

4.12 AIR QUALITY

INTRODUCTION

Air quality is an environmental factor that helps to define the quality of life throughout the San Joaquin Valley. In Fresno County, ambient air quality conditions presently do not meet all federal or state-level standards. The growth anticipated under the Draft General Plan (including the Proposed Project) could contribute new emissions of air pollutants to the regional airshed and could cause new sources of emissions that would have more localized effects. This section evaluates emissions associated with this growth, and the extent to which General Plan's policies and measures would reduce project-related emissions. Traffic-related, construction and operational air pollutant emissions are addressed, as well as odor and toxic air contaminants.

ENVIRONMENTAL SETTING

Air quality conditions in Fresno County are addressed in Chapter 8, Air Quality, of the *General Plan Background Report (Background Report)*, which is hereby incorporated by reference. To summarize, the San Joaquin Valley Air Basin is defined by the surrounding mountain ranges. The topography creates a sheltered valley that tends to trap stable air and air pollutants. Federal and State ambient air quality standards for ozone (O₃) and particulate matter less than or equal to ten microns in diameter (PM₁₀) are not met in Fresno County. This is due to the combined effect of pollutants that are emitted both upwind of Fresno County and within the borders of the County. Carbon monoxide (CO) concentrations in Fresno County presently meet the standards, but it remains a pollutant of concern, because CO is emitted directly by automobiles and tends to build in high concentrations around traffic congestion.

Ozone is formed in the atmosphere by photo-chemical reactions between reactive organic compounds (ROG) and nitrogen oxides (NO_x) that are emitted throughout the air basin and in areas upwind of the air basin. PM₁₀ tends to be emitted either directly from dust-generating sources or can be formed in the atmosphere as a precipitate of sulfur oxides or nitrogen oxides. Sources of these pollutants and their precursors include mobile sources (e.g., automobiles and trucks), area sources (e.g., farming activities or use of consumer products), and stationary sources (such as industrial facilities).

REGULATORY SETTING

Federal, State, regional, and local governments all have some responsibility for protecting air quality. Federally-defined ambient air quality standards derived by the U.S. Environmental Protection Agency (U.S. EPA) pursuant to the federal Clean Air Act are used throughout the nation to characterize air quality conditions. Additionally, California ambient air quality standards pursuant to the California Clean Air Act provide more stringent standards. Areas with air quality conditions not meeting the standards (i.e., non-attainment) are required to prepare and adopt clean air plans demonstrating the

methods that will be implemented to reach attainment.

Regional air quality management and preparation of the attainment plans for the air basin is accomplished by the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD). The district has primary responsibility for control of air pollution from stationary sources. The SJVUAPCD's rules and regulations apply to sources such as paints, water heaters, landfills, dust-generating activities, and a wide range of industrial processes. Along with direct regulation of stationary sources, the SJVUAPCD participates in coordinating regional transportation planning and congestion management efforts that affect air quality.

PLAN ELEMENTS

The Draft General Plan includes policies and programs to reduce emissions and guide county-wide growth. Development under the Draft General Plan would result in growth of population, employment, and developed land uses as described in Chapter 2, Project Description. Expansion of county-wide population, employment, and developed land uses each lead to the expansion of activities that have the potential to generate adverse air quality effects.

The Draft General Plan includes land use and transportation-related strategies that would reduce the air quality effects of the growth anticipated under the Draft General Plan. The land-use related air quality policies address four objectives: to keep growth in existing development areas; to encourage compact development; to encourage mixed-use development; and to encourage pedestrian and transit-oriented development. Policies addressing this strategy are in the Land Use Element. The main air quality-related transportation strategy is to make transportation infrastructure improvements that will reduce motor vehicle trips and vehicle miles traveled and encourage an increase in the share of non-automobile trips. Policies addressing this strategy are included in the Transportation and Circulation Element.

The following policies from the Draft General Plan are relevant to the Proposed Project:

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| Policy OS-G.1 | The County shall develop standard methods for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents. The County will do this in conjunction with the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) and the cities in Fresno County. |
| Policy OS-G.2 | The County shall ensure that air quality impacts identified during the CEQA review process are fairly and consistently mitigated. The County shall require projects to comply with the County's adopted air quality impact assessment and mitigation procedures. |

Coordination and Cooperation

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| Policy OS-G.3 | The County shall participate with cities, surrounding counties, and regional agencies to address cross-jurisdictional and regional transportation and air quality issues. |
| Policy OS-G.4 | The County shall consult with the SJVUAPCD during CEQA review for projects that require air quality impact analysis and ensure that the SJVUAPCD is on the distribution list for all CEQA documents. |

Policy OS-G.5 The County shall participate with cities, surrounding counties, and regional agencies in the San Joaquin Valley in efforts to promote consistent air quality programs and implementation programs to the extent possible (e.g., transportation control measures, trip reduction ordinances, indirect source programs, etc.).

Integrated Planning

Policy OS-G.6 The County shall require all Fresno County transportation improvement projects that increase capacity by adding additional through lanes to be included in regional transportation plans and be consistent with the air quality goals and policies of the General Plan.

Public Facilities/Operation

Policy OS-G.7 The County shall develop and implement employer-based trip reduction programs for County employees.

Policy OS-G.8 The County shall encourage its departments to consider telecommuting programs as a trip reduction strategy.

Policy OS-G.9 The County fleet vehicle operators shall implement vehicle replacement practices that place a priority on replacement of older higher-emission vehicles and on purchasing new vehicles with engines using best available technologies and advanced fuels where feasible, consistent with cost-effective management of the program.

Policy OS-G.10 The County shall support the use of teleconferencing in lieu of employee travel to conferences and meetings when feasible.

Congestion Management/Transportation Control Measures

Policy OS-G.11 The County shall encourage the establishment of public/private partnerships to develop satellite and neighborhood work centers for telecommuting.

Policy TR-A.2 The County shall plan and design its roadway system in a manner that strives to meet Level of Service (LOS) D on urban roadways within the spheres of influence of the cities of Fresno and Clovis and LOS C on all other roadways in the county. Roadway improvements to increase capacity and maintain LOS standards should be planned and programmed based on consideration of the total overall needs of the roadway system, recognizing the priority of maintenance, rehabilitation, and operation of the existing road system.

The County may, in programming capacity-increasing projects, allow exceptions to the level of service standards in this policy where it finds that the improvements or other measures required to achieve the LOS policy are unacceptable based on established criteria. In addition to consideration of the total overall needs of the roadway system, the County shall consider the following factors:

- a. The right-of-way needs and the physical impacts on surrounding properties;
- b. Construction and right-of-way acquisition costs;
- c. The number of hours that the roadway would operate at conditions below the standard;
- d. The ability of the required improvement to significantly reduce delay and improve traffic operations; and

- e. Environmental impacts upon which the County may base findings to allow an exceedance of the standards.

In no case should the County plan and design for worse than LOS D on rural County roadways, worse than LOS E on urban roadways within the spheres of influence of the cities of Fresno and Clovis, or in cooperation with Caltrans and the Council of Fresno County Governments, plan for worse than LOS E on State highways in the County.

- Policy TR-A.14 The County shall work with the cities of Fresno County in establishing a system of designated truck routes through urban areas.
- Policy TR-A.15 The County shall encourage street designs for interior streets within new subdivisions which protect neighborhoods from the intrusion of through traffic.

Toxic and Hazardous Emissions

- Policy OS-G.12 The County shall continue, through its land use planning processes, to avoid inappropriate location of residential uses and sensitive receptors in relation to uses that include but are not limited to industrial and manufacturing uses and any other use which have the potential for creating a hazardous or nuisance effect.

Particulate Matter/Fugitive Dust

- Policy OS-G.13 The County shall include fugitive dust control measures as a requirement for subdivision maps, site plans, and grading permits. This will assist in implementing the SJVUAPCD's particulate matter less than ten microns (PM₁₀) regulation (Regulation VIII). Enforcement actions can be coordinated with the Air District's Compliance Division.
- Policy OS-G.14 The County shall require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.
- Policy OS-G.15 The County shall work to reduce PM₁₀ and PM_{2.5} emissions from County-maintained roads by considering shoulder treatments for dust control as part of a road reconstruction project.
- Policy TR-A.17 The County should utilize road construction methods that minimize the air, water, and noise pollution associated with street and highway development.

Woodburning

- Policy OS-G.16 The County shall encourage the installation of low-emission, EPA-certified fireplace inserts and/or wood stoves, pellet stoves, or natural gas heating appliances in lieu of normal open hearth fireplaces in new houses.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

The method of the analysis follows recommendations published in the SJVUAPCD's Guide for Assessing and Mitigating Air Quality Impacts, also known as the GAMAQI (SJVUAPCD, August 1998). Development under the Draft General Plan would occur over the next twenty years, and

population and employment growth would occur throughout that period. This analysis anticipates that during the life of the General Plan, air quality conditions, the regulatory framework, impact assessment methods, and available mitigation technologies will evolve.

Construction Emissions

Construction activities could include emissions caused by demolition of structures, earth moving activities, travel by construction workers and equipment, operation of construction equipment, application of architectural coatings, and paving. Quantification of construction emissions is not possible at this time because the specific construction activities that would occur under the General Plan are not yet known. The applicability of existing air quality rules, regulations, and guidelines to limit potential emissions from construction activities is considered.

Operational Emissions

Operational activities could include emissions caused by operation of area sources, stationary sources, and mobile sources associated with the projected uses. Examples of area sources are fireplaces, wood stoves, natural gas heating, landscaping, and use of consumer products. These would be expected to occur over the entire County. Stationary sources would include equipment that would typically be operated at industrial or utility service facilities. These could include manufacturing plants, agricultural processing plants, or facilities processing and distributing petroleum products. Growth in area-source emissions is estimated based on use of the area source component of the URBEMIS7G model with the population and employment growth projections. Growth in stationary-source emissions is estimated based on trends projected by the SJVUAPCD and the California Air Resources Board (CARB).

Operation of on-road and off-road motor vehicles results in mobile source emissions. For this EIR, on-road mobile source emissions caused by travel throughout the County are modeled with the CARB's BURDEN7G model. Emission factors in the model are based on the CARB testing vehicle classes for model years after 1970 and operation of vehicle fleet distributions that are specific to Fresno County as developed by the San Joaquin Council of Governments (COG). Vehicle speeds, frequency of start-ups, and application of state-mandated inspection and maintenance programs are each assumed to follow the CARB and COG projections for the base year and 2020. Emission increases are determined based on growth in the total County-wide vehicle miles traveled (VMT) and growth in the overall number of trips for base year and 2020 conditions.

Traffic generated with the future development would affect the Levels of Service (LOS) of the County's road network. Roadways that are congested and/or have heavy traffic volumes have the potential to cause carbon monoxide "hot-spots." Poor roadway or intersection performance on heavily-traveled corridors results in numerous vehicles operating at slow average vehicle speeds which causes increased

emissions of CO. In this manner, localized CO concentrations can be largely related to roadway performance. The SJVUAPCD's Guide for Assessing and Mitigating Air Quality Impacts indicates that projects could have the potential to cause violations of the CO ambient air quality standards if the roadways affected by the project would operate at LOS E or F (SJVUAPCD GAMAQI, p. 45).

Because potential violations of air quality standards depend greatly on meteorology including seasonal variations of the weather, operational emissions of ROG, NO_x, and PM₁₀ are analyzed under ozone season (summer-time) conditions, and CO emissions are analyzed under winter-time conditions.

Odor

Quantification of odor emissions from the projected development is not possible at this time because the specific sources and receptors that would occur under the General Plan are not yet known. To the extent feasible, this analysis considers the land use projections and evaluates their potential to generate objectionable odors. The potential for future development of sensitive uses to locate near potential sources of odors is also analyzed.

Emissions of Toxic Air Contaminants

Quantification of toxic air contaminant (TAC) emissions from the projected development is not possible at this time because the specific sources and receptors that would occur under the General Plan are not yet known. To the extent feasible, this analysis considers the land use projections and qualitatively evaluates their potential to generate toxic air contaminants. The potential for future development of sensitive uses to locate near potential sources of TACs is also analyzed. Applicability of existing air quality rules and regulations to limit potential emissions of TACs, is considered in the analysis.

Standards of Significance

The SJVUAPCD recommends evaluating air quality impacts in terms of the following air pollution thresholds (SJVUAPCD GAMAQI, Section 4). Using these thresholds, development of the Proposed Project is considered to have a significant effect if any of the following could occur:

- construction emissions associated with development under the General Plan would not be reduced through implementation of effective and comprehensive control measures recommended by the SJVUAPCD;
- development under the General Plan would result in emissions of ozone precursors of more than 10 tons per year (ROG or NO_x);
- localized carbon monoxide concentrations exceeding California Ambient Air Quality Standards;
- generation of odor emissions near existing sensitive receptors or other land uses where people may congregate, or where residential or other sensitive receptor projects, built for the intent of attracting people, propose to locate near existing odor sources; or

- potential exposure of sensitive receptors (including residential areas) or the general public to substantial levels of toxic air contaminants.

Any project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact.

Impacts and Mitigation Measures

4.12-1 Construction activities associated with development under the Draft General Plan would result in emissions of PM₁₀, ozone precursors, and other pollutants.

Construction activities associated with development under the Draft General Plan would result in emissions caused by demolition of structures, earth-moving activities, travel by construction workers and equipment, operation of construction equipment, application of paint, and paving. The Proposed Project would include county-wide development of approximately 24,100 acres of new residential use and approximately 13,700 acres of new non-residential use. Without the Proposed Project, county-wide development of new residential use would be unchanged (24,100 acres), and new development of non-residential use would be reduced to approximately 9,500 acres.

Throughout the General Plan's lifetime, construction- and demolition-related emissions would occur with new development but would vary widely depending on the specific projects in progress at any given time. The primary pollutant of concern during construction activities is particulate matter. Substantial amounts of fugitive dust would be generated during construction activities, especially during earthmoving activities such as grading, excavation, and travel on unpaved surfaces. Operation of heavy construction equipment would also emit nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO₂), hydrocarbons (HC), and particulate matter as a result of diesel fuel combustion. Basic control measures for construction emissions of fugitive dust are required for all construction sites by SJVUAPCD Regulation VIII (SJVUAPCD GAMAQI, Table 6-2).

Of the projected development, the vast majority of the construction activities would be related to projects occurring within cities' spheres of influence. On a project-by-project basis, construction emissions would be considered a short-term temporary impact. On the other hand, when considered in the long-term context of the Draft General Plan, construction activities in the unincorporated areas would cause considerable emissions unless reduced by additional measures.

The Draft General Plan includes policies to reduce these effects on a project-by-project basis by incorporating control measures recommended by the SJVUAPCD. For projects that are very large in area, especially intense, or located near a land use that would be especially sensitive to air quality impacts, the SJVUAPCD recommends incorporation of enhanced and additional control measures in addition to the requirements of Regulation VIII (SJVUAPCD GAMAQI, Table 6-3). Operation of heavy construction equipment and the associated exhaust emissions are also addressed with control measures recommended by SJVUAPCD (SJVUAPCD GAMAQI, Table 6-4).

General Plan Policies OS-G.1, OS-G.2, OS-G.4, OS-G.5, and OS-G.13 state that the County shall develop standard methods for mitigating project air quality impacts in conjunction with the SJVUAPCD. Implementation of the control measures recommended by the SJVUAPCD in the Guide for Assessing and Mitigating Air Quality Impacts would be effective and comprehensive for reducing construction emissions. Policy TR-A.17 directs that emissions be reduced from County roadway projects. Because these policies would encourage implementation of the measures recommended by the SJVUAPCD, they would reduce construction emissions impacts to a less-than-significant level for the County.

Similar measures to reduce construction emissions are available to, and in many cases required by, city governments. However, the County cannot ensure that similar measures would be enforced for development (whether related to the Proposed Project or not) within cities under whose jurisdiction most of the future growth would occur. Therefore, this impact is considered **significant**.

Mitigation Measures

4.12-1 *No mitigation is required beyond Draft General Plan Policies OS-G.1, OS-G.2, OS-G.4, OS-G.5, OS-G.13 and TR-A.17 for Fresno County. No mitigation measures are available to the County to reduce impacts occurring within the cities' jurisdiction.*

Although Draft General Plan policies would reduce significant impacts related to construction emissions within the unincorporated areas of the County and development within the cities would be required to comply with applicable SJVUAPCD construction emissions standards and control measures, implementation of additional mitigation, as recommended by Draft General Plan policies, within the incorporated areas is not within the County's jurisdiction to monitor and enforce. Therefore, the impact is considered significant and unavoidable.

4.12-2 Development under the Draft General Plan would result in emissions of ozone precursors and other pollutants caused by mobile source activity, area sources, and stationary sources.

Mobile Sources

Emissions would be caused during project operation by mobile source activity with growth in vehicle miles traveled and growth in the number of vehicle trips in the County. County-wide daily vehicle miles traveled (VMT) would increase through the life of the General Plan from base conditions of approximately 16,954,000 VMT (1995) to approximately 30,888,000 VMT (2020) under the Proposed Project. County-wide daily trips would increase from base conditions of 2,558,000 trips per day (1995) to 4,099,000 trips per day (2020) under the Proposed Project. This growth in mobile source activity would result in increased emissions from both vehicle exhaust emissions and entrained road dust.

Baseline conditions show that average county-wide trip distances are approximately 6.6 miles one-way. The Proposed Project would result in shorter average trips by generally encouraging less dispersed and more compact development than the current General Plan. Under the Proposed Project, average trip distances would increase to approximately 7.5 miles one-way in 2020. Without the project, average county-wide trip distances would be approximately 7.8 miles. In either case, with or without the project, average trip lengths would be expected to increase above baseline (1995) conditions. The Proposed Project strategies would minimize average trip lengths.

During the period of 1995 through 2020, the CARB's emission standards for motor vehicles will result in emission reductions for each pollutant when considered on a "per VMT" or "per vehicle trip" basis. These emission reductions would be realized because of rigorous state-wide efforts to improve air quality that are independent of implementation of the Proposed Project. Because state-wide emission standards help to reduce mobile source emissions between 1995 and 2020, this analysis compares the Proposed Project with the No Project Alternative (development that would occur without implementation of the Proposed Project). Development anticipated under the Proposed Project would result in more VMT and more daily trips than without the project and, as such, would result in greater emissions of ozone precursors (shown in Table 4.12-1).

Proposed General Plan policies would offset project air quality impacts by reducing reliance on the automobile. Policies for congestion management and transportation control measures (Policies OS-G.3, OS-G.5 and OS-G.7 through OS-G.11), transportation infrastructure (OS-G.6, and OS-G.15), and land use practices (OS-G.12, and OS-G.14) would each serve to minimize mobile source impacts. These policies encourage increasing the efficiency of the transportation infrastructure, support trip reduction programs, encourage land development patterns that will reduce trips and VMT and increase vehicle occupancy, and facilitate planning for infrastructure that will reduce motor vehicle trips and VMT by encouraging increasing the share of non-automobile trips. Elsewhere in the Draft General Plan, Land Use strategies encouraging growth to remain in existing development areas and encouraging compact, mixed-use, and pedestrian or transit-oriented development would help to minimize mobile source emissions.

Table 4.12-1 shows the estimated net increase in emissions caused by the growth in mobile source operation anticipated under the Proposed Project. The increase in mobile source emissions of ROG and NO_x would be greater than the 10 tons-per-year threshold of significance for all operation-related emissions. These emissions (combined with area source emissions discussed below) would be considered significant. Implementation of the General Plan policies identified above would minimize the impacts of increased mobile source operation, but not to a less-than-significant level.

Area Sources

Area source operation would also be expected to grow with the population and employment projections through the year 2020. Area-source emissions would be due to miscellaneous energy consumption (for example, lighting, heating, ventilation, and refrigeration equipment), wood-stoves, fireplaces, landscaping activities, and use of consumer products related to the operation of the projected land uses. Increases in area source emissions are estimated based on the projected land use growth increment.

Operational Activity	ROG (ton/yr)	NO_x (ton/yr)	CO (ton/yr)	PM₁₀ (ton/yr)
Mobile Sources: On-Road Motor Vehicles	69.3	262.8	1,379.7	153.2
Area Sources: Energy Use	37.3	489.5	205.4	0.9
Area Sources: Landscaping	16.8	1.3	137.3	0.3
Area Sources: Consumer Products	990.0	---	---	---
Significance Thresholds	10.0	10.0	---	---
Notes:	Emission estimates based on use of CARB's BURDEN7G/URBEMIS7G model. Mobile source emission estimates include entrained road dust (PM ₁₀).			
Source:	EIP Associates, 1999.			

Existing SJVUAPCD rules and regulations and implementation of the General Plan policies would help to minimize the air quality impacts due to increased area source activity. The CARB has established performance standards for consumer products and architectural coatings that help to reduce emissions of organic compounds, and the SJVUAPCD has implemented rules restricting sale of non-EPA certified wood heaters and limiting emissions from new residential water heaters. Additionally, the Air Quality Element of the General Plan includes Policy OS-G.16 to further reduce emissions from wood-burning.

Table 4.12-1 shows the estimated net increase in emissions caused by the growth in area source operation anticipated under the Proposed Project. The increase in area source emissions of ROG and NO_x would be greater than the 10 tons-per-year threshold of significance for all operation-related emissions. These emissions (combined with mobile source emissions discussed above and stationary source emissions discussed below) would be considered significant. Implementation of the General Plan Policy OS-G.16 would minimize the impacts of increased area source operation, but not to a less-than-significant level.

Stationary Sources

Stationary sources would be associated with many of the land uses anticipated in the General Plan. These sources would include facilities in the service industry, such as gasoline service stations or dry cleaning establishments, and other facilities that may be involved with light and heavy industry. These could include manufacturing or food processing facilities, mining facilities, cement plants, or power plants.

Existing SJVUAPCD rules and regulations would help to minimize the air quality impacts due to increased area source activity. The SJVUAPCD's rules provide for the air district to review new and modified stationary sources and generally require installation of best available control technology and securing emission offsets. With these requirements in place, emissions from stationary sources that would be associated with industrial and commercial development would not be expected to increase substantially over existing conditions. Growth in stationary source emissions would be reviewed by the SJVUAPCD on a project-by-project basis. Based on this information, operation of stationary sources would not contribute substantially to increased emissions associated with operation of the Proposed Project. No significant impact is expected to occur due to stationary sources.

A majority of the growth in emissions related to operation would occur without implementation of the Proposed Project. Based on growth projections for 2020 without the project, County-wide daily VMT and daily trips would be anticipated to grow from 1995 conditions to 30,164,000 VMT and 3,866,000 trips, respectively. This means that growth without the project would account for approximately 85 percent of the trips anticipated with the project and 95 percent of the VMT anticipated with the project. Similar fractions of growth in area source emissions would be expected to occur regardless of implementation of the project.

It is also important to note that the majority of the growth in emissions related to operation would occur within the jurisdiction of the cities. Under the Proposed Project, less than 10 percent of the county's population and employment growth between 1996 and 2020 would be expected to occur in the unincorporated areas. The remainder of the growth is projected to occur within the spheres of influence of the incorporated areas, and would be expected to ultimately come within the cities' jurisdiction through annexation. The growth in emissions would occur throughout the county, but would tend to be centered around the localities experiencing the increased population and employment.

As shown in Table 4.12-1, operation of the project, including implementation of the General Plan policies, would cause emissions of ozone precursors (ROG and NO_x) in amounts which would exceed the 10 tons-per-year significance thresholds. Because the emissions of ozone precursors due to project operation would exceed the threshold, the increase in air emissions would be a significant impact.

With implementation the Draft General Plan policies included with the Proposed Project, the County will reduce vehicle trips, reduce vehicle miles traveled, encourage use of low emission vehicles, improve traffic flows, and reduce congestion. For crafting air quality policies, the County considered ideas from other plans and guidance by reviewing documents published throughout the state. The General Plan policies incorporate the technically and economically feasible methods identified during the review. There are no reasonable mitigation measures available for the County to implement that would reduce the impact of mobile source emissions to a less-than-significant level.

Implementation of the following mitigation measures would reduce impacts due to project operation emissions of area sources. These measures are recommended by the SJVUAPCD in Table 6-7 in the Guide for Assessing and Mitigating Air Quality Impacts. It is not possible to reliably quantify the effectiveness of these measures, because there are no measures available to further reduce mobile source emissions, and the County cannot compel other jurisdictions to enforce these measures. Therefore, the impacts due to project operation would be considered **significant**.

Mitigation Measure

4.12-2 *None available beyond Draft General Plan Policies OS-G.3, OS-G.5 through OS-G.10, OS-G.12, and OS-G.14 through OS-G.16 for the County. No mitigation measures are available to the County to reduce impacts occurring within the cities' jurisdiction.*

Development within the cities and County would be required to comply with applicable SJVUAPCD standards and control measures. Reductions in air emissions within the incorporated areas could also be achieved, to the extent that incorporated areas participate in regional transportation planning efforts. However, implementation of additional measures, which are reflected in the Draft General Plan policies within the incorporated areas is not within the County's jurisdiction to monitor and enforce. Therefore, the impact is considered significant and unavoidable.

4.12-3 Development under the Draft General Plan could result in localized violations of the CO standards.

Because traffic generated by the Proposed Project could reduce the Level of Service (LOS) of roadway links or intersections throughout the county, the potential exists for localized build-up of carbon monoxide (CO) to occur near the congestion. In extreme cases, the congestion and heavy traffic could cause CO levels to increase to the point of becoming a localized "hot-spot" or violation of the ambient air quality standards. In efforts to eliminate potential CO "hot-spots," State-level emission control programs for tailpipe emissions of carbon monoxide have resulted in dramatic reductions of ambient carbon monoxide concentrations over the past ten to fifteen years. As discussed in the *Background Report*, Fresno County, including the Fresno Urbanized Area, has been designated as an area that is in attainment with the carbon monoxide standards.

The SJVUAPCD's Guide for Assessing and Mitigating Air Quality Impacts regards projects to have the potential to cause violations of the CO ambient air quality standards if the roadways affected by the project would operate at LOS E or F (SJVUAPCD GAMAQI, p. 45). As shown in Section 4.4, Transportation and Circulation, growth anticipated under the Draft General Plan would result in several roadways operating at LOS E or F during peak-hour periods of the day. This traffic congestion would result in potentially significant air quality impacts due to elevated localized concentrations of CO.

The Draft General Plan includes policies to minimize traffic congestion. Policies OS-G.6 through OS-G.11 would preserve the capacity of the existing roadway network and encourage alternative transportation modes. Furthermore, transportation policies of the General Plan that would aim to manage congestion would have the added benefit of reducing localized CO effects caused by heavy traffic. In addition, Policy TR-A.2 provides Level of Service standards specifying that the County plan and design its roadway system to meet LOS C on roadways outside the spheres of influence of Fresno and Clovis and LOS D in the urban areas.

Because the target LOS (of Policy TR-A.2) on all roads in the County is LOS D or better, these roadways and intersections would not be expected to cause localized violations of the carbon monoxide standards. Planning for operation of state highways at LOS E would be allowed under certain exceptions depending upon the physical and operating considerations of the location. Policies TR-A.14 and TR-A.15 encourage traffic routes away from sensitive land uses. Effective land use planning around congested highways would help to reduce the possibilities of exposing sensitive receptors to elevated CO concentrations; however, in many presently congested locations existing development may not allow future expansion or construction of buffer areas.

Localized increases of CO concentrations would, by definition, be most likely to occur in the more dense, incorporated areas of the County. The Economic Development Strategy encourages incorporation of new urban areas that may be created at the bounds of existing incorporated areas, while minimizing the creation of new urbanized areas within the unincorporated areas of the County. To the extent that the strategy would guide growth, and potential traffic congestion, to areas within the spheres of influence of the cities, severe congestion and heavy traffic flows would not be as common in the unincorporated areas of the County, so localized increases of CO would not be as likely to occur in these areas.

In summary, existing conditions show that the region-wide CO concentrations trends demonstrate attainment with the ambient air quality standards, and the General Plan policies specify that planning and design efforts would strive for performance of LOS D or better. Implementation of proposed General Plan policies would reduce congestion occurring as a result of growth in the County, which would help minimize carbon monoxide levels at intersections. However, some roadways would continue to operate at unacceptable service levels, so some violations of state or federal CO standards could occur. Such violations would become increasingly rare, and would end by 2020, due to improvements in fuels and the vehicle fleet.

Congestion-reduction measures, including roadway improvements, are available to, and in many cases required by, city governments. However, the County cannot ensure that similar measures would be enforced for development (whether related to the Proposed Project or not) within cities under whose jurisdiction most of the future growth would occur. Therefore, the CO standard violations could occur within the cities, particularly in the near term.

Because CO violations could occur in the near-term, and the County cannot compel cities to adopt congestion relief and air quality measures, this impact is considered **significant**.

Mitigation Measures

4.12-3 *No mitigation is required beyond Draft General Plan Policies OS-G.6 through OS-G.11 and TR-A.2, TR-A.14, and TR-A.15 for Fresno County. No mitigation measures are available to the County to reduce impacts occurring within the cities' jurisdiction.*

Reductions in CO emissions within the incorporated areas could be achieved, to the extent that incorporated areas participate in regional transportation planning efforts. However, implementation of Draft General Plan policies within the incorporated areas is not within the County's jurisdiction to monitor and enforce. Therefore, the impact is considered significant and unavoidable.

4.12-4 Development under the Draft General Plan could result in placement of sensitive land uses near potential sources of objectionable odors or in new potential sources of objectionable odors.

Development under the Draft General Plan would include land uses that may include sources of objectionable odors. Objectionable odors would typically be associated with agricultural, industrial, and some commercial uses. Odors may be generated regardless of whether the Proposed Project is implemented. The occurrence and severity of odor impacts depends on numerous factors. The nature, frequency, and intensity of the source, the wind speeds and direction, and the sensitivity of the receiving location each contribute to the potential intensity of the impact. While offensive odors rarely cause any physical harm, they can be unpleasant and cause distress among the public and generate citizen complaints.

Sources of odors are typically regulated by nuisance provisions of local zoning and public health codes, and specific policies of the General Plan would help to reduce these impacts. Rule 4102 of the SJVUAPCD rules and regulations prohibits emission of air contaminants, or odors, that may cause nuisance or annoyance to the public. This rule would effectively reduce potential odor impacts from non-agricultural operations; however, agricultural operations, including growing of crops or raising of animals, are specifically exempt from the prohibition. Because some agricultural operations could result in objectionable odors and development under the General Plan could result in odor-sensitive land uses near agricultural operations, odor impacts from these types of sources would create a nuisance.

The General Plan includes policies to reduce odor nuisances on a project-by-project basis by incorporating analysis and mitigation methods recommended by the SJVUAPCD. The SJVUAPCD's Guide for Assessing and Mitigating Air Quality Impacts provides screening-levels for evaluating potential odor sources depending on the source's distance from potentially odor sensitive land uses (SJVUAPCD GAMAQI, Table 4-2). According to the SJVUAPCD, the land use compatibility and the history of odor complaints for neighboring sources or similar existing sources should be considered along with feasible mitigation measures (including provision of buffer zones) on a project-by-project basis. For example, food processing facilities, feed lots, and dairies located or proposed to be located within one mile of sensitive land uses would warrant an analysis of odor effects. In general, other agricultural operations would not warrant a detailed analysis.

General Plan policies OS-G.1, OS-G.2, OS-G.4, OS-G.5, and OS-G.13 state that the County shall develop standard methods for mitigating project air quality impacts in conjunction with the SJVUAPCD. Implementation of the control measures recommended by the SJVUAPCD in the Guide for Assessing and Mitigating Air Quality Impacts would minimize the potential for odor impacts to occur. Because these policies would encourage implementation of the measures recommended by the SJVUAPCD, they would reduce potential odor impacts for the County.

Similar measures to reduce odor nuisances are available to, and in many cases required by, city governments. However, the County cannot ensure that similar measures would be enforced for development (whether related to the Proposed Project or not) within cities under whose jurisdiction most of the future growth would occur. Therefore, the impact is considered **significant**.

Mitigation Measures

4.12-4 *No mitigation is required beyond Draft General Plan Policies OS-G.1, OS-G.2, OS-G.4, OS-G.5, and OS-G.13 for Fresno County. No mitigation measures are available to the County to reduce impacts occurring within the cities' jurisdiction.*

Although Draft General Plan policies would reduce the potential for individuals to be exposed to objectionable odors within the unincorporated areas of the County and development within the cities would be required to comply with applicable SJVUAPCD standards and control measures, implementation of additional mitigation, as recommended by Draft General Plan policies, within the incorporated areas is not within the County's jurisdiction to monitor and enforce. Therefore, the impact is considered significant and unavoidable.

4.12-5 Development allowed under the General Plan could result in placement of sensitive land uses near potential sources of toxic air contaminants or in new potential sources of toxic air contaminants.

Development allowed under the General Plan would include land uses that may include sources of toxic air contaminants (TACs). Depending upon the nature of each individual facility, some level of TAC emissions could be associated with manufacturing industries, food or petroleum product processing industries, or service industries. Such effects would occur with or without the Proposed Project.

The SJVUAPCD evaluates all projects requiring air quality permits for emissions of toxic air contaminants, regardless of their location in unincorporated or incorporated areas. Sources with emissions in sufficient quantities to cause a probability of contracting cancer for the maximally exposed individual of more than 10 in one million are required to undergo a public notification process. (More information regarding regulation of toxic air contaminants is provided in the *Background Report*, Chapter 8.)

Specific policies of the General Plan would further reduce impacts due to potential emissions of TACs.

With implementation of Policies OS-G.12 of the Air Quality Element, the County would require locating sensitive land uses and potential sources of toxic and hazardous emissions with adequate buffer space to minimize adverse effects of the emissions. The SJVUAPCD Guide for Assessing and Mitigating Air Quality Impacts provides specific screening-level thresholds for evaluating potential TAC sources and considering mitigation on a project-by-project basis. According to the SJVUAPCD Guide, an adequate buffer space would need to reduce impacts so that (1) the probability of contracting cancer for the maximally exposed individual (MEI) does not exceed 10 in one million, and (2) the ground-level concentrations of non-carcinogenic toxic air contaminants would result in a hazard index of less than 1 for the MEI. These SJVUAPCD criteria and standards would also apply to unincorporated areas as well.

Through General Plan Policies OS-G.1, OS-G.2, OS-G.4, OS-G.5, and OS-G.13 the County will develop standard methods for mitigating project air quality impacts in conjunction with the SJVUAPCD. Implementation of the procedures and measures required by the SJVUAPCD in the Guide for Assessing and Mitigating Air Quality Impacts to address TAC emissions would further reduce the potential for TAC impacts to occur. Because emissions reductions through source control or pollution prevention would occur through permit conditions enforced by the SJVUAPCD, the risk of exposure to toxic air contaminants is considered a ***less-than-significant impact***.

Mitigation Measures

4.12-5 *None required.*

Cumulative Impacts

The cumulative context is the San Joaquin Valley Air Basin, which includes 27,000 square miles of the Central Valley, including Fresno County.

4.12-6 Development under the Draft General Plan, in combination with other cumulative development, would result in emissions of pollutants caused by mobile source activity, area sources, and stationary sources.

Operational emissions from mobile and stationary sources will increase as activity levels in the Air Basin increase, offset to the extent that technological advancements continue to decrease relative emission levels and improve control technology through 2020 as anticipated. The release of toxic and odor emissions in proximity to sensitive receptors will increase as industrial and similar activities increase and separation of uses becomes more difficult within developed areas. Again, however, improvements in industrial processes and emission control would reduce these emissions. Construction air quality impacts are highly localized and would be mitigated on a project-specific basis.

The project would generate air emissions beyond defined significance thresholds. The project and non-project development in Fresno County and elsewhere within the Air Basin could contribute to an increase in air emissions throughout the San Joaquin Valley Unified APCD. Increased development could make achievement of the Air Districts Attainment Plan goals more difficult. Draft General Plan policies would partially offset the effects of increased emissions from development under Fresno County. However, because of the regional nature of air quality impacts, and County's inability to ensure that District or locally adopted policies would be enforced within the APCD, the cumulative air quality impacts are considered **significant**.

Mitigation Measures

4.12-6 *None available beyond Draft General Plan Policies OS-G.1 through OS-G.16, and TR-A.2, TR-A.14, TR-A.15, and TR-A.17.*

Implementation of the Draft General Policies listed above would reduce the project's contribution to this significant cumulative impact, but not to less-than-significant levels, and such measures would not reduce the cumulative effect to less-than-significant levels. Therefore, the cumulative impact would remain significant and unavoidable.