

5. Environmental Analysis

5.3 AIR QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for the City of Clovis General Plan Update (proposed project) to impact air quality in local and regional contexts. The analysis is based on buildout of the proposed Land Use Plan (see Figure 3-5); vehicle miles traveled (VMT), provided by Fehr and Peers and derived from the Fresno Council of Governments (COG) Travel Demand Forecasting Model; natural gas use provided by Pacific Gas & Electric (PG&E); waste generation identified for the City of Clovis by the California Department of Resources, Recycling, and Recovery (CalRecycle); and water use for the City based on the City of Clovis's 2010 Urban Water Management Plan (UWMP). The air quality model output sheets are included in Appendix E of this DEIR.

5.3.1 Environmental Setting

5.3.1.1 SAN JOAQUIN VALLEY AIR BASIN

The City of Clovis (City) is in the central portion of the San Joaquin Valley Air Basin (SJVAB). SJVAB consists of eight counties: Fresno, Kern (western and central), Kings, Tulare, Madera, Merced, San Joaquin, and Stanislaus. Air pollution from significant activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

The SJVAB is approximately 250 miles long and an average of 35 miles wide. It is bordered by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. There is a slight downward elevation gradient from Bakersfield in the southeast end (elevation 408 feet) to sea level at the northwest end where the valley opens to the San Francisco Bay at the Carquinez Straits. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The bowl-shaped topography inhibits movement of pollutants out of the valley (SJVAPCD 2012a).

Climate

The SJVAB is in a Mediterranean climate zone and is influenced by a subtropical high-pressure cell most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500–3,000 feet).

Winter-time high pressure events can often last many weeks, with surface temperatures often lowering into the 30°F. During these events, fog can be present and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet (SJVAPCD 2012a).

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Wind Patterns

Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing and transporting it to other locations.

Especially in summer, winds in the valley most frequently blow from the northwest. The region's topographic features restrict air movement and channel the air mass towards the southeastern end of the valley. Marine air can flow into the basin from the San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow along the axis of the valley, over the Tehachapi pass, into the Southeast Desert Air Basin. This wind pattern contributes to transporting pollutants from the Sacramento Valley and the Bay Area into the SJVAB. Approximately 27 percent of the total emissions in the northern portion, 11 percent of total emissions in the central region, and 7 percent of total emission in the south valley of the SJVAB are attributed to air pollution transported from these two areas (SJVAPCD 2014a). The Coastal Range is a barrier to air movement to the west and the high Sierra Nevada range is a significant barrier to the east (the highest peaks in the southern Sierra Nevada reach almost halfway through the Earth's atmosphere). Many days in the winter are marked by stagnation events where winds are very weak. Transport of pollutants during winter can be very limited. A secondary but significant summer wind pattern is from the southeast and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons.

Two significant diurnal wind cycles that occur frequently in the valley are the sea breeze and mountain-valley upslope and drainage flows. The sea breeze can accentuate the northwest wind flow, especially on summer afternoons. Nighttime drainage flows can accentuate the southeast movement of air down the valley. In the mountains during periods of weak synoptic scale winds, winds tend to be upslope during the day and downslope at night. Nighttime and drainage flows are especially pronounced during the winter when flow from the easterly direction is enhanced by nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can recirculate a polluted air mass for an extended period. Such an eddy occurs in the Fresno area during both winter and summer (SJVAPCD 2012a).

Temperature

Solar radiation and temperature are particularly important in the chemistry of ozone formation. The SJVAB averages over 260 sunny days per year. Photochemical air pollution (primarily ozone) is produced by the atmospheric reaction of organic substances (such as volatile organic compounds) and nitrogen dioxide under the influence of sunlight. Ozone concentrations are very dependent on the amount of solar radiation, especially during late spring, summer, and early fall. Ozone levels typically peak in the afternoon. After the sun goes down, the chemical reaction between nitrous oxide and ozone begins to dominate. This reaction tends to scavenge and remove the ozone in the metropolitan areas through the early morning hours, resulting in the lowest ozone levels, possibly reaching zero at sunrise in areas with high nitrogen oxides emissions. At sunrise, nitrogen oxides tend to peak, partly due to low levels of ozone at this time and also due to the morning commuter vehicle emissions of nitrogen oxides.

Generally, the higher the temperature, the more ozone formed, since reaction rates increase with temperature. However, extremely hot temperatures can "lift" or "break" the inversion layer. Typically, if the inversion layer doesn't lift to allow the buildup of contaminants to be dispersed, the ozone levels will peak in the late afternoon.

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If the inversion layer breaks and the resultant afternoon winds occur, the ozone will peak in the early afternoon and decrease in the late afternoon as the contaminants are dispersed or transported out of the SJVAB.

Ozone levels are low during winter periods when there is much less sunlight to drive the photochemical reaction (SJVAPCD 2012a).

Precipitation, Humidity, and Fog

Precipitation and fog may reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog can block the required solar radiation. Wet fogs can cleanse the air during winter as moisture collects on particles and deposits them on the ground. Atmospheric moisture can also increase pollution levels. In fogs with less water content, the moisture acts to form secondary ammonium nitrate particulate matter. This ammonium nitrate is part of the valley's PM_{2.5} and PM₁₀ problem. The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the SJVAB floor. This creates strong low-level temperature inversions and very stable air conditions, which can lead to tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of PM_{2.5} and PM₁₀ (SJVAPCD 2012a).

Inversions

The vertical dispersion of air pollutants in the SJV can be limited by persistent temperature inversions. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. The height of the base of the inversion is known as the "mixing height." This is the level to which pollutants can mix vertically. Mixing of air is minimized above and below the inversion base. The inversion base represents an abrupt density change where little air movement occurs.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor (SJVAPCD 2012a).

5.3.1.2 REGULATORY FRAMEWORK

Ambient air quality standards (AAQS) have been adopted at state and federal levels for criteria air pollutants. In addition, both the state and federal government regulate the release of toxic air contaminants (TACs). The City of Clovis is within the San Joaquin Valley Air Basin. Land use is subject to the rules and regulations imposed by San Joaquin Valley Unified Air Pollution Control District (SJVAPCD), as well as the California AAQS adopted by the California Air Resources Board (CARB) and National AAQS adopted by the United States Environmental Protection Agency (EPA). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

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Ambient Air Quality Standards

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

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

Both California and the federal government have established health-based AAQS for seven air pollutants. As shown in Table 5.3-1, *Ambient Air Quality Standards for Criteria Pollutants*, these pollutants are ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 5.3-1 Ambient Air Quality Standards for Criteria Pollutants

| Pollutant | Averaging Time | California Standard | Federal Primary Standard | Major Pollutant Sources |
|--|------------------------|----------------------|--------------------------|---|
| Ozone (O ₃) | 1 hour | 0.09 ppm | * | Motor vehicles, paints, coatings, and solvents. |
| | 8 hours | 0.070 ppm | 0.075 ppm | |
| Carbon Monoxide (CO) | 1 hour | 20 ppm | 35 ppm | Internal combustion engines, primarily gasoline-powered motor vehicles. |
| | 8 hours | 9.0 ppm | 9 ppm | |
| Nitrogen Dioxide (NO ₂) | Annual Average | 0.030 ppm | 0.053 ppm | Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads |
| | 1 hour | 0.18 ppm | 0.100 ppm | |
| Sulfur Dioxide (SO ₂) | Annual Arithmetic Mean | * | 0.030 ppm ² | Fuel combustion, chemical plants, sulfur recovery plants, and metal processing. |
| | 1 hour | 0.25 ppm | 0.075 ppm ¹ | |
| | 24 hours | 0.04 ppm | 0.014 ppm ² | |
| Respirable Coarse Particulate Matter (PM ₁₀) | Annual Arithmetic Mean | 20 µg/m ³ | * | Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays). |
| | 24 hours | 50 µg/m ³ | 150 µg/m ³ | |

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Table 5.3-1 Ambient Air Quality Standards for Criteria Pollutants

| Pollutant | Averaging Time | California Standard | Federal Primary Standard | Major Pollutant Sources |
|--|------------------------|--|--------------------------|--|
| Respirable Fine Particulate Matter (PM _{2.5}) ³ | Annual Arithmetic Mean | 12 µg/m ³ | 12 µg/m ³ | Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays). |
| | 24 hours | * | 35 µg/m ³ | |
| Lead (Pb) | Monthly | 1.5 µg/m ³ | * | Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline. |
| | Quarterly | * | 1.5 µg/m ³ | |
| | 3-Month Average | * | 0.15 µg/m ³ | |
| Sulfates (SO ₄) | 24 hours | 25 µg/m ³ | * | Industrial processes. |
| Visibility-Reducing Particles | 8 hours | ExCo =0.23/km visibility of 10≥ miles ¹ | No Federal Standard | Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt. |
| Hydrogen Sulfide | 1 hour | 0.03 ppm | No Federal Standard | Hydrogen sulfide (H ₂ S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation. |
| Vinyl Chloride | 24 hour | 0.01 ppm | No Federal Standard | Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents. |

Source: CARB 2013a.

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

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

¹ When relative humidity is less than 70 percent.

² On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

³ On December 14, 2012, EPA lowered the federal primary PM_{2.5} annual standard from 15.0 µg/m³ to 12.0 µg/m³. The new annual standard will become effective 60 days after publication in the Federal Register. EPA made no changes to the primary 24-hour PM_{2.5} standard or to the secondary PM_{2.5} standards.

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Air Pollutants of Concern

Criteria Air Pollutants

Pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. Air pollutants are categorized as primary or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. Of these, CO, SO₂, NO₂, PM₁₀, and PM_{2.5} are “criteria air pollutants,” which means that AAQS have been established for them. VOC and NO_x are air pollutant precursors that form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and NO₂ are the principal secondary pollutants. A description of each of the primary and secondary criteria air pollutants and their known health effects is presented below.

- **Carbon Monoxide (CO)** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (USEPA 2012). The SJVAB is designated under the California and National AAQS as being in attainment of CO criteria levels (CARB 2013b).
- **Volatile Organic Compounds (VOC)** are compounds composed primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources of VOCs include evaporative emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. There are no ambient air quality standards established for VOCs. However, because they contribute to the formation of O₃, the SJVAPCD has established a significance threshold for this pollutant.
- **Nitrogen Oxides (NO_x)** are a by-product of fuel combustion and contribute to the formation of ground-level O₃, PM₁₀, and PM_{2.5}. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO₂ produced by combustion is NO, but NO reacts with oxygen quickly to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ acts as an acute irritant and is more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO₂ is only potentially irritating. NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO₂ exposure concentrations near roadways are of particular concern for susceptible individuals, including people with asthma, children, and the elderly. Current scientific evidence links short-term NO₂ exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between breathing elevated short-term NO₂ concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (USEPA 2012). The SJVAB is designated an attainment area for NO₂ under the National and California AAQS (CARB 2013b).

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- **Sulfur Dioxide (SO₂)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO₂. When sulfur dioxide forms sulfates (SO₄) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO₂ is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO₂, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects including bronchoconstriction and increased asthma symptoms. These effects are particularly important for asthmatics at elevated ventilation rates (e.g., while exercising or playing.) At lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations including children, the elderly, and asthmatics (USEPA 2012). The SJVAB is designated attainment under the California and National AAQS (CARB 2013b).
- **Suspended Particulate Matter (PM₁₀ and PM_{2.5})** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM₁₀, include particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns (i.e., 2.5 millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. EPA scientific review concluded that PM_{2.5}, which penetrates deeply into the lungs, is more likely than PM₁₀ to contribute to health effects and at concentrations that extend well below those allowed by the current PM₁₀ standards. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing). Diesel particulate matter (DPM) is classified by the CARB as a carcinogen. Particulate matter can also cause environmental effects such as visibility impairment,¹ environmental damage,² and aesthetic damage (USEPA 2012).³ The SJVAB is a nonattainment area for PM₁₀ under the California AAQS and nonattainment for PM_{2.5} under the California and National AAQS (CARB 2013b).
- **Ozone (O₃)** is commonly referred to as “smog” and is a gas that is formed when VOCs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O₃ is a secondary criteria air pollutant. O₃ concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy

¹ PM_{2.5} is the main cause of reduced visibility (haze) in parts of the United States.

² Particulate matter can be carried over long distances by wind and then settle on ground or water. The effects of this settling include: making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

³ Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

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people. Breathing O₃ can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O₃ also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O₃ also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O₃ harms sensitive vegetation, including forest trees and plants during the growing season (USEPA 2012). The SJVAB is designated severe nonattainment under the California AAQS (1-hour and 8-hour) and extreme nonattainment under the National AAQS (8-hour) (CARB 2013b).

- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA's regulatory efforts to remove lead from on-road motor vehicle gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions to the air today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The lead effects most commonly encountered in current populations are neurological effects in children and cardiovascular effects (e.g., high blood pressure and heart disease) in adults. Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (USEPA 2012). The SJVAB is designated in attainment of the California and National AAQS for lead (CARB 2013b). Because emissions of lead are found only in projects that are permitted by SJVAPCD, lead is not an air quality of concern for the proposed project.

Toxic Air Contaminants

The public's exposure to air pollutants classified as TACs is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 United States Code § 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency (Cal/EPA), acting through CARB, is authorized to identify a substance as a TAC if it determines that the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If

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there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs that have no safe threshold.

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

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

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

Mass Emissions and Health Effects

On May 27, 2014, in *Sierra Club et al. v. County of Fresno et al.* (Friant Ranch), the Court of Appeal for the Fifth Appellate District found that the EIR for the proposed Friant Ranch project failed to adequately analyze the project’s air quality impacts on human health. The EIR prepared for the project, which involved a master planned retirement community in Fresno County, showed that project-related mass emissions would exceed the SJVAPCD’s regional significance thresholds. In its findings, the Court of Appeal held that EIRs for projects must not only identify impacts to human health, but also provide an “analysis of the correlation between the project’s emissions and human health impacts” related to each criteria air pollutant that exceeds the regional significance thresholds. This issue is further discussed in the Environmental Impacts section under Impacts 5.3-1, 5.3-2, and 5.3-3.

5.3.1.3 SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT

The primary role of SJVAPCD is to develop plans and implement control measures in the SJVAB to control air pollution. These controls primarily affect stationary sources such as industry and power plants. Rules and regulations have been developed by SJVAPCD to control air pollution from a wide range of air pollution sources. SJVAPCD also provides uniform procedures for assessing potential air quality impacts of proposed projects and for preparing the air quality section of environmental documents (SJVAPCD 2012a).

Air Quality Planning

The EPA requires states that have areas that do not meet the National AAQS to prepare and submit air quality plans showing how the National AAQS will be met. If the states cannot show how the National AAQS will be met, then the states must show progress toward meeting the National AAQS. These plans are referred to as the State Implementation Plans (SIP). California’s adopted *2007 State Strategy* was submitted to the EPA as a revision

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to its SIP in November 2007 (CARB 2007).⁴ In addition, CARB requires regions that do not meet California AAQS for ozone to submit clean air plans (CAPs) that describe measures to attain the standard or show progress toward attainment. To ensure federal CAA compliance, SJVAPCD is currently developing plans for meeting new National AAQS for ozone and PM_{2.5} and the California AAQS for PM₁₀ in the SJVAB (for California CAA compliance) (SJVAPCD 2012a). The following describes the air plans prepared by the SJVAPCD, which are incorporated by reference per CEQA Guidelines Section 15150.

1-Hour Ozone Plan

CARB submitted the 2004 Extreme Ozone Attainment Demonstration Plan to the EPA on November 15, 2004. The plan was amended by the District in 2008. Effective June 15, 2005, the EPA revoked the federal 1-hour ozone AAQS, finding that the 8-hour ozone standard was more health protective. Under federal anti-backsliding provisions, the District has implemented the 2004 plan's control measures and emissions reductions strategies, and the valley must still attain the revoked standard before it can rescind the CAA Section 185 fees collected under Rule 3170 (SJVAPCD 2012a).

2013 Plan for the Revoked 1-Hour Ozone Standard

SJVAPCD has developed a new plan for EPA's revoked 1-hour ozone standard. Although EPA approved the District's 2004 plan for the 1-hour ozone standard in 2010, EPA withdrew this approval as a result of litigation. The District's 2013 Plan for the Revoked 1-Hour Ozone Standard was approved by the District Governing Board at a public hearing on September 19, 2013. The modeling confirms that the valley will attain the revoked 1-hour ozone standard by 2017 (SJVAPCD 2013).

8-Hour Ozone Plan

The District's Governing Board adopted the 2007 Ozone Plan on April 30, 2007. This far-reaching plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard as set by EPA in 1997. The plan projects that the valley will achieve the 8-hour ozone standard for all areas of the SJVAB no later than 2023. CARB approved the plan on June 14, 2007. EPA approved the 2007 Ozone Plan effective April 30, 2012. As of this writing, it is expected that the plan addressing EPA's 2008 revised 8-hour ozone standard will be due to EPA in 2015 (SJVAPCD 2012a).

PM₁₀ Plan

Based on PM₁₀ measurements from 2003 to 2006, EPA found that the SJVAB has reached federal PM₁₀ standards. On September 21, 2007, the District's Governing Board adopted the 2007 PM₁₀ Maintenance Plan and Request for Redesignation. This plan demonstrates that the valley will continue to meet the PM₁₀ standard. EPA approved the document and on September 25, 2008, the SJVAB was redesignated to attainment (SJVAPCD 2012a).

⁴ Note that the plan was adopted by CARB on September 27, 2007.

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PM_{2.5} Plan

The SJVAPCD adopted the *2012 PM_{2.5} Plan* on December 20, 2012 (SJVAPCD 2012b). This plan was approved by CARB on January 24, 2013. This plan will assure that the valley will attain the 2006 PM_{2.5} National AAQS. The plan uses control measures to reduce NO_x, which also leads to fine particulate formation in the atmosphere. The plan incorporates measures to reduce direct emissions of PM_{2.5}, including a strengthening of regulations for various SJVAB industries and the general public through new rules and amendments. The plan estimates that the SJVAB will reach the PM_{2.5} standard by 2019 (SJVAPCD 2012a).

All of the above-referenced plans include measures (i.e., federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation Control Measures (TCMs) are part of these plans.

Attainment Status

The air quality management plans prepared by SJVAPCD provide the framework for SJVAB to achieve attainment of the state and federal AAQS through the SIP. Areas are classified as attainment or nonattainment areas for particular pollutants, depending on whether they meet the ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

At the federal level, the SJVAPCD is designated as extreme nonattainment for the 8-hour ozone standard, attainment for PM₁₀ and CO, and nonattainment for PM_{2.5}. At the state level, the SJVAB is designated nonattainment for the 8-hour ozone, PM₁₀, and PM_{2.5} standards. The SJVAB has not attained the federal 1-hour ozone, although this standard was revoked in 2005. The attainment status for the SJVAB with respect to various pollutants of concern is displayed in Table 5.3-2, *Attainment Status of Criteria Pollutants in the San Joaquin Valley Air Basin*.

Table 5.3-2 Attainment Status of Criteria Pollutants in the San Joaquin Valley Air Basin

| Pollutant | Federal | State |
|---|------------------------------------|-------------------------|
| Ozone – 1-hour | Revoked in 2005 ¹ | Nonattainment/Severe |
| Ozone – 8-hour | Nonattainment/Extreme ² | Nonattainment |
| Respirable Particulate Matter (PM ₁₀) | Attainment ³ | Nonattainment |
| Fine Particulate Matter (PM _{2.5}) | Nonattainment ⁴ | Nonattainment |
| Carbon Monoxide (CO) | Attainment/Unclassified | Attainment/Unclassified |
| Nitrogen Dioxide (NO ₂) | Attainment/Unclassified | Attainment |
| Sulfur Dioxide (SO ₂) | Attainment/Unclassified | Attainment |
| Lead | No Designation/Classification | Attainment |
| Hydrogen Sulfide | No Federal Standard | Unclassified |
| Sulfates | No Federal Standard | Attainment |
| Visibility Reducing Particles | No Federal Standard | Unclassified |
| Vinyl Chloride | No Federal Standard | Attainment |

Source: SJVAPCD 2014b; CARB 2013b; EPA 2013.

¹ Effective June 15, 2005, the US EPA revoked the federal 1-hour ozone standard, including associated designations and classifications.

² Though the SJVAB was initially classified as serious nonattainment for the 1997 8-hour ozone standard, USEPA approved reclassification of SJVAB to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

³ The USEPA redesignated the SJVAB to attainment and approved the PM₁₀ Maintenance Plan on September 25, 2008.

⁴ The USEPA designated the SJVAB as nonattainment on November 13, 2009 (effective December 14, 2009).

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Applicable SJVAPCD Rules and Regulations

Assembly Bill 170

Assembly Bill 170, Reyes (AB 170), was adopted by state lawmakers in 2003, creating Government Code Section 65302.1, which requires cities and counties in the San Joaquin Valley to amend their general plans to include data and analysis, comprehensive goals, policies, and feasible implementation strategies designed to improve air quality. The elements to be amended include, but are not limited to, those elements dealing with land use, circulation, housing, conservation, and open space. Section 65302.1.c identifies four areas of air quality discussion required in these amendments:

- A report describing local air quality conditions, attainment status, and state and federal air quality and transportation plans;
- A summary of local, district, state, and federal policies, programs, and regulations to improve air quality;
- A comprehensive set of goals, policies, and objectives to improve air quality;
- Feasible implementation measures designed to achieve these goals.

SJVAPCD Indirect Source Review

On December 15, 2005, SJVAPCD adopted the Indirect Source Review Rule (ISR or Rule 9510) to reduce ozone precursors (i.e., VOC and NO_x) and PM₁₀ emissions from new land use development projects (SJVAPCD 2005). Specifically, Rule 9510 targets the indirect emissions from vehicles and construction equipment associated with these projects and applies to both construction and operational-related impacts. The rule applies to any applicant that seeks to gain a final discretionary approval for a development project, or any portion thereof, which upon full buildout would include any one of the following:

- 50 residential units.
- 2,000 square feet of commercial space.
- 25,000 square feet of light industrial space.
- 100,000 square feet of heavy industrial space.
- 20,000 square feet of medical office space.
- 39,000 square feet of general office space.
- 9,000 square feet of educational space.
- 10,000 square feet of government space.

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- 20,000 square feet of recreational space.
- 9,000 square feet of space not identified above.
- Transportation/transit projects with construction exhaust emissions of two or more tons of NO_x or two or more tons of PM₁₀.
- Residential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, regardless of the number of tract maps, and has the capability of accommodating more than 50 residential units.
- Nonresidential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, and has the capability of accommodating development projects that emit two or more tons per year of NO_x or PM₁₀ during project operations.

The rule requires all subject, nonexempt projects⁵ to mitigate both construction and operational period emissions by (1) applying feasible SJVAPCD-approved mitigation measures, or (2) paying any applicable fees to support programs that reduce emissions. Offsite emissions reduction fees (offsite fee) are required for projects that do not achieve the required emissions reductions through onsite emission reduction measures. Phased projects can defer payment of fees in accordance with an Offsite Emissions Reduction Fee Deferral Schedule (FDS) approved by the SJVAPCD.

To determine how an individual project would satisfy Rule 9510, each project would submit an air quality impact assessment (AIA) to the SJVAPCD as early as possible, but no later than prior to the project's final discretionary approval, to identify the project's baseline unmitigated emissions inventory for indirect sources: onsite exhaust emissions from construction activities and operational activities from mobile and area sources of emissions (excludes fugitive dust and permitted sources).⁶ Rule 9510 requires the following reductions, which are levels that the SJVAPCD has identified as necessary, based on their air quality management plans, to reach attainment for ozone and particulate matter:

Construction Equipment Emissions. The exhaust emissions for construction equipment greater than 50 horsepower (hp) used or associated with the development project shall be reduced by the following amounts from the statewide average as estimated by CARB:

- 20 percent of the total NO_x emissions
- 45 percent of the total PM₁₀ exhaust emissions.

Mitigation measures may include those that reduce construction emissions onsite by using less polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer lower emitting equipment.

⁵ Development projects that have a mitigated baseline below two tons per year of NO_x and two tons per year of PM₁₀ are exempt.

⁶ Stationary sources of air pollutant emissions are covered separately under SJVAPCD's Rule 2201, *New and Modified Stationary Source Review*.

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Operational Emissions:

- **NO_x Emissions.** Applicants shall reduce 33.3 percent of the project's operational baseline NO_x emissions over a period of 10 years as quantified in the approved AIA.
- **PM₁₀ Emissions.** Applicants shall reduce of 50 percent of the project's operational baseline PM₁₀ emissions over a period of 10 years as quantified in the approved AIA.

These requirements listed above can be met through any combination of onsite emission reduction measures. In the event that a project cannot achieve the above standards through imposition of mitigation measures, then the project would be required to pay the applicable offsite fees. These fees are used to fund various incentive programs that cover the purchase of new equipment, engine retrofit, and education and outreach.

New and Modified Stationary Source Review

SJVAPCD adopted Rule 2201, *New and Modified Stationary Source Review*, to control emissions from new stationary sources and all modifications to existing stationary sources which are subject to SJVAPCD's permit requirements (i.e., "permit projects" for which the SJVAPCD is the lead agency). Permit projects that exceed the Source Performance Standards are required to install Best Available Control Technology (BACT) to control emissions to the maximum extent practicable.

Fugitive PM₁₀ Prohibitions

SJVAPCD controls fugitive PM₁₀ through Regulation VIII, *Fugitive PM₁₀ Prohibitions*. The purpose of this regulation is to reduce ambient concentrations of PM₁₀ and PM_{2.5} by requiring actions to prevent, reduce, or mitigate anthropogenic (human caused) fugitive dust emissions.

- Regulation VIII, Rule 8021 applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel onsite, and travel on access roads to and from the site.
- Regulation VIII, Rule 8031 applies to the outdoor handling, storage, and transport of any bulk material.
- Regulation VIII, Rule 8041 applies to sites where carryout or trackout has occurred or may occur on paved roads or the paved shoulders of public roads.
- Regulation VIII, Rule 8051 applies to any open area having 0.5 acre or more within urban areas or 3.0 acres or more within rural areas, and contains at least 1,000 square feet of disturbed surface area.
- Regulation VIII, Rule 8061 applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- Regulation VIII, Rule 8071 applies to any unpaved vehicle/equipment traffic area.

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- Regulation VIII, Rule 8081 applies to off-field agricultural sources.

Sources regulated are required to provide Dust Control Plans that meet the regulation requirements. Under Rule 8021, a Dust Control Plan is required for any residential project that will include 10 or more acres of disturbed surface area, a nonresidential project with 5 or more acres of disturbed surface area, or a project that relocates 2,500 cubic yards per day of bulk materials for at least three days. The Dust Control Plan is required to be submitted to SJVAPCD prior to the start of any construction activity. The Dust Control Plan must also describe fugitive dust control measure to be implemented before, during, and after any dust-generating activity. For sites smaller than those listed above, the project is still required to notify SJVAPCD a minimum of 48 hours prior to commencing earthmoving activities.

Nuisance Odors

SJVAPCD controls nuisance odors through implementation of Rule 4102, *Nuisance*. Pursuant to this rule, “a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property.”

Employer Based Trip Reduction Program

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is reduce vehicle miles traveled (VMT) from private vehicles used by employees to commute to and from their worksites to reduce emissions of NO_x, VOC, and particulate matter (PM₁₀ and PM_{2.5}). The rule applies to employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to its employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

5.3.1.4 EXISTING AMBIENT AIR QUALITY

Air Quality Monitoring Data

CARB, in cooperation with SJVAPCD, monitors air quality throughout the SJVAB. The closest monitoring station to the City of Clovis is the Clovis-N Villa Avenue Monitoring Station in the City. This station monitors O₃, CO, NO₂, PM₁₀ and PM_{2.5}. Because it does not monitor SO_x, data from the Fresno 1st Street Monitoring Station was utilized. Data from these stations was summarized in Table, 5.3-3 *Ambient Air Quality Monitoring Summary*. In general, the ambient air quality measurements from these stations are representative of the air quality in the vicinity of the City. The

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topographical features and meteorological conditions specific to the region and to the City of Clovis are variables that can have an effect on the level of air quality as recorded at the Clovis-N Villa Avenue Monitoring Station.

As shown in the table, the area regularly exceeds the California and National AAQs for O₃. In addition, the area regularly exceeds the National PM_{2.5} AAQS and the California PM₁₀ AAQS. The area has not exceeded the CO or NO₂ standards in the last five years.

Table 5.3-3 Ambient Air Quality Monitoring Summary

| Pollutant/Standard | Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations | | | | |
|--|--|-------|-------|-------|-------|
| | 2009 | 2010 | 2011 | 2012 | 2013 |
| Ozone (O₃)¹ | | | | | |
| State 1-Hour ≥ 0.09 ppm | 33 | 22 | 32 | 37 | 13 |
| State 8-hour ≥ 0.07 ppm | 64 | 58 | 72 | 93 | 66 |
| Federal 8-Hour > 0.075 ppm | 48 | 39 | 49 | 57 | 38 |
| Max. 1-Hour Conc. (ppm) | 0.119 | 0.133 | 0.133 | 0.124 | 0.123 |
| Max. 8-Hour Conc. (ppm) | 0.105 | 0.105 | 0.103 | 0.108 | 0.104 |
| Carbon Monoxide (CO)¹ | | | | | |
| State 8-Hour > 9.0 ppm | 0 | 0 | 0 | * | * |
| Federal 8-Hour ≥ 9.0 ppm | 0 | 0 | 0 | * | * |
| Max. 8-Hour Conc. (ppm) | 1.66 | 1.43 | 1.42 | * | * |
| Nitrogen Dioxide (NO₂)¹ | | | | | |
| State 1-Hour ≥ 0.18 ppm | 0 | 0 | 0 | 0 | 0 |
| Max. 1-Hour Conc. (ppm) | 61.0 | 55.0 | 50.0 | 55.0 | 54.0 |
| Sulfur Dioxide (SO₂)² | | | | | |
| State 1-Hour ≥ 0.04 ppm | 0 | 0 | 0 | * | * |
| Max. 1-Hour Conc. (ppm) | 0.005 | 0.004 | 0.004 | * | * |
| Coarse Particulates (PM₁₀)¹ | | | | | |
| State 24-Hour > 50 µg/m ³ | 5 | 8 | 9 | 9 | 11 |
| Federal 24-Hour > 150 µg/m ³ | 0 | 0 | 0 | 0 | 0 |
| Max. 24-Hour Conc. (µg/m ³) | 62.3 | 62.8 | 71.6 | 74.2 | 119.0 |
| Fine Particulates (PM_{2.5})¹ | | | | | |
| Federal 24-Hour > 35 µg/m ³ | 26 | 19 | 38 | 24 | 23 |
| Max. 24-Hour Conc. (µg/m ³) | 71.0 | 75.2 | 76.4 | 80.8 | 103.4 |

Source: CARB 2014.

* Data not available.

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

¹ Data obtained from the Clovis-N Villa Avenue Monitoring Station at 908 N. Villa Avenue in the City of Clovis.

² Data obtained from the Fresno-1st Street Monitoring Station at 3425 North First Street in the City of Fresno.

Existing City of Clovis Criteria Air Pollutant Emissions Inventory

Table 5.3-4, *Existing City of Clovis, SOI, and Plan Areas Regional Criteria Air Pollutant Emissions Inventory*, identifies the existing criteria air pollutant emissions inventory of the City of Clovis, its sphere of influence (SOI), and non-SOI Plan Areas. The inventory is based on existing land uses in the City; including residential, institutional, commercial, office, and industrial uses, as identified in Table 3-1. Criteria air pollutant emissions generated in the City were estimated using EMFAC2011, OFFROAD2007, and data provided by Pacific Gas and Electric (PG&E) for natural gas use. In addition, the City of Clovis includes permitted sources of air pollution that are regulated by

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SJVAPCD and are not under the jurisdictional authority of the City, but are included for informational purposes. Emissions within the City of Clovis are emitted from the following sources:

- **Transportation.** Emissions from vehicle trips beginning and ending in the Plan Area (i.e., internal/internal) and from external/internal vehicle trips (i.e., trips that either begin or end in the Plan Area).
- **Area Sources.** Emissions from lawn and garden, commercial, agricultural, and construction equipment use.
- **Energy.** Emissions generated from natural gas consumption used for cooking and heating in the Plan Area.
- **Permitted Sources.** Emissions generated by permitted facilities in the Plan Area.

Table 5.3-4 Existing City of Clovis, SOI, and Plan Areas Regional Criteria Air Pollutant Emissions Inventory

| Sector | Criteria Air Pollutant Emissions (tons per year) | | | | | |
|--|---|-----------------|--------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO ₂ | PM ₁₀ | PM _{2.5} |
| 2012 Land Uses (per Table 3-1) | | | | | | |
| Transportation ¹ | 118 | 1,003 | 2,069 | 4 | 67 | 41 |
| Energy – Residential | 9 | 78 | 33 | 1 | 6 | 6 |
| Energy – Nonresidential | 3 | 24 | 20 | <1 | 2 | 2 |
| Area – Landscaping and Light Commercial Equipment ² | 42 | 15 | 540 | <1 | 2 | 2 |
| Area – Construction and Agricultural Equipment ³ | 65 | 450 | 389 | <1 | 27 | 27 |
| Existing Land Uses Total | 237 | 1,571 | 3,051 | 5 | 105 | 78 |
| Permitted Sources ⁴ | 1 | 7 | 6 | 1 | 1 | 1 |
| Existing Land Uses with Permitted Facilities | 238 | 1,577 | 3,057 | 6 | 105 | 85 |

Source: OFFROAD2007 (Area-Lawn and Garden, Area-Light Commercial Equipment, Area-Agricultural Equipment, and Area-Construction and Mining Equipment); Pacific Gas & Electric (Energy-Natural Gas Use); EMFAC2011 (Transportation) based on vehicle miles traveled (VMT) provided by Fehr & Peers; and SJVAPCD (permitted sources).

¹ Transportation: VMT per year based on a conversion of VMT × 347 days per year to account for less travel on weekend, consistent with CARB statewide GHG emissions inventory methodology (CARB 2008).

² OFFROAD2007. Estimated based on population (Landscaping) and employment (Light Commercial Equipment) for Clovis as a percentage of Fresno County.

³ Estimated based on housing permit data (Construction) and amount of farmland (Agricultural) for Fresno County and Clovis from the US Census and CA Division of Land Resource Protection. Excludes fugitive emissions from construction sites and wood-burning fireplaces.

⁴ Based on the average from years between 2010 and 2012. PM_{2.5} emissions are assumed to be 99 percent of PM₁₀ emissions per SCAQMD methodology (SCAQMD 2006).

Sensitive Receptors

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

Residential areas are also considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a

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high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

5.3.2 Thresholds of Significance

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

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

5.3.2.1 SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT THRESHOLDS

As stated in Appendix G, the significance criteria established by the applicable air quality management district may be relied on to make the above determinations. Thus, this analysis also evaluates the project's air quality impacts pursuant to SJVAPCD's recommended guidelines and thresholds of significance, as discussed further below.

The SJVAPCD has developed the Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI). The current GAMAQI was adopted by the SJVAPCD Board in 1998 and last revised in 2002. However, SJVAPCD released the revised Draft GAMAQI in 2012 (SJVAPCD 2012a). Although the Draft 2012 GAMAQI has not yet been adopted by the SJVAPCD board, it represents the latest guidance for addressing air quality impacts in the SJVAB. Changes to the GAMAQI are primarily administrative in nature to update air basin information, attainment status, and general guidance to reflect updated conditions. The following thresholds of significance from the SJVAPCD's GAMAQI are used to determine whether a proposed project would result in a significant air quality impact.

Regional Significance Thresholds

SJVACD has identified regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SJVAB. Specifically, these thresholds gauge whether a project would significantly contribute to a nonattainment designation based on the mass emissions generated. Mass emissions from a project are not correlated with concentrations of air pollutants. Table 5.3-5, *SJVAPCD Regional Significance*

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Thresholds, lists SJVAPCD’s regional significance thresholds. It should be noted that SJVAPCD Rule 9510 and Regulation VIII may not reduce project-specific construction and operational emissions to below the SJVAPCD thresholds.

Table 5.3-5 SJVAPCD Regional Significance Thresholds

| Air Pollutant | Construction and Operational Phase Significance Thresholds (Tons/Year) |
|---|---|
| Carbon Monoxide (CO) | 100 |
| Nitrous Oxide (NO _x) | 10 |
| Volatile Organic Compounds (VOC) | 10 |
| Sulfur Oxides (SO _x) | 27 |
| Coarse Particulate Matter (PM ₁₀) | 15 |
| Fine Particulate Matter (PM _{2.5}) | 15 |

Source: SJVAPCD 2012a.

Ambient Air Quality Analysis

Determination of whether a project would violate an AAQS is largely a function of air dispersion modeling. If project emissions would not exceed the AAQS at the project boundaries, a project would not be considered to violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Air dispersion modeling is not applicable at a program level. Consequently, for the purpose of this program EIR, emissions of any criteria air pollutant that would exceed the applicable threshold of significance identified in Table 5.3-5 (above) is considered to result in elevated concentrations of air pollutants that have the potential to exceed the AAQS.

Consistency with the Applicable Air Quality Plan

SJVAPCD has prepared plans to attain federal and state AAQS. The significance thresholds in Table 5.3-5 are based on SJVAPCD’s New Source Review (NSR) offset requirements for stationary sources. Emission reductions achieved through implementation of District offset requirements are a major component of SJVAPCD’s air quality plans. Thus, projects with emissions below the thresholds of significance for criteria pollutants (see Table 5.3-5) would be determined to “Not conflict or obstruct implementation of the District’s air quality plan.” Because dispersion modeling is not applicable for a program EIR, projects with emissions that exceed these values are considered to have the potential to exceed the AAQS, resulting in a potentially significant impact.

Odors

Odor impacts associated with a proposed project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors. There are two general scenarios where a project could expose people to substantial odors:

- **Odor Generator.** Projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate.

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- **Odor Receiver.** Residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Rather, projects must be assessed on a case-by-case basis. The SJVAPCD has identified buffer distances for common types of facilities that have been known to produce odors in the SJVAB. The degree of odors could be significant and may be based on a review of SJVAPCD's complaint records.

For a project locating near an existing source of odors, the impact is potentially significant when the project site is at least as close as any other site that has already experienced significant odor problems related to the odor source. Significant odor problems are defined as:

- More than one confirmed complaint per year averaged over a three year period, or
- Three unconfirmed complaints per year averaged over a three-year period.

Health Risk

From a health risk perspective there are two types of land use projects that have the potential to cause long-term public health risk impacts.

- **Type A Projects.** Land use projects that will place new toxic sources in the vicinity of existing receptors. Examples of Type A projects include gasoline dispensing facilities, asphalt batch plants, warehouse distribution centers, new freeways or high traffic roads, and other stationary sources that emit toxic substance.
- **Type B Projects.** Land use projects that will place new receptors in the vicinity of existing toxics sources. Examples of Type B projects includes residential, commercial, and institutional developments proposed in the vicinity of existing toxic emission sources such as stationary sources, freeways or high traffic roads, rail yards, and warehouse distribution centers.

Whenever a project would require use of chemical compounds that have been identified in SJVAPCD's Rule 2201, placed on CARB's air toxics list pursuant to Assembly Bill 1807 (AB 1807), Toxic Air Contaminant Identification and Control Act (1983), or placed on the EPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is warranted. In addition, if a project would place sensitive land uses proximate to major sources of TACs (roadways with over 50,000 vehicles per day or major stationary sources), a health risk assessment may also be warranted. Table 5.3-6, *SJVAPCD Toxic Air Contaminants Incremental Risk Thresholds*, lists the SJVAPCD's TAC incremental risk thresholds for operation of a project or placement of sensitive land uses proximate to major sources of air pollution.

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Table 5.3-6 SJVAPCD Toxic Air Contaminants Incremental Risk Thresholds

| | |
|---------------------------|-------------------|
| Cancer Risk ¹ | ≥ 10 in 1 million |
| Hazard Index ² | ≥ 1.0 |

Source: SJVAPCD 2002; 2012a.

¹ For the Maximum Exposed Individuals (MEI).

² Ground-level concentrations of noncarcinogenic TACs for the MEI.

Additionally, the SJVAPCD has established the significant impact levels for point and fugitive sources of particulate matter.

Cumulative Impacts

By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development. Future attainment of state and federal AAQS is a function of successful implementation of the SJVAPCDs attainment plans. Consequently, the District’s application of thresholds of significance for criteria pollutants is relevant to the determination of whether a project’s individual emissions would have a cumulatively significant impact on air quality. Pursuant to the SJVAPCD’s guidance, if project-specific emissions would be less than the thresholds of significance for criteria pollutants, the project would not be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the SJVAPCD is in nonattainment under applicable federal or state AAQS.

5.3.3 Environmental Impacts

5.3.3.1 METHODOLOGY

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the General Plan Update. SJVAPCD has published the Draft GAMAQI that provides local governments with guidance for analyzing and mitigating air quality impacts and was used in this analysis. The City’s criteria air pollutant emissions inventory includes the following sectors:

- **Transportation.** Transportation emissions forecasts were modeled for vehicle trips beginning and ending in the City, SOI, non-SOI Plan Areas and from external/internal vehicle trips (i.e., trips that either begin or end in the City, SOI, and non-SOI Plan Areas) using CARB’s EMFAC2011-PL. Model runs were based on VMT and speed bin data provided by Fehr & Peers using the Fresno COG Travel Demand Forecast Model and 2012 (existing) and 2035 emission rates. Per capita VMT and trips were adjusted based on the population and employment in the City and SOI.
- **Residential and Nonresidential Energy.** Natural gas use for residential and nonresidential land uses was modeled using data provided by PG&E. Natural gas use is based on a three-year average (2009 through 2011) to account for fluctuation in annual use as a result of natural variations in climate. The inventory was adjusted for the additional population and employment in the City’s SOI and Plan Areas beyond these borders. Forecasts are adjusted for increases in population and employment in the City.

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- **Area Sources.** OFFROAD2007 was used to estimate emissions from landscaping equipment, light commercial equipment, agricultural equipment, and construction equipment in the City, SOI, and non-SOI Plan Area. OFFROAD2007 is a database of equipment use and associated emissions for each county compiled by CARB. Annual emissions were compiled using OFFROAD2007 for the County of Fresno for year 2012. In order to determine the percentage of emissions attributable to the City of Clovis, landscaping and light commercial equipment is estimated based on population (Landscaping) and employment (Light Commercial Equipment) for the City of Clovis as a percentage of Fresno County. Forecasts for landscaping and light commercial equipment are adjusted for increases in population and employment in the City. Agricultural equipment is estimated based on acreage for the City of Clovis as a percentage of agricultural land in the County of Fresno. The change in emissions is based on the net change in agricultural land in the City and its domains in 2035 and post-2035. Daily emissions from agricultural equipment are multiplied by 347 days to account for weekends/off days. Construction equipment use is estimated based on building permit data for the City of Clovis and County of Fresno from data compiled by the U.S. Census. Daily off-road construction emissions are multiplied by 347 days per year to account for reduced/limited construction activity on weekends and holidays. For construction emissions, modeling assumes similar annual construction exhaust emissions to current levels. Area sources exclude emissions from fireplaces and consumer products in the City, SOI, and non-SOI Plan Areas.
- **Permitted Sources.** Emissions for permitted sources were provided by SJVAPCD and based on the average emissions between 2010 and 2012. Future developments that require a permit from SJVAPCD would be required to obtain permits for covered sources prior to construction. It would be speculative to estimate stationary source emissions from future permitted sources. Consequently, permitted sources are shown for informational purposes only and are not forecast in the 2035 and post-2035 inventories.

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

Impact 5.3-1: The General Plan Update would be consistent with the SJVAPCD control measures; however, development associated with the buildout of the General Plan Update would exceed SJVAPCD significance thresholds and be inconsistent with the applicable air quality management plans. [Threshold AQ-1]

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

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SJVAPCD is tasked with implementing programs and regulations required by the Clean Air Act and the California Clean Air Act. SJVAPCD has prepared several plans to attain the National AAQS and California AAQS. Emission reductions achieved through implementation of SJVAPCD's NSR offset requirements are a major component of SJVAPCD's air quality plans. The established thresholds of significance for criteria pollutant emissions are based on SJVAPCD offset requirements for stationary sources. Therefore, projects with emissions below the thresholds of significance for criteria pollutants would be determined to "Not conflict or obstruct implementation of the District's air quality plan."

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A wide variety of control measures are included in the regional air quality plans, such as reducing or offsetting emissions from construction and operational associated with land use developments. The project is consistent with regional growth projections for the City. In addition, future development projects under the General Plan Update would be required to adhere to the SJVAPCD control measures, as outlined in the air quality plans and implemented through SJVAPCD rules and regulations. Therefore, the proposed project would not conflict with the attainment measures within the air quality management plans.

However, as identified in Impact 5.3-2, the proposed General Plan Update would generate a substantial increase in criteria air pollutants that would exceed the SJVAPCD's significance thresholds. Additionally, because dispersion modeling is not applicable for a program EIR as specific development land uses are not yet known, projects with emissions that exceed these values are considered to have the potential to exceed the AAQS. The SJVAB is designated nonattainment for O₃ and PM_{2.5} under the California and National AAQS and nonattainment for PM₁₀ under the California AAQS. Consequently, emissions generated by development projects in addition to existing sources within the City are considered to cumulatively contribute to the nonattainment designations of the SJVAB. Buildout of the proposed Land Use Plan would therefore contribute to an increase in frequency or severity of air quality violations and delay attainment of the AAQS or interim emission reductions in the AQMPs.

Because the attainment designation is based on the AAQS, which are set at levels of exposure determined to not result in adverse health, the proposed General Plan Update would cumulatively contribute to health impacts within the SJVAB. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Particulate matter can also lead to a variety of health effects in people. These include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants. Regional emissions contribute to these known health effects, but it is speculative for this broad-based General Plan Update to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment, since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects cited above. The SJVAPCD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SJVAB. At the present time, the SJVAPCD has not provided methodology to address the issue raised in the *Friant Ranch* case of assessing the specific correlation between mass emissions generated and the effect on health. To achieve the health-based standards established by the EPA, the SJVAPCD prepares air quality management plans that detail

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regional programs to attain the AAQS. However, because cumulative development in the Plan Area would exceed the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standards are met in the SJVAB. Therefore, implementation of the proposed General Plan Update would result in a significant and unavoidable air quality impact.

Full Buildout

The analysis above for the 2035 Scenario also applies to full buildout of the General Plan Update.

Impact 5.3-2: Construction activities associated with buildout of the General Plan Update would generate short-term emissions in exceedance of SJVAPCD'S significance threshold criteria and would contribute to the ozone and particulate matter nonattainment designations of the SJVAB. [Thresholds AQ-2 and AQ-3]

Impact Analysis: Construction activities associated with development that would be accommodated by the General Plan Update would occur over the buildout horizon (post-2035) of the General Plan Update and cause short-term emissions of criteria air pollutants. The primary source of NO_x, CO, and SO_x emissions is the operation of construction equipment. The primary sources of particulate matter (PM₁₀ and PM_{2.5}) emissions are activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary source of VOC emissions is the application of architectural coating and off-gas emissions associated with asphalt paving. A discussion of health impacts associated with air pollutant emissions generated by construction activities is included under “Air Pollutants of Concern” in Section 5.3.1, *Environmental Setting*.

2035 Scenario

Information regarding specific development projects, soil types, and the locations of receptors would be needed in order to quantify the level of impact associated with construction activity. Due to the scale of development activity associated with the General Plan Update, emissions would likely exceed the SJVAPCD regional significance thresholds and therefore, in accordance with the SJVAPCD methodology, would cumulatively contribute to the nonattainment designations of the SJVAB. The SJVAB is currently designated nonattainment for O₃ and particulate matter (PM₁₀ and PM_{2.5}). Emissions of VOC and NO_x are precursors to the formation of O₃. In addition, NO_x is a precursor to the formation of particulate matter (PM₁₀ and PM_{2.5}). Therefore, the proposed project would cumulatively contribute to the existing nonattainment designations of the SJVAB for O₃ and particulate matter (PM₁₀ and PM_{2.5}). Contributing to the nonattainment status would contribute to elevating health effects associated with these criteria air pollutants.

Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Particulate matter can also lead to a variety of health effects in people. These include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants. Regional emissions contribute to these known health effects, but it is speculative for this broad-based General Plan Update to determine how exceeding the regional thresholds would affect the

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number of days the region is in nonattainment, since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects above. The SJVAPCD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SJVAB. As mentioned, the SJVAPCD has not released methodology to assess the specific correlation between mass emissions generated and the effect on health in order to address the issue raised in the *Friant Ranch* case. To achieve the health-based standards established by the EPA, the SJVAPCD prepares air quality management plans that detail regional programs to attain the AAQS. However, because cumulative development within the Plan Area would exceed the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standard are met in the SJVAB.

For this broad-based policy plan, it is not possible to determine whether the scale and phasing of individual projects would exceed the SJVAPCD's construction significance thresholds. In addition to regulatory measures (e.g., SJVAPCD Rule 2010 for a permit to operate, Rule 4101 for fugitive dust control, Rule 4601 for architectural coatings, Rule 9510 for indirect source review, and CARB's Airborne Toxic Control Measures), mitigation may include extension of construction schedules and/or use of special equipment. Nevertheless, the likely scale and extent of construction activities associated with the proposed General Plan Update would likely continue to exceed the SJVAPCD thresholds for some projects. Therefore, construction-related air quality impacts associated with implementation of the proposed Land Use Plan are deemed significant and unavoidable.

Full Buildout

The analysis above for the 2035 Scenario also applies to full buildout of the General Plan Update.

Impact 5.3-3: Implementation of the Land Use Plan of the proposed General Plan Update would generate long-term emissions that would exceed the SJVAPCD's significance threshold criteria and cumulatively contribute to the ozone and particulate matter nonattainment designations of the SJVAB. [Thresholds AQ-2 and AQ-3]

Impact Analysis: For the purpose of the following analysis, it is important to note that, according to the requirements of CEQA, this analysis is based on a comparison of the proposed General Plan Update land use map to existing land uses and not to the current General Plan land use map.

It is also important to note that the proposed General Plan Update is a regulatory document that sets up the framework for growth and development and does not directly result in development in and of itself. Before development can occur, all such development is required to be analyzed for conformance with the General Plan, zoning requirements, and other applicable local and state requirements; comply with the requirements of CEQA; and obtain all necessary clearances and permits. The proposed General Plan Update guides growth and development within the City of Clovis through implementation of the goals and policies and by designating land uses in the proposed Land Use Plan. New development would increase air pollutant emissions in the City and contribute to the overall emissions inventory in the SJVAB.

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The projected emissions inventory for the City in year 2035 under the proposed General Plan Update is shown in Table 5.3-7, *Year 2035 City of Clovis, SOI, and non-SOI Plan Area Operational Phase Criteria Air Pollutant Emissions Inventory*. As shown in the table, implementation of the proposed Land Use Plan would result in an increase in criteria air pollutant emissions from existing conditions. This increase is based on the difference between existing land uses and land uses associated with implementation of the proposed General Plan Update as well projected population and employment in the City in year 2035.

Table 5.3-7 Year 2035 City of Clovis, SOI, and non-SOI Plan Area Operational Phase Criteria Air Pollutant Emissions Inventory

| Sector | Criteria Air Pollutant Emissions (tons per year) | | | | | |
|---|---|-----------------|--------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO ₂ | PM ₁₀ | PM _{2.5} |
| Existing Land Uses – Year 2035 | | | | | | |
| Transportation ¹ | 37 | 218 | 604 | 4 | 46 | 22 |
| Energy | 12 | 102 | 53 | 1 | 8 | 8 |
| Area – Landscaping/ Consumer Products ² | 42 | 15 | 540 | <1 | 2 | 2 |
| Area – Construction and Agricultural Equipment ³ | 65 | 450 | 389 | 1 | 27 | 27 |
| Existing Land Uses Total | 155 | 785 | 1,586 | 5 | 84 | 59 |
| Permitted Sources ⁴ | 1 | 7 | 6 | 1 | 1 | 1 |
| Total with Permitted Sources | 156 | 792 | 1,592 | 6 | 84 | 60 |
| Proposed Land Use Plan – Forecast Year 2035 | | | | | | |
| Transportation ¹ | 75 | 454 | 1,231 | 8 | 95 | 44 |
| Energy | 20 | 172 | 93 | 1 | 14 | 14 |
| Area – Landscaping/ Consumer Products ² | 68 | 26 | 887 | <1 | 3 | 3 |
| Area – Construction and Agricultural Equipment ² | 65 | 448 | 387 | 1 | 27 | 27 |
| Proposed Land Use Plan Total | 228 | 1,101 | 2,598 | 10 | 139 | 89 |
| Change in Emissions | | | | | | |
| <i>Net Change from Existing</i> | 73 | 315 | 1,012 | 5 | 55 | 30 |
| SJVAPCD Significance Threshold | 10 | 10 | 100 | 27 | 15 | 15 |
| Significant? | Yes | Yes | Yes | No | Yes | Yes |

Sources: Emissions forecasts estimated based on changes in population (residential energy, area), employment (nonresidential energy, area), or service population (transportation).

¹ EMFAC2011 based on daily VMT provided by Fehr and Peers. Transportation sector includes the full trip length for external-internal trips. VMT per year based on a conversion of VMT × 347 days per year to account for less travel on weekend, consistent with CARB statewide GHG emissions inventory methodology (CARB 2008). Existing 2012 land uses modeled using 2035 emissions rates to compare the change due to the project.

² OFFROAD2007. Estimated based on population (Landscaping) and employment (Light Commercial Equipment) for Clovis as a percentage of Fresno County. Estimated based on housing permit data for Fresno County and Clovis from the US Census.

³ Daily offroad construction and agricultural (equipment) emissions multiplied by 347 days/year to account for reduced/limited construction activity on weekends and holidays. Excludes fugitive emissions from construction sites and wood-burning fireplaces. Does not include emissions from wood-burning fireplaces.

⁴ Various industrial and commercial processes (e.g., manufacturing, dry cleaning) allowed under the Land Use Plan of the proposed General Plan would require permitting and would be subject to further study pursuant to SJVAPCD Regulation II. Because the nature of those emissions cannot be determined at this time and they are subject to further regulation and permitting, they will not be included in the table because they would be speculative.

Buildout of the proposed General Plan in year 2035 would generate long-term emissions that exceed the annual SJVAPCD thresholds for VOC, NO_x, CO, PM₁₀, and PM_{2.5}. Emissions of VOC and NO_x are precursors to the formation of O₃. In addition, NO_x is a precursor to the formation of particulate matter (PM₁₀ and PM_{2.5}).

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Therefore, emissions of VOC and NO_x that exceed the SJVAPCD criteria pollutant significance thresholds would contribute to the O₃ nonattainment designation of the SJVAB. In addition, emissions of NO_x, and PM_{2.5} that exceed the SJVAPCD regional significance threshold would also contribute to the particulate matter (PM₁₀ and PM_{2.5}) nonattainment designation of the SJVAB. Contributing to the nonattainment status would contribute in elevating health effects associated to these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants. It is speculative for this broad based General Plan Update to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment, since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects cited. The SJVAPCD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SJVAB, and at the present time, it has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health in order to address the issue raised in the *Friant Ranch* case. To achieve the health-based standards established by the EPA, the SJVAPCD prepares air quality management plans that detail regional programs to attain the AAQS. However, because cumulative development within the Plan Area would exceed the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standard are met in the SJVAB.

Full Buildout

The projected emissions inventory for the City post- 2035 (full buildout) under the proposed General Plan Update is shown in Table 5.3-8, *Year Post-2035 City of Clovis, SOI, and non-SOI Plan Area Operational Phase Criteria Air Pollutant Emissions Inventory*. As shown in the table, implementation of the proposed Land Use Plan would result in an increase in criteria air pollutant emissions from existing conditions. This increase is based on the difference between existing land uses and land uses associated with implementation of the proposed General Plan Update as well as projected population and employment in the City post-2035.

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Table 5.3-8 Year Post-2035 City of Clovis, SOI, and non-SOI Plan Area Operational Phase Criteria Air Pollutant Emissions Inventory

| Sector | Criteria Air Pollutant Emissions (tons per year) | | | | | |
|---|---|-----------------|--------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO ₂ | PM ₁₀ | PM _{2.5} |
| Existing Land Uses – Year 2035 | | | | | | |
| Transportation ¹ | 37 | 218 | 604 | 4 | 46 | 22 |
| Energy | 12 | 102 | 53 | 1 | 8 | 8 |
| Area – Landscaping/ Consumer Products ² | 42 | 15 | 540 | <1 | 2 | 2 |
| Area – Construction and Agricultural Equipment ³ | 65 | 450 | 389 | 1 | 27 | 27 |
| Existing Land Uses Total | 155 | 785 | 1,586 | 5 | 84 | 59 |
| Permitted Sources ⁴ | 1 | 7 | 6 | 1 | 1 | 1 |
| Total with Permitted Sources | 156 | 792 | 1,592 | 6 | 84 | 60 |
| Proposed Land Use Plan – Forecast Year Post-2035 | | | | | | |
| Transportation ¹ | 141 | 870 | 2,247 | 16 | 174 | 82 |
| Energy | 32 | 281 | 154 | 2 | 22 | 22 |
| Area – Landscaping/ Consumer Products ² | 109 | 43 | 1,431 | <1 | 5 | 5 |
| Area – Construction and Agricultural Equipment ² | 63 | 438 | 375 | 1 | 27 | 26 |
| Proposed Land Use Plan Total | 346 | 1,633 | 4,207 | 18 | 229 | 137 |
| Change in Emissions | | | | | | |
| <i>Net Change from Existing</i> | 190 | 847 | 2,621 | 13 | 145 | 78 |
| SJVAPCD Significance Threshold | 10 | 10 | 100 | 27 | 15 | 15 |
| Significant? | Yes | Yes | Yes | No | Yes | Yes |

Source: Emissions forecasts estimated based on changes in population (residential energy, area), employment (nonresidential energy, area), or service population (transportation).

¹ EMFAC2011 based on daily VMT provided by Fehr and Peers. Transportation sector includes the full trip length for external-internal trips. VMT per year based on a conversion of VMT × 347 days per year to account for less travel on weekend, consistent with CARB statewide GHG emissions inventory methodology (CARB 2008). Existing 2012 land uses modeled using 2035 emissions rates to compare the change due to the project.

² OFFROAD2007. Estimated based on population (Landscaping) and employment (Light Commercial Equipment) for Clovis as a percentage of Fresno County. Estimated based on housing permit data for Fresno County and Clovis from the US Census.

³ Daily offroad construction and agricultural (equipment) emissions multiplied by 347 days/year to account for reduced/limited construction activity on weekends and holidays. Excludes fugitive emissions from construction sites and wood-burning fireplaces. Does not include emissions from wood-burning fireplaces.

⁴ Various industrial and commercial processes (e.g., manufacturing, dry cleaning) allowed under the Land Use Plan of the proposed General Plan would require permitting and would be subject to further study pursuant to SJVAPCD Regulation II. Because the nature of those emissions cannot be determined at this time and they are subject to further regulation and permitting, they will not be included in the table because they would be speculative.

Full buildout of the proposed General Plan Update would generate long-term emissions that exceed the annual SJVAPCD thresholds for VOC, NO_x, CO, PM₁₀, and PM_{2.5}. Emissions of VOC and NO_x are precursors to the formation of O₃. In addition, NO_x is a precursor to the formation of particulate matter (PM₁₀ and PM_{2.5}). Therefore, emissions of VOC and NO_x that exceed the SJVAPCD criteria pollutant significance thresholds would contribute to the O₃ nonattainment designation of the SJVAB. In addition, emissions of NO_x, and PM_{2.5} that exceed the SJVAPCD regional significance threshold would also contribute to the particulate matter (PM₁₀ and PM_{2.5}) nonattainment designation of the SJVAB. Contributing to the nonattainment status would contribute in elevating health effects associated to these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further

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contribute to reducing possible health effects related to criteria air pollutants. Regional emissions contribute to these known health effects, but it is speculative for this broad-based General Plan Update to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment, since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects above. In addition, the SJVAPCD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SJVAB. Currently, it has not released methodology to address the specific correlation between the mass emissions generated and the effect on health. To achieve the health-based standards established by the EPA, the SJVAPCD prepares air quality management plans that detail regional programs to attain the AAQS. However, because cumulative development within the Plan Area would exceed the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standard are met in the SJVAB.

Summary

Application of SJVAPCD Rule 9510 and implementation of the General Plan policies and implementation actions would reduce impacts to the extent feasible. For example, Policy 1.1 of the Air Quality Element focuses on reducing mobile-source emissions through land use planning that would reduce overall vehicle miles traveled. However, future development projects could exceed the SJVAPCD regional emissions thresholds. Therefore, operational-related air quality impacts associated with future development under the proposed General Plan Update are considered significant and unavoidable.

Impact 5.3-4: Buildout of the proposed General Plan Update could site sensitive land uses near pollution sources and therefore expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-4]

Impact Analysis: The following analysis is for the siting of new sensitive receptors in proximity to existing sources of TACs.

2035 Scenario

Because placement of sensitive land uses falls outside CARB jurisdiction, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) to address the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when placing sensitive receptors near existing pollution sources.

CARB's recommendations on the siting of new sensitive land uses were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity to air pollution sources substantially increases both exposure and the potential for adverse health effects. There are three carcinogenic toxic air contaminants that constitute the majority of the known health risks from motor vehicle traffic: diesel particulate matter (DPM) from trucks and benzene and 1,3 butadiene from passenger vehicles. Table 5.3-9, *CARB Recommendations for Siting New Sensitive Land Uses*, shows a summary of CARB recommendations for siting new sensitive land uses within the vicinity of air-pollutant

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sources. Recommendations in the table are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

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

| Source/Category | Advisory Recommendations |
|--------------------------------------|--|
| Freeways and High-Traffic Roads | Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. |
| Distribution Centers | Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units [TRUs] per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other sensitive land uses near entry and exit points. |
| Rail Yards | Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within 1 mile of a rail yard, consider possible siting limitations and mitigation approaches. |
| Ports | Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or CARB on the status of pending analyses of health risks. |
| Refineries | Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation. |
| Chrome Platers | Avoid siting new sensitive land uses within 1,000 feet of a chrome plater. |
| Dry Cleaners Using Perchloroethylene | Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations. |
| Gasoline Dispensing Facilities | Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities. |

Source: SJVAPCD 2012a; CARB 2005.

TAC sources within the City of Clovis include: stationary sources permitted by SJVAPCD and roadways with more than 50,000 annual average daily traffic (AADT) volumes. Based on the traffic study by Fehr & Peers, State Route 168 (SR-168) is the only roadway in the City that exceeds 50,000 AADT. If new sensitive receptors were sited within 500 feet of SR-168 or in the buffer zones of other major stationary sources, then sensitive receptors may be exposed to significant concentrations of air pollutants. As shown in Figure 3-5, *Proposed General Plan Land Uses*, residential land uses would be permitted along SR-168. Additionally, residential land uses would also be in close proximity or adjacent to areas designated for commercial and industrial uses. Thus, new residential and other sensitive developments could be sited within the buffer distances to TAC sources as shown in Table 5.3-9.

In accordance with CEQA, new developments would be required to assess the localized air quality impacts from placement of new sensitive uses within the vicinity of air pollutant sources. In addition, Policy 1.2 of the Air Quality Element, which calls for the prohibition of siting sensitive uses near emission sources without sufficient mitigation, would reduce impacts for future development projects to the extent feasible. However, sensitive receptors could be exposed to substantial pollutant concentrations near major sources of air pollutants in the absence of mitigation. Therefore, air quality impacts from placement of sensitive uses near major pollutant sources are considered significant and unavoidable.

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Full Buildout

The analysis above for the 2035 Scenario also applies to full buildout of the General Plan Update.

Impact 5.3-5: Buildout of new industrial and commercial land uses under the proposed General Plan Update could expose sensitive receptors to substantial toxic air contaminant concentrations. [Threshold AQ-4]

Impact Analysis: Operation of new land uses consistent with the Land Use Plan of the proposed General Plan Update would generate new sources of criteria air pollutants and TACs in the City from area/stationary sources and mobile sources.

2035 Scenario

CO Hotspot

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9.0 ppm. The GAMAQI previously required CO hotspot monitoring. However, emissions from motor vehicles, the largest source of CO emissions, have been declining since 1985 despite increases in vehicle miles traveled (VMT) due to the introduction of new automotive emission controls and fleet turnover. Consequently, no CO hotspots have been reported in the SJVAB even at the most congested intersections. Furthermore, under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2011). Buildout of the General Plan Update would not produce the volume of traffic required to generate a CO hotspot. Therefore, impacts from CO hotspots are considered less than significant.

TACs

Various industrial and commercial processes (e.g., manufacturing, dry cleaning) allowed under the existing General Plan would be expected to release TACs. TAC emissions generated by stationary and point sources of emissions within the SJVAB are regulated and controlled by SJVAPCD. However, emissions of TACs from mobile sources when operating at a property (e.g., truck idling) are regulated by statewide rules and regulations, not by SJVAPCD, and have the potential to generate substantial concentrations of air pollutants.

Land uses that would require a permit from SJVAPCD for emissions of TACs include chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. Emissions of TACs from stationary sources would be controlled by SJVAPCD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under Regulation II. According to SJVAPCD's GAMAQI, Regulation II ensures that stationary source emissions (permitted sources) would be reduced or mitigated below SJVAPCD significance thresholds of ten in one million cancer risk and one for acute risk at the maximally exposed individual. Though these sources would incrementally contribute to the project's inventory individually, they would be mitigated to the standards identified above.

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Mobile sources of TACs are not regulated by SJVAPCD. The primary mobile source of TACs within the City of Clovis is truck idling and use of off-road equipment. New warehousing operations could generate substantial diesel particulate matter emissions from off-road equipment use and truck idling. In addition, some warehousing and industrial facilities may include use of transport refrigeration units (TRUs) for cold storage. New land uses in the City of Clovis that are permitted under the proposed General Plan Update that use trucks, including trucks with TRUs, could generate an increase in diesel particulate matter that would contribute to cancer and noncancer health risk in the SJVAB. Additionally, these types of facilities could also generate particulate matter (PM₁₀ and PM_{2.5}) that may cause an exceedance or contribute to the continuing exceedance of the federal and state AAQS. As identified in Table 5.3-9, impacts could occur at facilities that permit 100 or more truck trips per day or 40 or more trucks with TRUs within 1,000 feet of a sensitive land use. These new land uses could be near existing sensitive receptors within and outside the City of Clovis. As shown in Figure 3-5, the areas designated as industrial and commercial dispersed throughout the City are in close proximity or adjacent to areas designated for residential use. Thus, these types of facilities could be sited within a 1,000 feet of residences. In addition, trucks would travel on regional transportation routes through the SJVAB, contributing to near-roadway diesel particulate matter concentrations. Therefore, health risk impacts from development of industrial and commercial land uses are considered significant and unavoidable.

Full Buildout

The analysis above for the 2035 Scenario also applies to full buildout of the General Plan Update.

Impact 5.3-6: Development of new industrial land uses associated with buildout of the proposed General Plan Update have the potential to create objectionable odors that could affect a substantial number of people. [Threshold AQ-5]

Impact Analysis:

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Growth within the City of Clovis could generate new sources of odors and place sensitive receptors near existing sources of odors. Table 5.3-10, *Screening Levels for Potential Odor Sources*, identifies screening distances from potential sources of objectionable odors within the SJVAB.

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Table 5.3-10 Screening Levels for Potential Odor Sources

| Land Use/Type of Operation | Screening Distance |
|-----------------------------|--------------------|
| Wastewater Treatment Plant | 2 miles |
| Sanitary Landfill | 1 mile |
| Transfer Station | 1 mile |
| Composting Facility | 1 mile |
| Petroleum Refinery | 2 miles |
| Asphalt Batch Plant | 1 mile |
| Chemical Manufacturing | 1 mile |
| Fiberglass Manufacturing | 1 mile |
| Painting/Coating Operations | 1 mile |
| Food Processing Facility | 1 mile |
| Feed Lot/ Dairy | 1 mile |
| Rendering Plant | 1 mile |

Source: SJVAPCD 2012a.

Odors from these types of land uses are regulated under Regulation IV, Prohibitions, Rule 4102, Nuisance, which states:

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

Major sources of nuisance odors may occur within the City. There are two types of odor impacts: 1) siting sensitive receptors near nuisance odors, and 2) siting new sources of nuisance odors near sensitive receptors.

New Sources of Odors

Commercial and industrial areas in the City of Clovis have the potential to include land uses that generate nuisance odors. Sensitive receptors, such as the residential uses associated with planned development under the proposed General Plan Update, may be placed within the distances to these sources specified in the table. Buildout permitted under the General Plan Update could include new sources of odors, such as composting, greenwaste and recycling operations, food processing, chemical manufacturing, and painting/coating operations, since these are permitted uses in the commercial and/or industrial areas in the City.

Future environmental review could be required for industrial projects listed in the table to ensure that sensitive land uses are not exposed to nuisance odors. SJVAPCD Rule 4102 requires abatement of any nuisance generating an odor complaint. Typical abatement includes passing air through a drying agent followed by two successive beds of activated carbon to generate odor-free air. Facilities listed in the table would need to consider measures to reduce odors as part of their CEQA review. Consequently, review of projects using SJVAPCD's odor screening distances is necessary to ensure that odor impacts are minimized. Odor impacts could be significant for new projects that have the potential to generate odors within the odor screening distances.

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Placement of Sensitive Land Uses near Odors

In general, the City's land use plan designates residential areas and commercial/industrial areas of the City to prevent potential mixing of incompatible land use types, with the exception of mixed-use areas that combine commercial with residential. Rule 4102 requires abatement of odors that are determined to be a nuisance. Because existing sources of odors are required to comply with SJVAPCD Rule 4102, impacts to siting of new sensitive land uses would be less than significant.

Construction-Related Odors

During construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent in nature. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Furthermore, short-term construction-related odors are expected to cease upon the drying or hardening of the odor-producing materials. Therefore, impacts associated with construction-generated odors are considered less than significant.

Full Buildout

The analysis above for the 2035 Scenario also applies to full buildout of the General Plan Update.

5.3.4 Existing Regulations and Standard Conditions

5.3.4.1 FEDERAL AND STATE

- SJVAPCD Rule 2010 – Permits Required (Authority to Construct and Permit to Operate)
- SJVAPCD Rule 4101 – Visible Emissions
- SJVAPCD Rule 4102 – Nuisance
- SJVAPCD Rules 4201 and 4202 – Particulate Matter Concentration and Emission Rate
- SJVAPCD Rule 4601 – Architectural Coatings
- SJVAPCD Regulation VIII – Fugitive PM₁₀ Prohibitions (Rules 8011 through 8081)
- SJVAPCD Rule 9410 – Employer Based Trip Reduction
- SJVAPCD Rule 9510 – Indirect Source Review.
- CARB Rule 2480 (13 CCR 2480): Airborne Toxics Control Measure to Limit School Bus Idling and Idling at Schools: limits nonessential idling for commercial trucks and school buses within 100 feet of a school.

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- CARB Rule 2485(13 CCR 2485): Airborne Toxic Control Measure to Limit Diesel-Fuel Commercial Vehicle Idling: limits nonessential idling to five minutes or less for commercial trucks.
- CARB Rule 2449(13 CCR 2449): In-Use Off-Road Diesel Idling Restricts: limits nonessential idling to five minutes or less for diesel-powered off-road equipment.
- Building Energy Efficiency Standards (Title 24)
- Appliance Energy Efficiency Standards (Title 20)
- Motor Vehicle Standards (AB 1493)

5.3.5 Relevant General Plan Policies and Development Code Sections

The following are relevant policies of the proposed Clovis General Plan and Development Code Update that promote a reduction in air pollutant emissions and potential air quality impacts.

5.3.5.1 GENERAL PLAN

Air Quality Element

Goal 1: A local environment that is protected from air pollution and emissions.

- **Policy 1.1 Land use and transportation** - Reduce greenhouse gas and other local pollutant emissions through mixed use and transit-oriented development and well-designed transit, pedestrian, and bicycle systems.
- **Policy 1.2 Sensitive land uses** - Prohibit the future siting of sensitive land uses within the distances of emission sources as defined by the California Air Resources Board, without sufficient mitigation.
- **Policy 1.3 Construction activities** - Encourage the use of best management practices during construction activities to reduce emissions of criteria pollutants as outlined by the San Joaquin Valley Air Pollution Control District (SJVAPCD).
- **Policy 1.4 City buildings** - Require that municipal buildings be designed to exceed energy and water conservation and reduction standards set in the California Building Code.
- **Policy 1.5 Fleet operations** - Purchase low- or zero-emission vehicles for the City's fleet. Use clean fuel sources for city-owned mass transit vehicles, trucks and heavy equipment where feasible.
- **Policy 1.6 Employment measures** - Encourage employers to provide programs, scheduling options, incentives, and information to reduce vehicle miles traveled by employees.

Goal 2: A region with healthy air quality and lower greenhouse gas emissions.

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- **Policy 2.1 Regional coordination** - Support regional efforts to reduce air pollution (criteria air pollutants and greenhouse gas emissions) and collaborate with other agencies to improve air quality at the emission source and reduce vehicle miles traveled.
- **Policy 2.2 Cross-jurisdictional issues** - Collaborate with regional agencies and surrounding jurisdictions to address cross-jurisdictional transportation and air quality issues.
- **Policy 2.3 Valleywide programs** - Establish parallel air quality programs and implementation measures across the San Joaquin Valley.
- **Policy 2.4 Public participation** - Encourage participation of local citizens, the business community, and interested groups and individuals in air quality planning and implementation.
- **Policy 2.5 Public education** - Promote programs that educate the public about regional air quality issues and solutions.
- **Policy 2.6 Innovative mitigation** - Encourage innovative mitigation measures to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties.

Circulation Element

Goal 1: A context-sensitive and “complete streets” transportation network that prioritizes effective connectivity and accommodates a comprehensive range of mobility needs.

- **Policy 1.1 Multimodal network** - The City shall plan, design, operate, and maintain the transportation network to promote safe and convenient travel for all users: pedestrian, bicyclists, transit riders, freight, and motorists.
- **Policy 1.2 Transportation decisions** - Decisions should balance the comfort, convenience, and safety of pedestrians, bicyclists, and motorists.
- **Policy 1.4 Jobs and housing** - Encourage infill development that would provide jobs and services closer to housing, and vice versa, to reduce citywide vehicle miles traveled and effectively utilize the existing transportation infrastructure.
- **Policy 1.5 Neighborhood connectivity** - The transportation network shall provide multimodal access between neighborhoods and neighborhood-serving uses (educational, recreational, or neighborhood commercial uses).
- **Policy 1.7 Narrow Streets** - The City may permit curb-to-curb dimensions that are narrower than current standards on local streets to promote pedestrian and bicycle connectivity and enhance safety.

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Goal 3: A multimodal transportation network that is safe and comfortable in the context of adjacent neighborhoods.

- **Policy 3.3 Old Town and Mixed Use Village Centers** - Transportation decisions on local streets in Old Town and mixed-use village centers shall prioritize pedestrians, then bicyclists, then mass transit, then motorists.
- **Policy 3.11 Right-of-way design** - Design landscaped parkways, medians, and right-of-ways as aesthetic buffers to improve the community's appearance and encourage non-motorized transportation.

Goal 4: A bicycle and transit system that services as a functional alternative to commuting by car.

- **Policy 4.1 Bike and transit backbone** - The bicycle and transit system should connect Shaw Avenue, Old Town, the Medical Center/R&T Park, and the three Urban Centers.
- **Policy 4.2 Priority for new bicycle facilities** - Prioritize investments in the backbone system over other bicycle improvements.
- **Policy 4.3 Freeway crossings** - Require separate bicycle and pedestrian crossings for new freeway extensions and encourage separate crossings where Class I facilities are planned to cross existing freeways.
- **Policy 4.4 Bicycles and transit** - Coordinate with transit agencies to integrate bicycle access and storage into transit vehicles, bus stops, and activity centers.
- **Policy 4.5 Transit stops** - Improve and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.
- **Policy 4.6 Transit priority corridors** - Prioritize investments for, and transit services and facilities along the transit priority corridors.
- **Policy 4.7 Bus rapid transit** - Plan for bus rapid transit and transit-only lanes on transit priority corridors as future ridership levels increase.

Goal 5: A complete system of trails and pathways accessible to all residents.

- **Policy 5.1 Complete street amenities** - Upgrade existing streets and design new streets to include complete street amenities, prioritizing improvements to bicycle and pedestrian connectivity or safety (consistent with the Bicycle Transportation Master Plan and other master plans).
- **Policy 5.2 Development-funded facilities** - Require development to fund and construct facilities as shown in the Bicycle Transportation Plan when facilities are in or adjacent to the development.

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- **Policy 5.3 Pathways** - Encourage pathways and other pedestrian amenities in Urban Centers and new development 10 acres or larger.
- **Policy 5.4 Homeowner associations** - The city may require homeowner associations to maintain pathways and other bicycle and pedestrian facilities within the homeowner association area.
- **Policy 5.5 Pedestrian access** - Require sidewalks, paths, and crosswalks to provide access to schools, parks, and other activity centers and to provide general pedestrian connectivity throughout the city.

Goal 6: Safe and efficient goods movement with minimal impacts on local roads and neighborhoods.

- **Policy 6.1 Truck routes** - Plan and designate truck routes that minimize truck traffic through or near residential areas.
- **Policy 6.2 Land use** - Place industrial and warehousing businesses near freeways and truck routes to minimize truck traffic through or near residential areas.

5.3.5.2 DEVELOPMENT CODE

- Article 3 (Development and Operational Standards), Division 9.22 (Performance Standards), Section 9.22.030 (Air Quality) – Regulation to control fugitive dust emissions related to construction activities, diesel exhaust emissions, and odor emissions.
- Article 3 (Development and Operational Standards), Division 9.22 (Performance Standards), Section 9.22.090 (Odors and Noxious Matters) – Requires compliance to the rules and regulations of the State Health and Safety Code and SJVAPCD pertaining to odor control and establishes the public nuisance standard.

5.3.6 Level of Significance Before Mitigation

Without mitigation, the following impacts would be **potentially significant** for the 2035 Scenario and Full Buildout:

- **Impact 5.3-1** The General Plan Update would be consistent with the SJVAPCD control measure; however, development associated with the buildout of the General Plan Update would exceed the SJVAPCD significance thresholds and be inconsistent with the applicable Air Quality Management Plan.
- **Impact 5.3-2** Construction activities associated with buildout of the General Plan Update would generate short-term emissions in exceedance of SJVAPCD'S significance threshold criteria and would contribute to the ozone and particulate matter nonattainment designations of the SJVAB.
- **Impact 5.3-3** Implementation of the Land Use Plan of the proposed General Plan Update would generate long-term emissions that would exceed the SJVAPCD'S significance threshold criteria and cumulatively contribute to the ozone and particulate matter nonattainment designations of the SJVAB.

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- **Impact 5.3-4** Buildout of the proposed General Plan could site sensitive land uses near pollution sources and therefore expose sensitive receptors to substantial pollutant concentrations.
- **Impact 5.3-5** Buildout of new industrial and commercial land uses under the proposed General Plan could expose sensitive receptors to substantial toxic air contaminant concentrations.
- **Impact 5.3-6** Development of new industrial land uses associated with buildout of the proposed General Plan Update have the potential to create objectionable odors that could affect a substantial number of people.

5.3.7 Mitigation Measures

Impact 5.3-1

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The proposed project would generate a substantial increase in criteria air pollutants that would exceed the SJVAPCD's significance thresholds. Because dispersion modeling is not applicable for a program EIR, projects with emissions that exceed these values are considered to have the potential to exceed the AAQS, resulting in a potentially significant impact with regard to consistency with SJVAPCD's air quality plans. Therefore, despite being consistent with the control measures in the air quality management plans, to be conservative, the proposed project is considered to be inconsistent with the SJVAPCD's air quality plans because emissions would exceed the regional significance thresholds. Mitigation Measures 3-1 through 3-4 would reduce emissions, to the extent feasible. Goals and policies included in the proposed General Plan Update would facilitate continued emissions reductions. However, due to the programmatic nature of the proposed General Plan Update, no additional mitigating policies are available to reduce emissions to less than significant levels.

Impact 5.3-2

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Standard Condition

The following standard condition shall be included as part of the mitigation monitoring program to reduce impacts related to Impact 5.3-2.

- SC-1 Prior to project approval, each applicant for individual, site-specific developments under the General Plan shall comply with the San Joaquin Valley Air Pollution Control District rules and regulations, including, without limitation, Indirect Source Rule 9510. The applicant shall document, to the City's reasonable satisfaction, its compliance with this standard condition.

Mitigation Measures

- 3-1 Prior to issuance of any construction permits, development project applicants shall prepare and submit to the City of Clovis Planning Division a technical assessment evaluating potential project construction-related air quality impacts. The evaluation shall be prepared in

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conformance with San Joaquin Valley Air Pollution Control District (SJVAPCD) methodology in assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the SJVAPCD adopted thresholds of significance, as identified in the Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI), the City of Clovis Planning Division shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during construction activities to below these thresholds. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City's Planning Division. Mitigation measures to reduce construction-related emissions include, but are not limited to:

- Using construction equipment rated by the United States Environmental Protection Agency as having Tier 3 (model year 2006 or newer) or Tier 4 (model year 2008 or newer) emission limits, applicable for engines between 50 and 750 horsepower. A list of construction equipment by type and model year shall be maintained by the construction contractor onsite, which shall be available for City review upon request.
- Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.
- Use of alternative-fueled or catalyst-equipped diesel construction equipment, if available and feasible.
- Clearly posted signs that require operators of trucks and construction equipment to minimize idling time (e.g., 5-minute maximum).
- Preparation and implementation of a fugitive dust control plan that may include the following measures:
 - Disturbed areas (including storage piles) that are not being actively utilized for construction purposes shall be effectively stabilized using water, chemical stabilizer/suppressant, or covered with a tarp or other suitable cover (e.g., revegetated).
 - Onsite unpaved roads and offsite unpaved access roads shall be effectively stabilized using water or chemical stabilizer/suppressant.
 - Land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled utilizing application of water or by presoaking.
 - Material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained when materials are transported offsite.
 - Operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is

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expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)

- Following the addition of materials to or the removal of materials from the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
- Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.
- Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.
- Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area.
- Adhere to Regulation VIII's 20 percent opacity limitation, as applicable.

3-2 Prior to discretionary approval, applicants for phased development projects (i.e., construction would overlap operation/opening of the project) involving residential land uses shall coordinate with the San Joaquin Valley Air Pollution Control District (SVJAPCD) or the City of Clovis in conjunction with the SVJAPCD in preparation of a health risk assessment (HRA) for construction activities. If the construction HRA identifies risk impacts that exceed the standards as determined by the SVJAPCD at the time the project is considered, it shall identify measures to reduce these impacts to below these standards. Recommended measures may include those identified in Mitigation Measure 3-1. The recommendations of the construction HRA shall be incorporated into all construction management plans which shall be submitted to the City and verified by the City's Planning Division.

Impact 5.3-3

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SC-1 shall be included as part of the mitigation monitoring program to reduce impacts related to Impact 5.3-3.

3-3 Prior to project approval, development project applicants shall prepare and submit to the City of Clovis Planning Division a technical assessment evaluating potential project operation phase-related air quality impacts. The evaluation shall be prepared in conformance with San Joaquin Valley Air Pollution Control District (SVJAPCD) methodology in assessing air quality impacts. If operational-related criteria air pollutants are determined to have the potential to exceed the SVJAPCD adopted thresholds of significance, as identified in the Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI), the City of Clovis Planning Division shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as

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part of the Standard Conditions of Approval. Mitigation measures to reduce long-term emissions can include, but are not limited to:

- For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plug in of the anticipated number of refrigerated trailers to reduce idling time and emissions.
- Applicants for manufacturing and light industrial uses shall consider energy storage and combined heat and power (CHP) in appropriate applications to optimize renewable energy generation systems and avoid peak energy use.
- Site-specific developments with truck delivery and loading areas, and truck parking spaces, shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with California Air Resources Board Rule 2845 (13 CCR Chapter 10 § 2485).
- Site-specific development shall demonstrate an adequate number of electrical vehicle Level 2 charging stations are provided onsite. The location of the electrical outlets shall be specified on building plans, and proper installation shall be verified by the Building Division prior to issuance of a Certificate of Occupancy.
- Applicant-provided appliances shall be Energy Star appliances (dishwashers, refrigerators, clothes washers, and dryers). Installation of Energy Star appliances shall be verified by the Building Division during plan check.
- Applicants for large development projects (e.g., employers with 100 employees at work site) shall establish an employee trip commute reduction program (CTR), in conformance with the San Joaquin Valley Air Pollution Control District Rule 9410. The program shall identify South Valley Rideshare and/or Valley Rides commute programs, which provide information about commute options and connect commuters for carpooling, ridesharing, and other activities. The CTR program shall identify alternative modes of transportation to the project site, including transit schedules, bike and pedestrian routes, and carpool/vanpool availability. Information regarding these programs shall be readily available to employees and clients and shall be posted in a highly visible location and/or made available online. The project applicant shall include the following incentives for commuters as part of the CTR program:
 - Ride-matching assistance (e.g., subsidized public transit passes)
 - Preferential carpool parking
 - Flexible work schedules for carpools
 - Vanpool assistance or employer-provided vanpool/shuttle
 - Telecommute and/or flexible work hour programs

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- Car-sharing program (e.g., Zipcar)
- Bicycle end-trip facilities, including bike parking, showers, and lockers
- End-of-trip facilities shall be shown on site plans and architectural plans submitted to the Planning Division Manager. The CTR program shall be prepared to the satisfaction of the Planning Division Manager prior to occupancy permits.
- Applicants for future development projects along existing and planned transit routes shall coordinate with the City of Clovis and City of Fresno to ensure that bus pads and shelters are incorporated, as necessary.

3-4 Prior to project approval, the City of Clovis Planning Division shall require applicants for individual, site-specific developments to consider establishing a Voluntary Emission Reduction Agreement (VERA) with the San Joaquin Valley Air Pollution Control District. Under this agreement, project proponents may enter into an agreement where funds are used to develop and implement emission reduction projects.

Impact 5.3-4

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3-5 Prior to discretionary project approval, the City of Clovis shall evaluate new development proposals for sensitive land uses (e.g., residential, schools, day care centers) within the City for potential incompatibilities with regard to the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Health Perspective* (April 2005). Applicants for sensitive land uses that are within the recommended buffer distances shall submit a health risk assessment (HRA) to the City of Clovis prior to future discretionary project approval. The HRA shall be prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment (OEHHA) and the San Joaquin Valley Air Pollution Control District. The latest OEHHA guidelines shall be used for the analysis, including age sensitivity factors, breathing rates, and body weights appropriate for children age 0 to 6 years. If the HRA shows that the incremental cancer risk exceeds ten in one million (10E-06), the appropriate noncancer hazard index exceeds 1.0, or if the PM₁₀ or PM_{2.5} ambient air quality standard increment exceeds 2.5 µg/m³, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and noncancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0), including appropriate enforcement mechanisms.

Measures to reduce risk impacts may include but are not limited to the following:

- Placement of air intakes away from high-volume roadways and/or truck loading zones.
- Heating, ventilation, and air conditioning systems of the buildings provided with appropriately sized maximum efficiency rating value (MERV) filters.

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- Heating, ventilation, and air conditioning systems for units that are installed with MERV filters shall maintain positive pressure within the building's filtered ventilation system to reduce infiltration of unfiltered outdoor air.

Mitigation measures identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site development plan as a component of the proposed project. The air intake design and MERV filter requirements shall be noted and/or reflected on all building plans submitted to the City and shall be verified by the City's Planning Division.

Impact 5.3-5

2035 Scenario and Full Buildout

- 3-6 Prior to discretionary project approval, applicants for industrial or warehousing land uses shall coordinate with the San Joaquin Valley Air Pollution Control District (SJVAPCD) or the City of Clovis in conjunction with the SJVAPCD to determine the appropriate level of health risk assessment (HRA) required. All HRAs shall be submitted to the City of Clovis.

The HRA shall be prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment and the San Joaquin Valley Air Pollution Control District (SJVAPCD). If the HRA shows that the incremental cancer risk exceeds ten in one million (10E-06) or the risk thresholds in effect at the time a project is considered, the appropriate noncancer hazard index exceeds 1.0, or if the PM₁₀ or PM_{2.5} ambient air quality concentrations exceeds the thresholds as determined by the SJVAPCD at the time a project is considered, the applicant will be required to identify and demonstrate that measures are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms.

Measures to reduce risk impacts may include but are not limited to:

- Restricting idling onsite beyond Air Toxic Control Measures idling restrictions, as feasible
- Electrifying warehousing docks
- Requiring use of newer equipment and/or vehicles
- Restricting offsite truck travel through the creation of truck routes

Measures identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site development plan as a component of the proposed project.

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Impact 5.3-6

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3-7 Prior to project approval, if it is determined during project-level environmental review that a project has the potential to emit nuisance odors beyond the property line, an odor management plan shall be prepared and submitted by the project applicant prior to project approval to ensure compliance with San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 4102. The following facilities that are within the buffer distances specified from sensitive receptors (in parentheses) have the potential to generate substantial odors:

- Wastewater Treatment Plan (2 miles)
- Sanitary Landfill (1 mile)
- Transfer Station (1 mile)
- Composting Facility (1 mile)
- Petroleum Refinery (2 miles)
- Asphalt Batch Plant (1 mile)
- Chemical Manufacturing (1 mile)
- Fiberglass Manufacturing (1 mile)
- Painting/Coating Operations (1 mile)
- Food Processing Facility (1 mile)
- Feed Lot/ Dairy (1 mile)
- Rendering Plant (1 mile)

The Odor Management Plan prepared for these facilities shall identify the Best Available Control Technologies for Toxics (T-BACTs) that will be utilized to reduce potential odors to acceptable levels, including appropriate enforcement mechanisms. T-BACTs may include but are not limited to scrubbers (e.g., air pollution control devices) at an industrial facility. T-BACTs identified in the odor management plan shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.

5.3.8 Level of Significance After Mitigation

Impact 5.3-1

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Mitigation measures incorporated into future development projects for operation and construction phases would contribute to reducing criteria air pollutant emissions associated with buildout of the proposed General Plan Update. Goals and policies included in the proposed General Plan Update would facilitate continued City cooperation with SJVAPCD and other agencies to achieve regional air quality improvement goals, promotion of energy conservation design and development techniques, encouragement of alternative transportation modes, and

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implementation of transportation demand management strategies. However, no mitigation measures are available that would reduce emissions related to the proposed General Plan Update to less than significant levels. Thus the proposed project would remain inconsistent with the air quality plans of the SJVAPCD. Therefore, Impact 5.3-1 would remain significant and unavoidable for both 2035 Scenario and Full Buildout.

Impact 5.3-2

2035 Scenario and Full Buildout

Implementation of Mitigation Measures 3-1 and 3-2 and compliance with the City's applicable Development Code sections and SJVAPCD rules (e.g., Rule 9510) would reduce criteria air pollutant emissions from construction-related activities. For example, measures such as watering unpaved roads or exposed graded surfaces would contribute to reducing fugitive dust emissions. Additionally, use of Tier 3-rated equipment would contribute to reducing NO_x emissions from construction equipment. However, due to the magnitude of emissions generated by future construction activities, no mitigation measures are available that would reduce impacts below SJVAPCD's thresholds. Therefore, Impact 5.3-2 would remain significant and unavoidable for both 2035 Scenario and Full Buildout.

Impact 5.3-3

2035 Scenario and Full Buildout

Goals and policies are included as part of the proposed General Plan Update to reduce vehicle trip lengths and encourage use of alternative forms of transportation that would also reduce criteria air pollutants within the City. In addition, compliance with SJVAPCD regulations and implementation of Mitigation Measures 3-3 and 3-4 would reduce operational-phase emissions to the extent possible. However, due to the magnitude of emissions generated by the planned land uses, no mitigation measures are available that would reduce emissions below SJVAPCD's thresholds. Therefore, Impact 5.3-3 would remain significant and unavoidable for both 2035 Scenario and Full Buildout.

Impact 5.3-4

2035 Scenario and Full Buildout

Mitigation Measure 3-5 would ensure that placement of sensitive receptors near major sources of air pollutants would not exceed the incremental risk thresholds. Therefore, Impact 5.3-4 would be less than significant for both 2035 Scenario and Full Buildout.

Impact 5.3-5

2035 Scenario and Full Buildout

Review of projects by SJVAPCD for permitted sources of air toxics (e.g., industrial facilities, dry cleaners, and gasoline dispensing facilities) would ensure health risks are minimized. Implementation of Mitigation Measure 3-6 would ensure sources of TACs not covered under SJVAPCD permits (i.e., nonpermitted facilities) are considered

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during subsequent project-level environmental review and that health risk impacts are minimized as necessary. Therefore, Impact 5.3-5 would be less than significant for both 2035 Scenario and Full Buildout.

Impact 5.3-6

2035 Scenario and Full Buildout

Mitigation Measure 3-7 would ensure that sources identified by SJVAPCD are mitigated through adherence to an odor control plan and comply with SJVAPCD Rule 4102. Therefore, Impact 5.3-6 would be less than significant for both 2035 Scenario and Full Buildout.

5.3.9 References

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