

# CHAPTER 6.0

## Air Quality and Global Climate Change

### Introduction

This section provides an overview of the existing air quality within the City of Tulare and surrounding region, the regulatory framework, an analysis of potential impacts to air quality that would result from implementation of the Proposed Project, and identification of mitigation measures.

### 6.1 Air Quality

#### Environmental Setting

#### Air Quality Monitoring and Existing Emission Levels

Measurements of ambient air pollutant concentrations determine the attainment status within an area. Although there is no ambient air monitoring station within the City of Tulare, several are located in the mountainous areas of Sequoia National Park and in the low-lying areas of Visalia. Table 6-1 shows updated ambient air quality data since the General Plan Background Report (including data for year 2006 and monitoring information for PM-2.5) for the maximum concentrations of the non-attainment pollutants at the monitoring stations at North Church Street in Visalia and at Sequoia National Park - Lower Kaweah. Geographic areas and air basins are classified for each pollutant as either attainment or non-attainment, which are described below in Table 6-2.

**TABLE 6-1  
AIR QUALITY MONITORING DATA (2004 - 2006)  
NUMBER OF DAYS ABOVE THE STATE AND NATIONAL STANDARD**

Pollutant	Monitoring Data by Year			
	Standard <sup>a</sup>	2004	2005	2006
<b><u>Ozone – Sequoia Natl Park-Lower Kaweah</u></b>				
Highest 1 Hour Average (ppm) <sup>b</sup>	0.09	0.107	0.119	0.115
Days over State Standard		17	28	21
Highest 8 Hour Average (ppm) <sup>b</sup>	0.08	0.099	0.102	0.101

**TABLE 6-1  
AIR QUALITY MONITORING DATA (2004 - 2006)  
NUMBER OF DAYS ABOVE THE STATE AND NATIONAL STANDARD**

Pollutant	Monitoring Data by Year			
	Standard <sup>a</sup>	2004	2005	2006
Days over National Standard		24	32	17
<b><u>Ozone – Visalia-N Church Street</u></b>				
Highest 1 Hour Average (ppm) <sup>b</sup>	0.09	<b>0.133</b>	<b>0.117</b>	<b>0.116</b>
Days over State Standard		17	27	30
Highest 8 Hour Average (ppm) <sup>b</sup>	0.08	<b>0.099</b>	<b>0.099</b>	<b>0.096</b>
Days over National Standard		12	13	24
<b><u>Particulate Matter (PM-10) Visalia-N Church Street</u></b>				
Highest 24 Hour Average (µg/m <sup>3</sup> ) <sup>b</sup>	50	<b>82</b>	<b>124</b>	<b>151</b>
Est. Days over State Standard <sup>c</sup>		15	24	26
Highest 24 Hour Average (µg/m <sup>3</sup> ) <sup>b</sup> – National Measurement	150	82	122	145
Est. Days over National Standard <sup>c</sup>		0	0	0
State Annual Average (µg/m <sup>3</sup> ) <sup>b</sup>	20	<b>41.4</b>	<b>44.5</b>	<b>47.4</b>
<b><u>Particulate Matter (PM-2.5) – Visalia-N Church Street</u></b>				
Highest 24 Hour Average (µg/m <sup>3</sup> ) <sup>b</sup>	35	60.0	<b>84.0</b>	65.0
Days over National Standard <sup>d</sup>		0	2	0
State Annual Average (µg/m <sup>3</sup> ) <sup>b</sup>	12	NA	<b>19.9</b>	<b>19.7</b>

a Generally, state standards and national standards are not to be exceeded more than once per year.

b ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter.

c PM-10 is not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.

d Days over National Standard for PM-2.5 are based on the previous standard of 65 µg/m<sup>3</sup> rather than the current standard of 35 µg/m<sup>3</sup>

NOTES: Values in **bold** are in excess of at least one applicable standard. NA = Not Available.

SOURCE: California Air Resources Board, 2007a. *Summaries of Air Quality Data*, 2004, 2005, 2006; <http://www.arb.ca.gov/adam/cgi-bin/db2www/polltrends.d2w/start>

**TABLE 6-2  
CITY OF TULARE ATTAINMENT STATUS**

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone – one hour	No Federal Standard <sup>1</sup>	Severe Nonattainment
Ozone – eight hour	Serious Nonattainment	Unclassified
PM-10	Serious Nonattainment	Nonattainment

**TABLE 6-2  
CITY OF TULARE ATTAINMENT STATUS**

Pollutant	Designation/Classification	
	Federal Standards	State Standards
PM-2.5	Nonattainment	Nonattainment
CO	Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	No Designation	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility-Reducing Particles	No Federal Standard	Unclassified

<sup>1</sup> Federal One Hour Ozone National Ambient Air Quality Standard was revoked on June 15, 2005

SOURCE: California Air Resources Board, 2007b. Area Designation Maps, <http://www.arb.ca.gov/degis/adm/adm.htm>, page updated June 28, 2007.

## Regulatory Setting

Regulation of air pollution is achieved through both national and state ambient air quality standards and through emissions limits on individual sources of air pollutants. Local Air Quality Management Districts (AQMD's) and Air Pollution Control Districts (APCD's) are responsible for demonstrating attainment with state air quality standards through the adoption and enforcement of Attainment Plans.

### Federal

The Federal Clean Air Act (FCAA) requires the U.S. Environmental Protection Agency (U.S. EPA) to identify National Ambient Air Quality Standards (NAAQS) (national standards) to protect public health and welfare. National standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, respirable particulate matter (PM10 and PM2.5), and lead. These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria set forth in the FCAA. California has adopted more stringent ambient air quality standards for the criteria air pollutants (referred to as State Ambient Air Quality Standards, or state standards) and has adopted air quality standards for some pollutants for which there is no corresponding national standard. Table 6-1 presents current national and state ambient air quality standards and provides a brief discussion of the related health effects and principal sources for each pollutant.

Pursuant to the 1990 Federal Clean Air Act Amendments (FCAAA), the U.S. EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the NAAQS had been achieved. Table 6-2 shows the current attainment status of the project area.

The FCAA required each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAAA added requirements for states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The U.S. EPA has responsibility to review all state SIPs to determine if they conform to the mandates of the FCAAA and will achieve air quality goals when implemented. If the U.S. EPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the nonattainment area and may impose additional control measures. Failure to submit an approvable SIP or to implement the plan within mandated timeframes can result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Regulation of Toxic Air Contaminants (TACs), termed Hazardous Air Pollutants (HAPs) under federal regulations, is achieved through federal, State and local controls on individual sources. The SJVAPCD regulates toxic air contaminants in District Policies 1905 and 1910, and in regulation VII. The district recognizes all TAC's as defined by the State. The district recognizes federal Maximum Achievable Control Technology (MACT) standards for HAP's in District Rule 4002. The 1977 Clean Air Act Amendments required the U.S. EPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare. These substances include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Although these studies indicate tangible health hazards to humans and other animals, the magnitudes of the hazards are unknown.

## State

The California Air Resources Board (CARB) manages air quality, regulates mobile emissions sources, and oversees the activities of county and regional Air Pollution Control Districts and Air Quality Management Districts. CARB regulates local air quality indirectly by establishing state ambient air quality standards and vehicle emissions and fuel standards, and by conducting research, planning, and coordinating activities.

California has adopted ambient standards that are more stringent than the federal standards for some criteria air pollutants (e.g., PM10, daily and annual average standards), the California Ambient Air Quality Standards (CAAQS), pursuant to California Health and Safety Code (CH&SC) [39606(b)]. The state standards are shown in Table 6-1.

Under the California Clean Air Act (CCAA), patterned after the FCAA, areas have been designated as attainment or nonattainment with respect to the state standards (see Table 6-2). The state must verify compliance with the District's plan for achieving attainment before inclusion in the SIP. Once the SIP is complete, EPA must verify the SIP's compliance with the FCAA. If EPA determines the SIP to be inadequate in verifying compliance, EPA may prepare a FIP, as described earlier in this section.

California State law defines toxic air contaminants (TACs) as air pollutants having carcinogenic effects. The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). A total of 243 substances have been designated TACs under California law; they include the 189 (federal) hazardous air pollutants (HAP's) adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; AB 2588 does not regulate air toxics emissions. Toxic air contaminant emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment and, if specific thresholds are violated, are required to communicate the results to the public in the form of notices and public meetings. Depending on the risk levels, emitting facilities are required to implement varying levels of risk reduction measures. SJVAPCD implements AB 2588, and is responsible for prioritizing facilities that emit air toxics.

In August of 1998, CARB identified particulate emissions from diesel-fueled engines (diesel particulate matter, or DPM) as TACs. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB, 2000). The document represents proposals to reduce diesel particulate emissions, with the goal to reduce emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra low sulfur diesel fuel on diesel-fueled engines.

CARB recently published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB, 2005). The primary goal in developing the handbook was to provide information that will help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution. The handbook highlights recent studies that have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities. However, the health risk is greatly reduced with distance. For that reason, CARB provided some general recommendations aimed at keeping appropriate distances between sources of air pollution and sensitive land uses, such as residences.

## Local

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the primary local agency responsible for protecting human health and property from the harmful effects of air pollution in the San Joaquin Valley Air Basin, and has jurisdiction over most stationary source air quality matters in the SJVAB, including the NSPS program. The SJVAPCD includes all of Merced, San Joaquin, Stanislaus, Madera, Fresno, Kings and Tulare counties, and the Valley portion of Kern County.

The SJVAPCD is responsible for developing attainment plans for the SJVAB, for inclusion in California's SIP, as well as establishing and enforcing air pollution control rules and regulations. The attainment plans must demonstrate compliance with federal and state ambient air quality standards, and must first be approved by CARB before inclusion into the SIP. The SJVAPCD regulates, permits, and inspects stationary sources of air pollution. Among these sources are industrial facilities, gasoline stations, auto body shops, MSW landfills and dry cleaners to name a

few. While the state is responsible for emission standards and controlling actual tailpipe emissions from motor vehicles, the SJVAPCD is required to regulate emissions associated with stationary sources such as agricultural burning and industrial operations. The SJVAPCD also works with eight local transportation planning agencies to implement transportation control measures, and to recommend mitigation measures for new growth and development designed to reduce the number of cars on the road. The SJVAPCD promotes the use of cleaner fuels, and funds a number of public and private agency projects that provide innovative approaches to reducing air pollution from motor vehicles.

While all criteria pollutants are a concern of the SJVAPCD, a project's air quality impacts are considered significant if they would violate any of the state air quality standards. Ozone precursors, PM10 emissions and toxic air contaminants are emphasized in the review of applications for an Authority to Construct / Permit to Operate. Federal and state air quality laws also require regions designated as nonattainment to prepare plans that either demonstrate how the region will attain the standard or that demonstrate reasonable improvement in air quality conditions. As noted, the SJVAPCD is responsible for developing attainment plans for the SJVAB for inclusion in California's SIP.

## Methodology

Buildout of the Proposed Project will allow planned development to occur within the City of Tulare jurisdiction. While buildout will ultimately be market driven, for modeling purposes this analysis is based on the assumption that most uses will be developed by the year 2030 and emissions were estimated for this planning horizon. This analysis is based on thresholds included in the SJVAPCD's *Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI)* (SJVAPCD, 2002) and traffic information provided by the traffic engineer (Omni-Means, 2007). The emissions analyzed and presented below have been quantified based on this traffic information and using the EMFAC2007 emissions model for on-road vehicles.

## Standards of Significance

The proposed City of Tulare General Plan Update will establish development guidelines against which future projects will be judged for consistency. The significance criteria for this analysis were developed from criteria presented in Appendix G, the "Environmental Checklist", of the CEQA Guidelines and based on the professional judgment of the City of Tulare and its consultants. The project (or the project alternatives) would result in a significant impact if it would:

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Conflict with or obstruct implementation of the applicable air quality plan;

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people; or

The SJVAPCD's *GAMAQI* (SJVAPCD, 2002) also includes significance criteria for evaluating operational-phase emissions from direct and indirect sources associated with a project. Indirect sources include motor vehicle traffic resulting from the project and do not include stationary sources covered under permit with the SJVAPCD. For this analysis, the project would be considered to have a significant effect on the environment if it would exceed the following thresholds:

- Cause a net increase in pollutant emissions of reactive organic gases (ROG) or NO<sub>x</sub> exceeding 10 tons per year.
- Cause a violation of state CO concentration standards. The level of significance of CO emissions from mobile sources is determined by modeling the ambient concentration under project conditions and comparing the resultant 1- and 8-hour concentrations to the respective state CO standards of 20.0 and 9.0 parts per million.
- Cause "visible dust emissions" due to onsite operations and thereby violate SJVAPCD Regulation VIII.<sup>1</sup>

Although the SJVAPCD *GAMAQI* recognizes that PM-10 is a major air quality issue in the basin, it does not establish quantitative thresholds for potential impact significance. However, for the purposes of this analysis, a PM-10 emission of 15 tons per year is used as a significance threshold. 15 tons per year is the SJVAPCD threshold level at which new stationary sources requiring SJVAPCD permits must provide emissions "offsets". This threshold of significance for PM-10 is consistent with the ROG and NO<sub>x</sub> thresholds of 10 tons per year, which are also offset thresholds established in SJVAPCD Rule 2201.

In addition, the operation of any project with the potential to expose sensitive receptors to substantial levels of toxic air contaminants (TACs) would be deemed to have a potentially significant air quality impact as well. More specifically, proposed development projects that have the potential to expose the public to project-related TACs in excess of the following thresholds would be considered to have a significant air quality impact:

- Probability of contracting cancer for the Maximally Exposed Individual exceeds 10 in one million.
- Ground-level concentrations of non-carcinogenic TACs would result in a Hazard Index greater than 1.

<sup>1</sup> Visible dust is defined by the SJVAPCD as "visible dust of such opacity as to obscure an observer's view to a degree equal to or greater than an opacity of 40 percent, for a period or periods aggregating more than three minutes in any one hour."

Application of these standards would typically apply to the preparation of a more detailed project-specific health risk assessment (based on a detailed air dispersion modeling effort) that would occur as individual projects are considered as part of the Proposed Project. For the Proposed Project, the assessment of TACs is conducted at a qualitative level with specific policies provided to address the potential impacts associated with this issue.

## Impacts and Mitigation Measures

**Impact AQ-1: The Proposed Project would result in a cumulatively considerable net increase of criteria pollutants. Future growth in accordance with the Proposed Project would exceed the SJVAPCD thresholds for PM-10.**

### Impact Summary

Level of Significance Before Mitigation: <i>Potentially Significant</i>
Required Mitigation Measures: <i>New Policies – “Cooperation with Other Agencies”, “Cumulative Air Quality Impacts”, “Air Quality Land Use Compatibility”, “CEQA Compliance”, “Purchase of Low Emission/Alternative Fuel Vehicles”, “Transportation Demand Management Programs”, “Indirect Source Review”, “Transportation and Air Quality”, “Transportation Management Associations”, “Ridesharing”, “Location of Support Services”, “Infill Near Employment”, “Street Design”, “Landscape”, “Mixed Land Uses”, “Air Pollution Control Technology”, “Dust Suppression Measures”, “Paving or Treatment of Roadways for Reduced Air Emissions”, “Wood Burning Devices”, “Innovative Development”, “Prevent Incompatible Uses”, “Compact Development”, “Encourage Infill Development”</i>
Level of Significant After Mitigation: <i>Significant and Unavoidable</i>

### Impact Analysis

#### **Construction**

Construction activity that would occur in accordance with the Proposed Project would cause temporary, short-term emissions of various air pollutants. Reactive organic gases (ROG) and nitrogen oxides (NOx), which are ozone precursors, as well as particulate matter (PM-10 and PM-2.5) and CO<sub>2</sub> (a greenhouse gas) would be emitted by construction equipment during various activities, such as grading and excavation, infrastructure construction, building demolition, and a variety of construction activities. Information regarding specific development projects, soil conditions, and the location of sensitive receptors in relation to the various projects would be needed in order to quantify the level of impact associated with construction activity. However, given the amount of development associated with implementation of the Proposed Project, it is reasonable to assume that some large-scale construction activity would exceed SJVAPCD

adopted thresholds over the duration of the Proposed Project development. Actual significance would be determined on a project-by-project basis as future development applications are submitted. Additionally, a variety of new policies are designed to address construction-related air quality impacts including requiring contractors to implement appropriate dust suppression measures (see “Required Mitigation Measures” below).

### **Operation**

Operational impacts would primarily result from local and regional vehicle emissions generated by future population growth associated with buildout of the Proposed Project. The annual emissions of ROG, NO<sub>x</sub>, CO, CO<sub>2</sub>, PM-10, and PM-2.5 associated with Proposed Project traffic for the analysis years 2005 (baseline) and 2030 (buildout) were estimated using the EMFAC2007 model and traffic information provided by Omni-Means, Ltd (2007). These operational emissions are provided below in Table 6-3. As shown in the table, future growth in accordance with the Proposed Project would exceed the SJVAPCD thresholds for PM-10. CO<sub>2</sub> (greenhouse gas) emissions are discussed further in Section 6.3 (Climate Change).

**TABLE 6-3  
OPERATIONAL EMISSIONS (TONS PER YEAR)**

Emissions Source	Unmitigated Operational Emissions (Tons/Year)					
	ROG	NO <sub>x</sub>	CO	CO <sub>2</sub>	PM-10	PM-2.5 <sup>b</sup>
<b>City of Tulare Onroad Vehicle Emissions<sup>a</sup></b>						
Baseline (Year 2005)	245	913	4,996	336,327	508	503
Buildout (Year 2030)	143	679	2,389	758,921	1,110	1,099
Incremental Increase <sup>c</sup>	(102)	(234)	(2,607)	422,594	<b>602</b>	596
SJVAPCD Significance Criteria	10	10	NA	NA	15	NA
Significant? (Yes or No) <sup>d</sup>	No	No	NA	NA	Yes	NA

a Onroad vehicle emissions were estimated with the EMFAC2007 model using traffic information provided by Omni-Means, Ltd (2007). Please see Appendix E for additional information.

b The PM-2.5 fraction of PM-10 is assumed to be 99 percent of the PM-10 emissions for operational sources (SCAQMD, 2006).

c Values in parentheses represent calculated reductions in future year emissions versus the baseline scenario. ROG, NO<sub>x</sub>, and CO were estimated to decrease in the future scenario due to decreased emission factors in the future year. These emission factors generated by EMFAC2007 assume a cleaner mix of vehicles as older, more polluting vehicles are retired.

d Bold values are in excess of the applicable standard. The SJVAPCD established thresholds for ROG and NO<sub>x</sub> are 10 tons per year, PM-10 is 15 tons per year, and CO, PM-2.5, and CO<sub>2</sub> do not have an established emissions threshold of significance.

SOURCES: ESA, 2007; Omni-Means, 2007; SCAQMD, 2006

Although traffic would be the primary contributor to operational emissions, an increase in stationary source emissions is also anticipated with buildout of the Proposed Project. Emissions will be generated from a variety of stationary sources including the use of natural gas, the use of landscape maintenance equipment, and the use of woodburning fireplaces. In addition, CO<sub>2</sub>, which is not a criteria pollutant but a major contributor to global climate change, would be generated by indirect sources associated with electricity generation. Information regarding specific development projects would be needed in order to quantify the area and indirect source

emissions. A variety of industrial and commercial processes (e.g., dry cleaning, etc.) allowed under the Proposed Project would also be expected to release emissions; some of which could be of a hazardous nature. These emissions are controlled at the local and regional level through permitting and would be subject to further study and a health risk assessment prior to the issuance of any necessary air quality permits.

Policies included as part of the Proposed Project that would minimize this impact are summarized below. However, even with implementation of the below mentioned policies, this impact is considered *potentially significant*.

Policies designed to reduce air quality impacts from roadway development include:
TC-2.29 Environmental Impacts of Roadway Design
Policies designed to encourage energy conservation in new and expanding developments include the following:
COS-6.1 Energy Conservation Measures
COS-6.2 Landscape Improvements for Energy Conservation
COS-6.3 Promote Energy Conservation Awareness
COS-6.4 Local and State Programs
COS-6.5 Promote Renewable Energy Industry Clusters

**Required Mitigation Measures**

The City will implement the following mitigation measure:

**Mitigation Measure AQ-1. Adopt Policies to Address Criteria Pollutant Increase Impacts.**

To mitigate criteria pollutant increase impacts resulting from implementation of the Proposed Project, the City shall amend the General Plan to include the following new policies:

- Cooperation with Other Agencies.** The City shall cooperate with other local, regional, federal, and State agencies in developing and implementing air quality plans to achieve State and Federal Ambient Air Quality Standards. The City shall partner with the SJVAPCD, Tulare County Association of Governments (TCAG), and the State Air Pollution Control Board to achieve better air quality conditions locally and regionally. *[New Policy – Draft EIR Analysis]*
- Cumulative Air Quality Impacts.** The City shall require developments to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Developers shall be required to present alternatives that reduce air emissions and enhance, rather than harm, the environment. *[New Policy – Draft EIR Analysis]*
- Air Quality Land Use Compatibility.** The City shall consider industrial or other developments which are likely to cause undesirable air pollution with regard to wind direction and circulation in an effort to alleviate effects upon sensitive receptors. *[New Policy – Draft EIR Analysis]*
- CEQA Compliance.** The City shall ensure that air quality impacts identified during the CEQA review process are fairly and consistently mitigated. *[New Policy – Draft EIR Analysis]*

- **Purchase of Low Emission/Alternative Fuel Vehicles.** The City shall encourage departments to replace existing vehicles with low emission/alternative fuel vehicles as appropriate. *[New Policy – Draft EIR Analysis]*
- **Transportation Demand Management Programs.** The City shall coordinate and provide support for City Transportation Demand Management programs with other public and private agencies, including programs developed by the Tulare County Association of Governments (TCAG) and the SJVAPCD. *[New Policy – Draft EIR Analysis]*
- **Indirect Source Review.** The City shall require major development projects, as defined by the SJVAPCD, to mitigate air quality impacts associated with the project. As feasible the City shall work with SJVAPCD to determine mitigations that may include, but are not limited to the following:
  - Providing bicycle access and parking facilities,
  - Increasing density,
  - Encouraging mixed use developments,
  - Providing walkable and pedestrian-oriented neighborhoods,
  - Providing increased access to public transportation,
  - Providing preferential parking for high-occupancy vehicles, car pools, or alternative fuels vehicles, and
  - Establishing telecommuting programs or satellite work centers. *[New Policy – Draft EIR Analysis]*
- **Transportation and Air Quality.** When developing the regional transportation system, the City shall work with TCAG to comprehensively study methods of transportation which may contribute to a reduction in air pollution in the City of Tulare. Some possible alternatives that should be studied are:
  - Public transportation such as buses and light rail, to serve between communities of the valley, publicly subsidized if feasible.
  - Intermodal public transit such as buses provided with bicycle racks, bicycle parking at bus stations, and park and ride facilities.
  - Community bus or other public transportation systems, such as cycling or walking trails, with particular attention to high-density areas. *[New Policy – Draft EIR Analysis]*
- **Transportation Management Associations.** The City shall encourage commercial, retail, and residential developments to participate in or create transportation management associations that can assist in the reduction of pollutants through provisions to support carpooling, alternative transportation, etc. *[New Policy – Draft EIR Analysis]*
- **Ridesharing.** The City shall continue to encourage ridesharing programs such as employer-based rideshare programs. *[New Policy – Draft EIR Analysis]*
- **Location of Support Services.** The City shall encourage the location of ancillary employee services (including, but not limited to, child care, restaurants, banking facilities, convenience markets) near major employment centers for the purpose of reducing midday vehicle trips. *[New Policy – Draft EIR Analysis]*

- **Infill Near Employment.** The City shall identify opportunities for infill development projects near employment areas within all unincorporated communities to reduce vehicle trips. *[New Policy – Draft EIR Analysis]*
- **Street Design.** The City shall promote street design that provides an environment which encourages transit use, biking, and pedestrian movements. *[New Policy – Draft EIR Analysis]*
- **Landscape.** The City shall encourage the use of ecologically based landscape design principles that can improve local air quality by absorbing carbon dioxide, producing oxygen, and filtering particulates. These principles include, but are not limited to, the incorporation of parks, landscaped medians, and landscaping within development. *[New Policy – Draft EIR Analysis]*
- **Mixed Land Uses.** The City shall encourage the mixing of land uses that generate high trip volumes, especially when such uses can be mixed with support services and where they can be served by public transportation. *[New Policy – Draft EIR Analysis]*
- **Air Pollution Control Technology.** The City shall utilize the Best Available Control Measures (BACM) and Reasonably Available Control Measures (RACM) as adopted by the City to maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate. *[New Policy – Draft EIR Analysis]*
- **Dust Suppression Measures.** The City shall require developers to implement dust suppression measures during excavation, grading, and site preparation activities. Techniques may include, but are not limited to, the following:
  - Site watering or application of dust suppressants,
  - Phasing or extension of grading operations,
  - Covering of stockpiles,
  - Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
  - Revegetation of graded areas. *[New Policy – Draft EIR Analysis]*
- **Paving or Treatment of Roadways for Reduced Air Emissions.** The City shall require that all new roads be paved or treated to reduce dust generation where feasible. For new projects with unpaved roads, funding for roadway maintenance shall be adequately addressed and secured. *[New Policy – Draft EIR Analysis]*
- **Wood Burning Devices.** The City shall require the use of natural gas or the installation of low-emission, EPA-certified fireplace inserts in all open hearth fireplaces in new homes as required under the SJVAPCD Rule 4901. The City shall promote the use of natural gas over wood products in space heating devices and fireplaces in all existing and new homes. *[New Policy – Draft EIR Analysis]*
- **Innovative Development.** The City shall promote flexibility and innovation through the use of planned unit developments, development agreements, specific plans, mixed-use projects, and other innovative development and planning techniques. *[New Policy – Draft EIR Analysis]*

- **Prevent Incompatible Uses.** The City shall discourage the intrusion into existing urban areas of new incompatible land uses that produce significant noise, odors, or fumes. *[New Policy – Draft EIR Analysis]*
- **Compact Development.** The City shall actively support the development of compact mixed- use projects that reduce travel distances. *[New Policy – Draft EIR Analysis]*
- **Encourage Infill Development.** The City shall encourage and provide incentives for infill development to occur in cities, communities, and hamlets within or adjacent to existing development in order to maximize the use of land within existing urban areas, minimize the conversion of existing agricultural land, and minimize environmental concerns associated with new development. *[New Policy – Draft EIR Analysis]*

### Significance after Implementation of Mitigation for Impact AQ-1

As stated above, the City will implement a variety of existing and new policies designed to address air quality issues. Depending on the feasibility and level of implementation as applied to individual development projects consistent with the General Plan, the inclusion of additional trip reduction measures would help to further reduce vehicle-related emissions. Future project-specific compliance with SJVAPCD permitting would also help to reduce air quality emissions associated with individual projects. However, total air quality emissions associated with buildout of the Proposed Project would still exceed SJVAPCD thresholds for PM-10. No additional feasible mitigation measures are currently available to reduce this impact to a less-than-significant level. Consequently, the impact remains *significant and unavoidable*.

**Impact AQ-2: The Proposed Project would not conflict with or obstruct implementation of an applicable air quality plan.**

### Impact Summary

Level of Significance Before Mitigation: <i>Potentially Significant</i>
Required Mitigation Measures: <i>New Policies – “Cooperation with Other Agencies”, “Cumulative Air Quality Impacts”, “Air Quality Land Use Compatibility”, “CEQA Compliance”, “Purchase of Low Emission/Alternative Fuel Vehicles”, “Transportation Demand Management Programs”, “Indirect Source Review”, “Transportation and Air Quality”, “Transportation Management Associations”, “Ridesharing”, “Location of Support Services”, “Infill Near Employment”, “Street Design”, “Landscape”, “Mixed Land Uses”, “Air Pollution Control Technology”, “Dust Suppression Measures”, “Paving or Treatment of Roadways for Reduced Air Emissions”, “Wood Burning Devices”, “Innovative Development”, “Prevent Incompatible Uses”, “Compact Development”, “Encourage Infill Development”</i>
Level of Significant After Mitigation: <i>Less-than-Significant</i>

## Impact Analysis

The City of Tulare General Plan (the Proposed Project) was designed specifically to achieve and promote consistency with the planning documents of other key neighboring land use agencies or other agencies that have jurisdiction over the project. Specific policies direct the City to reduce air quality impacts from roadway development (see policy TC-2.29) and encourage energy conservation (see policies COS-6.1 through COS-6.5). Policies included as part of the Proposed Project that would minimize this impact are summarized below. However, even with implementation of the below mentioned policies, this impact is considered *potentially significant*.

Policies designed to reduce air quality impacts from roadway development include:
TC-2.29 Environmental Impacts of Roadway Design
Policies designed to encourage energy conservation in new and expanding developments include the following:
COS-6.1 Energy Conservation Measures
COS-6.2 Landscape Improvements for Energy Conservation
COS-6.3 Promote Energy Conservation Awareness
COS-6.4 Local and State Programs
COS-6.5 Promote Renewable Energy Industry Clusters

## Required Mitigation Measures

The City will implement the following mitigation measure:

**Mitigation Measure AQ-2. Adopt Policies to Address Air Quality Plan Conflict Impacts.** To mitigate air quality plan conflict impacts resulting from implementation of the Proposed Project, the City shall amend the General Plan to include the following new policies:

- Cooperation with Other Agencies.** The City shall cooperate with other local, regional, federal, and State agencies in developing and implementing air quality plans to achieve State and Federal Ambient Air Quality Standards. The City shall partner with the SJVAPCD, Tulare County Association of Governments (TCAG), and the State Air Pollution Control Board to achieve better air quality conditions locally and regionally. *[New Policy – Draft EIR Analysis]*
- Cumulative Air Quality Impacts.** The City shall require developments to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Developers shall be required to present alternatives that reduce air emissions and enhance, rather than harm, the environment. *[New Policy – Draft EIR Analysis]*
- Air Quality Land Use Compatibility.** The City shall consider industrial or other developments which are likely to cause undesirable air pollution with regard to wind direction and circulation in an effort to alleviate effects upon sensitive receptors. *[New Policy – Draft EIR Analysis]*
- CEQA Compliance.** The City shall ensure that air quality impacts identified during the CEQA review process are fairly and consistently mitigated. *[New Policy – Draft EIR Analysis]*

- **Purchase of Low Emission/Alternative Fuel Vehicles.** The City shall encourage departments to replace existing vehicles with low emission/alternative fuel vehicles as appropriate. *[New Policy – Draft EIR Analysis]*
- **Transportation Demand Management Programs.** The City shall coordinate and provide support for City Transportation Demand Management programs with other public and private agencies, including programs developed by the Tulare County Association of Governments (TCAG) and the SJVAPCD. *[New Policy – Draft EIR Analysis]*
- **Indirect Source Review.** The City shall require major development projects, as defined by the SJVAPCD, to mitigate air quality impacts associated with the project. As feasible the City shall work with SJVAPCD to determine mitigations that may include, but are not limited to the following:
  - Providing bicycle access and parking facilities,
  - Increasing density,
  - Encouraging mixed use developments,
  - Providing walkable and pedestrian-oriented neighborhoods,
  - Providing increased access to public transportation,
  - Providing preferential parking for high-occupancy vehicles, car pools, or alternative fuels vehicles, and
  - Establishing telecommuting programs or satellite work centers. *[New Policy – Draft EIR Analysis]*
- **Transportation and Air Quality.** When developing the regional transportation system, the City shall work with TCAG to comprehensively study methods of transportation which may contribute to a reduction in air pollution in the City of Tulare. Some possible alternatives that should be studied are:
  - Public transportation such as buses and light rail, to serve between communities of the valley, publicly subsidized if feasible.
  - Intermodal public transit such as buses provided with bicycle racks, bicycle parking at bus stations, and park and ride facilities.
  - Community bus or other public transportation systems, such as cycling or walking trails, with particular attention to high-density areas. *[New Policy – Draft EIR Analysis]*
- **Transportation Management Associations.** The City shall encourage commercial, retail, and residential developments to participate in or create transportation management associations that can assist in the reduction of pollutants through provisions to support carpooling, alternative transportation, etc. *[New Policy – Draft EIR Analysis]*
- **Ridesharing.** The City shall continue to encourage ridesharing programs such as employer-based rideshare programs. *[New Policy – Draft EIR Analysis]*
- **Location of Support Services.** The City shall encourage the location of ancillary employee services (including, but not limited to, child care, restaurants, banking facilities, convenience markets) near major employment centers for the purpose of reducing midday vehicle trips. *[New Policy – Draft EIR Analysis]*

- **Infill Near Employment.** The City shall identify opportunities for infill development projects near employment areas within all unincorporated communities to reduce vehicle trips. *[New Policy – Draft EIR Analysis]*
- **Street Design.** The City shall promote street design that provides an environment which encourages transit use, biking, and pedestrian movements. *[New Policy – Draft EIR Analysis]*
- **Landscape.** The City shall encourage the use of ecologically based landscape design principles that can improve local air quality by absorbing carbon dioxide, producing oxygen, and filtering particulates. These principles include, but are not limited to, the incorporation of parks, landscaped medians, and landscaping within development. *[New Policy – Draft EIR Analysis]*
- **Mixed Land Uses.** The City shall encourage the mixing of land uses that generate high trip volumes, especially when such uses can be mixed with support services and where they can be served by public transportation. *[New Policy – Draft EIR Analysis]*
- **Air Pollution Control Technology.** The City shall utilize the Best Available Control Measures (BACM) and Reasonably Available Control Measures (RACM) as adopted by the City to maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate. *[New Policy – Draft EIR Analysis]*
- **Dust Suppression Measures.** The City shall require developers to implement dust suppression measures during excavation, grading, and site preparation activities. Techniques may include, but are not limited to, the following:
  - Site watering or application of dust suppressants,
  - Phasing or extension of grading operations,
  - Covering of stockpiles,
  - Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
  - Revegetation of graded areas. *[New Policy – Draft EIR Analysis]*
- **Paving or Treatment of Roadways for Reduced Air Emissions.** The City shall require that all new roads be paved or treated to reduce dust generation where feasible. For new projects with unpaved roads, funding for roadway maintenance shall be adequately addressed and secured. *[New Policy – Draft EIR Analysis]*
- **Wood Burning Devices.** The City shall require the use of natural gas or the installation of low-emission, EPA-certified fireplace inserts in all open hearth fireplaces in new homes as required under the SJVAPCD Rule 4901. The City shall promote the use of natural gas over wood products in space heating devices and fireplaces in all existing and new homes. *[New Policy – Draft EIR Analysis]*

- **Innovative Development.** The City shall promote flexibility and innovation through the use of planned unit developments, development agreements, specific plans, mixed-use projects, and other innovative development and planning techniques. *[New Policy – Draft EIR Analysis]*
- **Prevent Incompatible Uses.** The City shall discourage the intrusion into existing urban areas of new incompatible land uses that produce significant noise, odors, or fumes. *[New Policy – Draft EIR Analysis]*
- **Compact Development.** The City shall actively support the development of compact mixed- use projects that reduce travel distances. *[New Policy – Draft EIR Analysis]*
- **Encourage Infill Development.** The City shall encourage and provide incentives for infill development to occur in cities, communities, and hamlets within or adjacent to existing development in order to maximize the use of land within existing urban areas, minimize the conversion of existing agricultural land, and minimize environmental concerns associated with new development. *[New Policy – Draft EIR Analysis]*

### Significance after Implementation of Mitigation for Impact AQ-2

Implementation of the above policies would ensure that the Proposed Project would not conflict with applicable air quality plans and that this impact would be *less-than-significant*.

### Impact AQ-3: The Proposed Project would expose sensitive receptors to substantial pollutant concentrations.

#### Impact Summary

Level of Significance Before Mitigation: <i>Potentially Significant</i>
Required Mitigation Measures: <i>New Policies – “Cooperation with Other Agencies”, “Cumulative Air Quality Impacts”, “Air Quality Land Use Compatibility”, “CEQA Compliance”, “Purchase of Low Emission/Alternative Fuel Vehicles”, “Transportation Demand Management Programs”, “Indirect Source Review”, “Transportation and Air Quality”, “Transportation Management Associations”, “Ridesharing”, “Location of Support Services”, “Infill Near Employment”, “Street Design”, “Landscape”, “Mixed Land Uses”, “Air Pollution Control Technology”, “Dust Suppression Measures”, “Paving or Treatment of Roadways for Reduced Air Emissions”, “Wood Burning Devices”, “Innovative Development”, “Prevent Incompatible Uses”, “Compact Development”, “Encourage Infill Development”</i>
Level of Significant After Mitigation: <i>Significant and Unavoidable</i>

## Impact Analysis

Development resulting from buildout of the Proposed Project could place sensitive land uses near local intersections or roadways associated with air pollutant emissions that exceed State or federal ambient air quality standards. Similarly, existing sensitive land uses near local roadways that experience increased levels of traffic resulting from buildout of the Proposed Project could be exposed to air pollutant emissions that exceed State and/or federal ambient air quality standards. In addition to these air pollutant emissions, a variety of TAC emissions could also be released from various construction and operations (i.e., industrial processes, diesel equipment and vehicles) associated with the Proposed Project. The California Air Resources Board has declared that diesel particulate matter from diesel engine exhaust is a TAC. Additionally, the California Office of Environmental Health Hazard Assessment (OEHHA) has determined that chronic exposure to DPM can cause carcinogenic and non-carcinogenic health effects.

Subsequent CEQA documentation prepared for individual projects would have project-specific data and will be required to address, and to the extent feasible, mitigate any significant or potentially significant air quality impacts to a less-than-significant level. Examples of mitigation that may be proposed include intersection/roadway capacity improvements or additional land use siting and required setbacks. However, it should be noted, the ability to mitigate these potential impacts is contingent on a variety of factors including the severity of the air quality impact, existing land use conditions and the technical feasibility of being able to implement any proposed mitigation measures (e.g., relocations, road widening, etc.).

Policies included as part of the Proposed Project that would potentially reduce this impact are summarized below. However, even with implementation of these policies, this impact is still considered *potentially significant*.

Policies designed to reduce air quality impacts from roadway development include:
TC-2.29 Environmental Impacts of Roadway Design
Policies designed to encourage energy conservation in new and expanding developments include the following:
COS-6.1 Energy Conservation Measures
COS-6.2 Landscape Improvements for Energy Conservation
COS-6.3 Promote Energy Conservation Awareness
COS-6.4 Local and State Programs
COS-6.5 Promote Renewable Energy Industry Clusters

## Required Mitigation Measures

As stated above, the City will implement a variety of policies designed to address air quality issues. The City will also continue to discourage the siting of industrial or other incompatible uses near sensitive receptors. In addition, the City will ensure that future CEQA documentation be prepared for individual projects (with project-specific data) that will (if technically possible) mitigate any potential air quality impacts to a less-than-significant level. The City will implement the following mitigation measure:

**Mitigation Measure AQ-3. Adopt Policies to Address Air Quality Impacts to Sensitive Receptors.** To mitigate air quality impacts to sensitive receptors resulting from implementation of the Proposed Project, the City shall amend the General Plan to include the following new policies:

- **Cooperation with Other Agencies.** The City shall cooperate with other local, regional, federal, and State agencies in developing and implementing air quality plans to achieve State and Federal Ambient Air Quality Standards. The City shall partner with the SJVAPCD, Tulare County Association of Governments (TCAG), and the State Air Pollution Control Board to achieve better air quality conditions locally and regionally. *[New Policy – Draft EIR Analysis]*
- **Cumulative Air Quality Impacts.** The City shall require developments to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Developers shall be required to present alternatives that reduce air emissions and enhance, rather than harm, the environment. *[New Policy – Draft EIR Analysis]*
- **Air Quality Land Use Compatibility.** The City shall consider industrial or other developments which are likely to cause undesirable air pollution with regard to wind direction and circulation in an effort to alleviate effects upon sensitive receptors. *[New Policy – Draft EIR Analysis]*
- **CEQA Compliance.** The City shall ensure that air quality impacts identified during the CEQA review process are fairly and consistently mitigated. *[New Policy – Draft EIR Analysis]*
- **Purchase of Low Emission/Alternative Fuel Vehicles.** The City shall encourage departments to replace existing vehicles with low emission/alternative fuel vehicles as appropriate. *[New Policy – Draft EIR Analysis]*
- **Transportation Demand Management Programs.** The City shall coordinate and provide support for City Transportation Demand Management programs with other public and private agencies, including programs developed by the Tulare County Association of Governments (TCAG) and the SJVAPCD. *[New Policy – Draft EIR Analysis]*
- **Indirect Source Review.** The City shall require major development projects, as defined by the SJVAPCD, to mitigate air quality impacts associated with the project. As feasible the City shall work with SJVAPCD to determine mitigations that may include, but are not limited to the following:
  - Providing bicycle access and parking facilities,
  - Increasing density,
  - Encouraging mixed use developments,
  - Providing walkable and pedestrian-oriented neighborhoods,
  - Providing increased access to public transportation,
  - Providing preferential parking for high-occupancy vehicles, car pools, or alternative fuels vehicles, and
  - Establishing telecommuting programs or satellite work centers. *[New Policy – Draft EIR Analysis]*

- **Transportation and Air Quality.** When developing the regional transportation system, the City shall work with TCAG to comprehensively study methods of transportation which may contribute to a reduction in air pollution in the City of Tulare. Some possible alternatives that should be studied are:
  - Public transportation such as buses and light rail, to serve between communities of the valley, publicly subsidized if feasible.
  - Intermodal public transit such as buses provided with bicycle racks, bicycle parking at bus stations, and park and ride facilities.
  - Community bus or other public transportation systems, such as cycling or walking trails, with particular attention to high-density areas. *[New Policy – Draft EIR Analysis]*
- **Transportation Management Associations.** The City shall encourage commercial, retail, and residential developments to participate in or create transportation management associations that can assist in the reduction of pollutants through provisions to support carpooling, alternative transportation, etc. *[New Policy – Draft EIR Analysis]*
- **Ridesharing.** The City shall continue to encourage ridesharing programs such as employer-based rideshare programs. *[New Policy – Draft EIR Analysis]*
- **Location of Support Services.** The City shall encourage the location of ancillary employee services (including, but not limited to, child care, restaurants, banking facilities, convenience markets) near major employment centers for the purpose of reducing midday vehicle trips. *[New Policy – Draft EIR Analysis]*
- **Infill Near Employment.** The City shall identify opportunities for infill development projects near employment areas within all unincorporated communities to reduce vehicle trips. *[New Policy – Draft EIR Analysis]*
- **Street Design.** The City shall promote street design that provides an environment which encourages transit use, biking, and pedestrian movements. *[New Policy – Draft EIR Analysis]*
- **Landscape.** The City shall encourage the use of ecologically based landscape design principles that can improve local air quality by absorbing carbon dioxide, producing oxygen, and filtering particulates. These principles include, but are not limited to, the incorporation of parks, landscaped medians, and landscaping within development. *[New Policy – Draft EIR Analysis]*
- **Mixed Land Uses.** The City shall encourage the mixing of land uses that generate high trip volumes, especially when such uses can be mixed with support services and where they can be served by public transportation. *[New Policy – Draft EIR Analysis]*

- **Air Pollution Control Technology.** The City shall utilize the Best Available Control Measures (BACM) and Reasonably Available Control Measures (RACM) as adopted by the City to maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate. *[New Policy – Draft EIR Analysis]*
- **Dust Suppression Measures.** The City shall require developers to implement dust suppression measures during excavation, grading, and site preparation activities. Techniques may include, but are not limited to, the following:
  - Site watering or application of dust suppressants,
  - Phasing or extension of grading operations,
  - Covering of stockpiles,
  - Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
  - Revegetation of graded areas. *[New Policy – Draft EIR Analysis]*
- **Paving or Treatment of Roadways for Reduced Air Emissions.** The City shall require that all new roads be paved or treated to reduce dust generation where feasible. For new projects with unpaved roads, funding for roadway maintenance shall be adequately addressed and secured. *[New Policy – Draft EIR Analysis]*
- **Wood Burning Devices.** The City shall require the use of natural gas or the installation of low-emission, EPA-certified fireplace inserts in all open hearth fireplaces in new homes as required under the SJVAPCD Rule 4901. The City shall promote the use of natural gas over wood products in space heating devices and fireplaces in all existing and new homes. *[New Policy – Draft EIR Analysis]*
- **Innovative Development.** The City shall promote flexibility and innovation through the use of planned unit developments, development agreements, specific plans, mixed-use projects, and other innovative development and planning techniques. *[New Policy – Draft EIR Analysis]*
- **Prevent Incompatible Uses.** The City shall discourage the intrusion into existing urban areas of new incompatible land uses that produce significant noise, odors, or fumes. *[New Policy – Draft EIR Analysis]*
- **Compact Development.** The City shall actively support the development of compact mixed-use projects that reduce travel distances. *[New Policy – Draft EIR Analysis]*
- **Encourage Infill Development.** The City shall encourage and provide incentives for infill development to occur in cities, communities, and hamlets within or adjacent to existing development in order to maximize the use of land within existing urban areas, minimize the conversion of existing agricultural land, and minimize environmental concerns associated with new development. *[New Policy – Draft EIR Analysis]*

**Significance after Implementation of Mitigation for Impact AQ-3**

Given the uncertainty as to whether future air quality impacts associated with the potential exposure of sensitive receptors to substantial pollutant concentrations could be adequately mitigated, this impact remains *significant and unavoidable*.

**Impact AQ-4: The Proposed Project would not create objectionable odors affecting a substantial number of people.**

**Impact Summary**

Level of Significance Before Mitigation: <i>Potentially Significant</i>
Required Mitigation Measures: <i>New Policies – “Cooperation with Other Agencies”, “Cumulative Air Quality Impacts”, “Air Quality Land Use Compatibility”, “CEQA Compliance”, “Air Pollution Control Technology”, “Innovative Development”, “Prevent Incompatible Uses”</i>
Level of Significant After Mitigation: <i>Less-than-Significant</i>

**Impact Analysis**

Construction activity will require the operation of equipment which may generate exhaust from either gasoline or diesel fuel. Construction of new buildings will also require the application of architectural coatings and the paving of roads which would generate odors from materials such as paints and asphalt. However, these odors are of a temporary or short-term nature and quickly disperse into the surrounding atmosphere.

Future residential and commercial development would also involve minor, odor-generating activities, such as backyard barbeque smoke, garden equipment exhaust, and the application of exterior paint for home improvement activities. These types of odors are typical of most residential communities and are not considered significant generators of odor impacts. Additionally, subsequent CEQA documentation prepared for individual projects would have project-specific data and will be required to address, and if necessary, mitigate any significant or potentially significant air quality odor impacts to a less-than-significant level. However, based on the uncertainty of land use compatibility of the Proposed Project, this impact is considered *potentially significant* without mitigation.

**Required Mitigation Measures**

The City will implement the following mitigation measure:

**Mitigation Measure AQ-4. Adopt Policies to Address Objectionable Odors Impacts.** To mitigate objectionable odors impacts resulting from implementation of the Proposed Project, the City shall amend the General Plan to include the following new policies:

- **Cooperation with Other Agencies.** The City shall cooperate with other local, regional, federal, and State agencies in developing and implementing air quality plans to achieve State and Federal Ambient Air Quality Standards. The City shall partner with the SJVAPCD, Tulare County Association of Governments (TCAG), and the State Air Pollution Control Board to achieve better air quality conditions locally and regionally. *[New Policy – Draft EIR Analysis]*
- **Cumulative Air Quality Impacts.** The City shall require developments to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Developers shall be required to present alternatives that reduce air emissions and enhance, rather than harm, the environment. *[New Policy – Draft EIR Analysis]*
- **Air Quality Land Use Compatibility.** The City shall consider industrial or other developments which are likely to cause undesirable air pollution with regard to wind direction and circulation in an effort to alleviate effects upon sensitive receptors. *[New Policy – Draft EIR Analysis]*
- **CEQA Compliance.** The City shall ensure that air quality impacts identified during the CEQA review process are fairly and consistently mitigated. *[New Policy – Draft EIR Analysis]*
- **Air Pollution Control Technology.** The City shall utilize the Best Available Control Measures (BACM) and Reasonably Available Control Measures (RACM) as adopted by the City to maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate. *[New Policy – Draft EIR Analysis]*
- **Innovative Development.** The City shall promote flexibility and innovation through the use of planned unit developments, development agreements, specific plans, mixed-use projects, and other innovative development and planning techniques. *[New Policy – Draft EIR Analysis]*
- **Prevent Incompatible Uses.** The City shall discourage the intrusion into existing urban areas of new incompatible land uses that produce significant noise, odors, or fumes. *[New Policy – Draft EIR Analysis]*

#### **Significance after Implementation of Mitigation for Impact AQ-4**

The new policies described above would help address a variety of nuisance issues (including odor concerns) associated with the inappropriate siting of sensitive land uses near other incompatible uses. Implementation of these policies are specifically designed to address air quality impacts, including odor generation; therefore, with implementation of these new policies, this impact is considered *less-than-significant*.

## 6.2 Climate Change

### Environmental Setting

#### **Greenhouse Gases**

Gases that trap heat in the atmosphere are called greenhouse gases. The major concern is that increases in greenhouse gases are causing Global Climate Change. Global Climate Change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation and temperature. Although there is tremendous disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, most agree that there is a direct link between increased emission of so-called greenhouse gases and long term global temperature. What greenhouse gases have in common is that they allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation and warm up the air. The process is similar to the effect greenhouses have in raising the internal temperature, hence the name greenhouse gases. Both natural processes and human activities emit greenhouse gases. The accumulation of greenhouse gases in the atmosphere regulates the earth's temperature; however, emissions from human activities such as electricity production and motor vehicles have elevated the concentration of greenhouse gases in the atmosphere. This accumulation of greenhouse gases has contributed to an increase in the temperature of the earth's atmosphere and contributed to Global Climate Change. The principal greenhouse gases are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H<sub>2</sub>O). Carbon dioxide is the reference gas for climate change because it gets the most attention and is considered the most important greenhouse gas. To account for the warming potential of greenhouse gases, greenhouse gas emissions are often quantified and reported as CO<sub>2</sub> equivalents (CO<sub>2</sub>E). Large emission sources are reported in million metric tons of CO<sub>2</sub>E (MMT CO<sub>2</sub>E). HFCs are used in refrigeration systems as substitutes for CFCs, which were banned for destroying the ozone layer.

### Regulatory Setting

#### **Federal Regulations**

No federal regulations are applicable to this section.

#### **State Regulations**

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of greenhouse gas would be progressively reduced, as follows:

- By 2010, reduce greenhouse gas emissions to 2000 levels;
- By 2020, reduce greenhouse gas emissions to 1990 levels; and
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires the California Air Resources Board (CARB) to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide greenhouse gas emissions are reduced to 1990 levels by 2020 (representing an approximate 25 percent reduction in emissions).

In June 2007 CARB directed staff to pursue 37 early actions for reducing greenhouse gas emissions under the California Global Warming Solutions Act of 2006 (AB 32). The broad spectrum of strategies to be developed – including a Low Carbon Fuel Standard, regulations for refrigerants with high global warming potentials, guidance and protocols for local governments to facilitate greenhouse gas reductions, and green ports – reflects that the serious threat of climate change requires action as soon as possible (CARB, 2007c).

In addition to approving the 37 greenhouse gas reduction strategies, CARB directed staff to further evaluate early action recommendations made at the June 2007 meeting, and to report back to CARB within six months. The general sentiment of CARB suggested a desire to try to pursue greater greenhouse gas emissions reductions in California in the near-term. Since the June 2007 CARB hearing, CARB staff has evaluated all 48 recommendations submitted by several stakeholder and several internally-generated staff ideas and published the *Draft List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration* in September 2007 (CARB, 2007c). Based on its additional analysis, CARB staff is recommending the expansion of the early action list to a total of 44 measures, which are listed below in Table 6-4. Three of these early action items were approved by the Board at its June 2007 hearing, listed as ID# 15, 16 and 17 in Table 6-4.

The 2020 target reductions are currently estimated to be 174 MMTCO<sub>2</sub>E. In total, the 44 recommended early actions have the potential to reduce greenhouse gas emissions by at least 42 million metric tons of carbon dioxide (CO<sub>2</sub>) equivalent (MMTCO<sub>2</sub>E) emissions by 2020, representing about 25% of the estimated reductions needed by 2020. CARB staff is working on 1990 and 2020 greenhouse gas emission inventories in order to refine the projected reductions needed by 2020 and expects to present its recommendations to the CARB by the end of 2007. The 44 measures are in the sectors of fuels, transportation, forestry, agriculture, education, energy efficiency, commercial, solid waste, cement, oil and gas, electricity, and fire suppression.

In addition to identifying early actions to reduce greenhouse gases, the CARB is also developing the greenhouse gas mandatory reporting regulation that is required by January 1, 2008 pursuant to requirements of AB32. The regulations are expected to require reporting for certain types of facilities that make up the bulk of the stationary source emissions in California. Currently, the draft regulation language identifies major facilities as those that generate more than 25,000 metric tons of CO<sub>2</sub> per year (CO<sub>2</sub>/yr). This reporting limit is consistent with European Union reporting. Cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 MT CO<sub>2</sub>/yr, make up 94 percent of the point source CO<sub>2</sub> emissions in California (CARB, 2007d).

**TABLE 6-4  
RECOMMENDED AB32 GREENHOUSE GAS MEASURES TO BE  
INITIATED BY CARB BETWEEN 2007 AND 2012**

<b>ID #</b>	<b>Sector</b>	<b>Strategy Name</b>
1	Fuels	Above Ground Storage Tanks
2	Transportation	Diesel – Offroad equipment (non-agricultural)
3	Forestry	Forestry protocol endorsement
4	Transportation	Diesel – Port trucks
5	Transportation	Diesel – Vessel main engine fuel specifications
6	Transportation	Diesel – Commercial harbor craft
7	Transportation	Green ports
8	Agriculture	Manure management (methane digester protocol)
9	Education	Local gov. Greenhouse Gas (GHG) reduction guidance / protocols
10	Education	Business GHG reduction guidance / protocols
11	Energy Efficiency	Cool communities program
12	Commercial	Reduce high Global Warming Potential (GWP) GHGs in products
13	Commercial	Reduction of PFCs from semiconductor industry
14	Transportation	SmartWay truck efficiency
15*	Transportation	Low Carbon Fuel Standard (LCFS)
16*	Transportation	Reduction of HFC-134a from DIY Motor Vehicle AC servicing
17*	Waste	Improved landfill gas capture
18	Fuels	Gasoline disperser hose replacement
19	Fuels	Portable outboard marine tanks
20	Transportation	Standards for off-cycle driving conditions
21	Transportation	Diesel – Privately owned on-road trucks
22	Transportation	Anti-idling enforcement
23	Commercial	SF <sub>6</sub> reductions from the non-electric sector
24	Transportation	Tire inflation program
25	Transportation	Cool automobile paints
26	Cement	Cement (A): Blended cements
27	Cement	Cement (B): Energy efficiency of California cement facilities
28	Transportation	Ban on HFC release from Motor Vehicle AC service / dismantling
29	Transportation	Diesel – offroad equipment (agricultural)
30	Transportation	Add AC leak tightness test and repair to Smog Check
31	Agriculture	Research on GHG reductions from nitrogen land applications
32	Commercial	Specifications for commercial refrigeration
33	Oil and Gas	Reduction in venting / leaks from oil and gas systems
34	Transportation	Requirement of low-GWP GHGs for new Motor Vehicle ACs
35	Transportation	Hybridization of medium and heavy-duty diesel vehicles
36	Electricity	Reduction of SF <sub>6</sub> in electricity generation
37	Commercial	High GWP refrigerant tracking, reporting and recovery program
38	Commercial	Foam recovery / destruction program
39	Fire Suppression	Alternative suppressants in fire protection systems
40	Transportation	Strengthen light-duty vehicle standards
41	Transportation	Truck stop electrification with incentives for truckers
42	Transportation	Diesel – Vessel speed reductions

**TABLE 6-4  
RECOMMENDED AB32 GREENHOUSE GAS MEASURES TO BE  
INITIATED BY CARB BETWEEN 2007 AND 2012**

ID #	Sector	Strategy Name
43	Transportation	Transportation refrigeration – electric standby
44	Agriculture	Electrification of stationary agricultural engines

\*Note: ID# 15, 16, and 17 were approved by CARB at its June 2007 meeting.  
Source: CARB, 2007c

## Local Regulations

No local regulations are applicable to this section.

## Methodology

Buildout of the Proposed Project will allow planned development to occur within the City of Tulare jurisdiction. While buildout will ultimately be market driven, for modeling purposes this analysis is based on the assumption that most uses will be developed by the year 2030 and emissions were estimated for this planning horizon. This analysis is based on traffic information provided by Omni-Means, Ltd (2007). The emissions analyzed and presented below have been quantified based on this traffic information and using the EMFAC2007 emissions model for on-road vehicles.

## Standards of Significance

The proposed City of Tulare General Plan Update will establish development guidelines against which future projects will be judged for consistency. The significance criteria for this analysis was developed based on the professional judgment of the City of Tulare and its consultants. The project (or the project alternatives) would result in a significant impact if it would:

- Conflict with the state goal of reducing greenhouse gas emissions in California to 1990 levels by 2020, as set forth by the timetable established in AB 32, California Global Warming Solutions Act of 2006.

## Impacts and Mitigation Measures

**Impact AQ-5: The project could conflict with implementation of state goals for reducing greenhouse gas emissions and thereby have a negative effect on Global Climate Change.**

**Impact Summary**

Level of Significance Before Mitigation: <i>Potentially Significant</i>
Required Mitigation Measures: <i>New Policies – "Support Statewide Global Warming Solutions", "Cooperation with Other Agencies", "Cumulative Air Quality Impacts", "CEQA Compliance", "Purchase of Low Emission/Alternative Fuel Vehicles", "Transportation Demand Management Programs", "Indirect Source Review", "Transportation and Air Quality", "Transportation Management Associations", "Ridesharing", "Location of Support Services", "Infill Near Employment", "Street Design", "Landscape", "Mixed Land Uses", "Air Pollution Control Technology", "Wood Burning Devices", "Innovative Development", "Compact Development", "Encourage Infill Development"</i>
Level of Significance After Mitigation: <i>Significant and Unavoidable</i>

**Impact Analysis**

Although traffic would be the primary contributor to operational greenhouse gas emissions, an increase in stationary source emissions is also anticipated with buildout of the Proposed Project. Emissions will be generated from a variety of stationary sources including the use of natural gas, the use of landscape maintenance equipment, and the use of woodburning fireplaces. In addition, CO<sub>2</sub> would be generated by indirect sources associated with electricity generation. Information regarding specific development projects would be needed in order to quantify the area and indirect source emissions.

As depicted in Table 6-3, the increase in onroad vehicle CO<sub>2</sub> emissions for the Proposed Project buildout (year 2030) versus baseline scenario (year 2005) would be would be 422,594 metric tons per year. When compared to the overall state reduction goal of approximately 174 million metric tons CO<sub>2</sub>E/year, the incremental increase in greenhouse gas emissions for the Proposed Project would be about 0.2 percent of the state goal for reducing greenhouse gas emissions by the year 2020. The efforts the state is currently undertaking related to AB32 are substantial with regard to measures that could reduce greenhouse gas emissions by similar levels (0.2 percent of the total). Thus, the Proposed Project would conflict with the state AB32 goals related to greenhouse gas emissions and would be a significant impact prior to mitigation.

Policies included as part of the Proposed Project that would potentially reduce this impact are summarized below. However, even with implementation of these policies, this impact is still considered **potentially significant**.

Policies designed to reduce air quality impacts from roadway development include:
TC-2.29 Environmental Impacts of Roadway Design
Policies designed to encourage energy conservation in new and expanding developments include the following:
COS-6.1 Energy Conservation Measures
COS-6.2 Landscape Improvements for Energy Conservation
COS-6.3 Promote Energy Conservation Awareness
COS-6.4 Local and State Programs
COS-6.5 Promote Renewable Energy Industry Clusters

## Required Mitigation Measures

The City will implement the following mitigation measure:

**Mitigation Measure AQ-5. Adopt Policies to Address Global Climate Change Impacts.** To mitigate Global Climate Change impacts resulting from implementation of the Proposed Project, the City shall amend the General Plan to include the following new policies::

- **Support Statewide Global Warming Solutions.** The City shall monitor and support the efforts of the California Air Resources Board, under AB 32, to formulate mitigation strategies, if any, that may be implemented by local government, and further require the City to ultimately consider any such strategies once they become available. If the City Council, after seeking public input on the subject, chooses to implement any such measures it considers to be feasible and desirable, the City's commitment may take the form of a new ordinance, resolution, or other type of policy document. *[New Policy – Draft EIR Analysis]*
- **Cooperation with Other Agencies.** The City shall cooperate with other local, regional, federal, and State agencies in developing and implementing air quality plans to achieve State and Federal Ambient Air Quality Standards. The City shall partner with the SJVAPCD, Tulare County Association of Governments (TCAG), and the State Air Pollution Control Board to achieve better air quality conditions locally and regionally. *[New Policy – Draft EIR Analysis]*
- **Cumulative Air Quality Impacts.** The City shall require developments to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Developers shall be required to present alternatives that reduce air emissions and enhance, rather than harm, the environment. *[New Policy – Draft EIR Analysis]*
- **CEQA Compliance.** The City shall ensure that air quality impacts identified during the CEQA review process are fairly and consistently mitigated. *[New Policy – Draft EIR Analysis]*
- **Purchase of Low Emission/Alternative Fuel Vehicles.** The City shall encourage departments to replace existing vehicles with low emission/alternative fuel vehicles as appropriate. *[New Policy – Draft EIR Analysis]*
- **Transportation Demand Management Programs.** The City shall coordinate and provide support for City Transportation Demand Management programs with other public and private agencies, including programs developed by the Tulare County Association of Governments (TCAG) and the SJVAPCD. *[New Policy – Draft EIR Analysis]*
- **Indirect Source Review.** The City shall require major development projects, as defined by the SJVAPCD, to mitigate air quality impacts associated with the project. As feasible the City shall work with SJVAPCD to determine mitigations that may include, but are not limited to the following:

- Providing bicycle access and parking facilities,
  - Increasing density,
  - Encouraging mixed use developments,
  - Providing walkable and pedestrian-oriented neighborhoods,
  - Providing increased access to public transportation,
  - Providing preferential parking for high-occupancy vehicles, car pools, or alternative fuels vehicles, and
  - Establishing telecommuting programs or satellite work centers. *[New Policy – Draft EIR Analysis]*
- **Transportation and Air Quality.** When developing the regional transportation system, the City shall work with TCAG to comprehensively study methods of transportation which may contribute to a reduction in air pollution in the City of Tulare. Some possible alternatives that should be studied are:
    - Public transportation such as buses and light rail, to serve between communities of the valley, publicly subsidized if feasible.
    - Intermodal public transit such as buses provided with bicycle racks, bicycle parking at bus stations, and park and ride facilities.
    - Community bus or other public transportation systems, such as cycling or walking trails, with particular attention to high-density areas. *[New Policy – Draft EIR Analysis]*
  - **Transportation Management Associations.** The City shall encourage commercial, retail, and residential developments to participate in or create transportation management associations that can assist in the reduction of pollutants through provisions to support carpooling, alternative transportation, etc. *[New Policy – Draft EIR Analysis]*
  - **Ridesharing.** The City shall continue to encourage ridesharing programs such as employer-based rideshare programs. *[New Policy – Draft EIR Analysis]*
  - **Location of Support Services.** The City shall encourage the location of ancillary employee services (including, but not limited to, child care, restaurants, banking facilities, convenience markets) near major employment centers for the purpose of reducing midday vehicle trips. *[New Policy – Draft EIR Analysis]*
  - **Infill Near Employment.** The City shall identify opportunities for infill development projects near employment areas within all unincorporated communities to reduce vehicle trips. *[New Policy – Draft EIR Analysis]*
  - **Street Design.** The City shall promote street design that provides an environment which encourages transit use, biking, and pedestrian movements. *[New Policy – Draft EIR Analysis]*
  - **Landscape.** The City shall encourage the use of ecologically based landscape design principles that can improve local air quality by absorbing carbon dioxide, producing oxygen, and filtering particulates. These principles include, but are not limited to, the incorporation of parks, landscaped medians, and landscaping within development. *[New Policy – Draft EIR Analysis]*

- **Mixed Land Uses.** The City shall encourage the mixing of land uses that generate high trip volumes, especially when such uses can be mixed with support services and where they can be served by public transportation. *[New Policy – Draft EIR Analysis]*
- **Air Pollution Control Technology.** The City shall utilize the Best Available Control Measures (BACM) and Reasonably Available Control Measures (RACM) as adopted by the City to maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate. *[New Policy – Draft EIR Analysis]*
- **Wood Burning Devices.** The City shall require the use of natural gas or the installation of low-emission, EPA-certified fireplace inserts in all open hearth fireplaces in new homes as required under the SJVAPCD Rule 4901. The City shall promote the use of natural gas over wood products in space heating devices and fireplaces in all existing and new homes. *[New Policy – Draft EIR Analysis]*
- **Innovative Development.** The City shall promote flexibility and innovation through the use of planned unit developments, development agreements, specific plans, mixed-use projects, and other innovative development and planning techniques. *[New Policy – Draft EIR Analysis]*
- **Compact Development.** The City shall actively support the development of compact mixed-use projects that reduce travel distances. *[New Policy – Draft EIR Analysis]*
- **Encourage Infill Development.** The City shall encourage and provide incentives for infill development to occur in cities, communities, and hamlets within or adjacent to existing development in order to maximize the use of land within existing urban areas, minimize the conversion of existing agricultural land, and minimize environmental concerns associated with new development. *[New Policy – Draft EIR Analysis]*

### Significance after Implementation of Mitigation for Impact AQ-5

Depending on the feasibility and level of implementation as applied to individual development projects consistent with the General Plan, the inclusion of additional trip reduction measures would help to further reduce vehicle-related CO<sub>2</sub> emissions. Also, energy conservation policies would reduce indirect source emissions of CO<sub>2</sub> and other greenhouse gases. Future project-specific compliance with SJVAPCD permitting would also help to reduce air quality emissions associated with individual projects. However, the emission level at which project generated CO<sub>2</sub> would result in or contribute to a significant impact has not been defined. Consequently, the increase in greenhouse gases by the Proposed Project of 0.2 percent of the state AB32 goal potentially places the project in conflict with the goal of the state to reduce up to 174 million metric tons CO<sub>2</sub>E/yr. Therefore, as a conservative determination, implementation of the Proposed Project including the adoption of the policies listed above would still result in a *significant and unavoidable* impact.