Diesel Risk Reduction Plan (DRRP), which recommends many control measures to reduce the risks associated with diesel PM and achieve a goal of 75 percent diesel PM reduction by 2010 and 85 percent by 2020. The DRRP incorporates measures to reduce emissions from diesel-fueled vehicles and stationary diesel-fueled engines. Ongoing efforts by CARB to reduce diesel-exhaust emissions from these sources include the development of specific statewide regulations, which are designed to further reduce diesel PM emissions. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

Since the initial adoption of the DRRP in September of 2000, CARB has adopted numerous rules related to the reduction of diesel PM from mobile sources, as well as the use of cleaner burning fuels. Transportation sources addressed by these rules include public transit buses, school buses, on-road heavy-duty trucks, and off-road heavy-duty equipment. Some of the more notable rules and programs recently adopted by CARB are discussed in more detail below.

Standards for New Off-Road Diesel Engines

CARB has worked closely with the EPA on developing new PM and NO_x standards for engines used in off-road equipment such as backhoes, graders, and farm equipment. The EPA has proposed new standards that would reduce the emission from off-road engines to similar levels to the on-road engines discussed below by 2010 to 2012. These standards will reduce diesel PM emission by over 90 percent from new off-road engines currently sold in California.

Standards for New On-Road Diesel Engines

CARB adopted an Airborne Toxics Control Measure (ATCM) as part of the Particulate Matter Risk Reduction Plan to specifically deal with diesel emissions from school buses. This measure became effective July 16, 2003. The school bus-idling ATCM includes the following requirements:

- The driver of a school bus or vehicle, transit bus, or heavy-duty vehicle (other than a bus) shall manually turn off the bus or vehicle upon arriving at a school and shall restart no more than 30 seconds before departing. A driver of a school bus or vehicle shall be subject to the same requirement when operating within 100 feet of a school and shall be prohibited from idling more than five minutes at each stop beyond schools, such as parking or maintenance facilities, school bus stops, or school activity destinations. A driver of a transit bus or heavy-duty vehicle (other than a bus) shall be prohibited from idling more than five minutes at each stop within 100 feet of a school. Idling necessary for health, safety, or operational concerns shall be exempt from these restrictions.

- The motor carrier of the affected bus or vehicle shall ensure that drivers are informed of the idling requirements, track complaints and enforcement actions, and keep track of driver education and tracking activities. According to CARB, implementation of the above requirements would eliminate unnecessary idling for school buses and other heavy-duty vehicles, thus reducing localized exposure to TAC emissions and other harmful air pollution emissions at and near schools and protecting children from unhealthy exhaust emissions.

In addition to the school bus-idling ATCM, CARB adopted an idling-restriction ATCM for large commercial diesel-powered vehicles that became effective February 1, 2005. In accordance with this measure, affected vehicles are required to limit idling to no longer than 5 minutes under most circumstances. CARB is currently evaluating additional ATCMs intended to further reduce toxic air contaminants associated with commercial operations, including a similar requirement to limit idling of smaller diesel-powered commercial vehicles.

In 2001, CARB adopted new PM and NO_x emission standards to clean up large diesel engines that power big-rig trucks, trash trucks, delivery vans, and other large vehicles. The new standard for PM took effect in 2007 and reduces emissions to 0.01 gram of PM per brake horsepower-hour (g/bhp-hr.) This is a 90 percent reduction from the pre-2007 PM standard. New engines will meet the 0.01 g/bhp-hr PM standard with the aid of diesel particulate filters that trap the PM before exhaust leaves the vehicle.

Tanner Air Toxics Act

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as toxic air contaminants, including research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted the EPA's list of hazardous air pollutants as TACs. Most recently, diesel PM was added to the CARB list of toxic air contaminants.

Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate best available control technology (BACT) to minimize emissions.

Assembly Bill (AB) 2588 requires that facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). In 2000, CARB adopted a public-transit bus-fleet rule and emission standards for new urban buses.

Senate Bill 656

In 2003, the California legislature enacted Senate Bill (SB) 656 to reduce public exposure to PM_{10} and $PM_{2.5}$. CARB approved a list of the most readily available, feasible, and cost-effective control measures that can be employed by air districts to reduce PM_{10} and $PM_{2.5}$ (collectively referred to as PM) in 2004. The list is based on rules, regulations, and programs existing in California as of January 1, 2004, for stationary, area-wide, and mobile sources. In 2005, air districts adopted implementation schedules for selected measures from the list. The implementation schedules identify the appropriate subset of measures and the dates for final adoption, implementation, and the sequencing of selected control measures. In developing the implementation schedules, each air district prioritized measures based on the nature and severity of the PM problem in their area and cost effectiveness. Consideration was also given to ongoing programs such as measures being adopted to meet national air quality standards or the state ozone planning process. This legislation required all air districts to review a list of PM

control measures compiled by CARB and identify measures that are most appropriate to the region. SB 656 required CARB to prepare a report by 2009 that describes actions taken to fulfill the requirements of the legislation as well as recommendations for further actions to assist in achieving the state PM standards.

LOCAL

Placer County Air Pollution Control District

At the county level, air quality is managed through land use and development planning practices that are implemented by Placer County and through permitted source controls that are implemented by the Placer County Air Pollution Control District. The PCAPCD is also the agency responsible for enforcing many federal and state air quality requirements and for establishing air quality rules and regulations. The PCAPCD attains and maintains air quality conditions in Placer County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the PCAPCD includes the preparation of plans for the attainment of ambient air quality standards, adoption, and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The PCAPCD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the federal Clean Air Act, the Clean Air Act Amendments of 1990, and the California Clean Air Act.

Air Quality Plans

The 1988 California Clean Air Act requires nonattainment areas to develop plans aimed at achieving state ambient standards. The PCAPCD, in coordination with the air quality management districts and air pollution control districts of El Dorado, Sacramento, Solano, Sutter, and Yolo counties, prepared and submitted the 1991 Air Quality Attainment Plan (AQAP) in compliance with the requirements set forth in the CCAA, which specifically addressed the nonattainment status for ozone and to a lesser extent PM_{10}. The CCAA also requires a triennial assessment of the extent of air quality improvements and emission reductions achieved through the use of control measures. As part of the assessment, the attainment plan must be reviewed and, if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections. The requirement of the CCAA for a first triennial progress report, and revision of the 1991 AQAP was fulfilled with the preparation and adoption of the 1994 Ozone Attainment Plan. Additional triennial reports were also prepared in 1997, 2000, and 2003 in compliance with the CCAA that act as incremental updates. Air quality management districts are required to prepare an Annual Progress Report and submit the report to CARB by December 31 of each year. At a minimum, the Annual Progress Report shall contain the proposed and actual dates for the adoption and implementation of each measure listed in the previous Triennial Plan. The most recent report, the 2007 Annual Progress Report, was developed in October 2008.

The AQAP has since become part of the SIP described above within the federal regulatory framework discussion, in accordance with the requirements of the CAAA. As discussed above, federal clean air laws require areas with unhealthy levels of ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and inhalable particulate matter to develop plans, known as SIPs, describing how they will attain national ambient air quality standards (NAAQS). SIPs are not single documents but rather a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls.

The most updated SIP affecting the City of Rocklin area, which includes the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan as well as the 1991 Air Quality Attainment Plan and subsequent progress reports, contains the information and analyses to fulfill the federal Clean Air Act requirements for demonstrating reasonable further progress and attainment of the 1997 8-hour ozone NAAQS for the Sacramento region. In addition, this plan establishes an updated emissions inventory, provides photochemical modeling results, proposes the implementation of reasonably available control measures, and sets new motor vehicle emission budgets for transportation conformity purposes.

The air districts in the SVAB held public hearings in early 2009 to consider adoption of the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan dated December 19, 2008. The PCAPCD held a public hearing and adopted the plan on February 19, 2009. The plan shows that the region is meeting minimum emission reduction progress and would reach the air quality standard no later than 2018. In addition, the plan makes commitments to adopt and implement new reasonably available control measures.

All projects are subject to rules and regulations adopted by the PCAPCD in effect at the time of construction. Specific rules applicable to future construction resulting from the implementation of the proposed General Plan Update may include, but are not limited to:

- ***Rule 202 – Visible Emissions.*** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

- ***Rule 205 – Nuisances.*** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property.

- ***Rule 207 – Particulate Matter.*** For the Sacramento Valley Air Basin and the Mountain Counties Air Basin portions of the Placer County Air Pollution Control District, a person shall not release or discharge into the atmosphere from any source or single processing unit, exclusive of sources emitting combustion contaminants only, particulate matter emissions in excess of: 0.1 grains per cubic foot of gas at District standard conditions.

- ***Rule 217 – Cutback and Emulsified Asphalt Paving Materials.*** A person shall not manufacture for sale nor use for paving, road construction, or road maintenance any rapid cure cutback asphalt; slow cure cutback asphalt containing organic compounds which evaporate at 500°F or lower as determined by current American Society for Testing and Materials (ASTM) Method D402; medium cure cutback asphalt except as provided in Section 1.2.; or emulsified asphalt containing organic compounds which evaporate at 500°F or lower as determined by current ASTM Method D244, in excess of 3 percent by volume.

- ***Rule 218 – Application of Architectural Coatings.*** No person shall manufacture, blend, or repackage for sale within the PCAPCD; supply, sell, or offer for sale within the PCAPCD; or solicit for application or apply within the PCAPCD, any architectural coating with a

volatile organic carbon (VOC) content in excess of the corresponding specified manufacturer's maximum recommendation.

- ***Rule 225 – Woodburning Appliances.*** The general purpose of this rule is to limit emissions of particulate matter entering the atmosphere from the operation of a wood burning appliance. This rule applies to any person who manufactures, sells, advertises, offers for sale, supplies, or operates a permanently installed, indoor or outdoor, wood burning appliance in Placer County, and any person who installs a wood-burning appliance in any single or multiple residential development or commercial development in Placer County.

- ***Rule 228 – Fugitive Dust***

  - *Visible Emissions Not Allowed Beyond the Boundary Line:* A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area (including disturbance as a result of the raising and/or keeping of animals or by vehicle use), such that the presence of such dust remains visible in the atmosphere beyond the boundary line of the emission source.

  - *Visible Emissions from Active Operations:* In addition to the requirements of Rule 202, Visible Emissions, a person shall not cause or allow fugitive dust generated by active operations, an open storage pile, or a disturbed surface area, such that the fugitive dust is of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as number 2 on the Ringelmann Chart, as published by the United States Bureau of Mines.

  - *Concentration Limit:* A person shall not cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter (µg/m3) (24-hour average) when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other EPA-approved equivalent method for PM_{10} monitoring.

  - *Track-Out onto Paved Public Roadways:* Visible roadway dust as a result of active operations, spillage from transport trucks, and the track-out of bulk material onto public paved roadways shall be minimized and removed.

    - The track-out of bulk material onto public paved roadways as a result of operations, or erosion, shall be minimized by the use of track-out and erosion control, minimization, and preventative measures, and removed within one hour from adjacent streets such material anytime track-out extends for a cumulative distance of greater than 50 feet onto any paved public road during active operations.

    - All visible roadway dust tracked out upon public paved roadways as a result of active operations shall be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. Wet sweeping or a High Efficiency Particulate Air (HEPA) filter-equipped vacuum device shall be used for roadway dust removal.

    - Any material tracked out, or carried by erosion, and cleanup water shall be prevented from entering waterways or stormwater inlets as required to comply water quality control requirements.

- o *Minimum Dust Control Requirements:* The following dust mitigation measures are to be initiated at the start and maintained throughout the duration of any construction or grading activity, including any construction or grading for road construction or maintenance.

  - Unpaved areas subject to vehicle traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered.

  - The speed of any vehicles and equipment traveling across unpaved areas must be no more than 15 miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust exceeding Ringelmann 2 or visible emissions from crossing the project boundary line.

  - Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.

  - Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to prevent emitting dust exceeding Ringelmann 2 and to minimize visible emissions from crossing the boundary line.

  - Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt, from being released or tracked offsite.

  - When wind speeds are high enough to result in dust emissions crossing the boundary line, despite the application of dust mitigation measures, grading and earthmoving operations shall be suspended.

  - No trucks are allowed to transport excavated material off-site unless the trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments, and loads are either covered with tarps; or wetted and loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.

- o *Wind-Driven Fugitive Dust Control:* A person shall take action(s), such as surface stabilization, establishment of a vegetative cover, or paving, to minimize wind-driven dust from inactive disturbed surface areas.

- ***Rule 246 – Natural-Gas-Fired Water Heaters.*** The general purpose of this rule is to limit the emission of nitrogen oxides (NO_x) from natural-gas-fired water heaters. The provisions of this rule apply to all of Placer County, and this rule applies to any person who manufactures, distributes, offers for sale, sells, or installs any natural gas-fired water heater with a rated heat input capacity less than 75,000 British Thermal Units per hour (BTU/hr), for use in the District.

- ***Rule 310 – Restricted Burn Days.*** The general purpose of this rule is to prohibit open burning, or restrict open burning to that which would be permitted by the District.

- ***Rule 501 – General Permit Requirements.*** Any person operating an article, machine, equipment, or other contrivance, the use of which may cause, eliminate, reduce, or control the issuance of air contaminants, shall first obtain a written permit from the Air Pollution Control Officer (APCO). Stationary sources subject to the requirements of Rule 507, Federal Operating Permit Program, must also obtain a Title V permit pursuant to the requirements and procedures of that rule.

- ***Rule 903 – Ethylene Oxide Control Measure for Sterilizers and Aerators.*** No person shall operate a sterilizer or aerator unless all of the following requirements are satisfied:

    - There is no discharge of sterilizer exhaust vacuum pump working fluid to wastewater streams; and

    - The exhaust systems including, but not limited to, any piping, ducting, fittings, valves, or flanges, through which ethylene oxide-contaminated air is conveyed from the sterilizer and aerator to the outlet of the control device are leak-free; and

    - For facilities using more than 600 pounds of ethylene oxide per year, the back-draft valve is ducted to the control device used to control the sterilizer exhaust stream or the aerator exhaust stream; and

    - For facilities using more than 5,000 pounds of ethylene oxide per year, the sterilizer door hood exhaust stream is ducted to the control device used to control the aerator exhaust stream.

- ***Rule 904 – Airborne Toxic Control Measure–Hexavalent Chromium Emissions from Cooling Towers.*** Hexavalent chromium-containing compounds shall not be added to cooling tower circulating water, and a cooling tower shall not be operated with a circulating water hexavalent chromium concentration greater than or equal to 0.15 milligrams per liter.

- ***Rule 906 – Airborne Toxic Control Measure Medical Waste Incinerators.*** No person shall operate a medical waste incinerator unless:

    - The dioxins emissions have been reduced to 10 nanograms or less per kilogram of waste burned.

    - Hydrochloric acid emissions do not exceed 30 ppmdv, corrected to 12 percent carbon dioxide (CO_2), for any 1-hour emission rate.

    - Particulate matter emissions do not exceed 0.01 grains per dry cubic foot of gas at standard conditions, corrected to 12 percent carbon dioxide (CO_2). The concentration limit shall apply to filterable (front half) particulate matter measures using CARB Test Method 5.

For a complete listing of PCAPCD rules, please refer to the PCAPCD website at: http://www.placer.ca.gov/Departments/Air/Rules.aspx.

Toxic Air Contaminants

The Placer County Air Pollution Control District has statutory authority over stationary sources of emissions. The PCAPCD issues permits to ensure that all equipment and processes comply with

federal and state laws and regulations and with district rules. Before a stationary source is built, erected, or operated, a permit must be obtained from the PCAPCD. Sources that require a permit are analyzed by the PCAPCD (e.g., health risk assessment) based on their potential to emit toxics. If it is determined that the project will emit toxics in excess of the PCAPCD's threshold of significance for TACs, sources have to implement the best available control technology for TACs (TBACT) to reduce emissions. If a source cannot reduce the risk below the threshold of significance even after TBACT has been implemented, the PCAPCD will deny the permit required by the source. Air quality permits are, in effect, a contract between the PCAPCD and stationary sources that set limits on emissions and require compliance with all district, state, and federal regulations to protect public health. PCAPCD rules and regulations impose limits on emissions. These regulations include the identification and quantification of emissions of toxic air contaminants and, if warranted, estimation of cancer and non-cancer risk associated with any source. The permitting process was established by the regulatory agency as a tool to control emissions of air pollutants by stationary sources and is intended to ensure that these air emissions do not harm public health.

City of Rocklin General Plan

Key policies in the current General Plan that relate to air quality include Policy 25, which calls for stationary and mobile source control measures affecting the City of Rocklin to be included in the California Clean Air Act Plan for Placer County through coordination with the Placer County Air Pollution District.

4.2.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Per Appendix G of the California Environmental Quality Act (CEQA) Guidelines and PCAPCD recommendations, air quality impacts are considered significant if implementation of the proposed project under consideration would:

1. Generate (directly or indirectly through automobile trip generation) criteria air pollutant or precursor emissions in excess of significance thresholds developed by the PCAPCD [i.e., 82 pounds/day (lb/day) of ROG, NO_X, or PM_{10}, or 550 lb/day of CO)].

2. Cause or contribute to local CO concentrations exceeding 20 ppm over a 1-hour averaging period or 9 parts per million over an 8-hour averaging period.

3. Conflict with adopted environmental plans, policies, or regulations for air pollutants.

4. Conflict with or obstruct implementation of any applicable air quality plans.

5. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

6. Expose sensitive receptors to substantial pollutant concentrations such as toxic air contaminants.

7. Create objectionable odors affecting a substantial number of people.

8. Result in a cumulatively considerable net increase of any criteria pollutant for which the region is designated nonattainment under an applicable national or state ambient air quality standard.

METHODOLOGY

The air quality analysis for this DEIR is based on land use designations identified in the proposed General Plan Land Use Element and the projected traffic and residential, commercial, office, and industrial uses. Increases in regional criteria air pollutants were calculated using the URBEMIS 2007 (v9.2.4) computer program. The URBEMIS emission report is included in **Appendix B-1a**. This program estimates criteria pollutants from area and mobile emission sources associated with development projects, based on the specific types of land uses proposed for development. Use of this model for large community-based plans may not fully account for site-specific conditions, but has been used to provide a reasonable estimation of emissions based on typical land use development conditions under the proposed General Plan Update.

Localized concentrations of mobile-source carbon monoxide concentrations were quantitatively assessed for roadway intersections projected to operate at unacceptable levels of service (i.e., LOS E or F), based on data obtained from the traffic analysis prepared for this project (DKS Associates 2009). Localized carbon monoxide concentrations were analyzed utilizing the CALINE4 intersection-level screening procedure developed by the Bay Area Air Quality Management District (BAAQMD). The BAAQMD screening procedure is based on the CALINE4 computer model, which was developed by the California Department of Transportation (Caltrans). Mobile-source emission factors used in the analysis were derived from the Emfac2007 computer model for Placer County under January operational conditions. To ensure a conservative analysis, a minimum vehicle speed of 3 miles per hour was assumed for all analyzed roadway segments (Caltrans 1997). For modeling purposes, the highest measured 1-hour and 8-hour ambient CO concentrations (i.e., 2.6 and 1.9 ppm, respectively), obtained from the nearest monitoring stations for the last three years of available data, were used for both near-term and future cumulative conditions (CARB 2009; EPA 2009). Predicted 8-hour CO concentrations were calculated based on predicted 1-hour CO concentrations and assuming a persistence factor of 0.7. Localized CO concentrations were evaluated for p.m. peak-hour conditions at adversely affected intersections located within the City of Rocklin, as well as in neighboring jurisdictions. Predicted 1-hour and 8-hour concentrations were compared with applicable California ambient air quality standards (i.e., 20 and 9 ppm, respectively) for determination of impact significance.

IMPACTS AND MITIGATION MEASURES

Conflict with Air Quality Plan: Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan

Impact 4.2.1 Subsequent land use activities associated with implementation of the proposed project could result in emissions greater than the standards identified by the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan. Such an exceedance could result in a conflict with adopted environmental plans, policies, or regulations for air pollutants and/or conflict or obstruct implementation of an air quality plan. However, General Plan Update growth projections are generally consistent with Sacramento Area Council of Governments (SACOG) projections and would not conflict with the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan or result in the delayed attainment of

an air quality standard. In addition, the proposed General Plan Update's mitigating policies and action steps ensure the impact will be less than significant. Therefore, this impact is considered to be **less than significant**.

As identified in the setting discussion, the Sacramento region, which includes the City of Rocklin, is designated as a severe nonattainment area for the federal 8-hour ozone standard as well as a nonattainment area for the state standard for ozone. The ozone nonattainment area consists of all of Sacramento and Yolo counties and parts of Placer, El Dorado, Solano, and Sutter counties. This area is required to attain the ozone standard by 2019. The PCAPCD, in coordination with several other air quality management districts and air pollution control districts, prepared and submitted the 1991 Air Quality Attainment Plan in compliance with the requirements set forth in the CCAA, which specifically addressed the nonattainment status for ozone. A State Implementation Program, which includes the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan, has been prepared to identify a detailed comprehensive strategy for reducing emissions to the level needed for attainment and show how the region would make expeditious progress toward meeting this goal. In addition to not attaining the federal ozone standard, in October 2009 the EPA redesignated the portion of Placer County in the SVAB to nonattainment for $PM_{2.5}$. An attainment plan for $PM_{2.5}$ is due by 2012.

The General Plan Update would conflict with the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan if (1) it is inconsistent with the population growth projections in the attainment plan and SACOG's Metropolitan Transportation Plan (which is the basis for the growth projections; (2) the General Plan Update's projected vehicle miles traveled (VMT) increase disproportionately (greater than) to increases in population and job growth; and (3) the General Plan Update fails to implement attainment plan transportation control measures.

Consistency with Population Growth Projections

The City's land use authority in planning, zoning, and permitting can be a very effective tool to minimize air pollutant emissions and associated health risks. The changes in existing land use designations as a result of the proposed General Plan Update have the potential to conflict with the local air district's air quality attainment plan. For instance, if subsequent land use activities associated with implementation of the General Plan Update result in the increase of stationary or mobile pollutant emissions above those analyzed in the local air quality attainment plan, the General Plan Update may be in conflict with the attainment plan and result in an environmental impact according to CEQA standards of significance. Generally, an increase in the amount of acreage or density for residential land use designations results in the increase of the potential population of a jurisdiction. Based on the projected growth trends, the Rocklin population is expected to reach buildout of 76,136 by the year 2030 (using the mid-range projection), an increase of 22,293 over the current population.

The difference in population in the city between existing conditions (53,843 people) and 2030 conditions (year of assumed residential buildout) may result in an exceedance of the data used to formulate the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan and its emission reduction predictions and mitigations. The reduction predictions and mitigations of this attainment plan are based in part on the Rocklin population projections adopted by SACOG in December 2004 (SACOG 2008, pg 5-12). SACOG projects a City of Rocklin population of 75,719 by the year 2035. However, it should be noted that the proposed General Plan Update does not dictate the rate of growth for the city. The actual rate of growth will ultimately be determined by housing market conditions, which have been greatly reduced since 2008.

As stated above, implementation of the proposed General Plan Update may result in buildout of all available residential land within the city and a buildout population of 76,136 by the year 2030. In contrast, buildout of non-residential development, particularly retail and office uses, is anticipated to occur well beyond the General Plan horizon year of 2030. Assuming that total buildout of all available residential lands in the city is reached by the year 2030, substantial population and housing growth would essentially cease from that point on as there would be no vacant land available for residential development within the city. Based on discussions with SACOG staff, the slight difference between the City's and SACOG's population projection numbers can be attributed to the fact that SACOG's population projections do not represent total buildout of all residential lands in the city. These minor differences in assumptions are considered negligible, and SACOG staff concurs that the City's population projection resulting from the proposed General Plan Update (76,136 people) is consistent with the population projections of SACOG (75,719 people). Therefore, implementation of the proposed General Plan Update would not result in significant population growth or population growth that would substantially exceed any established growth projections (SACOG 2010). As such, population resulting due to the proposed General Plan Update would be more or less consistent with the population projections of SACOG, and it is unlikely that the minor changes to land use designations identified in the proposed General Plan Update would result in conflicts with the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan or result in the delayed attainment of air quality standards for the Rocklin area.

Relationship Between VMT, Population, and Employment Growth

As indicated in Section 4.4, Transportation and Circulation, VMT is projected to increase by approximately 130 percent from an existing 1,092,000 VMT to a buildout VMT of 2,498,000, while the city's population is projected to increase by 41 percent. This seemingly disproportionate relationship is primarily a result of the limited areas for new residential growth versus non-residential development as discussed above. As noted in Section 3.0, Project Description, from existing conditions to buildout, residential units are projected to increase from 20,682 to 29,283 units for an increase of 42 percent. Retail, office, and industrial space (land primarily devoted to employment) is projected to increase from an existing approximately 7.2 million square feet to a buildout of over 21.0 million square feet, for an increase of 192 percent. This suggests that the growth in VMT is generally proportionate with the combined growth of population and employment.

Implementation of Transportation Control Measures

None of the transportation control measures in the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan are explicitly the responsibility of the city. However, the proposed General Plan Update policies listed below are consistent with the transportation control measures included in the attainment plan and would assist in attainment efforts.

Proposed General Plan Update Policies That Provide Mitigation

The following proposed General Plan policies would assist in avoiding or minimizing air quality impacts and assist in attainment efforts:

Policy LU-3 *Apply a mixed-use (residential/commercial or office) land use category or overlay within the Downtown Rocklin Plan area and other appropriate locations in the City of Rocklin.*

Policy LU-13 *Review proposals for new residential development for compatibility with the character and scale of nearby neighborhoods, while providing a variety of densities and housing types as reflected by the zoning and land use designation of the infill property.*

Policy LU-21 *Maintain development standards unique to Central Rocklin that encourage residential development on infill parcels, including affordable housing, while maintaining compatibility with existing residential land uses.*

Policy LU-23 *Prohibit gated roads that would adversely affect vehicular, bicycle and pedestrian circulation, discourage the interconnection of neighborhoods, or hinder access to public facilities and lands.*

Policy LU-26 *Allow a variety of compatible commercial, service and residential uses that will contribute to an active pedestrian environment.*

Policy LU-33 *Ensure that adequate parking and vehicle, bicycle and pedestrian access are included in approved commercial development plans.*

Policy LU-35 *Maximize internal vehicular, pedestrian and bicycle connections between adjacent commercial developments.*

Policy LU-39 *Implement the Downtown Rocklin Plan to address land use mix, design features, parking, pedestrian movement, traffic and circulation, and promotion opportunities to provide a clear and strong economic identity to the core downtown area.*

Policy OCR-27 *Establish Class I bikeways where feasible along public roadways when roadways are adjacent to open space and parkland.*

Policy OCR-28 *Integrate, to the extent practical, the City's bike and trails network with trails in adjacent jurisdictions and the region.*

Policy OCR-58 *Require development projects to incorporate stationary and mobile source control measures recommended by the Placer County Air Pollution Control District and approved by the City for protection of air quality during construction and subsequent operations.*

Policy OCR-59 *Continue to consult with the Placer County Air Pollution Control District in the development of stationary and mobile source control measures affecting the City of Rocklin.*

Policy C-2 *Coordinate land use and transportation planning to support transit services, NEV facilities and non-motorized transportation.*

Policy C-3 *Promote the use of Neighborhood Electric Vehicles (NEV) by providing accommodations (i.e., lane striping and signage) to facilitate the use of these vehicles where feasible within existing and planned rights-of-way.*

Policy C-4 *Promote the use of non-motorized transportation by providing a system of bicycle routes and pedestrian ways.*

Policy C-5 *Coordinate with public transit providers to meet residents' needs.*

Policy C-50 *Work with transit providers to plan, fund and implement additional transit services that are cost-effective and responsive to existing and future transit demand.*

Policy C-51 *Promote the use of public transit through development conditions such as requiring park-and-ride lots, bus turnouts and passenger shelters along major streets.*

Policy C-52 *Require landscaping and tree planting along railroad right-of-way and along existing streets as appropriate.*

Policy C-53 *Support the expansion of intercity rail passenger services, such as the Capitol Corridor, and implementation of regional rail passenger services.*

Policy C-54 *Support the study of developing rail passenger services within the Highway 65 corridor.*

Policy C-55 *Require Class II bike lanes in the design and construction of major new streets and to establish bike lanes on those City streets wide enough to accommodate bicycles safely.*

Policy C-56 *Improve bicyclist and pedestrian safety through such methods as signage, lighting, traffic controls, and crosswalks.*

Policy C-57 *Maintain the Rocklin Bikeway System Diagram and update it as necessary with the approval of major new developments and/or general plan amendments not considered in the adopted Diagram.*

Policy C-58 *Consult with adjacent jurisdictions regarding the development of regional bikeway and NEV links.*

Policy C-59 *Promote pedestrian convenience and recreational opportunities through development conditions requiring sidewalks, walking paths, or hiking trails connecting various land uses including residential areas, commercial areas, schools, parks, employment centers and open space.*

Policy C-60 *Consider NEV routes in the design and construction of major new streets and consider the establishment of NEV routes on existing City streets wide enough to accommodate NEV lanes.*

Subsequent land use activities associated with implementation of the proposed General Plan Update would allow for growth that is generally consistent with the level of growth anticipated in the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan. As such, the General Plan Update would not conflict with the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan.

As part of the proposed project, the City plans to amend the Redevelopment Plan to increase tax increment limitations, increase the limit on the principal amount of bonded indebtedness secured by tax increment revenue, and extend the time limit for the commencement of eminent domain proceedings to acquire non-residential property. These amendments are

intended to provide the City's Redevelopment Agency with the financial and administrative resources necessary to continue assisting projects that implement its program of blight elimination within the Redevelopment Project Area. While the extended time and financial limits authorized by the Sixth Amendment may foster and encourage new development that might not occur without the Sixth Amendment, or may occur faster than had the Sixth Amendment not been adopted, the land uses permitted by the Redevelopment Plan are the allowable uses under the City's General Plan and, as such, all development would be consistent with the City's General Plan and with the development assumptions analyzed throughout this DEIR. Therefore, the proposed Sixth Amendment to the Redevelopment Plan would not result in conflicts with the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan beyond what was analyzed for the General Plan Update above. Impacts would be **less than significant**.

In addition to the activities identified above, the project includes a Climate Action Plan (CAP) to address climate change and identify greenhouse gas (GHG) emission reduction measures. The City of Rocklin CAP augments the objectives, goals, policies, and actions of the City of Rocklin General Plan Update related to the reduction of GHG emissions; however, the CAP is intended to be updated on a more frequent basis than the General Plan, ensuring that implementation of City efforts to reduce GHG emissions is in compliance with current regulation. The CAP determines whether implementation of the proposed General Plan Update would be consistent with the state's ability to attain the goals identified in AB 32, identifies GHG emission reduction measures, and provides monitoring of the effectiveness of GHG emission reduction measures. The CAP would not directly result in development, and thus it would not result in conflicts with the Sacramento Regional 9-Hour Ozone Attainment and Reasonable Further Progress Plan beyond what was analyzed for the General Plan Update above. Impacts would be **less than significant**. It should also be noted that implementation of the proposed CAP reduction measures (especially transportation reduction measures) would provide additional assistance in reducing ozone emissions.

Thus, impacts associated with a conflict with adopted environmental plans, policies, or regulations for air pollutants and/or a conflict or an obstruction to implementation of any air quality plan are considered **less than significant.**

Mitigation Measures

None required.

Violate Air Quality Standard: Short-Term Emissions from Construction Projects

Impact 4.2.2 Project-related construction and development over the planning horizon of the proposed project, including vegetation removal, excavation, grading, paving, operation of vehicles, painting, and other construction activities, could increase the potential for air pollutants, which in turn could result in a violation of an air quality standard or in a substantial contribution to an existing or projected air quality violation. However, the proposed General Plan Update's mitigating policies and their associated action steps, along with City, District, State, and Federal Rule-Based Requirements discussed below, ensure the impact will be less than significant. Therefore, this impact is considered **less than significant**.

Construction impacts are expected to occur in phases over the planning horizon as new projects and redevelopment projects occur under the guidelines set by the General Plan Update. While the nature of construction activities will depend on a variety of site-specific (e.g.,

hilly terrain) and project-specific (e.g., extent of necessary grading and excavation) issues, four general types of activities can occur during construction that result in direct and indirect air pollutant emissions:

1. Site clearing and grading. Includes clearing of debris and existing landscaping to produce level development sites, as well as mediation of any contaminated soils. These activities can disturb soil and create direct emissions of dust and particulate matter that can be both a nuisance and a health hazard.

2. Paving of surfaces. Paving parking lots and roadways is a common activity that requires asphalt and other surfacing materials that contain ROGs.

3. Building construction. Involves use of vehicles and other equipment that produce combustion-related emissions of ROG and NO_x, as well as particulates and other diesel-related pollutants from off-road equipment, particularly older off-road equipment.

4. Architectural coatings. As primers, sealants, paints, and other coatings are applied to external and internal surfaces, they produce significant amounts of ROGs that are a major contributor to regional ozone formation.

PMC modeled construction-related emissions by using URBEMIS 9.2.4 for a typical, 1-acre construction project. **Table 4.2-5** illustrates the typical profile of emissions that can be expected from a 1-acre development site, applying all PCAPCD rules.

TABLE 4.2-5
CONSTRUCTION EMISSIONS (TYPICAL 1-ACRE PROJECT)

Source	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$	CO_2
Construction Emission Estimates (lb/day)	11.0	43.5	26.5	7.7	2.4	4,502.2
PCAPCD Significance Thresholds (lb/day)	82	82	550	82	–	–

As mentioned under the Regulatory Framework discussion, the PCAPCD adopts rules and regulations, and all projects are subject to the rules and regulations in effect at the time of construction. It should also be noted that there are approved development projects in the city that have adopted mitigation measures that provide mitigation for construction air quality impacts (dust control measures and standards for construction equipment). These projects include large-scale developments in the city such as Whitney Ranch in northwest Rocklin and Clover Valley.

Proposed General Plan Update Policies that Provide Mitigation

The following proposed General Plan policy and its associated action steps would assist in avoiding or minimizing impacts associated with short-term emissions from construction projects:

> *Policy OCR-58 Require development projects to incorporate stationary and mobile source control measures recommended by the Placer County Air Pollution Control District and approved by the City for protection of air quality during construction and subsequent operations.*

To address short-term air-quality impacts from building construction activities, the City of Rocklin requires project applicants to sign the City's "Mitigation for Air Quality Impacts" form and agree

that the mitigation measures listed on the form will be incorporated as part of the proposed project's description. The form that has been signed by the project applicant is then incorporated by reference into the project's environmental document and also becomes a part of the project file maintained by the City. A copy of the City's "Mitigation for Air Quality Impacts" form is included in **Appendix B-2** to this Draft EIR. An essential mitigation obligation is the preparation of a Construction Emission/Dust Control Plan in compliance with PCAPCD regulations. The Construction Emission/Dust Control Plan must be reviewed and approved by either the PCAPCD or the City Engineer prior to commencement of any grading or building construction activities. The preparation and implementation of such a plan would have considerable value in reducing dust and emissions from future construction activities.

In addition, there are a considerable number of District, State, and Federal Rule-Based Requirements which by law apply to all grading and building construction activities, all of which have been specifically adopted to reduce short-term emissions from construction projects. A copy of the District, State, and Federal Rule-Based Requirements provided to the City by the PCAPCD is included in **Appendix B-3** to this Draft EIR.

Each requirement references the law that is the basis for the requirement, and a web link is identified where the law can be referenced in its entirety. As these requirements are based on existing law, it is important for developers and project applicants to be aware of their applicability and to be compliant with existing law. The City will attach the list of District, State, and Federal Rule-Based Requirements (as may be updated from time to time by the PCAPCD) to every grading permit, approval of improvement plans, and building permit issued by the City.

In summary, and per the above policy, the requirement of the City's "Mitigation for Air Quality Impacts" form, the preparation and implementation of a Construction Emission/Dust Control Plan, and the process of making developers and project applicants aware of air quality requirements that are based on existing PCAPCD, state, and federal rules and regulations collectively serve to address short-term emission impacts from building construction projects.

Due to the temporary nature of construction-related impacts and because projects must be in compliance with General Plan Policy OCR-58 as implemented through the mitigations stated in the City's "Mitigation for Air Quality Impacts" form, as well as PCAPCD, state, and federal rules and regulations, these impacts will not result in a violation of an air quality standard or in a substantial contribution to an existing or projected air quality violation. If it is determined that the PCAPCD daily emission thresholds will still be exceeded after application of mitigation measures, there remains the ability to scale back the grading and/or construction operations by reducing the amount of work being done by limiting the area of grading and/or construction or by limiting the amount and type of construction equipment. Thus, this impact is considered to be **less than significant**.

In addition, as discussed in Section 3.0, Project Description, and under Impact 4.2.1 above, the project includes the Sixth Amendment to the Redevelopment Plan and the Climate Action Plan, both of which would be consistent with the proposed General Plan Update and with the development assumptions analyzed throughout this DEIR. As these project components would not result in land use activities or population growth beyond what is identified in the General Plan Update, they would not result in impacts associated with construction-related air emissions beyond what is analyzed for the General Plan Update above. Impacts would be **less than significant.**

Mitigation Measures

None required.

Increase in Criteria Pollutants: Operational Air Pollutants

Impact 4.2.3 Negative air quality impacts associated with long-term emissions from projected growth over the planning horizon of the proposed project could result in a violation of an air quality standard or in a substantial contribution to an existing or projected air quality violation. Although the proposed General Plan Update has mitigating policies and associated action steps to minimize the effects of this impact, these policies and action steps will not reduce the impact to a less than significant level. Therefore, this is considered a **potentially significant** impact.

Subsequent land use activities associated with implementation of the proposed General Plan Update will result in an increase in population from additional housing and employment opportunities. This increase would introduce additional mobile and stationary sources of emissions, which would adversely affect regional air quality. The city is designated severe nonattainment for the federal ozone standard as well as nonattainment for the state ozone and PM_{10} standards.

As previously mentioned, ozone is not emitted directly into the air but is formed through a complex series of chemical reactions between ROG and NO_x, while the principal sources of PM_{10} include fuel burned in cars and trucks, power plants, factories, fireplaces, agricultural activities, and woodstoves. Implementation of the proposed General Plan Update would result in increased regional emissions of PM_{10} as well as ROG, NO_x, and CO, due to increased use of motor vehicles, natural gas, maintenance equipment, and various consumer products, thereby increasing potential operational air quality impacts.

Increases in operational air impacts with implementation of the proposed General Plan Update would generally consist of two sources: stationary and mobile.

A stationary source of air pollution refers to an emission source that does not move (e.g., utilities facilities). Often, stationary sources are defined as large emitters that release relatively consistent qualities and quantities of pollutants. The term "area source" is used to describe the many smaller stationary sources located together whose individual emissions may be low, but whose collective emissions can be significant. Typically, area sources are those that emit less than 25 tons per year of any combination of hazardous air pollutants or less than 10 tons per year of any single hazardous air pollutant.

A mobile source of air pollution refers to a source that is capable of moving under its own power. In general, mobile sources imply on-road transportation, but there is also a non-road or off-road category that includes gas-powered lawn tools and mowers, farm and construction equipment, recreational vehicles, boats, planes, and trains.

An increasing population results in increased demand for services that can also intensify stationary source air emissions. Implementation of the proposed General Plan Update would result in an increase in population and operational air pollution impacts beyond present-day levels. While a portion of the operational impacts are related to stationary sources, as discussed below, the greatest increases of PM_{10} are anticipated to come from mobile (vehicle) sources.

A URBEMIS analysis was completed to illustrate the maximum daily area source and operational emissions emitted in 2008. **Table 4.2-6** contains estimated maximum daily operational emissions based on existing development.

TABLE 4.2-6
ESTIMATED UNMITIGATED AIR QUALITY EMISSIONS, EXISTING CONDITIONS

Total Emissions								
Emission Source	Tons Per Year				Pounds Per Day			
	ROG	NO_x	PM_{10}	CO	ROG	NO_x	PM_{10}	CO
Existing 2008 Conditions								
Area Source Emissions	431.07	67.74	146.73	1,004.77	5,576.51	776.41	3,579.36	22,422.68
Vehicle Emissions	706.40	1,026.94	978.72	8,181.96	4,354.04	7,055.95	5,362.83	49,036.50
Total Emissions (Existing)	1,137.47	1,094.68	1,125.45	9,186.73	9,930.55	7,832.36	8,942.19	71,459.18

Notes:
1. Refer to Section 4.15, Climate Change and Greenhouse Gases, for a discussion of carbon dioxide emissions.
2. Existing residential units and non-residential square feet from Section 3.0 were analyzed with the URBEMIS 2007 ver. 9.2.4 model.

Table 4.2-7 illustrates the estimated unmitigated air quality emissions under the proposed General Plan Update.

TABLE 4.2-7
ESTIMATED 2030 UNMITIGATED GENERAL PLAN AIR QUALITY EMISSIONS

Total Emissions								
Emission Source	Tons Per Year				Pounds Per Day			
	ROG	NO_x	PM_{10}	CO	ROG	NO_x	PM_{10}	CO
Area Source Emissions	440.00	108.55	35.78	364.12	3,760.76	761.26	871.27	5,849.86
Vehicle Emissions	435.03	375.42	1,642.26	4,205.85	2,544.63	2,633.26	8,998.73	24,356.40
Total Emissions	875.03	483.97	1,678.04	4,569.97	6,306.39	3,394.52	9,870.00	30,206.26

Notes:
1. Actual emissions will vary depending on how development occurs, the specific types of land uses developed, and emission control measures implemented.
2. Future residential units and non-residential square feet from Section 3.0 were analyzed with the URBEMIS 2007 ver. 9.2.4 model.

Potential emissions resulting from residential buildout and non-residential development through the year 2030 under the proposed General Plan Update are estimated to be 875.03 tons of ROG, 483.97 tons of NO_x, 1,678.04 tons of PM_{10}, and 4,569.97 tons of carbon monoxide. While ROG, NO_x, and CO emissions are anticipated to reduce over time, PM_{10} emissions are anticipated to increase as compared to existing conditions. This increase in potential air pollutant emission sources in the city has the possibility to result in exceedances of state and federal standards. This is considered a **significant impact**.

In addition, as discussed in Section 3.0, Project Description, and under Impact 4.2.1 above, the project includes the Sixth Amendment to the Redevelopment Plan and the Climate Action Plan (CAP), both of which would be consistent with the proposed General Plan Update and with the development assumptions analyzed throughout this DEIR. As these project components would

not result in land use activities or growth beyond what is identified in the General Plan Update, they would not result in emissions or air quality impacts beyond what is analyzed for the General Plan Update in **Tables 4.2-6** and **4.2-7**.

Proposed General Plan Update Policies That Provide Mitigation

The following proposed General Plan policies would assist in avoiding or minimizing operational emissions resulting from the proposed project:

Policy LU-3 *Apply a mixed-use (residential/commercial or office) land use category or overlay within the Downtown Rocklin Plan area and other appropriate locations in the City of Rocklin.*

Policy LU-13 *Review proposals for new residential development for compatibility with the character and scale of nearby neighborhoods, while providing a variety of densities and housing types as reflected by the zoning and land use designation of the infill property.*

Policy LU-21 *Maintain development standards unique to Central Rocklin that encourage residential development on infill parcels, including affordable housing, while maintaining compatibility with existing residential land uses.*

Policy LU-23 *Prohibit gated roads that would adversely affect vehicular, bicycle and pedestrian circulation, discourage the interconnection of neighborhoods, or hinder access to public facilities and lands.*

Policy LU-26 *Allow a variety of compatible commercial, service and residential uses that will contribute to an active pedestrian environment.*

Policy LU-33 *Ensure that adequate parking and vehicle, bicycle and pedestrian access are included in approved commercial development plans.*

Policy LU-35 *Maximize internal vehicular, pedestrian and bicycle connections between adjacent commercial developments.*

Policy LU-39 *Implement the Downtown Rocklin Plan to address land use mix, design features, parking, pedestrian movement, traffic and circulation, and promotion opportunities to provide a clear and strong economic identity to the core downtown area.*

Policy OCR-27 *Establish Class I bikeways where feasible along public roadways when roadways are adjacent to open space and parkland.*

Policy OCR-28 *Integrate, to the extent practical, the City's bike and trails network with trails in adjacent jurisdictions and the region.*

Policy OCR-56 *Encourage energy conservation in new developments.*

Policy OCR-58 *Require development projects to incorporate stationary and mobile source control measures recommend by the Placer County Air Pollution Control District and approved by the City for protection of air quality during construction and subsequent operations.*

Policy OCR-59 Continue to consult with the Placer County Air Pollution Control District in the development of stationary and mobile source control measures affecting the City of Rocklin.

Policy C-2 Coordinate land use and transportation planning to support transit services, NEV facilities and non-motorized transportation.

Policy C-3 Promote the use of Neighborhood Electric Vehicles (NEV) by providing accommodations (i.e., lane striping and signage) to facilitate the use of these vehicles where feasible within existing and planned rights-of-way.

Policy C-4 Promote the use of non-motorized transportation by providing a system of bicycle routes and pedestrian ways.

Policy C-5 Coordinate with public transit providers to meet residents' needs.

Policy C-50 Work with transit providers to plan, fund and implement additional transit services that are cost-effective and responsive to existing and future transit demand.

Policy C-51 Promote the use of public transit through development conditions such as requiring park-and-ride lots, bus turnouts and passenger shelters along major streets.

Policy C-52 Require landscaping and tree planting along railroad right-of-way and along existing streets as appropriate.

Policy C-53 Support the expansion of intercity rail passenger services, such as the Capitol Corridor, and implementation of regional rail passenger services.

Policy C-54 Support the study of developing rail passenger services within the Highway 65 corridor.

Policy C-55 Require Class II bike lanes in the design and construction of major new streets and to establish bike lanes on those City streets wide enough to accommodate bicycles safely.

Policy C-56 Improve bicyclist and pedestrian safety through such methods as signage, lighting, traffic controls, and crosswalks.

Policy C-57 Maintain the Rocklin Bikeway Diagram and update it as necessary with the approval of major new developments and/or general plan amendments not considered in the adopted Diagram.

Policy C-58 Consult with adjacent jurisdictions regarding the development of regional bikeway and NEV links.

Policy C-59 Promote pedestrian convenience and recreational opportunities through development conditions requiring sidewalks, walking paths, or hiking trails connecting various land uses including residential areas, commercial areas, schools, parks, employment centers and open space.

Policy C-60 *Consider NEV routes in the design and construction of major new streets and consider the establishment of NEV routes on existing City streets wide enough to accommodate NEV lanes.*

In addition to the policies identified above that serve to reduce potential mobile and stationary source air quality impacts, there are a considerable number of Placer County Air Pollution Control District, State, and Federal Rule-Based Requirements which by law apply to operational activities, all of which have been specifically adopted to reduce operational emissions from development projects. A copy of the District, State, and Federal Rule-Based Requirements provided to the City by the PCAPCD is included in **Appendix B-3** to this Draft EIR.

Each requirement references the law that is the basis for the requirement, and a web link is identified where the law can be referenced in its entirety. As these requirements are based on existing law, it is important for developers and project applicants to be aware of their applicability and to be compliant with existing law. The City will attach the list of District, State, and Federal Rule-Based Requirements (as may be updated from time to time by the PCAPCD) to every grading permit, approval of improvement plans, and building permit issued by the City.

Finally, in addition to the District, State, and Federal Rule-Based Requirements, the City has developed a "menu" of various mitigation measures based on recommendations from the PCAPCD to mitigate project-related air quality impacts. This menu list of mitigation measures will be utilized by the City and applied on a case-by-case basis during the environmental review process. Generally speaking, the larger and more complex a project is, the greater the requirement for the application of additional air quality mitigation measures. A copy of the menu list of mitigation measures is included in **Appendix B-4** to this Draft EIR. The menu has been designed in such a way to reflect an order of magnitude where the mitigation measures that are more typically applied to smaller and less complex projects are listed first, and the mitigation measures that are more typically applied to larger and more complex projects are listed last.

It should also be noted that the City's CAP provides feasible strategies to reduce emissions from energy use, transportation, land use, and solid waste. As such, strategies implemented in association with the CAP would also be expected to reduce emissions and improve air quality.

Implementation of proposed General Plan Update policies identified above, their associated action steps, the District, State and Federal Rule-Based Requirements, the selection of applicable air quality mitigation measures from a menu list, and the Climate Action Plan would reduce potential mobile and stationary source air quality impacts. While the proposed policies and action steps, District, State, and Federal Rule-Based Requirements, the CAP, and the selection of applicable air quality mitigation measures from a menu list would assist in reducing the magnitude of the stationary and mobile air quality impacts generated by subsequent land use activities associated with implementation of the General Plan Update and its associated project components, they would not reduce these pollution increases to a less than significant level. Therefore, a violation of an air quality standard or a substantial contribution to an existing or projected air quality violation would occur, and the impact is considered **significant and unavoidable**. There are no feasible mitigation measures available to the City to offset these emissions.

Mitigation Measures

None feasible beyond the policies, associated action steps, District, State, and Federal Rule-Based Requirements, and the selection of applicable air quality mitigation measures from a menu list as discussed above.

Increase in Criteria Pollutants: Carbon Monoxide Emissions from Traffic

Impact 4.2.4 Implementation of the proposed project would increase traffic volumes that could potentially increase concentrations of carbon monoxide (CO) along streets and near intersections. This increase could cause or contribute to local CO concentrations exceeding 20 ppm over a 1-hour averaging period or 9 ppm over an 8-hour averaging period. However, air quality modeling and analysis show that increases in CO concentrations resulting from the proposed project will not exceed these thresholds. Therefore, this impact is considered **less than significant**.

Development accommodated under the proposed General Plan Update would increase traffic volumes on streets throughout the Planning Area and therefore would increase local carbon monoxide concentrations. Concentrations of this pollutant are related to the levels of traffic and congestion along streets and at intersections.

Concentrations of this pollutant approaching the ambient air quality standards can only be expected where background levels and traffic volumes and congestion levels are quite high. The statewide carbon monoxide protocol document identifies signalized intersections operating at level of service (LOS) E or F as having potential to result in localized exceedances of the state/federal ambient air quality standards (Garza, Granly, and Sperling 1997). As shown in **Table 4.4-4** in Section 4.4, Transportation and Circulation, no intersections in the city currently operate at LOS E or LOS F under existing conditions. Therefore, localized exceedances of state/federal ambient air quality standards for CO concentrations do not occur under existing conditions.

Predicted localized CO concentrations at intersections projected to operate at LOS E or F (prior to mitigation) under the proposed General Plan Update are summarized in **Table 4.2-8**.

TABLE 4.2-8
ESTIMATED 2030 LOCALIZED MOBILE-SOURCE CARBON MONOXIDE CONCENTRATIONS

Intersection	Predicted CO Concentrations (ppm)	
	1-Hour	8-Hour
City of Rocklin		
Pacific Street & Delmar Avenue/Dominguez Road	3.4	2.2
Pacific Street & Farron Street	3.6	2.3
Rocklin Road & Sierra College Boulevard	3.5	2.3
Sunset Boulevard & Springview Drive	3.5	2.3
Sunset Boulevard & Whitney Boulevard	3.8	2.4
Blue Oaks Boulevard & Lonetree Boulevard	3.7	2.4
Sunset Boulevard & Atherton Road	3.6	2.3
Sunset Boulevard & West Oaks Boulevard	3.5	2.3
West Stanford Ranch Road & Sunset Boulevard	3.4	2.3
Stanford Ranch Road & Crest Drive	3.0	2.1
Interstate 80		

Intersection	Predicted CO Concentrations (ppm)	
	1-Hour	8-Hour
Rocklin Road & I-80 Eastbound	3.4	2.3
Rocklin Road & I-80 Westbound	3.5	2.3
Town of Loomis		
Sierra College Boulevard & Taylor Road	3.4	2.3
Taylor Road & Horseshoe Bar Road	3.1	2.1
City of Roseville		
Pleasant Grove Boulevard & Fairway Drive	4.3	2.6
Pleasant Grove Boulevard & Roseville Parkway	3.9	2.6
Galleria & Roseville Parkway	4.1	2.6
Roseville Parkway & N. Sunrise Boulevard	4.0	2.5
Sierra College Boulevard & Secret Ravine Parkway	3.5	2.3
California Ambient Air Quality Standards	***20.0***	***9.0***

Source: Ambient 2009

Based on the modeling conducted, predicted maximum 1-hour and 8-hour CO concentrations at modeled roadway intersections would not exceed applicable ambient air quality standards. Given that other area intersections would be predicted to operate at more acceptable levels of service (i.e., less congestion) than those included in this analysis, predicted CO concentrations at other locations would likewise not be anticipated to exceed applicable ambient air quality standards. As a result, the project would not cause or contribute to local CO concentrations exceeding 20 ppm over a 1-hour averaging period or 9 ppm over an 8-hour averaging period, and the project's contribution to future cumulative localized concentrations of mobile-source CO would be considered **less than significant**.

In addition, as discussed in Section 3.0, Project Description, and under Impact 4.2.1 above, the project includes the Sixth Amendment to the Redevelopment Plan and the Climate Action Plan (CAP), both of which would be consistent with the proposed General Plan Update and with the development assumptions analyzed throughout this DEIR. As these project components would not result in land use activities or growth beyond what is identified in the General Plan Update, they would not result in additional traffic volumes or air quality impacts beyond what is analyzed for the General Plan Update in **Table 4.2-8** above, and impacts would be **less than significant**.

Mitigation Measures

None required.

Increase in Criteria Pollutants: Exposure to Toxic Air Contaminants

Impact 4.2.5 Development of the land uses in the proposed General Plan Update could include sources of toxic air contaminants which may impact surrounding land uses, or conversely, place sensitive land uses near existing sources of toxic air contaminants. Therefore, implementation of the General Plan Update could

expose sensitive receptors to toxic air contaminants. This is considered a **potentially significant** impact.

Subsequent land use activities associated with implementation of the proposed General Plan Update could include land uses that are potential sources of toxic air contaminants (TACs). The type and level of TACs are dependent on the nature of the land use, individual facilities, and the methods and operations of particular facilities. **Table 4.2-3**, presented in the Existing Setting subsection, displays potential sources of TAC emissions for various land uses that could potentially be implemented under the General Plan Update. Activities involving long-term use of diesel-powered equipment and heavy-duty trucks contribute significantly to TAC levels.

In addition, as discussed in Section 3.0, Project Description, and under Impact 4.2.1 above, the project includes the Sixth Amendment to the Redevelopment Plan and the Climate Action Plan (CAP), both of which would be consistent with the proposed General Plan Update and with the development assumptions analyzed throughout this DEIR. As these project components would not result in land use activities or growth beyond what is identified in the General Plan Update, they would not result in additional TAC source emissions or exposure from mobile sources from roadways or railroad operations beyond what is analyzed for the General Plan Update below.

Stationary Sources

The issuance of PCAPCD air quality permits and compliance with all district, state, and federal regulations regarding stationary TACs reduce potential stationary sources of toxic air emissions such that sensitive receptors would not be exposed to substantial pollutant concentrations such as toxic air contaminants. Therefore, the proposed General Plan Update's potential stationary TAC impacts are considered **less than significant**.

Mobile Sources

Mobile sources of TAC emissions in the City of Rocklin are primarily associated with railroad operations, traffic associated with Interstate 80 and State Route 65, operation of school buses and diesel-powered delivery trucks associated with roadways, and commercial, retail, and industrial uses.

Railroad Operations

The General Plan Update Land Use Diagram designates residential land uses along the Union Pacific Railroad lines that traverse Rocklin, including the Downtown Plan area in particular. Because diesel locomotives are a source of combustion-related particulate matter emissions and long-term exposure to particulate matter has been identified as a potential contributor to cancer, the placement of residences and other sensitive receptors along the railroad tracks includes potential cancer risks.

There are currently no known thresholds of significance or adopted analysis protocols for rail line operations emissions. The presence of residential uses adjacent to rail lines is not a unique situation in this region, and due to increasing concerns regarding cancer risks associated with diesel particulate matter, recent studies have been conducted to gain a better understanding of such potential cancer risk concerns.

The City of Sacramento assessed the health risks from diesel particulate matter (DPM) as a result of railroad operations emissions in the draft EIR for the Sacramento Railyards Redevelopment project. A specific study was prepared by ENVIRON Corporation in July 2007 titled the *Screening*

Health Risk Assessment of DPM from Freeway and Railway (the Railyards Study). As a part of the Railyards Study, ENVIRON consulted with the Sacramento Metropolitan Air Quality Management District (SMAQMD) and their publication entitled *The Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways.* Absent known thresholds of significance or adopted analysis protocols for rail line emissions, SMAQMD requested that ENVIRON apply the screening approach recommended in the SMAQMD guidance for their analysis of rail line operations emissions impacts.

ENVIRON estimated the DPM emission rates from the freight trains and passenger trains passing through the project area and converted those locomotive emissions to equivalent peak hour vehicle traffic, using the weighted average of the DPM emission rates based on relative vehicle miles traveled. The SMAQMD screening tables were then used to assess the diesel particulate matter cancer risks. Based on 14 freight trains and 40 passenger trains per day operating through the project area, the Railyards Study determined that the cancer risks from locomotive DPM (194 per million) were lower than the evaluation criteria threshold of 446 per million in the SMAQMD guidance, and a site-specific health risk assessment was not recommended.

It should be noted that SMAQMD's screening analysis threshold has since been revised to 281 per million, but the cancer risk results from the Railyards Study are still below the revised thresholds. This SMAQMD screening approach was initially devised to address the health risks of freeway DPM emissions. Although this equivalent traffic approach approximates the emissions aspect of a freeway health risk analysis, the release characterizations of vehicle exhaust (such as release height and release momentum) are very different from those of locomotive exhaust. In practice, a locomotive's higher stack and stronger upward momentum generally facilitate air dispersion and would result in a lower DPM concentration and cancer risk. Also, the activity levels of the locomotives are based on the current operations and the emission rates are based on the existing engines. Though it is likely that the activity of trains will increase in the future, it is also likely that the existing locomotive engines will be replaced by newer engines that conform to stricter emission standards. These two factors would tend to offset each other and are unlikely to change the results of this screening analysis over time.

The City of Rocklin currently experiences approximately 19 freight trains and 10 passenger trains per day. Given the results of the studies conducted for the Sacramento Railyards Redevelopment Project and given the lower number of overall trains that travel through Rocklin (29) as compared to the number of overall trains that the Railyards Study assumed travel through the Sacramento Railyards Project Area (54), a site-specific health risk analysis is not warranted for sensitive receptors located adjacent to rail lines in Rocklin, and the proposed General Plan Update's potential TAC impacts from railroad operations would be considered **less than significant**.

Long-Term Operations

Approximately 60 percent of California's diesel exhaust is emitted on roadways by heavy-duty trucks, buses, and light-duty passenger vehicles. People living and/or working near busy roadways, such as Interstate 80 and State Route 65, both of which traverse the Rocklin Planning Area, are exposed to higher than average concentrations of diesel exhaust (CARB 1998, pg. A-51). As discussed in the Regulatory Framework subsection above, CARB and the EPA are undertaking a number of measures to reduce diesel PM from diesel-powered vehicles. While these measures will reduce the amount of TACs associated with diesel–powered vehicles, determination of the potential air quality impacts due to the emission of TACs by diesel-powered vehicles cannot be ascertained given the uncertainty of future development types. As a result,

exposure of sensitive receptors to substantial pollutant concentrations such as mobile-source TACs would be considered a **potentially significant** impact.

Short-Term Construction Sources

Implementation of the proposed General Plan Update would result in the potential construction of a variety of projects. This construction would result in short-term emissions of diesel exhaust from on-site heavy-duty equipment. Particulate exhaust emissions from diesel-fueled engines (diesel PM) were identified as a toxic air contaminant by CARB in 1998. Construction would result in the generation of diesel PM emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The calculation of cancer risk associated with exposure to TACs is typically based on a 70-year period of exposure. The use of diesel-powered construction equipment, however, would be temporary and episodic and would occur over a relatively large area. For these reasons, diesel PM generated by construction activities, in and of itself, would not be expected to create conditions where the probability of contracting cancer is greater than 10 in 1 million for nearby receptors. Long-term health risks associated with short-term construction activities would therefore be considered **less than significant**.

Proposed General Plan Update Policies That Provide Mitigation

The following proposed General Plan policies would assist in avoiding or minimizing TACs resulting from the proposed project:

Policy OCR-58 Require development projects to incorporate stationary and mobile source control measures recommended by the Placer County Air Pollution Control District and approved by the City for protection of air quality during construction and subsequent operations.

Policy OCR-59 Continue to consult with the Placer County Air Pollution Control District in the development of stationary and mobile source control measures affecting the City of Rocklin.

Compliance with PCAPCD rules and regulations regarding stationary sources of TACs and proposed General Plan Update Policies OCR-58 and OCR-59 and their associated action steps would reduce the exposure of sensitive receptors to substantial pollutant concentrations such as TACs from stationary sources. However, these efforts would not fully offset TAC source emissions or exposure from mobile sources from roadways or railroad operations, and the following mitigation measures are identified.

Mitigation Measures

MM 4.2.1 Add the following General Plan policy: "Reduce the exposure of sensitive receptors to potential health risks from toxic air contaminants (TACs)." Also add the following associated action steps:

- Residential development projects and projects categorized as sensitive receptors shall be located an adequate distance from existing and

potential sources of toxic air contaminant (TAC) emissions such as freeways, major arterials, industrial sites, and hazardous material locations. "Adequate distance" will be based on site-specific conditions, the type and location of sensitive receptors, the types and amounts of potential TAC emissions, mitigation measures that reduce potential health risks from TAC emissions, and other factors.

- The City shall require new air pollution point sources (such as, but not limited to, industrial, manufacturing, and processing facilities) to be located an adequate distance from residential areas and other sensitive receptors. "Adequate distance" will be based on site-specific conditions, the type and location of sensitive receptors, the types and amounts of potential TAC emissions, mitigation measures that reduce potential health risks from TAC emissions, and other factors.

Implementation of mitigation measure MM 4.2.1 would reduce exposure of sensitive receptors to substantial concentrations of TACs, but would not entirely eliminate exposure to potential TAC emissions. Therefore, this impact would remain **significant and unavoidable**.

Odors

Impact 4.2.6 Subsequent land use activities associated with implementation of the proposed project could include sources that could create objectionable odors affecting a substantial number of people. This impact is considered **potentially significant**.

Subsequent land use activities associated with implementation of the proposed General Plan Update could allow for the development of uses that have the potential to produce odorous emissions either during the construction or operation of future development. Additionally, subsequent land use activities may allow for the construction of sensitive land uses (i.e., residential development, schools, parks, offices, etc.) near existing or future sources of odorous emissions.

Future construction activities could result in odorous emissions from diesel exhaust associated with construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, exposure of sensitive receptors to these emissions would be limited.

The PCAPCD has adopted a nuisance rule that addresses the exposure of "nuisance or annoyance" air contaminant discharges. Rule 205 states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons, or to the public, or that endanger the comfort, repose, health, or safety of any such persons, or the public, or that cause to have a natural tendency to cause injury or damage to business or property (PCAPCD 2009). The provisions of Rule 205 do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals. If public complaints are sufficient to cause the odor source to be considered a public nuisance, then the PCAPCD can require the identified source to incorporate mitigation measures to correct the nuisance condition.

Despite the application of the PCAPCD's Rule 205, it is anticipated that implementation of the General Plan Update could create objectionable odors affecting a substantial number of

people. This impact is anticipated because the detection of odors is very subjective (e.g., a pleasant odor to one person may be unpleasant to another person, and odors detected by one person may not even be detected by another person), odors are not easily quantifiable, and there is not an established measurable threshold for determining when an odor has reached such a level to be considered significant or not. Thus, impacts associated with odors are considered **potentially significant**.

Proposed General Plan Update Policies that Provide Mitigation

Applicable proposed General Plan Update policies that address this impact are provided under Impact 4.2.5.

Continued implementation of PCAPCD Rule 205 and proposed General Plan Update Policies OCR-58 and OCR-59 and their associated action steps would help to reduce the impact of creating objectionable odors affecting a substantial number of people, but not to a less than significant level. Therefore, this impact is considered **significant and unavoidable**.

In addition, as discussed in Section 3.0, Project Description, and under Impact 4.2.1 above, the project includes the Sixth Amendment to the Redevelopment Plan and the Climate Action Plan, both of which would be consistent with the proposed General Plan Update and with the development assumptions analyzed throughout this DEIR. As these project components would not result in land use activities or population growth beyond what is identified in the General Plan Update, they would not result in impacts associated with creation of objectionable odors affecting a substantial number of people beyond what is analyzed for the General Plan Update above.

Mitigation Measures

None feasible.

4.2.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The City of Rocklin is included in the Greater Sacramento ozone nonattainment area as delineated by the EPA. Therefore, the cumulative setting considers the cumulative effect of increased emissions in the air basin. In 1994, CARB, in cooperation with the air districts of the Sacramento nonattainment area, fulfilled one of these requirements by preparing the 1994 Sacramento Area Regional Ozone Attainment Plan. The plan identified a detailed comprehensive strategy for reducing emissions to the level needed for attainment and showed how the area would make expeditious progress toward meeting this goal. Milestone reports were required in 1996 and every three years thereafter until the attainment deadline. The current plan, the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan, utilizes transportation forecasts based on SACOG forecasts of population and employment within the nonattainment area.

Ozone has been trending downward both in terms of the overall rate of population exposure to ozone and the number of days and hours over the standard. Total emissions of ozone precursors have been trending downward due to increasingly efficient emission control programs, and continued reductions in emissions are forecast for the future. Growth in population and vehicle use and new stationary sources of pollutants tend to retard air quality improvements. The reader is referred to Section 4.0 regarding a further description of regional development conditions

considered as part of the cumulative setting conditions. Current patterns of suburban development with long average commute distances tend to exacerbate air pollution.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Contribution to Regional Air Quality Impacts

Impact 4.2.7 Implementation of the proposed project, along with potential development of the surrounding region, would exacerbate existing regional problems with ozone and particulate matter. The proposed project's contribution to these conditions is considered **cumulatively considerable** and a **significant and unavoidable** impact.

Implementation of the proposed General Plan Update and its associated project components would result in new development and increased population and would adversely affect regional air quality. As indicated in Impact 4.2.1, development under the proposed project would exceed SACOG projections of households and employment that were utilized in the current attainment plan. However, as also indicated in Impact 4.2.1, based on discussions with SACOG staff, the slight difference between the City's and SACOG's population projection numbers can be attributed to the fact that SACOG's population projections do not represent total buildout of all residential lands in the city. These minor differences in assumptions are considered negligible, and SACOG staff concurs that the City's population projection resulting from the proposed General Plan (76,136 people) is consistent with the population projections of SACOG (75,719 people). Therefore, implementation of the proposed General Plan Update would not result in significant population growth or population growth that would substantially exceed any established growth projections (SACOG 2010).

Placer County is classified as a severe nonattainment area for the federal ozone standards. In order to improve air quality and attain health-based standards, reductions in emissions are necessary within the nonattainment area. The growth in population, vehicle usage, and business activity within the nonattainment area, when considered with growth proposed under the General Plan Update, would contribute to cumulative regional air quality impacts. Additionally, implementation of the proposed project may either delay attainment of the standards or require the adoption of additional controls on existing and future air pollution sources to offset project-related emission increases.

Additionally, with the increase in growth projected with implementation of the proposed project, an increase in toxic air contaminants (TACs) is also anticipated. A total of approximately 8,893,700 square feet of retail/commercial space and 5,099,000 square feet of industrial space is projected for the Planning Area under buildout conditions. For comparison purposes, it was estimated that there were 3,074,600 square feet of retail/commercial space and 3,053,300 square feet of industrial space existing in 2008. The incremental growth and operation of these land uses as well as the potential increase in diesel traffic to serve these uses will increase the amount of TACs. Thus, cumulative contributions to regional air quality impacts are considered **cumulatively considerable**. However, efforts by CARB and the EPA will play a substantial role in partially offsetting those increases by ensuring diesel-powered vehicles pose a lower risk to overall health.

As previously discussed, neither the Sixth Amendment to the Redevelopment Plan nor the CAP would result in impacts associated with contributions to regional air quality impacts beyond what is analyzed for the General Plan Update above.

Proposed General Plan Update Policies That Provide Mitigation

The proposed General Plan Update includes several policies that would assist in reducing the city's contribution to this cumulative impact; the policies are identified under Impact 4.2.1.

Mitigation Measures

Implementation of the proposed General Plan Update policies identified under Impact 4.2.1 as well as their associated action steps would assist in reducing the proposed project's contribution to cumulative regional and local air quality impacts; however, this contribution is still considered **cumulatively considerable** and thus a **significant and unavoidable** impact. No feasible mitigation is available to completely mitigate this impact.

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