

## 3.2 Air Quality, Greenhouse Gases, and Climate Change

This section describes the regulatory and environmental settings for air quality, greenhouse gases (GHGs), and climate change in the Plan Area. Impacts that would result from implementing the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

### 3.2.1 Regulatory Setting

The agencies of direct importance for air quality and climate change are the U.S. Environmental Protection Agency (USEPA), California Air Resources Board (ARB), Feather River Air Quality Management District (FRAQMD), and Placer County Air Pollution Control District (PCAPCD). USEPA has established federal air quality standards for which ARB and PCAPCD have primary implementation responsibility, in Placer County while ARB and FRAQMD have primary implementation responsibility in Sutter County. ARB, FRAQMD, and PCAPCD are also responsible for ensuring that state air quality standards are met and for developing policies and plans to reduce state and local GHG emissions in their respective jurisdictions.

#### Federal—Air Quality

##### Clean Air Act and National Ambient Air Quality Standards

The primary law that governs federal air quality regulations is the Clean Air Act (federal CAA), which was enacted in 1963 and amended in subsequent years (1965, 1967, 1970, 1977, and 1990). The act establishes National Ambient Air Quality Standards (NAAQS) for criteria pollutants and specifies future dates for achieving compliance. Criteria pollutants are ozone; lead; carbon monoxide (CO); nitrogen dioxide (NO<sub>2</sub>); sulfur dioxide (SO<sub>2</sub>); and particulate matter, which consists of particulate matter less than or equal to 10 microns in diameter (PM<sub>10</sub>) and particulate matter less than or equal to 2.5 microns in diameter (PM<sub>2.5</sub>).

The federal CAA requires states to submit a State Implementation Plan (SIP) for areas in nonattainment of the NAAQS. The SIP, which is reviewed and approved by USEPA, must demonstrate how the federal standards would be achieved. Failing to submit a plan or secure approval can lead to denial of federal funding and permits. In cases where the SIP is submitted by the state but fails to demonstrate achievement of the standards, USEPA is directed to prepare a federal implementation plan.

In California, USEPA has delegated authority to prepare SIPs to ARB, which, in turn, has delegated that authority to individual air districts. ARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emissions inventories, collecting air quality and meteorological data, and approving SIPs.

**Table 3.2-1. National and State Ambient Air Quality Standards**

Criteria Pollutant	Average Time	CAAQS	NAAQS <sup>a</sup>	
			Primary	Secondary
Ozone	1-hour	0.09 ppm	None <sup>b</sup>	None <sup>b</sup>
	8-hour	0.070 ppm	0.070 ppm	0.070 ppm
PM10	24-hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
	Annual mean	20 µg/m <sup>3</sup>	None	None
PM2.5	24-hour	None	35 µg/m <sup>3</sup>	35 µg/m <sup>3</sup>
	Annual mean	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>	15.0 µg/m <sup>3</sup>
Carbon monoxide	1-hour	20 ppm	35 ppm	None
	8-hour	9.0 ppm	9 ppm	None
	8-hour (Lake Tahoe)	6 ppm	None	None
Nitrogen dioxide	1-hour	0.18 ppm	0.100 ppm	None
	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
Sulfur dioxide	1-hour	0.25 ppm	0.075 ppm	None
	3-hour	None	None	0.5 ppm
	24-hour	0.04 ppm	0.14 ppm	None
	Annual mean	None	0.030 ppm	None
Lead	30-day average	1.5 µg/m <sup>3</sup>	None	None
	Calendar quarter	None	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>
	Rolling 3-month average	None	0.15 µg/m <sup>3</sup>	0.15 µg/m <sup>3</sup>
Sulfates	24-hour	25 µg/m <sup>3</sup>	None	None
Visibility reducing particles	8-hour	- <sup>c</sup>	None	None
Hydrogen sulfide	1-hour	0.03 ppm	None	None
Vinyl chloride	24-hour	0.01 ppm	None	None

Source: California Air Resources Board 2016a.

CAAQS = California Ambient Air Quality Standards.

PM2.5 = particulate matter less than or equal to 2.5 microns in diameter.

PM10 = particulate matter less than or equal to 10 microns in diameter.

µg/m<sup>3</sup> = micrograms per cubic meter.

NAAQS = National Ambient Air Quality Standards.

ppm = parts per million.

- <sup>a</sup> NAAQs are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.
- <sup>b</sup> The federal 1-hour standard of 12 parts per hundred million was in effect from 1979 through June 15, 2005. Although no longer in effect, it is regularly used as a benchmark for State Implementation Plans.
- <sup>c</sup> CAAQS for visibility-reducing particles is defined by a pollutant extinction (i.e., dispersion) coefficient of 0.23 per kilometer.

## General Conformity

In 1993 the USEPA enacted the federal General Conformity rule (40 Code of Federal Regulations [CFR] Parts 5, 51, and 93). The purpose of the General Conformity rule is to ensure that federal actions do not generate emissions that interfere with state and local agencies' SIPs and emissions-reduction strategies in areas that do not meet NAAQS (*nonattainment* areas) or have not met NAAQS in the past (*maintenance* areas).

The General Conformity rule applies to all federal actions in nonattainment and maintenance areas provided the action is not (1) exempt from General Conformity,<sup>1</sup> (2) covered by a Presumed-to-Conform approved list,<sup>2</sup> or (3) likely to have clearly minimal—or *de minimis*—emissions. In addition, the General Conformity rule applies only to direct and indirect emissions associated with the portions of any federal action that are subject to New Source Review (which is needed for actions that would significantly increase emissions of a regulated pollutant) for which a federal permitting agency has directly caused or initiated, has continued program responsibility for, or can practically control.

The evaluation of whether a General Conformity determination is required is made by comparing annual direct and indirect emissions to the applicable General Conformity *de minimis* thresholds (Tables 3.2-2 and 3.2-3). If the evaluation indicates that emissions exceed a General Conformity *de minimis* threshold, the applicant must perform a conformity determination. A conformity determination is made by satisfying any of the following requirements.

- Showing that the emission increase(s) caused by the federal action are included in the SIP.
- Demonstrating that the State agrees to include the emission increase(s) in the SIP.
- Offsetting the action's emissions in the same or nearby area.
- Mitigating to reduce the emission increase(s).
- Using a combination of the above strategies.

**Table 3.2-2. Federal *de minimis* Thresholds for Criteria Pollutants in Nonattainment Areas**

Pollutant	Emission Rate (tons per year)
<b>Ozone (ROGs/VOCs or NO<sub>x</sub>)</b>	
Serious nonattainment areas	50
Severe nonattainment areas	25
Extreme nonattainment areas	10
Other ozone nonattainment areas outside the ozone transport region <sup>a</sup>	100
<b>Other ozone nonattainment areas inside the ozone transport region<sup>a</sup></b>	
ROGs/VOCs	50
NO <sub>x</sub>	100
<b>CO: All nonattainment areas</b>	100

<sup>1</sup> Exempt actions are either listed as such in the General Conformity Rule or covered by Transportation Conformity, which applies to federally funded transportation projects.

<sup>2</sup> Activities in this category are designated by a federal agency as having emissions below *de minimis* levels or otherwise do not interfere with the applicable SIP or the attainment and maintenance of the NAAQS.

Pollutant	Emission Rate (tons per year)
<b>SO<sub>2</sub> or NO<sub>2</sub>: All nonattainment areas</b>	100
<b>PM10</b>	
Moderate nonattainment areas	100
Serious nonattainment areas	70
<b>PM2.5 (direct emissions, SO<sub>2</sub>, NO<sub>x</sub>, VOCs, and ammonia)</b>	
Moderate NAA's	100
Serious NAA's	70
Lead: All nonattainment areas	25

Source: 40 Code of Federal Regulations 93.153.

NO<sub>x</sub> = nitrogen oxides.

PM2.5 = particulate matter less than or equal to 2.5 microns in diameter.

PM10 = particulate matter less than or equal to 10 microns in diameter.

ROGs = reactive organic gases.

SO<sub>2</sub> = sulfur dioxide.

VOCs = volatile organic compounds.

<sup>a</sup> The Ozone Transport Region consists of the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia and northern Virginia (Section 184 of the federal Clean Air Act).

**Table 3.2-3. Federal *de minimis* Thresholds for Criteria Pollutants in Maintenance Areas**

Pollutant	Emission Rate (tons per year)
<b>Ozone (NO<sub>x</sub>, SO<sub>2</sub>, or NO<sub>2</sub>)</b>	
All maintenance areas	100
<b>Ozone (ROGs/VOCs)</b>	
Maintenance areas inside an ozone transport region <sup>a</sup>	50
Maintenance areas outside an ozone transport region <sup>a</sup>	100
<b>CO: All maintenance areas</b>	100
<b>PM10: All maintenance areas</b>	100
<b>PM2.5 (direct emissions, SO<sub>2</sub>, NO<sub>x</sub>, VOCs, and ammonia)</b>	
All maintenance areas	100
Lead: All maintenance areas	25

Source: 40 Code of Federal Regulations 93.153.

NO<sub>x</sub> = nitrogen oxides.

PM2.5 = particulate matter less than or equal to 2.5 microns in diameter.

PM10 = particulate matter less than or equal to 10 microns in diameter.

ROGs = reactive organic gases.

SO<sub>2</sub> = sulfur dioxide.

VOCs = volatile organic compounds.

<sup>a</sup> The Ozone Transport Region consists of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia and northern Virginia (Section 184 of the federal Clean Air Act).

## Federal—Greenhouse Gases and Climate Change

Although there is currently no federal overarching law specifically related to climate change or the reduction of GHGs, in *Coalition for Responsible Regulation, Inc., et al. v. EPA*, the United States Court of Appeals upheld USEPA's authority to regulate GHG emissions under the federal CAA. In addition, federal case law has made it clear that federal agencies have the responsibility to consider the environmental issue of climate change and GHG emissions within NEPA analysis and to consider the effects of their actions on climate change through the GHG emissions, as well as to analyze the effects of climate change on federal actions.

## State—Air Quality

### California Clean Air Act and California Ambient Air Quality Standards

In 1988, the state legislature adopted the California Clean Air Act (California CAA), which states that the ARB has adopted ambient air quality standards, based upon the recommendation of the State Department of Health Services, and that attainment of these health-based standards is necessary to protect public health, particularly that of children, older people, and those with respiratory diseases. The California CAA requires that it is in the public's interest that these standards be attained at the earliest practical date through air pollution control plans to attain and maintain the standards that are prepared by air pollution control districts and air quality management districts to endeavor to meet the CAAQS by the earliest practical date. Unlike the federal CAA, the California CAA does not set precise attainment deadlines. Instead, the California CAA establishes increasingly stringent requirements for areas that will require more time to achieve the standards. CAAQS are generally more stringent than the NAAQS, which also includes additional standards for sulfates, hydrogen sulfide, visibility reducing particles, and vinyl chloride. The CAAQS and NAAQS are listed together in Table 3.2-1.

ARB and local air districts bear responsibility for achieving the California's air quality standards, which are to be achieved through district-level air pollution control Triennial Plans.

The California CAA substantially adds to the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA also emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. The California CAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish traffic control measures.

### State Tailpipe Emission Standards

ARB established a series of increasingly strict emissions standards for new off-road diesel equipment, on-road diesel trucks, and harbor craft. New construction equipment used for implementation of the PCCP and Covered Activities, including heavy-duty trucks and off-road construction equipment, would be required to comply with the standards.

### Toxic Air Contaminant Regulation

California regulates toxic air contaminants (TACs) primarily through the Toxic Air Contaminant Identification and Control Act (AB 1807, Tanner, 1983) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Hot Spots Act). In the early 1980s, ARB established a statewide

comprehensive air toxics program to reduce exposure to air toxics. AB 1807 was created California's program to reduce exposure to air toxics. The Hot Spots Act supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks (California Air Resources Board 2017).

In August 1998, ARB identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC. In September 2000, ARB approved a comprehensive Diesel Risk Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles, aiming to reduce DPM (respirable particulate matter) emissions and the associated health risk by 75% in 2010 and by 85% by 2020. The plan identifies 14 measures that ARB will implement over the next several years.

### **Title 17 of the California Code of Regulations**

ARB maintains smoke management guidelines for prescribed burning under Title 17 of the California Code of Regulations. The guidelines provide direction to air pollution control districts in the regulation and control of agricultural burning, including prescribed burning, as a resource management tool and provide increased opportunities for prescribed burning and agricultural burning while minimizing smoke impacts on the public. The Title 17 changes required air districts to adopt a Smoke Management Plan. Because PCAPCD spans three air basins, one plan was adopted for the Mountain Counties Air Basin (MCAB) and the Lake Tahoe Air Basin in 2001. For the Sacramento Valley Air Basin (SVAB), the burn plan is adopted for all the counties in the Sacramento Valley when changes are brought forth.

## **State—Greenhouse Gases and Climate Change**

California has adopted statewide legislation addressing various aspects of climate change and GHG mitigation. Much of this establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. The former and current governors of California have also issued several executive orders (EOs) related to the state's evolving climate change policy. Brief summaries of key policies, EOs, regulations, and legislation at the state level that are relevant to the proposed action are described below in chronological order.

### **Assembly Bill 1493—Pavley Rules (2002, Amendments 2009, 2012 Rule-Making)**

Assembly Bill (AB) 1493 (Pavley) requires ARB to adopt vehicle standards that will lower GHG emissions from new light duty automobiles to the maximum extent feasible beginning in 2009. The Pavley standards are expected to increase average fuel economy to roughly 54.5 miles per gallon in 2025.

### **Executive Order S-03-05 (2005)**

EO S-03-05 is designed to reduce California's GHG emissions to (1) 2000 levels by 2010, (2) 1990 levels by 2020, and (3) 80% below 1990 levels by 2050.

### **Assembly Bill 32—California Global Warming Solutions Act (2006)**

AB 32 codified the state's GHG emissions target by requiring that the state's global warming emissions be reduced to 1990 levels by 2020. The *2008 Climate Change Scoping Plan* for AB 32 (AB 32 Scoping Plan) identifies specific measures to reduce GHG emissions to 1990 levels by 2020 and requires ARB and other state agencies to develop and enforce regulations and other initiatives for

reducing GHGs. The first update to the AB 32 Scoping Plan was released in February 2014 and included revised GHG reduction estimates based on updated statewide GHG inventories. The update also discusses the need for continued GHG reduction progress post-2020. As discussed below under *Senate Bill 32 (2016)*, ARB drafted the *2017 Climate Change Scoping Plan Update* on January 20, 2017, and it proposes continuing the major programs of the AB 32 Scoping Plan.

### **Executive Order S-01-07—Low Carbon Fuel Standard (2007)**

EO S-01-07 mandates that (1) a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020 and (2) a low carbon fuel standard for transportation fuels be established in California.

### **Executive Order B-30-15 (2015)**

EO B-30-15 (2015) establishes a statewide GHG reduction target of 40% below 1990 levels by 2030. As of December 2016, California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, which was previously established in AB 32. The State's new emission reduction target will make it possible to reach the overall goal of reducing emissions 80% under 1990 levels by 2050. EO B-30-15 established a medium-term goal for 2030 of reducing GHG emissions by 40% below 1990 levels and requires ARB to update its current AB 32 Scoping Plan to identify measures to meet the 2030 target. The EO supports EO S-3-05.

### **Senate Bill 32 (2016)**

Senate Bill (SB) 32 (2016) requires ARB to ensure that statewide GHG emissions are reduced to at least 40% below the 1990 level by 2030, consistent with the target set forth in EO B-30-15. ARB drafted the *2017 Climate Change Scoping Plan Update* on January 20, 2017, to meet the GHG reduction requirement set forth in SB 32. It proposes continuing the major programs of the previous AB 32 Scoping Plan, including cap-and-trade regulation, the Low Carbon Fuel Standard; more efficient cars, trucks, and freight movement; the Renewable Portfolio Standard; and reducing methane (CH<sub>4</sub>) emissions from agricultural and other wastes. The update also addresses for the first time the GHG emissions from natural and working lands in California.

## **Local—Air Quality**

### **Placer County Air Pollution Control District Regulations**

PCAPCD has local air quality jurisdiction over projects in Placer County. Some of the responsibilities of the air district include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining local air quality stations, overseeing agricultural and non-agricultural burn permits, and reviewing CEQA and NEPA documents for air quality impacts. PCAPCD manages air quality through a comprehensive program that includes long-term planning, regulations, incentives for technical innovation, education, and community outreach. For example, the *2015 Triennial Air Quality Attainment Plan* (2015 Triennial Plan) is prepared for the state ambient air quality standards as per the California CAA and describes the historical trends in ambient air quality levels, provides information on the emission inventories in Placer County, summarizes the progress of emission reductions, and concludes with an overview of the planning progress from 2012 to 2014 in Placer County (Placer County Air Pollution Control District 2015). The air district has also adopted the *2013 PM<sub>2.5</sub> Implementation and Maintenance Plan for*

*Sacramento PM2.5 Nonattainment Area and the 2017 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2017 Ozone SIP) for the federal ambient air quality standards for the Sacramento Federal Non-Attainment Area.*

PCAPCD is responsible for adopting and enforcing rules and regulations that have been adopted to achieve and maintain federal and state ambient air quality standards in all areas affected by emission sources under PCAPCD jurisdiction, including the enforcement of all applicable provisions of state and federal law. Portions of the PCCP may be subject to PCAPCD rules (Placer County Air Pollution Control District 2016a). This list of rules may not be all encompassing as additional PCAPCD rules may apply as specific components of the proposed action are identified.

- **Rule 202 (Visible Emissions):** Prohibits the discharge of air contaminants for a period or periods aggregating more than 3 minutes in any 1 hour.
- **Rule 205 (Nuisance):** Prohibits the discharge of air contaminants that cause injury, detriment, nuisance, or annoyance to a 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 or have a natural tendency to cause injury or damage to business or property.
- **Rule 207 (Particulate Matter):** Prohibits the discharge of particulate matter in excess of 0.1 grain per cubic foot of gas at standard conditions.
- **Rule 228 (Fugitive Dust Emissions):** Limits the quantity of particulate matter entrained in the ambient air, or discharged into the ambient air, as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions.
- **Rule 242 (Stationary Internal Combustion Engines):** Limits emissions of nitrogen oxides (NO<sub>x</sub>) and CO from stationary internal combustion engines (if construction requires engines rated at more than 50 brake horsepower).
- **Rule 301 (Nonagricultural Burning Smoke Management):** Establish criteria for the disposal of vegetation from fire hazard reduction burning, mechanized burners, fires set or permitted by public officers, and right of way clearing, levee, ditch, and reservoir maintenance, to better manage smoke in order to reduce its effects.
- **Rule 302 (Agricultural Burning Smoke Management):** Establishes standards and administrative requirements under which agricultural burning, including prescribed burning, may occur in a way that manages the generation of smoke and reduces the emission of particulates and other air contaminants.
- **Rule 303 (Prescribed Burning Smoke Management):** Establishes standards and administrative requirements under which agricultural burning, including the burning of agricultural wastes, limited to the growing of crops or raising of fowl or animals, may occur in a way that manages the generation of smoke and reduces the emission of particulates and other air contaminants.
- **Rule 304 (Land Development Smoke Management):** Establishes standards and administrative requirements under which land development burning may occur in a way that manages the generation of smoke and reduces the emission of particulates and other air contaminants.

Refer to Appendix F for detailed information pertaining to PCAPCD fugitive dust controls and construction equipment emission controls.

## Feather River Air Quality Management District

FRAQMD has local air quality jurisdiction over projects in Sutter and Yuba Counties. Responsibilities of the air district are similar to those described above for PCAPCD. The air district has adopted the 2017 Ozone SIP, 2015 Triennial Plan, and the *Yuba City-Marysville PM<sub>2.5</sub> Nonattainment Area Resignation Request and Maintenance Plan*.

Portions of the proposed action in Sutter County may be subject to the following rules (California Air Resources Board 2016b). This list of rules may not be all encompassing as additional FRAQMD rules may apply as specific components of the proposed action are identified.

- **Rule 2.0 (Open Burning):** Ensures open burning in the FRAQMD is conducted in a manner that minimizes emissions and smoke and is managed consistent with state and federal law.
- **Rule 3.0 (Visible Emissions):** Prohibits the discharge of air contaminants for a period or periods aggregating more than 3 minutes in any 1 hour.
- **Rule 3.2 (Particulate Matter Concentration):** Prohibits the discharge of particulate matter in excess of 0.3 grains per cubic foot of gas at standard conditions. The concentration must be calculated to 12 percent carbon dioxide (CO<sub>2</sub>) when the source involves a combustion process.
- **Rule 3.3 (Dust and Fumes):** Limits dust or fumes total emissions based on process weight rate.
- **Rule 3.16 (Fugitive Dust Emissions):** Regulates operations which periodically may cause fugitive dust emissions into the atmosphere.

Refer to Appendix G for detailed information pertaining to FRAQMD construction equipment emission controls and exhaust emissions offsets.

## Placer County General Plan

Excerpted below are the relevant goal, policies, and implementation programs from the *Placer County General Plan* that pertain to air quality (Placer County 2013).

### Goal

**6.F.** To protect and improve air quality in Placer County.

### Policies

**6.F.1.** The County shall cooperate with other agencies to develop a consistent and effective approach to air quality planning and management.

**6.F.2.** The County shall develop mitigation measures to minimize stationary source and area source emissions.

**6.F.3.** The County shall support the Placer County Air Pollution Control District (PCAPCD) in its development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds, and rules to more adequately address the air quality impacts of new development.

**6.F.4.** The County shall solicit and consider comments from local and regional agencies on proposed projects that may affect regional air quality.

**6.F.5.** The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of Countywide indirect and areawide source programs and transportation control measures (TCM) programs. Project review shall also address energy-efficient building and site designs and proper storage, use, and disposal of hazardous materials.

**6.F.6.** The County shall require project-level environmental review to include identification of potential air quality impacts and designation of design and other appropriate mitigation measures or offset fees to reduce impacts. The County shall dedicate staff to work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures.

**6.F.7.** The County shall encourage development to be located and designed to minimize direct and indirect air pollutants.

**6.F.8.** The County shall submit development proposals to the PCAPCD for review and comment in compliance with CEQA prior to consideration by the appropriate decision making body.

**6.F.9.** In reviewing project applications, the County shall consider alternatives or amendments that reduce emissions of air pollutants.

**6.F.10.** The County may require new development projects to submit an air quality analysis for review and approval. Based on this analysis, the County shall require appropriate mitigation measures consistent with the PCAPCD's 1991 Air Quality Attainment Plan (or updated edition).

**6.F.11.** The County shall apply the buffer standards described in Part 1 of this Policy Document and meteorological analyses to provide separation between possible emission/nuisance sources (such as industrial and commercial uses) and residential uses.

### **Implementation Programs**

**6.17.** The County shall coordinate with other local, regional, and state agencies, including the PCAPCD and the California Air Resources Board (ARB), in incorporating regional and County clean air plans into County planning and project review procedures. The County shall also cooperate with the PCAPCD and ARB in the following efforts:

- a. Enforcing the provision of the California and federal Clean Air Acts, state and regional policies, and established standards for air quality;
- b. Establishing monitoring stations to accurately determine the status of carbon monoxide, ozone, nitrogen dioxide, hydrocarbon and PM<sub>10</sub> concentrations;
- c. Developing and implementing clean fuel regulations for vehicle fleets; and,
- d. Developing consistent procedures and thresholds for evaluating both project-specific and cumulative air quality impacts for proposed projects.

**6.18.** The County shall work with the PCAPCD to develop significance thresholds that would trigger requirements for air quality analyses and project mitigation. Those thresholds and mitigation measures shall be incorporated into the criteria and strategies from the Placer County Air Quality Attainment Plan (AQAP, 1991) and the State Implementation Plan (SIP) which were prepared in order to attain state and federal air quality standards.

**6.19.** The County shall coordinate with the PCAPCD regarding its update to the 1991 AQAP as required every three years. The County shall ensure that the PCAPCD's triennial updates reflect the projected population estimates and vehicle travel associated with the updated General Plan, and include additional air quality mitigation projects to compensate for the increased population and emissions associated with anticipated development.

**6.20.** The County should coordinate with the PCAPCD and the Sacramento Area Council of Governments (SACOG) relating to the preparation of the State Implementation Plan (SIP) and the associated progress reports which demonstrate the attainment of federal air quality standards. The County should ensure that the SIP reflect any revised General Plan population and vehicle travel activity projections associated with any federal nonattainment area within Placer County.

**6.21.** The County shall explore alternative financing mechanisms for local air quality improvement programs. The County shall also examine whether grants are available to establish an air quality monitoring program. In addition, the County shall develop a methodology providing project proponent funding or roadway improvements that equitably recovers the costs of those improvements.

**6.22.** In consultation with the PCAPCD, cities and special districts, transit providers, and major employers in Placer County, the County shall adopt a program to encourage the widespread use of clean fuels. This program shall include the following components:

- a. Vigorously pursuing replacement of existing County vehicles that burn gasoline and diesel fuel with vehicles that use clean fuels including, but not limited to, methanol, compressed natural gas (CNG), liquefied petroleum gas (LPG), and electric batteries;
- b. Encouraging existing fueling stations in the County to provide clean fuels such as methanol and LPG; and
- c. Encouraging bus service companies based in Placer County to use clean fuel buses in their daily operations.

## Sutter County General Plan

Excerpted below are the relevant goal and policies from the *Sutter County 2030 General Plan* that pertain to air quality (Sutter County 2011).

### 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 9.5 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 9.9 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.

## City of Lincoln General Plan

Excerpted below are the relevant goal and policies from the *City of Lincoln General Plan* that pertain to air quality (City of Lincoln 2008).

## Goal

**HS-3.** To reduce the generation of air pollutants and promote non-polluting activities to minimize impacts to human health and the economy of the City.

## Policies

**HS-3.1 Coordination with Local and Regional Agencies.** The City shall cooperate with other local, regional, and State agencies in developing an effective approach to implementing air quality plans that achieve State and Federal Ambient Air Quality Standards. Air quality plans shall incorporate programs developed by the Sacramento Area Council of Governments and the PCAPCD.

**HS-3.2 Regional Agency Review of Development Proposals.** The City shall solicit and consider comments from local and regional agencies on proposed projects that may affect regional air quality. The City shall submit development proposals to the Placer County Air Pollution Control District for review and comment in compliance with the California Environmental Quality Act (CEQA) prior to consideration by the City.

**HS-3.3 Placer County Air Quality Attainment Plan.** The City shall continue to support the recommendations found in the Placer County Air Quality Attainment Plan for the reduction of air pollutants.

**HS-3.5 Development Requirements.** The City shall require developments, where feasible, to be located, designed, and constructed in a manner that would minimize the production of air pollutants and avoid land use conflicts.

**HS-3.6 City Review of Development Proposals.** The City shall require consideration of alternatives or amendments that reduce emissions of air pollutant when reviewing project applications.

**HS-3.8 Air Quality Analysis.** The City may require an analysis of potential air quality impacts associated with significant new developments through the environmental review process, and identification of appropriate mitigation measures prior to approval of the project development.

**HS-3.9 Dust Suppression Measures.** The City shall require contractors to implement dust suppression measures during excavation, grading, and site preparation activities. Techniques may include, but are not limited to, the following:

- Site watering or application of dust suppressants,
- Phasing or extension of grading operations,
- Covering of stockpiles,
- Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
- Revegetation of graded areas.

**HS-3.16 Planning Programs.** The City shall support land use, transportation management, infrastructure, and environmental planning programs that reduce vehicle emissions and improve air quality.

## Local—Greenhouse Gases and Climate Change

### Placer County Air Pollution Control District Regulations

As discussed above, PCAPCD has primary responsibility for air quality management within Placer County. The air district has specified significance thresholds in its *Review of Land Use Projects under CEQA* (Placer County Air Pollution Control District 2016b) for evaluating the significance of GHG emissions from projects located within district boundaries. PCAPCD uses these thresholds to determine the level of significance for GHG emissions associated with a project's construction

emissions and operational emissions. If the event project emissions exceeds the PCAPCD's GHG thresholds, the mitigation measures are included in the PCAPCD's CEQA Handbook which may be used to offset impacts. This also includes offsite mitigation and purchasing of carbon credits (Placer County Air Pollution Control District 2016b). In accordance with the State CEQA guidelines, the analysis includes a cumulative, rather than project-level, evaluation of climate change impacts.

### **Feather River Air Quality Management District Regulations**

As discussed above, FRAQMD has primary responsibility for air quality management within Sutter and Yuba counties. The air district has not adopted a formal plan for reducing GHG emissions but is working with a committee of air districts in the Sacramento Region<sup>3</sup> to develop guidance for evaluating GHG emissions in CEQA and NEPA documents.

### **Placer County General Plan**

Placer County has not identified any policies that target the generation of GHG emissions in its general plan update. Placer County staff are preparing the Climate Action Plan to identify the necessary GHG reduction target and mitigation strategy for unincorporated Placer County.

### **Sutter County Climate Action Plan**

The *Sutter County Climate Action Plan* (Sutter County CAP) was adopted in 2011 concurrently with its 2030 general plan (County of Sutter 2010). The Sutter County CAP was developed to create an emissions baseline from which to benchmark GHG reductions; to provide a plan that is consistent with, and complementary to, the GHG reduction efforts being conducted by the State of California; to guide the development, enhancement and implementation of actions that aggressively reduce GHG emissions; and to provide a policy document with specific measures to be incorporated into the planning process for future development projects. The Sutter County CAP is considered a Qualified GHG Reduction Strategy for tiering purposes under Section 15183.5 of the CEQA Guidelines.

### **City of Lincoln General Plan**

Excerpted below are the relevant goal and policies from the *City of Lincoln General Plan* that pertain to GHGs and energy resources (City of Lincoln 2008).

#### **Goal**

**OSC-3.** To encourage energy conservation in new and existing developments throughout the City.

#### **Policies**

**OSC-3.1 Energy Conservation Measures.** The City shall require the use of energy conservation features in new construction and renovation of existing structures in accordance with state law.

New features that may be applied to construction and renovation include:

- Green building techniques (such as use of recycled, renewable, and reused materials; efficient lighting/power sources; design orientation; building techniques; etc.)
- Cool roofs

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<sup>3</sup> Air districts in the region are PCAPCD, Sacramento Metropolitan Air Quality Management District, El Dorado County Air Quality Management District, Feather River Air Quality Management District, and the Yolo-Solano Air Quality Management District.

**OSC-3.2 Landscape Improvements for Energy Conservation.** The City shall encourage the planting of shade trees along all City streets to reduce radiation heating.

**OSC-3.3 Promote Energy Conservation Awareness.** The City shall coordinate with local utility providers to provide public education energy conservation programs.

**OSC-3.4 Promote Energy Conservation Awareness.** The City shall coordinate with local utility providers to provide public education energy conservation programs.

**OSC-3.7 Passive and Active Solar Devices.** The City shall encourage the use of passive and active solar devices such as solar collectors, solar cells, and solar heating systems into the design of local buildings.

**OSC-3.8 Solar Orientation and Building Site Design.** The City shall encourage work that building and site design take into account the solar orientation of buildings during design and construction.

**OSC-3.9 Shade Tree Planting.** The City will encourage the planting of shade trees within residential lots to reduce radiation heating and encourage the reduction of greenhouse gases.

**OSC-3.10 Shade Tree Parking Lot Requirements.** The City will require commercial and retail parking lots will have 50% tree shading within 15 years to reduce radiation and encourage the reduction of greenhouse gases.

**OSC-3.11 Energy Efficient Buildings.** The City will encourage the development of energy-efficient buildings and communities.

**OSC-3.12 Solar Photovoltaic Systems.** The City will promote voluntary participation in incentive programs to increase the use of solar photovoltaic systems in new and existing residential, commercial, institutional and public buildings.

**OSC-3.13 Energy Efficient Master Planning.** The City will encourage the incorporation of energy-efficient site design such as proper orientation to benefit from passive solar heating and cooling into master planning efforts when feasible.

**OSC-3.14 Early Planning for Energy Efficiency.** The City will include energy planners and energy efficiency specialists in appropriate pre-application discussions with property owners and developers to identify the potential for solar orientation and energy efficient systems, building practices and materials.

**OSC-3.15 California Title 24 Energy Efficiency Standards.** The City will explore offering incentives such as density bonus, expedited process, fee reduction/waiver to property owners and developers who exceed California Title 24 energy efficiency standards.

## 3.2.2 Environmental Setting

Ambient air quality in the program area is affected by climatological conditions, topography, and the types and amounts of pollutants emitted. The following discussion describes relevant characteristics of the SVAB and MCAB, describes key pollutants of concern, summarizes existing ambient pollutant concentrations, and identifies sensitive receptors. This section also provides a discussion of climate change and key GHG emissions.

### Regional Climate and Meteorology

#### Sacramento Valley Air Basin

The western portion of Placer County and all of Sutter County are located in the SVAB, which includes Shasta, Tehama, Butte, Sacramento, Glenn, Colusa, Sutter, Yuba, and Yolo Counties and parts of Solano, and Placer Counties. The SVAB is bounded on the west by the Coast Ranges and on

the north and east by the Cascade Range and Sierra Nevada. The San Joaquin Valley Air Basin is located to the south.

The SVAB has a Mediterranean climate characterized by hot, dry summers and cool, rainy winters. During winter, the north Pacific storm track intermittently dominates Sacramento Valley weather, and fair weather alternates with periods of extensive clouds and precipitation. Periods of dense and persistent low-level fog, which is most prevalent between storms, are also characteristic of winter weather in the valley. The frequency and persistence of heavy fog in the valley diminishes with the approach of spring. The average yearly temperature range for the Sacramento Valley is 20°F to 115°F, with summer high temperatures often exceeding 90°F and winter low temperatures occasionally dropping below freezing.

In general, the prevailing winds are moderate in strength and vary from moist clean breezes from the south to dry land flows from the north. The mountains surrounding the SVAB create a barrier to airflow that can trap air pollutants under certain meteorological conditions. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells collect over the Sacramento Valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduce the influx of outside air and allow air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with temperature inversions (warm air over cool air), which trap pollutants near the ground.

As described in the Sacramento Metropolitan Air Quality Management District's *Guide to Air Quality Assessment in Sacramento County*, the ozone season (May through October) is characterized by stagnant morning air or light winds with the Delta sea breeze arriving in the afternoon out of the southwest. Usually the evening breeze transports the airborne pollutants to the north and east. During about half of the days from July to September, however, a phenomenon called the *Schultz eddy* prevents this from occurring. Instead of allowing the prevailing wind patterns to move northward and carry the pollutants out, the Schultz eddy causes the wind pattern to circle back to the south. Essentially, this phenomenon causes the air pollutants to be blown south toward the Sacramento Valley and Yolo County. The eddy normally dissipates around noon when the Delta sea breeze arrives (Sacramento Metropolitan Air Quality Management District 2016).

## Mountain Counties Air Basin

The eastern portion of the Plan Area in Placer County is located in the MCAB. The general climate of the region varies based on elevation and proximity to the Sierra Nevada. Due to the complex features of the terrain within the basin, it is possible for various climate types to exist in proximity to one another; the varying patterns of mountains and hills in the area result in a wide variation of temperature, rainfall, and localized wind. Seasonal meteorology varies substantially, and precipitation generally is light in the summer and much heavier in the winter, with temperatures dropping below freezing at night and precipitation being a mixture of rain and snow. The meteorology and topography combine so local conditions predominate in determining the effect of emissions in the basins. Inversions frequently occur in small valleys and trap pollutants, especially in the winter (e.g., PM<sub>2.5</sub>) In the summer, when longer daylight hours, high temperatures, and stagnant air conditions are suitable for the formation of some criteria pollutants (e.g., ozone).

## Pollutants of Concern

### Criteria Pollutants

As discussed above, federal and California state governments have established air quality standards for criteria pollutants. The primary criteria pollutants of concern in the Plan Area are ozone (including reactive organic gases [ROGs] and  $\text{NO}_x$ ), CO, and PM. Principal characteristics surrounding these pollutants are discussed below.

- Ozone, or smog, is a photochemical oxidant that is formed when ROGs and  $\text{NO}_x$  (discussed below) react with sunlight. Ozone poses a health threat to those who suffer from respiratory diseases as well as to healthy people. Additionally, ozone has been tied to crop damage, typically in the form of stunted growth and premature death. Ozone can also act as a corrosive, resulting in property damage such as the degradation of rubber products.
- ROGs are compounds made up primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of ROGs are emissions associated with the use of paints and solvents, the application of asphalt paving, the use of household consumer products such as aerosols, and brewing and fermenting operations. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as ozone.
- $\text{NO}_x$  serves as an integral participant in the process of photochemical smog production. The two major forms of  $\text{NO}_x$  are nitric oxide (NO) and  $\text{NO}_2$ . NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperatures and/or high pressures.  $\text{NO}_2$  is a reddish-brown gas formed by the combination of NO and oxygen.  $\text{NO}_x$  acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.
- CO is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation.
- Particulate matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized—inhalable coarse particles, or PM10, and inhalable fine particles, or PM2.5. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading. Both PM10 and PM2.5 may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

### Toxic Air Contaminants

Although state and federal standards have been established for criteria pollutants, no ambient standards exist for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, ARB has consistently found that there are no levels or thresholds below which exposure is risk-free. Individual TACs vary greatly in the risks they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment.

Air toxics are generated by a number of sources, including *stationary sources*, such as dry cleaners, gas stations, auto body shops, and combustion sources; *mobile sources*, such as motor vehicles, diesel trucks, ships, and trains; and *area sources*, such as farms, landfills, and construction sites. Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to the brain and nervous system, and respiratory disorders.

### **Asbestos**

Naturally occurring asbestos (NOA) can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. According to *A General Location Guide for Ultramafic Rock in California*, the eastern portion of the Plan Area under PCAPCD jurisdiction is located in an area that is known to contain naturally occurring asbestos (California Department of Conservation 2000). ARB's Asbestos Airborne Toxic Control Measure (ATCM) and the applicable air district dust control measures would effectively control unanticipated NOA exposure through a variety of required control measures, including watering. Detailed maps prepared by the California Geological Survey for PCAPCD assessed the likelihood of the presence of NOA in various areas of Placer County. These maps are available on PCAPCD's website.

### **Diesel Particulate Matter**

In August 1998, ARB identified DPM from diesel-fueled engines as TACs. In September 2000, ARB approved a comprehensive Diesel Risk Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce DPM (respirable particulate matter) emissions and the associated health risk by 75% in 2010 and by 85% by 2020. The plan identifies 14 measures that ARB will implement over the next several years. Because these measures would be enacted before any construction activities are anticipated to occur, future activities under the proposed Plan would be required to comply with applicable diesel control measures.

### **Odors**

Offensive odors rarely cause physical harm, but they can be unpleasant and lead to considerable distress among the public. This distress often generates citizen complaints to local governments and air districts. According to ARB's (2005) *Air Quality and Land Use Handbook*, land uses associated with odor complaints typically include sewage treatment plants, landfills, recycling facilities, manufacturing, and agricultural activities. ARB provides recommended screening distances for citing new receptors near existing odor sources.

### **Greenhouse Gases**

Present in the Earth's lower atmosphere, GHGs play a critical role in maintaining the Earth's temperature; GHGs trap some of the long-wave infrared radiation emitted from the Earth's surface that would otherwise escape to space. The phenomenon known as the *greenhouse effect* keeps the atmosphere near the Earth's surface warm enough for the successful habitation of humans and other life forms. Increases in fossil fuel combustion and deforestation have exponentially increased

concentrations of GHGs in the atmosphere since the Industrial Revolution, leading to warming of the Earth's lower atmosphere and large-scale changes in the Earth's climate.

The principle anthropogenic GHGs contributing to climate change are CO<sub>2</sub>, CH<sub>4</sub>, nitrous oxide (N<sub>2</sub>O), and fluorinated compounds, including sulfur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic (human-made) sources. The primary GHGs of concern associated with the PCCP are CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. Principal characteristics surrounding these pollutants are discussed below.

- CO<sub>2</sub> enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, respiration, and also as a result of other chemical reactions (e.g., manufacture of cement, microbrewing). CO<sub>2</sub> is also removed from the atmosphere (or *sequestered*) when it is absorbed by plants as part of the biological carbon cycle.
- CH<sub>4</sub> is emitted during the production and transport of coal, natural gas, and oil. CH<sub>4</sub> emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- N<sub>2</sub>O is emitted during agricultural (i.e., fertilizer and pesticide application) and industrial activities, as well as during combustion of fossil fuels and solid waste.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method to compare GHG emissions is the global warming potential (GWP) methodology defined in the Intergovernmental Panel on Climate Change (IPCC) reference documents. The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalent (CO<sub>2</sub>e), which compares the gas in question to that of the same mass of CO<sub>2</sub> (CO<sub>2</sub> has a GWP of 1 by definition).

Table 3.2-4 lists the GWP of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, their lifetimes, and abundances in the atmosphere.

**Table 3.2-4. Lifetimes and Global Warming Potentials of Key Greenhouse Gases**

Greenhouse Gas	Global Warming Potential (100 years)	Lifetime (years)	2015 Atmospheric Abundance
CO <sub>2</sub>	1	100–300	400 ppm
CH <sub>4</sub>	25	12	1,834 ppb
N <sub>2</sub> O	298	114	328 ppb

Sources: California Air Resources Board 2016c; Blasing 2016.

CH<sub>4</sub> = methane.

CO<sub>2</sub> = carbon dioxide.

N<sub>2</sub>O = nitrous oxide.

ppb = parts per billion.

ppm = parts per million.

## Existing Air Quality Conditions

PCAPCD maintains and operates four ambient air monitoring stations, while ARB maintains and operates one site in Placer County and two sites in Sutter County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants, and these data are used to determine whether the ambient air quality meets the NAAQS and CAAQS. Additionally, the monitoring stations provide valuable information for public health. Monitoring data for 3 years (2014–2016) from the Roseville North Sunrise (ARB operated and maintained), Lincoln 1<sup>st</sup> Street, and North Auburn stations are presented in Table 3.2-5 to show the range of ambient air quality conditions throughout the Plan Area in Placer County. Monitoring data for 3 years (2014–2016) from the Yuba City Almond Street station is also presented in Table 3.2-5 to represent air quality conditions nearest to the Plan Area in Sutter County. Data from the Colfax and Tahoe City stations are not included in Table 3.2-5 because no program activities would occur in eastern Placer County.

Local monitoring data (Table 3.2-5) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the NAAQS and CAAQS. The four designations are defined as follows.

- **Nonattainment**—assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- **Maintenance**—assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- **Attainment**—assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- **Unclassified**—assigned to areas where data are insufficient to determine whether a pollutant is violating the standard in question.

**Table 3.2-5. Ambient Criteria Air Pollutant Monitoring Data (2014–2016)**

Pollutant Standards	Roseville North Sunrise			Lincoln 1 <sup>st</sup> Street			North Auburn			Yuba City Almond Street		
	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016
<b>1-Hour Ozone (O<sub>3</sub>)</b>												
Maximum Concentration (ppm)	0.097	0.098	0.115	0.107	0.098	0.102	0.097	0.109	0.114	0.103	0.080	0.075
<i>Number of Days Standard Exceeded</i>												
CAAQS 1-Hour (>0.09 ppm)	4	1	5	1	2	3	1	4	5	1	0	0
<b>8-Hour Ozone (O<sub>3</sub>)</b>												
State Maximum Concentration (ppm)	0.087	0.085	0.093	0.086	0.082	0.084	0.085	0.100	0.100	0.088	0.074	0.065
National Maximum Concentration (ppm)	0.086	0.084	0.092	0.086	0.082	0.083	0.084	0.100	0.099	0.088	0.074	0.065
National 4 <sup>th</sup> Highest Concentration (ppm)	0.083	0.073	0.084	0.070	0.071	0.081	0.081	0.085	0.085	0.069	0.064	0.063
<i>Number of days standard exceeded</i>												
CAAQS 8-hour (>0.070 ppm)	21	6	21	4	5	12	17	16	27	3	1	0
NAAQS 8-hour (>0.070 ppm)	19	6	20	3	4	11	15	15	27	3	1	0
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>												
Maximum 1-Hour Concentration	54	50	50	NA	NA	NA	NA	NA	NA	49	43	43
Annual Average Concentration	8	8	8	NA	NA	NA	NA	NA	NA	8	7	7
<i>Number of Days Standard Exceeded</i>												
CAAQS 1-Hour (0.18 ppm)	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0
NAAQS 1-Hour (0.100 ppm)	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0
<b>Particulate Matter (PM<sub>10</sub>)</b>												
State Maximum 24-Hour Concentration	31.8	59.1	39.1	NA	NA	NA	NA	NA	NA	77.6	67.2	67.2
National Maximum 24-Hour Concentration	30.2	35.7	39.2	NA	NA	NA	NA	NA	NA	45.1	68.2	68.2
State Annual Average Concentration	18.0	18.0	NA	NA	NA	NA	NA	NA	NA	NA	23.1	23.1
<i>Number of Days Standard Exceeded</i>												
CAAQS 24-Hour (>50 µg/m <sup>3</sup> )	0	1	0	NA	NA	NA	NA	NA	NA	8	6	6
NAAQS 24-Hour (>150 µg/m <sup>3</sup> )	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0

Pollutant Standards	Roseville North Sunrise			Lincoln 1 <sup>st</sup> Street			North Auburn			Yuba City Almond Street		
	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016
<b>Fine Particulate Matter (PM2.5)</b>												
National Maximum 24-Hour Concentration (µg/m <sup>3</sup> )	22.2	29.1	21.2	NA	NA	NA	190.2	109.8	28.6	41.8	36.1	40.1
24-hour Standard 98 <sup>th</sup> Percentile (µg/m <sup>3</sup> )	20.6	20.1	20.2	NA	NA	NA	22.5	17.0	18.3	NA	31.4	22.2
National Annual Average Concentration	7.8	8.0	6.8	NA	NA	NA	6.8	7.6	6.1	NA	9.6	8.1
<b>Number of Days Standard Exceeded</b>												
NAAQS 24-Hour (>35 µg/m <sup>3</sup> )	0	0	0	NA	NA	NA	4	1	0	2	1	1

Source: California Air Resources Board 2018. Data compiled by ICF.

Note: No data available for carbon monoxide (CO).

CAAQS = California Ambient Air Quality Standards.

NA = data not available.

NAAQS = National Ambient Air Quality Standards.

µg/m<sup>3</sup> = micrograms per cubic meter.

ppm = parts per million.

Tables 3.2-6 and 3.2-7 summarize the attainment status of Placer and Sutter Counties with regard to the NAAQS and CAAQS.

**Table 3.2-6. Federal and State Attainment Status for Placer County**

Criteria Pollutant	Federal Designation	State Designation
Ozone (8-hr)	Nonattainment (P)	Nonattainment
CO	Attainment	Attainment/Unclassified
PM10	Attainment	Nonattainment
PM2.5 (24-hr)	Nonattainment/Unclassified	None
PM2.5 (Annual)	Attainment/Unclassified	Attainment/Unclassified
NO <sub>2</sub>	Attainment	Attainment
SO <sub>2</sub>	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified

Sources: California Air Resources Board 2016d; U.S. Environmental Protection Agency 2017.

CO = carbon monoxide.

PM2.5 = particulate matter less than or equal to 2.5 microns.

PM10 = particulate matter less than or equal to 10 microns.

NO<sub>2</sub> = nitrogen dioxide.

SO<sub>2</sub> = sulfur dioxide.

(P) = designation applies to a portion of the county.

**Table 3.2-7. Federal and State Attainment Status for Sutter County**

Criteria Pollutant	Federal Designation	State Designation
Ozone (8-hr)	Nonattainment (P)	Nonattainment-Transitional
CO	Attainment	Attainment/Unclassified
PM10	Attainment	Nonattainment
PM2.5 (24-hr)	Maintenance	Attainment/Unclassified
NO <sub>2</sub>	Attainment	Attainment
SO <sub>2</sub>	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified
Visibility	(No federal standard)	Unclassified

Sources: California Air Resources Board 2016d; U.S. Environmental Protection Agency 2017.

CO = carbon monoxide.

PM2.5 = particulate matter less than or equal to 2.5 microns.

PM10 = particulate matter less than or equal to 10 microns.

NO<sub>2</sub> = nitrogen dioxide.

SO<sub>2</sub> = sulfur dioxide.

(P) = designation applies to a portion of the county.

## Sensitive Receptors

Sensitive receptors are locations where human populations, especially children, seniors, and sick persons are found, and there is reasonable expectation of continuous human exposure according to the averaging period for ambient air quality standards. Typical sensitive receptors include residences, parks, hospitals, and schools. In general, these sensitive receptors are concentrated in the major cities and small towns in Placer and Sutter Counties. The City of Lincoln, located within the Plan Area, also contains concentrations of sensitive receptors. In addition, scattered rural residences are also located throughout the undeveloped or rural lands of the Plan Area.

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