
6.4 AIR QUALITY

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INTRODUCTION

This section addresses potential effects of the Sutter County General Plan (proposed General Plan) on ambient air quality and the potential for exposure of people (especially sensitive individuals who consist of children, the elderly, acutely ill, and chronically ill) to unhealthy pollutant concentrations. This section describes the existing air quality conditions within Sutter County, the County's attainment status for criteria air pollutants, relevant state and federal ambient air quality standards, the regulatory agencies responsible for managing and improving air quality, and the laws and plans that have been adopted to improve air quality. Air pollutants of concern for Sutter County include ozone (O₃), and particulate matter (PM).

Air quality improvements are fundamental objectives that underlie policies throughout the General Plan. The General Plan addresses air quality primarily by providing land use and mobility policies intended to reduce automobile trips on a per capita basis. Section 6.6, Climate Change, evaluates potential changes in global climate associated with greenhouse gas emissions and the potential for emissions generated by implementation of the General Plan to cumulatively contribute to global climate change.

No comments related to air quality were received during the Notice of Preparation (NOP) public comment period.

Data for this section was taken from the *2008 Sutter County General Plan Update Technical Background Report* (TBR), U.S. Environmental Protection Agency (U.S. EPA), the California Energy Commission (CEC), Feather River Air Quality Management District (FRAQMD), and the California Air Resources Board (CARB). The TBR is available electronically on the County's website (<http://www.co.sutter.ca.us/pdf/cs/ps/gp/tbr/tbr.pdf>) and on CD at the back of this document.

ENVIRONMENTAL SETTING

The discussion of air quality included below is presented on a countywide basis. There are no unique issues present in any of the five Growth Areas associated with air quality issues; therefore, these areas of the county are not specifically discussed in the environmental setting.

Topography, Climate, and Meteorology

The Sacramento Valley Air Basin (SVAB or Basin) includes all or parts of the following counties: Butte, Colusa, Glenn, Placer (portion), Sacramento, Shasta, Solano (portion), Sutter, Tehama, Yolo and Yuba. The dimensions of the Basin are approximately 216 miles from north to south and 95 miles east to west at the widest part. Land in the SVAB is relatively flat, bordered on the north and west by the Coast Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the northern Sierra Nevada mountain range. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Sacramento–San Joaquin Delta (Delta) from the San Francisco Bay area. The Mediterranean climate of the basin is characterized by hot, dry summers and cool, rainy winters. During summer, daily temperatures range from 50 degrees Fahrenheit (°F) to more than 100°F. The inland location and surrounding mountains shelter the area from many of the ocean breezes that keep the coastal regions moderate in temperature. Most precipitation in the SVAB results from air masses that move in from the Pacific Ocean, usually from the west or northwest during winter. More than half the total annual precipitation falls during the winter rainy season (November through February); the average winter temperature is a moderate 49°F. Periods of dense and persistent low-level fog, which are most prevalent between storms, are common during winter in the SVAB. The normal annual precipitation, which occurs primarily from November through March, is approximately 17 inches.¹ January temperatures range from an average minimum of 37.8°F to an average maximum of 53.3°F. July temperatures range from an average minimum of 58.2°F to an average maximum of 92.8°F.² The predominant wind direction and speed is from the south-southwest at approximately 10 mph.³

The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dry-land flows from the north. The mountains surrounding the SVAB create a barrier to airflow, which leads to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. Poor air movement occurs most frequently in fall and winter when high-pressure cells are present and meteorological conditions are stable. The lack of surface winds during these periods, combined with the reduced vertical flow caused by less surface heating, reduces the influx of air and results in the concentration of pollutants. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with agricultural burning activities or temperature inversions, which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground.

1 Western Regional Climate Center, <http://www.wrcc.dri.edu/>, accessed July 27, 2010.

2 Ibid.

3 Ibid.

May through October is ozone season in the SVAB and is characterized by poor air movement in the mornings and the arrival of the Delta sea breeze from the southwest in the afternoons. In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between reactive organic gas (ROG) and NO_x, which in turn result in O₃ formation. Typically, the Delta breeze transports air pollutants northward out of the SVAB; however, during approximately half of the time, from July through September, a phenomenon known as the "Schultz Eddy" prevents this from occurring. The Schultz Eddy phenomenon causes the wind pattern to shift southward, blowing air pollutants back into the SVAB. This phenomenon exacerbates the concentration of air pollutant emissions in the air basin and contributes to violations of the ambient air quality standards. The winds and unstable atmospheric conditions associated with the passage of winter storms result in periods of low air pollution and excellent visibility. Precipitation and fog tend to reduce or limit pollutant concentrations. For instance, clouds and fog block sunlight, which is required to fuel photochemical reactions that form ozone. Because CO is partially water soluble, precipitation and fog also tend to reduce concentrations of CO in the atmosphere. In addition, PM₁₀ can be washed from the atmosphere through wet deposition processes, such as rain, snow, and fog. However, between winter storms, high pressure and light winds contribute to low-level temperature inversions and stable atmospheric conditions, resulting in the concentration of air pollutants (e.g., CO, PM₁₀).

Stationary and Mobile Sources of Air Pollutants

Air pollutant emissions within the SVAB are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources are usually subject to a permit to operate from the local air district, occur at specific identified locations, and are usually associated with manufacturing and industry. Examples of point sources include refineries, concrete batch plants, and can coating operations.

Area sources are widely distributed and produce many small emissions and do not require permits to operate from any air agency. Examples of area sources include residential and commercial water heaters, painting operations, portable generators, lawn mowers, and consumer products such as barbeque lighter fluid and hairspray. The wide-spread use of these items and operations contributes to local and regional air pollution.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources are those that are legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, racecars, and construction vehicles. Mobile sources account for the majority of the air pollutant emissions within the Basin.

Ambient Air Quality Standards

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. The national and state ambient air quality standards have been set at levels where concentrations could be generally harmful to human health and welfare and are designed to protect the most sensitive persons from experiencing health impacts. The criteria pollutants for which federal and state standards have been promulgated and that are most relevant to air quality planning and regulation in the SVAB are ozone, carbon monoxide, fine suspended particulate matter, sulfur dioxide, and lead. In addition, toxic air contaminants are of concern in the SVAB. Each of these is briefly described below.

- *Ozone (O₃)* is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_x), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.
- *Carbon Monoxide (CO)* is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during the winter morning, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Motor vehicles operating at slow speeds are the primary source of CO in the SVAB because the CO is emitted directly from internal combustion engines. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.
- *Respirable Particulate Matter (PM₁₀)* and *Fine Particulate Matter (PM_{2.5})* consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of PM, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.
- *Nitrogen dioxide (NO₂)* is a nitrogen oxide compound that is produced by the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered), as well as point sources, especially power plants. Of the seven types of nitrogen oxide compounds, NO₂ is the most abundant in the atmosphere. Commuters in heavy traffic may be exposed to higher concentrations of NO₂ than those indicated by regional monitors, because ambient concentrations of NO₂ are related to traffic density.
- *Sulfur dioxide (SO₂)* is a colorless, extremely irritating gas or liquid which enters the atmosphere as a pollutant, mainly as a result of burning high sulfur-content fuel oils and coal, as well as from chemical processes occurring at chemical plants and refineries. When SO₂ oxidizes in the atmosphere, it forms sulfates (SO₄). Collectively, these pollutants are referred to as sulfur oxides (SO_x).

- *Lead (Pb)* occurs in the atmosphere as PM. The combustion of leaded gasoline is the primary source of airborne lead in the Basin. The use of leaded gasoline is no longer permitted for on road motor vehicles, therefore the majority of such combustion emissions are associated with off-road vehicles such as race cars. Other sources of lead include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and the use of secondary lead smelters.
- *Toxic Air Contaminants (TACs)* refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different than "criteria" pollutants in that ambient air quality standards have not been established for them, largely because there are hundreds of air toxics and their effects on health tend to be local rather than regional. TACs are primarily concentrated within ¼ mile of the emissions source, and the accepted practice is to analyze TACs when receptors are located within this ¼-mile radius.

Regional and Local Air Quality

Regionally, some portions of the SVAB have fewer air quality problems than others. Only the southern portion of the SVAB is in nonattainment for federal ozone standards, which includes the southern portion of Sutter County. Regarding state standards, the entire SVAB is in non-attainment for ozone and PM standards.

The California Air Resources Board (CARB) collects ambient air quality data through a network of air monitoring stations throughout the state. These data are summarized annually and are published in the CARB's *California Air Quality Data Summaries*. There are two monitoring stations in Sutter County: Yuba City – Almond Street station and Sutter Buttes – S Butte station. While the Yuba City station collects data on O₃, CO, PM₁₀, PM_{2.5}, and NO₂, the Sutter Buttes station only collects data on ozone.

Table 6.4-1 lists the ambient pollutant concentrations that have been measured within the county through the period of 2006 to 2008. As shown, Sutter County has a recent history of exceeding the federal 8-hour ozone standard and the PM_{2.5} standard. Sutter County has also exceeded State standards for the ozone 1-hour average, the ozone 8-hour average, and the PM₁₀ standards. The federal and state standards for CO and NO₂ have not been exceeded during this time.

Table 4.4-5, in Section 4.4, Air Quality in the TBR presents the latest average daily emissions for a variety of air pollutants in Sutter County. A wide variety of activities contribute to the emission of criteria air pollutants including fuel combustion, petroleum production, farming operations, and motor vehicles. Other contributions come from waste disposal, cleaning

TABLE 6.4-1				
EXCEEDANCES OF FEDERAL AND STATE AIR POLLUTION STANDARDS IN SUTTER COUNTY ^{1,2}				
Pollutant	Standard ²	2006	2007	2008
Ozone (1-hour)³				
Highest 1-hour measurement	-	0.102 ppm	0.095 ppm	0.092 ppm
# days over State standard	0.09 ppm	1	1	0
Ozone (8-hour)				
Highest 8-hour measurement	-	0.081 ppm	0.082 ppm	0.080 ppm
# days over Federal standard	0.08 ppm	4	3	1
# days over State standard	0.07 ppm	13	6	2
Carbon Monoxide (CO 8-hour)				
Highest 8-hour measurement	-	2.29 ppm	N/A	N/A
# days over Federal standard	9.0 ppm	0	0	0
# days over State standard	9.0 ppm	0	0	0
Particulate Matter (PM₁₀)				
Highest 24-hour concentration	-	66.0 µg/m ³	54.0 µg/m ³	66.9 µg/m ³
# days over Federal standard	150.0 µg/m ³	N/A	0	0
# days over State standard	50.0 µg/m ³	N/A	N/A	N/A
Particulate Matter (PM_{2.5})				
Highest 24-hour concentration	-	51.6 µg/m ³	55.8 µg/m ³	147.1 µg/m ³
# days over Federal standard	35.0 µg/m ³	16.2	8.1	9.7
Annual Mean	-	11.1 µg/m ³	N/A	14.6 µg/m ³
Annual Mean over State standard	12.0 µg/m ³	No	N/A	No
Nitrogen Dioxide (NO₂)				
Highest 1-hour measurement	-	0.070 ppm	0.054 ppm	0.061 ppm
# days over State standard	0.25 ppm	0	0	0
Annual Mean	-	0.012 ppm	0.012 ppm	0.012 ppm
Annual Mean over Federal standard	0.053 ppm	N/A	N/A	N/A
Notes:				
1. Data is derived from the Yuba City-Almond Street station due to the limited data collection capabilities of the Sutter Buttes-S Butte station. The Sutter Buttes station only collects data about ozone, while the Yuba City station collects data for all the pollutants listed above.				
2. It should be noted that according to the California Air Resources Board, an exceedance is not necessarily a violation of federal or state standards.				
3. The federal 1-hour standard for ozone was revoked in June 2005 and is no longer in effect.				
Source: California Air Resources Board, Air Quality Data Statistics, < www.arb.ca.gov/adam/welcome.html >, accessed June 3, 2010.				

and surface coatings, solvent evaporation, and natural sources. Natural sources make up approximately five percent of Sutter County's emissions totals. It should also be noted that farming operations in Sutter County contribute approximately 42 percent to the total PM emissions (11.51 tons of PM per day from farming operations with 27.26 tons of PM per day for the entire county).

Within Sutter County, there are a number of facilities that emit significant amounts of air pollutants which contribute to the ambient air quality in the county and in the entire Feather River Air Quality Management District (FRAQMD). Table 4.4-6, in Section 4.4, Air Quality in the TBR, shows the various point source facilities located in the county that report emissions

to the CARB. There are currently 48 facilities in the county that contribute to ambient air quality in the region, including gas stations, print shops, auto body shops, and dry cleaners.

Toxic Air Contaminants (TACs)

As stated above, TACs are airborne substances that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe, but of short duration) adverse effects on human health. They include both organic and inorganic chemical substances that may be emitted from a variety of common sources including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different than the “criteria” pollutants previously discussed in that ambient air quality standards have not been established for them, largely because there are hundreds of air toxics and their effect on health tend to be local rather than regional.

TAC impacts are assessed using a maximum individual cancer risk (MICR) that estimates the probability of a potential maximally exposed individual (MEI) contracting cancer as a result of sustained exposure to TACs over a constant period of 24 hours per day for 70 years for residential receptor locations. The CARB and local air districts have determined that any stationary source posing an incremental cancer risk to the general population (above background risk levels) equal to or greater than 10 people out of 1 million to be excessive. For stationary sources, if the incremental risk of exposure to project-related TAC emissions meets or exceeds the threshold of 10 excess cancer cases per 1 million people, the CARB and local air district require the installation of best available control technology (BACT) or maximum available control technology (MACT) to reduce the risk threshold. Daily exposure could differ for different analysis scenarios. The CARB has produced a series of estimated inhalation cancer risk maps based on modeled levels of outdoor airborne toxic pollutant levels. Sutter County has an existing estimated risk that is between 50 and 500 cancer cases per 1 million people. A significant portion of Sutter County is within the 100 to 250 cancer cases per 1 million people range. There is a higher risk around Yuba City where the cancer risk is as high as 500 cases per 1 million people. There are only very small portions of the County where the cancer risk is between 50 and 100 cases.⁴ This represents the lifetime risk that between 50 and 500 people in 1 million may contract cancer from inhalation of toxic compounds at current ambient concentrations under an MEI scenario. The largest contributor to this inhalation cancer risk is PM emitted by diesel engines.

Sensitive Receptors

The national and state ambient air quality standards have been set at a level designed to protect the most sensitive persons from illness or discomfort with a reasonable margin of

4 California Air Resources Board, Cancer Inhalation Risk: Local Trend Maps, Yuba-Sutter: 2001 Cancer Risk Per Million, <<http://arb.ca.gov/toxics/cti/hlthrisk/cncrinhl/rskmapvwtrend.htm>>, accessed August 29, 2007.

safety. Air pollution regulatory agencies typically define sensitive receptors to include residences, schools, playgrounds, childcare centers, athletic facilities, hospitals, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Each of these land use types is present in the policy area.

REGULATORY CONTEXT

Federal

U.S. Environmental Protection Agency (US EPA)

The U.S. EPA is the federal agency responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. The U.S. EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The U.S. EPA also has jurisdiction over emission sources outside state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California.

As part of its enforcement responsibilities, the U.S. EPA requires each state with non-attainment areas to prepare and submit a State Implementation Plan that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in non-attainment areas, using a combination of performance standards and market-based programs.

Federal Clean Air Act (FCAA)

The Federal Clean Air Act (CAA), as amended, establishes air quality standards for several pollutants. These standards are divided into primary standards and secondary standards. Primary standards are designed to protect public health, and secondary standards are intended to protect public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage. The CAA requires that regional plans be prepared for non-attainment areas illustrating how the federal air quality standards could be met. The CARB approved the most recent revision of the State Implementation Plan (SIP) in 1994, and submitted it to the U.S. EPA. The SIP, approved by the U.S. EPA in 1996, consists of a list of ROG and NO_x control measures for demonstrating future attainment of ozone standards. The steps to achieve attainment will continue to require significant emissions reductions in both stationary and mobile sources.

State

California Air Resources Board (CARB)

The CARB, a part of the California EPA (Cal/EPA) is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets state ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. The CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California Clean Air Act (CCAA)

The CCAA of 1988 requires non-attainment areas to achieve and maintain the state ambient air quality standards by the earliest practicable date and local air districts to develop plans for attaining the state O₃, CO, SO₂, and NO₂ standards. The CCAA also requires that by the end of 1994 and once every three years thereafter, the air districts are to assess their progress toward attaining the air quality standards. The triennial assessment is to report the extent of air quality improvement and the amounts of emission reductions achieved from control measures for the preceding three year period.

Air Toxics Hot Spots Information and Assessment Act

The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588), California Health and Safety Code Section 44300 et seq., provides for the regulation of over 200 air toxics and is the primary air contaminant legislation in the state. Under the Act, local air districts may request that a facility account for its TAC emissions. Local air districts then prioritize facilities on the basis of emissions, and high priority designated facilities are required to submit a health risk assessment and communicate the results to the affected public. The TAC control strategy involves reviewing new sources to ensure compliance with required emission controls and limits, maintaining an inventory of existing sources of TACs, and developing new rules and regulations to reduce TAC emissions. The purpose of AB 2588 is to identify and inventory toxic air emissions and to communicate the potential for adverse health effects to the public.

Assembly Bill 1807

Assembly Bill 1807 (AB 1807), enacted in September 1983, sets forth a procedure for the identification and control of TACs in California. The CARB is responsible for the identification

and control of TACs, except pesticide use. AB 1807 defines a TAC as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The CARB prepares identification reports on candidate substances under consideration for listing as TACs. The reports and summaries describe the use of and the extent of emissions in California resulting in public exposure, together with their potential health effects.

In 1998, the CARB identified diesel particulate matter (DPM) as a TAC under the AB 1807 program. DPM is emitted into the air via heavy-duty diesel trucks, construction equipment, and passenger cars. In October 2000, the CARB released a report entitled *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. This plan identifies DPM as the predominant TAC in California and proposes methods for reducing diesel emissions.

Senate Bill 656

As a first step in the implementation of Senate Bill 656 (SB 656, Reducing Particulate Matter in California), the CARB approved a list of the most readily available, feasible, and cost-effective control measures that can be employed by air districts to reduce PM₁₀ 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. As a second step, air districts must adopt implementation schedules for selected measures from the list. The implementation schedules will 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 will prioritize measures based on the nature and severity of the PM problem in their area and cost-effectiveness. Consideration is also given to ongoing programs such as measures being adopted to meet national air quality standards or the state ozone planning process. The consideration and adoption of air district rules in their implementation schedules, coupled with CARB's ongoing programs, will ensure continued progress in reducing public exposure to PM and attainment of the state and federal standards.

Senate Bill 700

In September 2003, the California Legislature adopted Senate Bill 700 (SB 700, Agriculture and Air Quality Summary and Implementation). This bill removed a long-standing statute that exempted agricultural operations from obtaining operating permits for sources of air pollution. The bill requires agricultural sources with emissions greater than or equal to one-half the threshold for a federal major source to obtain a District permit, and sources that meet or exceed the threshold for a federal major source to obtain a federal operating permit from U.S. EPA or a local district with a federally approved federal operating permits program.

Local

Sutter County 2015 General Plan

The County's 2015 General Plan contains policies and implementation measures relevant to the preservation and protection of air quality. The 2015 General Plan included policies focusing on directly improving air quality throughout the County. There are numerous policies that indirectly improve air quality as it relates to reducing vehicle miles traveled (VMT), sustainable land use planning, and congestion reduction, etc. Upon approval of the proposed General Plan, all policies and implementation measures in the 2015 General Plan would be superseded. Therefore, they are not included in this analysis.

Feather River Air Quality Management District (FRAQMD)

The FRAQMD is a bi-county District that was formed in 1991 to administer local, state, and federal air quality management programs for Yuba and Sutter counties. The mission of FRAQMD is to promote and improve the air quality of Sutter and Yuba counties through monitoring, evaluation, education, implementing control measures to reduce emissions from stationary sources, permitting and inspecting pollution sources, enforcing air quality regulations, and supporting and implementing measures to reduce emissions from motor vehicles.

FRAQMD also collaborates with other air districts in the northern Sacramento valley air basin (NSVAB) to address the non-attainment status for O₃ and PM₁₀ in the greater Sacramento region. For example, FRAQMD prepared the *2003 NSVAB Air Quality Attainment Plan* to discuss the progress made in implementing the previous 2000 plan and proposed modifications to the strategies necessary to attain the California ambient air quality standards at the earliest practicable date. The 2003 Plan also identified the air pollution problems to be cooperatively addressed on as many fronts as possible with the cooperation of other air districts.

Currently FRAQMD is proposing to adopt new and amend existing regulations regarding agricultural source emissions in accordance with passage of SB 700. As discussed above, SB 700 requires that major agricultural sources of air pollution and certain non-major agricultural sources of air pollution obtain stationary source permits from local districts. Existing FRAQMD Rule 4.3 exempts all agricultural sources from obtaining district permits. The proposed amendments to Rule 4.3 would remove those exemptions for these sources and will update FRAQMD rules and regulations to be consistent with state and federal law. The

exemption will be such that FRAQMD rules will be equally, but not more stringent than state law requires.⁵

FRAQMD sets forth rules and regulations aimed at improving basin-wide air quality. Specific rules applicable to the 2030 General Plan may include, but not be limited to:

Rule 3.0—Visible Emissions

As provided by Section 41701 of the California Health and Safety Code, a person shall not discharge into the atmosphere from any single source of emissions whatsoever, any air contaminants 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 No. 2 on the Ringlemen Chart, as published by the United States Bureau of Mines; or
- Of such opacity as to obscure an observers view to a degree equal to or greater than does smoke described above.

Rule 3.15—Architectural Coatings

- The purpose of this rule is to limit the quantity of VOCs in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use.

Rule 3.16—Fugitive Dust Emissions

The purpose of this rule is to reasonably regulate operations which may periodically cause fugitive dust emissions into the atmosphere. A person shall take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line, from which the emission originates, from any construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation. Reasonable precautions shall include, but are not limited to:

- Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, construction of roadways, or the clearing of land;
- Application of asphalt, oil, water, or suitable chemical on dirt roads, material stockpiles, and other surfaces which can give rise to airborne dusts; and
- Other means approved by the air pollution control officer (APCO).

5 Feather River Air Quality Management District, Staff Report, Proposed Rule Amendment: Regulation IV Rule 4.3 Exemptions From Permit, <[www.fraqmd.org/Rules/Rule4-3_staffreport\(draft\).pdf](http://www.fraqmd.org/Rules/Rule4-3_staffreport(draft).pdf)>, accessed August 31, 2007.

Rule 3.17—Wood Stove Heating

- All wood-heating devices used for the first time in existing buildings and those used in all new residential and commercial building projects constructed after the effective date of this rule within the boundaries of the FRAQMD shall meet emission and performance requirements equivalent to EPA Phase II devices as set forth in Part 60, Title 40, Subpart AAA Code of Federal Regulations, February 26, 1988.
- No person shall cause or allow materials to be burned in a fireplace or wood-heating device such that the discharge of air contaminants would cause a public nuisance, pursuant to Section 41700 of the California Health and Safety Code.
- No person shall sell, offer for sale, supply, install, or transfer a used wood heating device unless it meets one of the following criteria:
 - It is certified by EPA as meeting the performance and emission standards as set forth in Part 60, Title 40, Subpart AAA Code of Federal Regulations, February 26, 1988.
 - It is exempted from certification by the EPA.
 - It is a pellet-fueled wood heater.
 - It has been rendered permanently inoperable as determined by the APCD.
- The APCO may issue an advisory through local communications media to voluntarily curtail the use of uncertified solid fuel appliances whenever conditions within the FRAQMD are projected to cause ambient air quality concentrations of PM₁₀ that exceed 60 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The purpose of this rule is to reasonably regulate operations which periodically may cause fugitive dust emissions into the atmosphere. A person shall take every reasonable precaution not to cause or allow the emissions of fugitive dust.

Northern Sacramento Valley Planning Area 2006 Air Quality Attainment Plan

As specified in the California Clean Air Act of 1988 (CCAA), Chapters 1568-1588, it is the responsibility of each air district in California to attain and maintain the state's ambient air quality standards. The CCAA requires that an Attainment Plan be developed by all nonattainment districts for O₃, CO, SO_x, and NO_x that are either receptors or contributors of transported air pollutants. The purpose of the *Northern Sacramento Valley Planning Area 2006 Air Quality Attainment Plan* (NSVPAAQAP) is to comply with the requirements of the CCAA as implemented through the California Health and Safety Code. Districts in the NSVPA are required to update the Plan every three years. The NSVPAAQAP is formatted to reflect the 1990 baseline emissions year with a planning horizon of 2010. The Health and Safety Code, sections 40910 and 40913, require the Districts to achieve state standards by the earliest practicable date to protect the public health, particularly that of children, the elderly, and people with respiratory illness. It should be noted that the NSVPAAQAP is in the

process of reviewing its 2009 update to the Plan, which, if approved, would replace the currently adopted plan (2006).

Health and Safety Code Section 41503(b), requires that control measures for the same emission sources are uniform throughout the planning area to the extent that is feasible. To meet this requirement, the NSVPA has coordinated the development of an Attainment Plan and has set up a specific rule adoption protocol. The protocol was established by the Technical Advisory Committee of the Sacramento Valley Basin-wide Air Pollution Control Council and the Sacramento Valley Air Quality Engineering and Enforcement Professionals, which allow the Districts in the Basin to act and work as a united group with the CARB as well as with industry in the rule adoption process. Section 40912 of the Health and Safety Code states that each District responsible for, or affected by, air pollutant transport shall provide for attainment and maintenance of the state and federal standards in both upwind and downwind Districts. This section also states that each downwind District's Plan shall contain sufficient measures to reduce emissions originating in each District to below levels which violate state ambient air quality standards, assuming the absence of transport contribution.

IMPACTS AND MITIGATION MEASURES

Methods of Analysis

The analysis in this section focuses on the nature and magnitude of the change in the air quality environment due to implementation of the proposed General Plan. Air pollutant emissions associated with the proposed project would result from construction activities, project operation, and project-related effects on traffic volumes. Air quality impacts are also evaluated to determine affects on nearby sensitive uses.

Operational emissions associated with the proposed project were estimated using the URBEMIS 2007 computer model developed for the CARB and accepted by the FRAQMD, and project information provided in Chapter 3 (Project Description). Operational emissions would be comprised of mobile source emissions and area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips associated with new development within the county. Area source emissions are generated by new buildings that consume natural gas for space and water heating, use landscape maintenance equipment, include fireplaces/hearths, and the use/maintenance of various land use types. The net increase in project emissions generated by project operation activities and other secondary sources have been quantitatively estimated and compared to the thresholds of significance recommended by the FRAQMD. FRAMQD thresholds were used in order to conform to state requirements. Since these thresholds are more stringent than the federal NAAQS, an exceedance of FRAQMD thresholds would occur before an exceedance of NAAQS.

Proposed Sutter County General Plan Goals and Policies

The following goals and policies from the proposed General Plan relevant to air quality within the entire policy area are listed below.

ENVIRONMENTAL RESOURCES (ER)

Goal ER 9 Protect, maintain and improve the air quality in Sutter County.

Policies

- ER 9.1 **Ambient Air Quality Standards.** Work with the California Air Resources Board and the Feather River Air Quality Management District (FRAQMD) to meet State and federal ambient air quality standards.
- ER 9.2 **FRAQMD.** Support FRAQMD in its establishment of appropriate standards to address the air quality impacts of new development.
- ER 9.3 **Emission Reduction.** Implement, as appropriate, the reduction measures in the Climate Action Plan targeted to reduce air quality emissions. Such measures may include: adopting a trip reduction ordinance; adopting a comprehensive parking program that facilitates the use of alternative modes and carpooling; providing incentives for carpooling at the workplace; providing a comprehensive system of facilities for non-motorized transportation; developing transit infrastructure; and expanding the use of renewable fuels and low emission vehicles.
- ER 9.4 **Automobile Dependence Reduction.** Implement land use patterns that reduce automobile dependence (e.g., compact development, mixed-use development), and encourage the use of alternative modes of transportation by incorporating public transit, bicycle, and pedestrian facilities in new developments.
- ER 9.5 **FRAQMD Review.** Submit development proposals to FRAQMD for review and comment in accordance with CEQA prior to consideration by the County's decision making body.
- ER 9.6 **New Development.** Review and ensure new development projects incorporate feasible measures that reduce construction and operational emissions.
- ER 9.7 **New Sensitive Uses.** Require development of new air quality sensitive uses to be located an adequate distance from existing and potential sources of air pollutant emissions consistent with California Air Resources Board recommendations.
- ER 9.8 **Facilities Producing Toxic Air Pollutants.** Require new facilities or operations that may produce toxic or hazardous air pollutants to be located an adequate distance from sensitive air quality receptors consistent with California Air Resources Board recommendations.

- ER 9.9 **Odors.** Require for uses other than permitted agricultural operations, that adequate buffer distances be provided between odor sources and sensitive receptors.
- ER 9.10 **Contractor Preference.** Give preference to contractors that use low-emission equipment and other practices with air quality benefits for County-sponsored construction projects, and to businesses that practice sustainable operations.
- ER 9.11 **County Fleet.** Purchase low-emission vehicles for the County's fleet and use clean fuel sources for trucks and heavy equipment, when feasible.
- ER 9.12 **Public Education.** Educate the public about air quality, its effects on health, and efforts the public can make to improve air quality and reduce greenhouse gas emissions.

Implementation Program(s)

- ER 9-A Require adequate distances between facilities that may produce toxic or hazardous air pollutants and sensitive receptors in accordance with the recommendations in the California Air Resources Board Air Quality and Land Use Handbook: A Community Health Perspective. If it is determined that these minimum distances can not met, then coordinate with FRAQMD to require that a health risk assessment be prepared for the new development to determine appropriate mitigation.

AGRICULTURAL RESOURCES ELEMENT (AG)

Natural Resources for Agriculture (Sustainability)

Goal AG 3 Protect the natural resources needed to ensure that agriculture remains an essential and sustainable part of Sutter County's future.

Policies

- AG 3.1 **Efficient Water Management.** Support the efficient management and use of agricultural water resources where economically feasible to support agriculture.
- AG 3.2 **Water Conservation and Recycling.** Support the efforts of the multiple water agencies operating in Sutter County to adopt water conservation practices and explore the feasibility of water recycling for agriculture.
- AG 3.3 **Water Quality and Quantity.** Maintain water resource quality and quantity for the irrigation of productive farmland.
- AG 3.6 **Groundwater Resources.** Support the efforts of the local water agencies to promote groundwater recharge, conjunctive use, conservation of significant recharge areas, and other activities to protect and manage Sutter County's groundwater resources.
- AG 3.7 **Alternative Energy.** Support the use of energy-saving technologies and alternative energy sources (solar, wind, biofuels) in all agricultural industries and operations

such as the pumping of irrigation water, food processing, and water treatment. Support the use of alternative energy-powered farm vehicles and trucks.

AG 3.9 **Chemical Use.** Support the efforts of growers to follow state and federal regulations concerning the use of pesticides, herbicides, and manufactured fertilizers.

Agricultural Industries

Goal AG 4 Provide for growth, expansion, and diversification of Sutter County's agricultural industries.

Policies

AG 4.1 **Transportation Systems.** Maintain existing regional transportation systems to support the local, national, and global movement of agricultural products. Support the extension of freight rail into Sutter County's industrial areas.

AG 4.3 **New Technologies.** Support the development and use of new technologies that facilitate resource efficient operation of agriculturally related industries, including food processing. These technologies may include: energy development technologies, such as wind, solar and waste sources; energy and water conservation technologies; cultivation practices; global positioning system (GPS) applications; and others that improve the profitability of agriculture in Sutter County. (New)

AG 4.4 **Farmworker Housing.** Collaborate with incorporated cities, rural communities, the agricultural industry, and housing developers to provide affordable housing for farmworkers.

AG 4.6 **Local Processing.** Support the local processing and distribution of agricultural products grown in Sutter County and other nearby locations.

AG 4.7 **Local Purchasing.** Promote Sutter County farmers' efforts to market their produce locally including the purchase and consumption of locally-grown and processed foods by local households, institutions, and businesses.

AG 4.12 **Support Uses.** Facilitate agricultural production by allowing agriculture related support uses, such as processing, storage, packaging, and soil preparation services, to be conveniently and accessibly located in agricultural production areas when related to the primary agricultural production in the area. Such uses shall be allowed by discretionary permit approval, subject to all of the following criteria:

- a. The use shall provide a service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operation characteristics;
- b. The use should not be sited on productive agricultural land if less productive land is available in the immediate vicinity;

- c. The operational or physical characteristics of the use shall not have a significant adverse impact on water resources or the use or management of surrounding agricultural properties.

Implementation Programs

AG 4-A Work with the cities and other appropriate agencies and interests to establish a marketing committee to promote Sutter County agriculture through the following and other means: agricultural industry promotional activities, including farmers' markets; agri-tourism marketing; marketing of locally-grown food; and promotion of events that expose residents of urban places to agricultural activities and issues.

LAND USE ELEMENT (LU)

Countywide Land Use

Goal LU 1 Promote the efficient and sensitive use of lands to protect and enhance Sutter County's quality of life and meet the needs of existing and future residents and businesses.

Policies

- LU 1.2 **Balanced Land Use Pattern.** Maintain a balance of land uses that allows residents the opportunity to live, work, and shop in the County.
- LU 1.3 **Adequate Land Use Supply.** Retain an adequate supply of Commercial and Employment designated land to promote a wide range of employment and revenue generating land uses, provide a choice of sites, and enhance the County's jobs to housing ratio and fiscal vitality.
- LU 1.11 **Efficient Land Use Patterns.** Encourage land use patterns that support the efficient use of resources, enhance the timely provision of services and infrastructure, promote a variety of transportation modes, facilitate pedestrian mobility, and support health and wellness.

Rural Communities

Goal LU 3 Protect the character of the County's unincorporated rural communities while allowing appropriate opportunities for new growth.

Policies

- LU 3.5 **Infill Development.** Encourage infill development within rural communities prior to expansion beyond current community boundaries.
- LU 3.9 **Rural Hubs.** Promote opportunities to enhance rural communities as retail, service, and employment hubs for local residents as well as the residents in surrounding agricultural areas.
- LU 3.12 **Mixed Use.** Provide opportunities for mixed-use projects, such as second floor residential units above commercial businesses, within rural communities.

General Growth

Goal LU 4 Facilitate orderly, well planned, sustainable, and efficient growth that balances aesthetic, functional, resource, and economic considerations.

Policies

LU 4.8 Quality New Development. Require high quality, efficient, and well designed new development.

- a. Use significant natural, historic, and visual site features to guide site planning and design, and incorporate such features as focal points when feasible.
- b. Enhance scenic views to the Sutter Buttes, rivers, agricultural lands, and other visual resources through project siting and design.
- c. Provide for a mix of interconnected uses and a compact development form that makes efficient use of the land.
- d. Facilitate non-automobile transportation modes.
- e. Screen visually obtrusive activities and facilities from roadways and other public spaces through the use of landscaping, walls, building orientations, and other methods.
- f. Design and locate lighting to avoid spillage and glare on adjacent properties and protect the rural night sky.

LU 4.15 Residential Neighborhoods. Provide for the development of new residential neighborhoods that are diverse, distinct, and highly livable.

- a. Establish a network of attractive streets, sidewalks, paths and other routes that promote neighborhood connectivity, a pedestrian friendly environment, and safe and convenient access to parks, schools, and adjacent uses.
- b. Promote diversity of architecture, materials, colors, and rooflines within neighborhoods.

Implementation Programs

LU 1-B Complete a comprehensive review of the Sutter County Design Guidelines and amend as appropriate to:

- Minimize land use conflicts between uses;
- Define Agricultural buffers;
- Define Industrial and Commercial buffers;
- Incorporate Landscape Design measures from the Climate Action Plan;
- Discourage strip development along key roadways and highways;
- Enhance the design of development located along roadways and highways to protect quality views;
- Ensure compatible new development in agricultural areas;
- Preserve and protect local landmarks and significant natural resources within rural communities;

- Define appropriate design standards to enhance rural communities;
- Define gateways to rural communities;
- Require high quality, efficient, and well designed new development;
- Promote well defined, diverse and distinct residential neighborhoods and housing;
- Address street frontages, pedestrian access, compatibility with surrounding uses, architectural design, scale and massing, screening, sign design, transit facilities, visual impact of parking areas, and shared access and parking or new commercial and industrial uses;
- Ensure compatible design of public facilities; and,
- Establish Industrial Commercial and Employment Corridor buffers.

LU 1-C Complete a comprehensive review of the Sutter Zone Code and amend as appropriate to:

- Prohibit new Agriculture Rural Community and Ranchette zoning and uses;
- Allow for the Commercial Recreation Overlay;
- Limit new Estate Residential development;
- Allow mixed use developments including employee-serving businesses within industrial areas;
- Allow for the development of second residential units in appropriate zones;
- Provide for consistent signage and flexible development standards for new commercial and industrial uses;
- Provide for expedited Design Review processing within the Employment Corridor;
- Make necessary changes to ensure consistency between the Sutter County Zoning Code and the General Plan.

LU 3-A **Consider preparing and adopting a Community Plan for each rural community to supplement the policies of General Plan.** The Community Plan for each rural community may address: assignment of land uses and development patterns; land use compatibility; infill development and community expansion; infrastructure and services; economic development opportunities; community character and design; and other issues relevant to each community.

MOBILITY ELEMENT (M)

Streets and Highways

Goal M 2 Provide for the long-range planning and development of the County's roadway system and the safe, efficient, and reliable movement of people and goods throughout Sutter County.

Policies

- M 2.9 **External Development Mitigation.** Coordinate with the cities and neighboring counties to require new development within those jurisdictions to analyze and fully mitigate their impacts to Sutter County roadways through construction of improvements and/or fair share funding of improvements within Sutter County.

Transit

Goal M 3 Promote a safe and efficient transit system to reduce congestion and provide viable alternatives to automobile use.

Policies

- M 3.1 **Transit Service for Residents.** Support development of transit facilities in strategic locations, including areas of concentrated activity, density, and intensity.
- M 3.2 **Transit in New Development.** Require new, large-scale developments to facilitate the provision of adequate transit service for users and to coordinate with local transit agencies to situate transit service and stops at locations that are convenient and accessible to users.
- M 3.3 **Transit Integration.** Support multi-modal stations at appropriate locations to integrate transit with other transportation modes.
- M 3.4 **Reduce Vehicle Miles Traveled.** Implement, as appropriate, reduction measures in the Climate Action Plan targeted to facilitate the reduction in vehicle miles traveled and help to reduce greenhouse gas emissions. Such measures include implementing the conceptual transit plan for the Sutter Pointe Specific Plan area, which provides phased transit service.

Implementation Programs

- M 3-A Coordinate with local transit agencies to ensure that residents have convenient transit service to workplaces, government services, shopping, and other destinations, as funding allows. Coordinate with Yuba-Sutter Transit in periodically reviewing and updating the transit plan for the County.
- M 3-B Cooperate with Yuba-Sutter Transit as they identify potential locations for rideshare facilities.
- M 3-C Condition new development to construct or fund transit stops and hubs with upgraded amenities such as pull-outs, sheltered stops, benches and lighting, where appropriate.

In addition, the draft Climate Action Plan (CAP) also includes a number of measures designed to be incorporated at the County level to provide additional reductions in greenhouse gas emissions but will also have a secondary effect on general air emissions countywide, including criteria pollutants. Measures include adopting a residential energy efficiency program for all new residential buildings that exceed current Title 24 standards

and providing incentives for homeowners to retrofit homes with photovoltaic panels. A list of all the draft reduction measures from the CAP is included in Section 6.6, Climate Change. A copy of the draft CAP is also included in Appendix E.

Standards of Significance

The thresholds of significance are based on Appendix G of the State CEQA Guidelines and FRAQMD guidance. An air quality impact is considered significant if implementation of the proposed General Plan would:

- conflict with or obstruct implementation of an applicable air quality plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable NAAQS or CAAQS (including releasing emissions that exceed quantitative thresholds for O₃ precursors);
- expose sensitive receptors to substantial pollutant concentrations; or
- create objectionable odors affecting a substantial number of people.

As stated in Appendix G, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the above determinations. Thus, in accordance with FRAQMD-recommended thresholds for evaluating project-related air quality impacts (including FRAQMD's Indirect Source Review Guidelines), implementation of the proposed General Plan would be considered significant if operational activities would:

- exceed the project size screening levels of FRAQMD's Indirect Source Review Guidelines or, at a project level, emit (from all project sources, both stationary and mobile) greater than 25 lb/day for ROG or NO_x and 80 lb/day for PM₁₀;
- contribute to localized concentrations of air pollutants at nearby receptors that would exceed applicable ambient air quality standards; or
- result in exposure of sensitive receptors to a substantial incremental increase in TAC emissions (e.g., stationary or mobile source) that exceed 10 chances per million for excess cancer risk and/or a hazard index of 1 for noncancer risk at the MEI. As incremental increase thresholds, it is FRAQMD's implied intention that these standards also serve as cumulative contribution thresholds.

Impacts and Mitigation Measures

6.4-1 Implementation of the proposed General Plan could conflict with or obstruct implementation of an applicable air quality management plan.

The 2006 NSVPAAQAP ([Plan] discussed above in the Regulatory Setting) was prepared to accommodate growth within the region, to reduce the high levels of pollutants within areas under the jurisdiction of FRAQMD, to return clean air to the region, and to minimize the impact of reduced air quality on the economy. Projects considered consistent with the Plan would not interfere with attainment because this growth is included in the projections used during the preparation of the Plan. Therefore, projects, uses, and activities that are consistent with the applicable assumptions relied upon in the development of the Plan would not jeopardize attainment of the air quality levels identified in the NSVPAAQAP, even if they exceed the FRAQMD's recommended daily emissions thresholds.

Projects that are consistent with the employment and population projections identified in the Metropolitan Transportation Plan (MTP) prepared by the Sacramento Area Council of Governments (SACOG) are considered consistent with the NSVPAAQAP growth projections, since the MTP forms the basis of the future emission projections and control portions of the NSVPAAQAP. As discussed in Chapter 5.0 (Population, Employment and Housing) of this EIR, the General Plan would exceed current SACOG projections for the county. Because the NSVPAAQAP growth projections are based on SACOG population levels, the increase in population growth associated with the proposed General Plan would not have been accounted for in the NSVPAAQAP. Therefore, implementation of the General Plan would not be consistent with NSVPAAQAP attainment forecasts and attainment of the standards could be delayed.

Another measurement tool in determining consistency with an air quality management plan (AQMP), like the NSVPAAQAP, is to determine how a project accommodates the expected increase in population or employment. Generally, if a project is planned in a way that results in a reduction in VMT, both within the project area and the surrounding area in which it is located, and consequently the minimization of air pollutant emissions, that aspect of the project is consistent with the AQMP. Goals and policies contained in the General Plan would serve to promote a more walkable, transit-friendly community, which could contribute to decreases in VMT. For example, policies ER 9.4, LU 1.2, LU 1.10, and LU 3.9 promote efficient land use patterns within the county that would reduce the need for residents and employees to travel in single occupancy vehicles to satisfy daily needs. Further, policies AG 4.12, LU 3.5, LU 3.12, and LU 4.8 target specific types of development within the county, such as mixed use, interconnectivity between land uses, and compact development to reduce vehicle trips and VMT. Policies M 3.1 through M 3.4 also emphasize the need to provide additional transit opportunities within the county for existing and future development. As noted in Section 6.14 (Transportation and Circulation), average trip length for uses within the county is anticipated to decrease from 10.02 miles/vehicle trip to 9.22 miles/vehicle trip.

Nonetheless, because the General Plan would promote development within the county in excess of current SACOG projections, which are used to formulate the emission projections and control strategies of the NSVPAAQAP, the proposed project would be consistent with the principles of the NSVPAAQAP and other regional air quality planning efforts in terms of the reduction of VMT. However, the proposed General Plan would be inconsistent with the NSVPAAQAP with respect to forecast population/employment/housing levels. It is anticipated once the Plan is updated it would take into account new growth projections within the county, but at this time the Plan has not been updated. Therefore, because the proposed General Plan would conflict with implementation of the NSVPAAQAP, this impact would be considered *significant*.

Mitigation Measure

There are no feasible mitigation measures available to establish consistency with the NSVPAAQAP. The project includes a number of goals and policies designed to promote smart growth, but because the growth projections included in the proposed General Plan exceed current land use projections for the county, there are no feasible mitigation measures with the exception of reducing development to reduce the impact. As such, impacts would be *significant and unavoidable*.

6.4-2 Implementation of the proposed General Plan would result in operational emissions that would contribute substantially to an existing or projected air quality violation.

Air emissions associated with the proposed General Plan would occur as a result of operation of new land uses. The thresholds of significance recommended by the FRAQMD for these new emissions were developed for individual development projects and are based on the FRAQMD's *Indirect Source Review Guidelines* emissions standards for individual sources of new emissions such as boilers, generators and mobile sources. Operational emissions based on future conditions were calculated using URBEMIS2007 for area (heating, landscaping, etc.) and mobile (vehicular) emissions, as provided by the transportation consultant, DKS Associates (see Appendix C for the URBEMIS outputs). Table 6.4-2 (Operational Emissions Associated with Implementation of the General Plan) shows the anticipated operational emissions under the proposed General Plan.

It is important to note that in order to evaluate the proposed project, which is the future or buildout conditions associated with the General Plan, it is necessary to subtract out emissions associated with existing conditions, or the CEQA baseline. Therefore, the FRAQMD thresholds are compared against the net emissions associated with the proposed project, under both the adjusted buildout and total buildout scenarios.

Source	NO _x (lbs/day)	ROG (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
Existing Emissions (Baseline Emissions)				
Mobile Source Emissions	2,608.94	1,751.86	2,315.57	461.26
Area Source Emissions	133.28	721.81	1.33	1.32
<i>Total Existing Emissions</i>	2,742.22	2,473.67	2,316.90	462.58
General Plan – Adjusted Buildout (2030) Emissions				
Mobile Source Emissions	1,401.87	1,516.24	6,810.33	1,286.03
Area Source Emissions	307.30	1,680.21 ¹	2.38	2.36
<i>Gross "Reduced" Project Emissions</i>	1,709.17	3,196.45	6,812.71	1,288.39
<i>Net Project Emissions²</i>	(1,033.05)	722.78	4,495.81	825.81
FRAQMD Thresholds	25	25	80	N/A ³
Significant Impact?	No	Yes	Yes	No
General Plan – Full Buildout (2030) Emissions				
Mobile Source Emissions	2,622.47	2,937.20	12,740.14	2,405.73
Area Source Emissions	418.91	2,563.91	2.72	2.69
<i>Gross "Buildout" Project Emissions</i>	3,041.38	5,501.11	12,742.86	2,408.42
<i>Net Project Emissions²</i>	299.16	3,027.44	10,425.96	1,945.84
FRAQMD Thresholds	25	25	80	N/A ³
Significant Impact?	Yes	Yes	Yes	No
Notes:				
1. ROG emission increase under the proposed LUCE would increase due to the additional square footage and default assumptions with regard to percentage repainting that would occur on an annual basis.				
2. Net emissions is the gross level of emissions minus existing emissions, which equals the project increment				
3. FRAQMD has yet to establish a significance threshold for PM _{2.5} .				
Source: PBS&J, 2010.				

As shown, the proposed project would increase total air emissions compared to existing conditions within the county, in excess of established FRAQMD thresholds. It should also be noted that due to anticipated improvements in vehicle emissions per mile, mobile source ozone precursor emissions under the adjusted buildout scenario would decrease compared to existing conditions. Policy ER9.3 (Emission Reduction) is specifically tailored to the reduction in miles/trip by emphasizing personal vehicle trip reduction (through ridesharing, for example) and non-motorized transportation and transit opportunities. Further, policies ER 9.4, LU 1.2, LU 1.10, and LU 3.9 promote efficient land use patterns within the county that would reduce the need for residents and employees to travel in personal occupancy vehicles to satisfy daily needs, while policies AG 4.12, LU 3.5, LU 3.12, and LU 4.8 would target specific types of development that are known to have lower trip rates when compared to traditional suburban/sprawl development. As noted above and in section 6.14 (Transportation and Circulation), average trip length for uses within the county is anticipated to decrease from 10.02 miles/vehicle trip to 9.22 miles/vehicle trip as a result of implementation of the proposed General Plan and its associated policies. Nonetheless, future emissions associated with implementation of the General Plan would exceed FRAQMD thresholds for ROG and PM₁₀ under the adjusted buildout scenario and for ROG,

NO_x, and PM₁₀ under the total buildout scenario. As such, impacts would be considered *potentially significant*.

Mitigation Measure

No feasible mitigation measures are available at the programmatic level, beyond the proposed policies identified above, that could reduce the operational criteria pollutant emissions associated with the General Plan. As such, impacts would be *significant and unavoidable*.

6.4-3 Implementation of the proposed General Plan would result in construction emissions that would contribute substantially to an existing or projected air quality violation.

Implementation of the proposed General Plan would result in new emissions generated from future construction activities. The thresholds of significance recommended by FRAQMD for these new emissions were developed for individual development projects. Under the proposed General Plan, varying amounts of construction would likely occur every year through the life of the General Plan (2030). Many of the individual projects would be small and likely not generate construction emissions that would exceed the FRAQMD's recommended thresholds of significance. Other projects could be large enough to generate construction emissions that exceed these thresholds. Through the environmental review process for individual projects, additional mitigation may also be required to further reduce emissions and potential impacts; however, even with mitigation it may not be possible to reduce potential emissions to levels below the FRAQMD thresholds.

In the case of the General Plan, it is expected that a number of construction projects could occur every year simultaneously. However, without adequate construction schedules or information regarding project locations and demolition and grading requirements, construction emissions for individual projects cannot be quantified; therefore, it would be difficult, if not impossible, to accurately quantify the emissions related to construction activities under the General Plan because the amount and timing of each construction event is not known at this time. The General Plan includes policy ER 9.6, which requires future construction projects to incorporate feasible construction measures to reduce criteria pollutant emissions, and policy ER 9.10, which would help to potentially reduce future construction emissions by requiring contractors to use low-emission equipment. However, because thresholds are established for individual development projects and as certain development projects are implemented under the General Plan a specific project could individually exceed the FRAQMD thresholds, the total amount of construction under the General Plan could also exceed the FRAQMD's recommended thresholds of significance. Therefore, this impact is considered *potentially significant*.

Mitigation Measure

In addition to site-specific mitigation that would be determined on a project-by-project basis, FRAQMD rules would reduce construction-related impacts by reducing air pollutant emissions from construction activities. However, the potential reductions resulting from implementation of these actions cannot be quantified because no information on construction scheduling and project size for individual projects is currently available. Without such information, it is not possible to conclude that air pollutant emissions resulting from construction activities would be reduced to below FRAQMD significance thresholds. It should be noted that policies ER 9.6 and ER 9.10 would help to potentially reduce future construction emissions, but the level to which feasible emission reduction measures are available and the level to which construction contractors that use low-emission equipment are employed as a result of implementation of the General Plan is unable to be determined at this time. For these reasons, it cannot be concluded that this impact would be reduced to a less-than-significant level. As a result, this impact would remain *significant and unavoidable*.

6.4-4 Operation of new land uses allowed under the General Plan could expose sensitive receptors to substantial pollutant concentrations of diesel particulate matter (DPM) or other toxic air contaminants (TACs).

The primary sources of localized emissions of DPM or TACs are attributable to diesel-fueled delivery trucks on local roadways. Other sources of TACs include benzene emissions in close proximity to gasoline dispensing stations, dry cleaners and film processing services that use perchloroethylene, auto body shops due to various solvents, furniture manufacturers and repair facilities that use Methylene Chloride, and print shops that use various solvents.

The primary source of TACs within the county is from diesel-fueled trucks and other vehicles using State Route 99. The proposed General Plan does not include detailed plans for the various land uses that could generate TACs in the future. Therefore, specific concentrations of DPM or other TACs cannot be quantified at this time. However, the CARB published the *Air Quality and Land Use Handbook—A Community Health Perspective* (April 2005; CARB Guidance), which provides guidance on how to deal with these TAC emission sources in a general plan update including programmatic level mitigation that can be applied. The CARB Guidance uses buffer zones to insulate sensitive receptors from sources of TACs. Proposed policies ER 9.7 and ER 9.8 require the County and future projects within the county to evaluate potential health risks to sensitive uses such as residences, schools, etc. consistent with CARB Guidance. This may include the use of the CARB-suggested buffers, but the use of a buffer zone would need to be determined on a case-by-case basis. Nonetheless, the policies of the General Plan (ER 9.7 and ER 9.8) that implement the guidance established by CARB for reducing potential health risks would insure that impacts would be *less than significant*.

Mitigation Measure

None required.

6.4-5 Implementation of the proposed General Plan could result in CO concentrations that exceed state standards.

Motor vehicles are the primary source of CO, a pollutant that has its highest ambient concentrations near congested intersections. Development allowed under the proposed General Plan would add traffic to and change traffic flows on the county's roadway network. Increasing traffic volumes and lowering level of service (LOS) on busy intersections would tend to increase local CO levels. Existing CO levels in the SVAB are relatively low (see Table 6.4-1) and CO emission rates from vehicles that travel on county roadways, as estimated by EMFAC 2007 model, are expected to decline substantially from their present average values.

The proposed General Plan includes the following policies that would help maintain acceptable air quality levels and reduce motor vehicle trips and traffic congestion. Policy ER 9.1 requires the County to work with FRAQMD to meet and maintain state and federal ambient air quality standards; while policy ER 9.3 requires the County to promote trip reduction, trip routing for efficiency, and the use of public transportation, carpooling, and alternate modes of transportation for operating departments within the county. Policies ER 9.11, ER 9.10 and ER 9.12, require the County to incorporate low-emission vehicles into fleet operations and to use available clean fuel sources for trucks and heavy equipment; give preference to contractors using reduced emission equipment for county construction projects, and contracts for services (e.g., garbage collection), as well as businesses which practice sustainable operations; and enhance the level of air quality-related public education programs. With the implementation of these policies, future (2030) CO concentrations are not anticipated to exceed the CAAQS under the proposed General Plan. This would be considered a *less-than-significant impact*.

Mitigation Measure

None required.

6.4-6 Implementation of the proposed General Plan would not create objectionable odors.

Construction activities occurring under the proposed General Plan would generate airborne odors associated with the operation of construction vehicles (i.e., diesel exhaust) and the application of architectural coatings (paint). However, these odors are not generally considered offensive. Emissions would occur during daytime hours only and would be isolated to the immediate vicinity of the construction site and activity. As such,

they would not affect a substantial number of people, as impacts related to these odors are limited to the number of people living and working nearby the source.

Potential operational airborne odors could result from cooking activities associated with residential and restaurant uses within the county. These odors would be similar to existing housing and food service uses throughout the county and would be confined to the immediate vicinity of new buildings. Restaurants are also typically required to have ventilation systems that avoid substantial adverse odor impacts. The other potential source of odors would be new trash receptacles within the community. Receptacles would be stored in areas and in containers as required by County Code and emptied on a regular basis, before odors have a chance to develop. Consequently, implementation of the proposed General Plan would not create objectionable odors affecting a substantial number of people within the county, and there would be *no impact*.

Mitigation Measure

None required.

Growth Areas

Site-specific air quality impacts would vary from location to location, as would the potential for air quality to affect sensitive receptors. Because future development within any of the growth areas would incorporate the proposed General Plan policies applicable to air quality emissions/impacts within the county, the general potential for air quality impacts would be considered similar to that described in the countywide analysis.

Cumulative Impacts and Mitigation Measures

Cumulative impacts are only addressed for those thresholds that have a project-related impact, whether it is less than significant, significant, or significant and unavoidable. If “no impact” occurs, no cumulative analysis is provided for that threshold. The geographic context for air quality impacts is the SVAB. The significance of cumulative air quality impacts is typically determined according to the project methodology employed by the FRAQMD, as the regional body with authority in this area, and which has taken regional growth projections into consideration.

6.4-7 Cumulative growth within the Sacramento Valley Air Basin, in conjunction with the proposed General Plan, would not be consistent with current growth projections and would result in inconsistencies with local air quality management plans.

Cumulative development could result in a significant impact in terms of conflicting with, or obstructing implementation of, the local AQMP. Growth considered inconsistent with an AQMP, like the NSVPAAQAP, could interfere with attainment of federal or state ambient air

quality standards because this growth is not included in the projections utilized in the formulation of the NSVPAAQAP. Consequently, as long as growth in the SVAB is within the projections for growth identified by SACOG, implementation of the NSVPAAQAP would not be obstructed by such growth. However, as stated above under Impact 6.4-1, the anticipated growth under the Sutter County General Plan is not consistent with the growth assumptions of SACOG. Under subsequent air quality plans within the basin, projected increases in population and employment within the county, as well as that of other jurisdictions within the SVAB, would be included in forecasts, as the SACOG population forecasts are based on a local jurisdiction's General Plan. However, local jurisdictions often update their growth forecasts in excess of the most recent update of local air quality planning efforts. As a result, current growth projections can often exceed and be inconsistent with the most recently adopted AQMP, and therefore, the cumulative impact is considered significant. As the proposed project is, by itself, not consistent with the current growth projections accounted for in the NSVPAAQAP, the proposed General Plan is considered cumulatively considerable, and the cumulative impact would be considered *significant*.

Mitigation Measure

No feasible mitigation measures are available to establish consistency with the NSVPAAQAP. As such, impacts would be *significant and unavoidable*.

6.4-8 Implementation of the proposed General Plan, in conjunction with other development within the Sacramento Valley Air Basin, would increase cumulative operational emissions above FRAQMD-established thresholds.

With regard to daily operational emissions and the cumulative net increase of any criteria pollutant for which the region is in nonattainment, this is considered a potentially significant cumulative impact due to nonattainment of ozone, PM_{2.5}, and PM₁₀ standards in the Basin. With regard to the contribution of the General Plan, the FRAQMD has recommended methods to determine the cumulative significance of new land use projects. The FRAQMD's methods are based on performance standards and emission reduction targets necessary to attain federal and state air quality standards as predicted in the NSVPAAQAP. As shown in Table 6.4-2, the anticipated operational emissions of the proposed General Plan at full buildout would exceed FRAQMD thresholds. The General Plan, through its proposed policies and land plan, would reduce future emissions related to VMT and county fleet vehicles, as discussed under Impact 6.4-2. In conjunction with other regional growth, the total daily operational emissions under future conditions are assumed to similarly exceed FRAQMD thresholds. As the General Plan, in and of itself, exceeds FRAQMD thresholds, it is considered cumulatively considerable, and the cumulative impact is considered to be *significant*.

Mitigation Measure

Future operational emissions associated with implementation of the proposed General Plan would still exceed FRAQMD thresholds under future conditions. Because no additional feasible mitigation is available to reduce such impacts, the proposed project could contribute to a cumulative impact in the region. Impacts would be *significant and unavoidable*.

6.4-9 Implementation of the proposed General Plan, in conjunction with other construction activities in the Sacramento Valley Air Basin, would increase cumulative construction-generated emissions above FRAQMD-established thresholds.

With regard to daily emissions and the cumulative net increase of any criteria pollutant for which the region is in nonattainment, this is considered to be a potentially significant cumulative impact, similar to Impact 6.4-8 discussed above, due to nonattainment of ozone, PM_{2.5}, and PM₁₀ standards in the Basin. With regard to the contribution of the General Plan, the FRAQMD has recommended methods to determine the cumulative significance of new land use projects. The FRAQMD's methods are based on performance standards and emission reduction targets necessary to attain federal and state air quality standards as predicted in the NSVPAQAP. Because no information on individual projects is currently available, cumulative construction and operational emissions cannot be quantified. The contribution of daily construction emissions from individual projects proposed in the future has the potential to be significant and are therefore considered cumulatively considerable. Combined with other construction project also taking place within the basin, this cumulative impact is considered to be *significant*.

Mitigation Measure

Because construction emissions associated with implementation of the General Plan cannot be quantified at this time, and because no feasible mitigation is available to reduce such impacts (i.e. the imposition of air quality mitigation is largely project-specific), the proposed project could contribute to a cumulative impact in the region. Impacts would be *significant and unavoidable*.

6.4-10 Implementation of the proposed General Plan, in conjunction with regional development, could expose sensitive receptors to substantial pollutant concentrations of DPM or other TACs.

As noted above in Impact 6.4-4, specific concentrations of DPM or other TACs cannot be quantified at this time. However, the CARB published the *Air Quality and Land Use Handbook—A Community Health Perspective* (April 2005; CARB Guidance), which provides guidance on how to deal with these TAC emission sources in a general plan update

including programmatic level mitigation that can be applied. The CARB Guidance uses buffer zones to insulate sensitive receptors from sources of TACs. Any development within the cumulative context of the county and neighboring areas within 500 feet of the county boundary would be expected to adhere to CARB's guidance, as well as any applicable FRAQMD rules related to TACs.⁶ As a result, the potential cumulative impact of development is considered less than significant. As noted above, the policies of the proposed General Plan (ER 9.7 and ER 9.8) would implement the guidance established by CARB for reducing potential health risks and, as a result, the proposed General Plan would not be considered cumulatively considerable, and impacts would be *less than significant*.

Mitigation Measure

None required.

6.4-11 Implementation of the proposed General Plan, in conjunction with other development in the Sacramento Valley Air Basin, could result in CO cumulative concentrations that exceed State standards.

Other development occurring outside of the jurisdiction of the General Plan, county limits, but within the SVAB would increase traffic and change traffic flows on the county's roadway network. Increasing traffic volumes and lowering the LOS at busy intersections would tend to increase local CO levels. However, existing CO levels in the SVAB are relatively low (see Table 6.4-1) and CO emission rates from the County's motor vehicle fleet, as estimated by EMFAC 2007, are expected to decline substantially from their present average values due to cleaner burning fuels.

The project's contribution is not anticipated to be considerable and CO levels are not expected to exceed the NAAQS or CAAQS for CO. Therefore, this impact would be *cumulatively less than significant*.

Mitigation Measure

None required.

⁶ It should be noted that due to the localized nature of the potential impacts, the cumulative context for this impact is further limited. It is reasonable to assume that locally generated DPM and TACs would not affect uses outside of the limited cumulative context, based on the current CARB guidance.