AIR QUALITY ELEMENT

Madera County General Plan
Planning Department
2010

I. INTRODUCTION

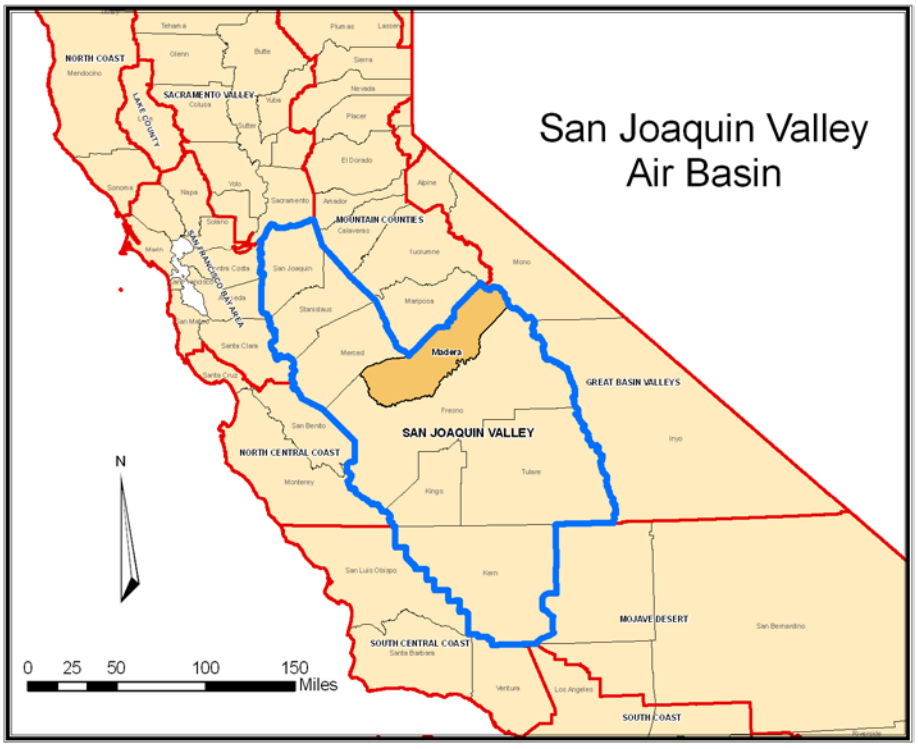
GENERAL LOCATION

California is a state which is comprised of various environmental settings. It varies from its coastal region to the desert to the mountainous landscape of the Sierra Nevada's. Madera County lies within the "Central Valley," more commonly known as the San Joaquin Valley Air Basin, and exhibits the same diverse environmental setting that is experienced state-wide.

Madera County (County) spans approximately 2,153 square miles and contains vast farmlands to the west and more mountainous terrain with variable topography to the east. Approximately 800 square miles of the County (37.1%) is within the jurisdiction of the National Forest Services. This creates approximately 1,300 square miles of land which is within the authority of the County. Elevations of the County range from 300 feet to over 13,000 feet. The Fresno, San Joaquin, and Chowchilla Rivers all originate in the mountains of Madera County and meander along the valley floor.

Local industry is dominated by agriculture which exists in the lower elevations of the County. However, the County does provide areas to increase industrial and commercial production in the future.

Highways 41, 49, 99, 145 and 152 headline a transportation network which leads commuters to the greater Fresno and Merced metropolitan areas while also providing a thoroughfare to the Bay Area, Southern California, and Yosemite National Park. The Sante Fe and Union Pacific Railroad run along Highway 99 while allowing for inner-state transport of various commodities. Both the cities of Madera and Chowchilla have municipal airports which provide for local air traffic.



LEGISLATIVE SETTING

Air Quality Elements are one of the major elements which may be included within a General Plan Document for a city or county. Within the San Joaquin Valley Air Basin (Valley), Assembly Bill 170 mandates that all cities (57) and counties (8) either adopt an air quality element or amend other elements (land use, circulation, housing, conservation and open space) of its general plan in order to improve overall air quality for its jurisdiction. This air element or amendments to the general plan must include a report of current air quality conditions, summary of existing air quality policies/regulations,

and future goals, policies and objectives that will lead to improved air quality within its jurisdiction.

California Government Code Section 65302.1 states that acceptable air quality guidelines and policies adopted as part of the Air Quality Element should do all the following: integrate land use plans, transportation plans and air quality plans; plan land uses in ways that support a multimodal transportation system; reduce particulate matter emissions from sources under local jurisdiction; and support district and public utility programs to reduce emissions from energy consumption and area sources. GC §65302.1 further states that the result of all the previously listed suggestions should result in lower infrastructure and public service costs, more efficient transportation and transit options for residents, decreased costs for comprehensive planning, streaming lining of the permitting and entitlement process and improved mobility for the general public.

Lastly, within the Air Quality Element, GC §65302.1 requires that the County include the following:

- "A report describing local air quality conditions including air quality monitoring data, emission inventories, lists of significant source categories, attainment status and designations, and applicable state and federal air quality plans and transportation plans."
- "A summary of local, district, state, and federal policies, programs, and regulations that may improve air quality in the city or county."
- "A comprehensive set of goals, policies, and objectives that may improve air quality consistent with the strategies [listed above]."
- "A set of feasible implementation measures designed to carry out those goals, policies, and objectives."

Following the adoption of AB 170, the State of California approved two other bills which further the cause of reducing greenhouse gas emissions and improving overall air quality, Assembly Bill 32 and Senate Bill 375.

AB 32, or the California Global Warming Solutions Act of 2006, outlines goals for local agencies to follow in order to bring Greenhouse Gas (GHG) emissions to 1990 levels (a 25% overall reduction) by the year 2020. The California Air Resources Board (CARB) holds the responsibility of monitoring and reducing GHG emissions through regulations, market mechanisms and other actions. A Draft Scoping Plan was adopted by CARB in order to provide guidelines and policy for the State to following in its first steps to reduce GHG. According to CARB, the scoping plan's GHG reduction actions include: direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Following the adoption of AB 32, the California State Legislature adopted another bill, Senate Bill 375, which became the first major bill in the United States that would aim to limit climate change by linking directly to "smart growth" land use principles and transportation. It adds incentives for projects which intend to be in-fill, mixed use, affordable and self-contained developments. SB 375 includes the creation of a Sustainable Communities Strategy (SCS) through the local Metropolitan Planning

Organizations (MPO) in order to create land use patterns which reduce overall emissions and vehicle miles travelled. Incentives include California Environmental Quality Act streamlining and possible exemptions for projects which fulfill specific criteria."

Locally, Madera County has also been involved in the San Joaquin Valley Blueprint (Blueprint). The Blueprint is a collaborative effort between the 8 counties within the Valley as well as the local transportation agencies. The Blueprint's goals will enable each county to better understand how land use decisions impacts other areas of the Valley. In addition, the Blueprint will serve as a "comprehensive and integrated decision-making tool" which can be referenced and utilized as a baseline document for local jurisdictions.

B. Consistency with Other General Plan Elements

The *Air Quality Element* is consistent with all other elements of the General Plan. The *Air Quality Element* most closely interacts with the Land Use, and Transportation and Circulation Elements. An analysis of relationship of the goals, objectives, and policies of these elements is included in Appendix A (General Plan Policies and Programs Related to Air Quality). The *Housing Element* is consistent since it demonstrates that sufficient housing is planned to accommodate Madera County's projected needs and avoids a jobs/housing imbalance that would result in excessive emissions from long distance commuting.

General Plan Integration

The *Air Quality Element* provides a bridge which inter-connects with other General Plan Elements. This connection is mandated by California Government Code 65300.5 which states "in constructing the provisions of this article, the Legislature intends that the general plan and elements and parts thereof comprise an integrated, internally consistent and compatible statement of policies for the adopting agency." Air quality is impacted by many aspects of our built environment and life style choices we make. The impacts and interrelationships are described as the land use, transportation, energy use, air quality and climate change connection. This concept is based on the idea that the design, density, and pattern of land uses impacts the transportation system that serves those land uses, and the transportation system in turn impacts the amount people drive and options for using less polluting modes of transportation such as walking, bicycling, and transit. The policies of the *Land Use Element* with connections to air quality are those supporting compact development, direct pedestrian connections, complete sidewalks, safe and comfortable routes connecting frequently accessed destinations with residences, and eliminating barriers to walking and bicycling. The *Circulation Element* lays out the goals, objectives, and policies for developing the transportation system in a way that is consistent with and accommodates the growth planned in the *Land Use Element*. Circulation element policies that promote the development of a multi-modal transportation system and prevent excessive traffic congestion provide air quality benefits. Figures AQ - 1 through 3 illustrate these concepts.

Figure AQ – 1 Pedestrian Oriented Development

Figure AQ – 2 Narrow Streets

The policies can be categorized as follows:
Compact Development
• Higher development densities
• Farmland and Open Space preservation
• Incremental development

Transit and Pedestrian Oriented and Traditional Neighborhood Design

• Locate high density development close to commercial and service destinations that are within walking distance.
• Provide direct pedestrian connections between uses.
• Locate transit stops and infrastructure close to high density development to maximize the number of people within walking distance.
• Provide transit infrastructure such as benches and shelters at locations that maximize accessibility.
• Construct narrow streets to slow traffic and allow room for pedestrian infrastructure.
• Traffic calming measures such as roundabouts, and pedestrian bulb outs.
• Use a grid street system to provide direct routes to many destinations
• Require tree-lined streets with drought tolerant trees to shade pedestrian routes.
• Store fronts near the street to create an interesting pedestrian orientation.
• Minimize windowless walls facing the street.
• Provide parking lots in the back or in public lots.

Figure AQ – 3 Vertical Mixed Use

Mixed Use Development
• Allow second story residential mixed use in downtown commercial areas and large mixed use projects.

Pedestrian and Bicycle Infrastructure
• Provide sidewalks and pedestrian paths
• Provide bicycle paths and lanes
• Secure bicycle parking for employment sites
• Bike racks for commercial development

Preventing land use conflicts
• Provide adequate separation between residential and industrial uses having the potential to emit hazardous pollutants or odors.
• Provide adequate separation between sensitive land uses and major highways to minimize exposure to hazardous pollutant emissions.
• Protect agricultural development from premature development.

These concepts also reduce adverse public health effects of such air pollutants such as ozone, carbon monoxide, and particulate matter and pollutants responsible for climate change (primarily carbon dioxide). The benefits derived are roughly proportional to the reduction in motor vehicle trips and miles traveled achieved with development that implements the concepts described above. The reduced travel results in less fuel consumed and less emissions produced.

C. Scope and Organization

The *Air Quality Element* provides a comprehensive set of goals, objectives, policies, and implementation programs intended to meet the requirements of Assembly Bill 170 for Air Quality Elements and state laws pertaining to greenhouse gases. Section II of the *Air Quality Element* provides summary level background information on the regulatory setting, existing air quality, health effects, and greenhouse gas/global climate change issues. Section III provides air quality goals, policies, and objectives. Section IV provides Implementation Programs for the new air quality goals, objectives, and policies in Section III.

This element is organized into the following sections:

II. **Environmental and Regulatory Setting** – Air Quality Environmental Setting, Regulatory Setting, and Public/Private Partnership Air Quality Programs and Initiatives.
III. **Air Quality Policies** – Regional Coordination, Planning Integration, Air Quality Management, Energ y Efficiency and Conservation, Hazardous Emissions and Public Health, and Climate Change.
IV. **Implementation** – Implementation Programs.
V. **Glossary** – Glossary of Terms.

II. ENVIRONMENTAL AND REGULATORY SETTING

As the State of California moves toward more progressive legislation involving air quality and green house gas reduction efforts, all Counties throughout California will be looking at various avenues to address these issues locally. Although these issues may be common, the 58 Counties within the State represent a diversity of environmental and regulatory settings that define the somewhat unique background through which local approaches must be formulated. This Section describes the local environmental and regulatory setting that is relative to Madera County, and presents some public/private partnership programs and initiatives related to air quality.

A. AIR QUALITY ENVIRONMENTAL SETTING

The San Joaquin Valley Air Basin (SJVAB) is approximately 250 miles long and averages 35 miles wide, and is the second largest air basin in the state. The SJVAB is defined by the Sierra Nevada in the east (8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapi mountains in the south (6,000 to 8,000 feet in elevation). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits where the San Joaquin-Sacramento Delta empties into San Francisco Bay. The San Joaquin Valley (Valley), thus, could be considered a "bowl" open only to the north.

During the summer, wind speed and direction data indicate that summer wind usually originates at the north end of the Valley and flows in a south-southeasterly direction through the Valley, through Tehachapi pass, into the Southeast Desert Air Basin. In addition, the Altamont Pass also serves as a funnel for pollutant transport from the San Francisco Bay Area Air Basin into the region.

During the winter, wind speed and direction data indicate that wind occasionally originates from the south end of the Valley and flows in a north-northwesterly direction. Also during the winter months, the Valley generally experiences light, variable winds (less than 10 mph). Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high carbon monoxide (CO) and particulate matter (PM10 and PM 2.5) concentrations.

The SJVAB has an "Inland Mediterranean" climate averaging over 260 sunny days per year. The valley floor is characterized by warm, dry summers and cooler winters. For the entire Valley, high daily temperature readings in summer average 95°F. Temperatures below freezing are unusual. Average high temperatures in the winter are in the 50s, but highs in the 30s and 40s can occur on days with persistent fog and low cloudiness. The average daily low temperature is 45°F.

Average precipitation is approximately 12 inches per year with the majority of rainfall recorded during the winter and spring months. The summer and fall do not usually experience any precipitation which contributes to overall decline of air quality for the region. Lack of precipitation allows for ambient particles to continue existing within the air basin further exacerbating the air quality of the region.

The vertical dispersion of air pollutants in the Valley is limited by the presence of persistent temperature inversions. Solar energy heats up the Earth's surface, which in turn radiates heat and warms the lower atmosphere. Therefore, as altitude increases, the

air temperature usually decreases due to increasing distance from the source of heat. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Inversions can exist at the surface or at any height above the ground, and tend to act as a lid on the Valley, holding in the pollutants that are generated here.

The EPA recently announced that it had finalized approval of the SJVAPCD's request for redesignation to attainment of the federal PM10 standard. No official exceedances of the PM10 standard had been recorded anywhere in the San Joaquin Valley Air Basin (SJVAB) since 2003. However, on several occasions monitors in the SJVAB exceeded the standard during periods of high winds and blowing dust. The federal Clean Air Act does not count exceedances of air quality standards caused by natural events such as dust storms when determining attainment status. However, the area must prepare a Natural Event Action Plan (NEAP) that describes measures that the SJVAPCD will take to inform the public if another event is predicted to occur and actions that can be taken to reduce the chances of future events, if possible. The SJVAPCD has an approved NEAP in place.

The SJVAB counties exceed the federal annual PM2.5 standard. The SJVAB does not exceed the federal 24 hour PM2.5 standard. The SJVAPCD PM2.5 Attainment Plan predicts attainment of this standard by 2015. The PM2.5 problem is due to a combination of directly emitted particles from combustion such as fireplaces, and diesel engines, and from particles formed in the atmosphere including nitrates and sulfates. The SJVAPCD strategy relies on reducing emissions by reducing burning, especially on bad air days, with fireplace use and installation restrictions and a phase out of agricultural burning. Also important for reducing directly emitted PM2.5 are regulations to reduce particulate emissions from diesel engines adopted by ARB and the SJVAPCD. The strategy for reducing secondary PM2.5 relies primarily on ARB and SJVAPCD regulations to reduce oxides of nitrogen (NOx) emissions from mobile and stationary sources.

Summaries of air pollution monitoring data for Madera County's air monitoring station in Madera are provided in Table AQ - 1 for ozone. The table provides the number of days exceeding state and national standards and the average and maximum concentrations measured during 2006 through 2008. The San Joaquin Valley Air Basin numbers are provided in Table AQ – 2 through 3 for PM 10 and PM 2.5 levels. At this time Madera County does not have any local monitoring stations for PM 10 and PM 2.5.

Table AQ – 1 Ozone Trend Summary – Madera Pump Yard Monitoring Station

Year	Days > Standard				1-Hour Observations			8-Hour Averages				Year Coverage
	State		National		State	Nat'l		State		National		
	1-Hr	8-Hr	1-Hr	'08 8-Hr	Max.	D.V.[1]	D.V.[2]	Max.	D.V.[1]	Max.	'08 D.V.[2]	
2008	9	46	0	24	0.120	0.10	0.105	0.107	0.095	0.107	0.083	88
2007	0	12	0	5	0.091	0.10	0.095	0.084	0.084	0.083	0.078	98
2006	4	35	0	15	0.113	0.10	0.097	0.095	0.085	0.095	0.078	99

Table AQ – 2 PM 10 Trends Summary – San Joaquin Valley Air Basin

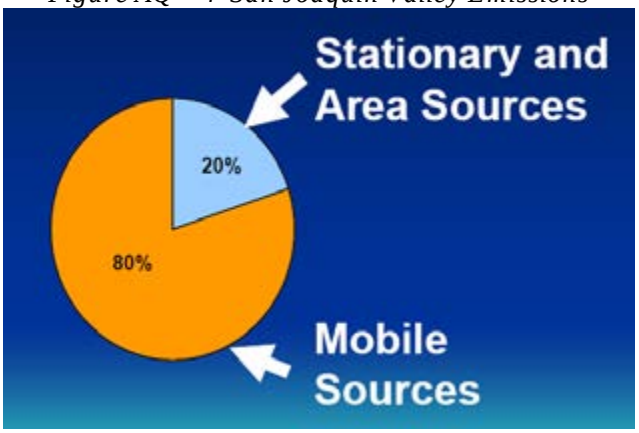
Year	Est. Days > Std.		Annual Average		3-Year Average		High 24-Hr Average		Year Coverage
	Nat'l	State	Nat'l	State	Nat'l	State	Nat'l	State	
2008	4.8	182.2	59.7	55.9	57	56	390.2	353.5	100
2007	1.4	145.1	54.8	48.5	51	56	172.0	135.0	100
2006	4.2	166.8	55.4	56.4	47	56	303.9	255.0	100

Table AQ – 3 PM 2.5 Trends Summary – San Joaquin Valley Air Basin

Year	Est. Days > Nat'l '06 Std.	Annual Average		Nat'l Ann. Std. D.V.[1]	State Annual D.V.[2]	Nat'l '06 Std. 98th Percentile	Nat'l '06 24-Hr Std. D.V.[1]	High 24-Hour Average		Year Coverage	
		Nat'l	State					Nat'l	State	Min.	Max.
2008	66.7	23.5	21.2	21.5	25	72.3	70	100.3	118.8	11	100
2007	65.6	22.0	25.2	20.3	25	73.0	69	103.8	154.0	79	98
2006	38.7	19.3	21.6	18.9	22	64.7	64	87.0	88.1	83	100

The NOx reduction strategy provides multiple air quality benefits. NOx combines with ammonia in the atmosphere to produce ammonium nitrate particulate matter. The atmosphere in the SJVAB tends to be rich in ammonia, so the control strategy for ammonium nitrate relies on reducing NOx. NOx and VOC are the main precursors to forming ozone in photochemical reactions. Although the ozone control strategy includes both NOx and VOC reductions, NOx reductions are considered the limiting pollutant in attaining the ozone standard. Within the San Joaquin Valley emissions are split between mobile sources (cars, trucks, buses, trains, airplanes, and mobile off-road equipment) and stationary and area sources (see Figure AQ – 4). Stationary sources include power plants, refineries, stationary engines, boilers, gasoline stations, dry cleaners, and hundreds of other types of equipment and industrial processes. Area sources are mostly small but widespread sources such as residential water heaters, fireplaces, and composting operations. Mobile sources emissions dominate pollution problems in the SJVAB comprising 80 percent of the emissions.

Figure AQ – 4 San Joaquin Valley Emissions



Source: San Joaquin Valley Air Pollution Control District 2007 Ozone Plan Presentation

The emissions inventory summary for Madera County is provided below in Table AQ – 4.

Table AQ-4: 2008 Madera County Nonattainment Pollutant Emissions Inventory

EMMISSIONS CATEGORY	TONS PER DAY			
	ROG	Nox	PM10	PM2.5
STATIONARY SOURCES	3.09	11.26	1.41	1.04
AREA-WIDE SOURCES	7.41	1.77	15.64	5
MOBILE SOURCES	8.1	21.22	1.12	0.93
TOTAL MADERA COUNTY	18.6	34.25	18.17	6.97

Source: California Air Resources Board 2008

The key factors in understanding localized pollution problems are concentration of emissions and proximity to sensitive receptors. Locations that have a large number of sources, for example, a heavily congested major intersection with many idling vehicles, emit large amounts of pollution in a small area. If a sensitive receptor such as a residence, school, or hospital is near the congested area, people there may be exposed to levels of pollutants that exceed standards. Another example is hazardous emissions from diesel trucks. Location of loading docks away from sensitive receptors and limiting the amount of idling can prevent exposure of sensitive receptors to concentrations that would exceed significance thresholds. The impacts of localized pollutants are usually determined using dispersion models that predict pollutant concentrations at a distance from the source. ARB prepared a guidance document, “Air Quality and Land Use Handbook: A Community Perspective”, that makes recommendations regarding buffer distances between hazardous sources and sensitive receptors when making sitting decisions. Specific sources addressed in the Handbook include high traffic freeways and roads, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and large gasoline dispensing facilities.

1. Growth in Population and Vehicle Miles Traveled

Madera County is predicted to experience significant population growth in the coming years (62.27 percent between 2008 and 2030). Accommodating this amount of growth presents a challenge for attaining and maintaining air quality standards and for reducing greenhouse gas emissions. The increase in population is expected to be accompanied by a similar increase in vehicle miles traveled (VMT) (61.36 percent between 2008 and 2030). Table AQ-5 displays the predicted increase in population and travel. The increase in the lane miles of roads that will serve the increase in VMT is estimated at 120 miles or 0.94 percent by 2030. This indicates that roadways in Madera County can be expected to become much more crowded than is currently experienced.

Table AQ - 5 Madera County Population and Travel - 2008 to 2030

Horizon Year	Total Population (thousands)	Employment (thousands)	Average Weekday VMT (millions)	Total Lane Miles
2010	175	49	5.4	2,157
2011	180	53	5.5	NA
2017	210	63	6.7	NA
2020	225	68	7.3	2,264
2030	281	85	8.8	2,277

Source: MCTC 2007 RTP

B. Regulatory Setting

Air pollution control is a complex problem requiring the involvement of federal, state, regional, and local government and individual actions by citizens. The primary responsibility of each level of government is described below. The United States Environmental Protection Agency (EPA) handles global, international, national, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans (SIP), and provides research and guidance in air pollution programs, and sets National Ambient Air Quality Standards (NAAQS), also known as federal standards. The SIP for the State of California is administered by the California Air Resources Board (ARB) who has overall responsibility for statewide air quality maintenance and air pollution prevention. A SIP is prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain NAAQS. The SIP incorporates individual Federal attainment plans for regional air districts. Federal attainment plans prepared by each air district are sent to the ARB to be approved and incorporated into the California SIP. Federal attainment plans include the technical foundation for understanding the air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. ARB also administers California Ambient Air Quality Standards (CAAQS) for the ten air pollutants designated in the California Clean Air Act (CCAA). State and federal standards and health effects are described in Table AQ - 6. Due to California's severe air quality challenges, the federal Clean Air Act (CAA) authorizes California to adopt mobile source emission standards that are more stringent than imposed by the EPA.

Table AQ-6 Ambient Air Quality Standards

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15.0 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m^3)		0.100 ppm (see footnote 8)	None	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	—	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	—	
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	1 Hour	0.25 ppm (655 µg/m^3)		—	—	—
Lead[9]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[10]	—		0.15 µg/m^3		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[9]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990 California Air Resources Board (02/16/10)

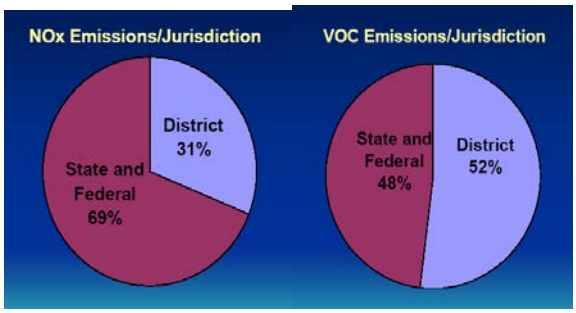
Although California air quality standards are often more stringent than federal standards, most of the regulatory focus is placed on achieving the federal standards. The primary reason for the focus on federal standards is that the CAA contains plan submittal and attainment deadlines that, if not met, result in the imposition of sanctions and other federally enforceable requirements. Sanctions may include a freeze on federal

transportation funds and construction permits for new sources of industry. The California Clean Air Act requires the implementation of all feasible controls and achievement of attainment at the earliest practicable date, but contains no penalties or sanctions. Since the plans prepared to comply with federal standards also contain all feasible controls but have fixed dates for attainment, those plans serve to demonstrate that progress is being achieved toward meeting both state and federal standards. Once federal standards are achieved, then focus will turn to meeting the more stringent state standards.

The local air pollution control agency for the San Joaquin Valley Air Basin (SJVAB) is the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD includes the counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the Valley portion of Kern County. The SJVAPCD is responsible for controlling emissions primarily from stationary sources, but also has authority to control certain area sources and indirect sources. The SJVAPCD and the ARB maintain air quality monitoring stations throughout the basin. The SJVAPCD, in coordination with the eight Valley regional transportation agencies, is also responsible for developing, updating, and implementing the Air Quality Attainment Plans (AQAPs) to comply with federal and state ambient air quality standards for the SJVAB.

The regulatory responsibility for control of NOx and VOC emissions in the SJVAB is divided between SJVAPCD and State and Federal regulatory agencies such as ARB (see Figure AQ – 5). The NOx emission pie chart reflects the importance of state and federal tailpipe and engine controls on off-road and on-road mobile sources that comprise nearly 69 percent of emissions. Stationary and area sources under SJVAPCD jurisdiction such as boilers, turbines, stationary engines, fireplaces, agricultural burning comprises nearly 31 percent of the NOx emissions. VOC emissions are more evenly split between state and federal and SJVAPCD responsibility. This reflects comparatively lower VOC emission from mobile sources and greater VOC emissions from oil production, fuel handling, and agricultural sources such as dairies and pesticide application.

Figure AQ - 5 Emission Responsibility by Jurisdiction



Source: San Joaquin Valley Air Pollution Control District, 2007 Ozone Plan Presentation

Regional Transportation Planning Agencies are responsible for developing mobile source emission budgets for use in AQPs and for adopting and implementing Transportation Control Measures (TCMs). The Madera County Transportation Commission (MCTC) is the transportation planning agency for Madera County. MCTC works closely with the County and the cities to develop TCMs and to ensure timely implementation of TCM commitments. Madera County plays a major supporting role in air quality through its control of land use and development in lands under its jurisdiction. As a major employer,

building and facility owner, fleet operator, and maintainer of the County road network, Madera County has significant responsibilities for mitigating impacts from its own activities.

1. SJVAPCD Rules and Regulations

The SJVAPCD has broad authority to control air pollution under state and federal law. The following is a summary of the rules and regulations that most impact development in Madera County.

SJVAPCD Rule 2201 – New and Modified Stationary Source Review. The purpose of this rule is to provide for the following: The review of new and modified Stationary Sources of air pollution and to provide mechanisms including emission trade-offs by which Authorities to Construct such sources may be granted, without interfering with the attainment or maintenance of Ambient Air Quality Standards; and no net increase in emissions above specified thresholds from new and modified Stationary Sources of all nonattainment pollutants and their precursors.

SJVAPCD Rule 4002 – National Emissions Standards for Hazardous Air Pollutants (NESHAPs). This rule requires compliance with the asbestos demolition and renovation requirements developed by the United States Environmental Protection Agency (EPA) in the NESHAP regulation, 40 CFR, Part 61, Subpart M.

SJVAPCD Rule 4102 – Nuisance. The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials.

SJVAPCD Regulation VIII – Fugitive PM10 Prohibitions. Rule 8011-8081 are designed to reduce PM10 emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc.

SJVAPCD Rule 4103 – Open Burning. The purpose of this rule is to regulate the burning of agricultural waste to minimize or eliminate the impact of agricultural burning on the SJVAB.

SJVAPCD Rule 4601 – Architectural Coatings. The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings.

SJVAPCD Rule 4641 – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations.

SJVAPCD Rule 4901 – Wood Burning Fireplaces and Wood Burning Heaters. The purposes of this rule are to limit emissions of carbon monoxide and particulate matter from wood burning fireplaces, wood burning heaters, and outdoor wood burning devices, and to establish a public education program to reduce wood burning emissions.

SJVAPCD Rule 9510 – Indirect Source Review. This rule reduces the impact of NOX and PM10 emissions from growth have on the SJVAB. The rule places application and

emission reduction requirements on applicable development projects in order to reduce emissions through on-site mitigation, off-site SJVAPCD-administered projects, or a combination of the two.

C. Public/Private Partnership Air Quality Programs and Initiatives

1. Agriculture

Agriculture is Madera County's number one industry and plays an important role in improving our air quality. Farming competes in a global marketplace and must constantly improve efficiency and reduce costs in order to remain competitive. Fortunately, measures that improve efficiency also often have air quality benefits through reduced fuel use, power consumption, and dust generation. Protecting farmland provides air quality benefits by focusing development in cities and rural communities where transportation options such as walking, bicycling, and transit are more feasible and travel distances are less. Farmland can be protected from premature development by focusing development in the existing urban areas at higher densities than were constructed in the past. Improved efficiency and farmland conservation go hand in hand to keep farmland in production and economically viable.

The agricultural industry in cooperation with government agencies and universities are producing many advances in agricultural practices that provide energy and air quality benefits. Example projects and initiatives include:

- Water well efficiency upgrades
- Conversion from diesel engines to electric motors for water pumping
- Precision irrigation
- Integration of solar voltaic energy generation on site
- Drip and micro sprinkler systems
- Precision pesticide and fertilizer application
- Chemigation (application of fertilizers and pesticides with irrigation water)
- Conservation tillage – low till and no till
- Reduce passes by using larger equipment
- Install dairy digesters to produce biogas
- Cogeneration projects at food processing plants
- Reduced agricultural burning through cogeneration and composting.

2. Madera Area Express (MAX)

The City of Madera and its immediate environs are served by a number of public and private transportation providers. The City operates Madera Area Express (MAX), a fixed-route system and Dial-A-Ride, a general public demand-responsive system. Both services are operated under contract with Laidlaw Transit. Dial-A-Ride is a general public system primarily serving the elderly and disabled.

3. Chowchilla Area Transit Express (CATX)

The City of Chowchilla operated CATX, a general public, demand-responsive service. CATX service was initiated in 1995 and incorporated the senior bus program. The County of Madera funds CATX service for unincorporated portions of the service area.

4. Social Service Transportation

Seven social service agencies provide transportation in Madera County (Table AQ-7) These agencies provide service to their clients and to specific sites.

Social Service Transportation (Table AQ-7)

SOCIAL SERVICE AGENCY	TRANSPORTATION PROVIDED
Heartland Opportunity Center	• Demand-response service weekdays from 9 a.m. to 3 p.m. using 8 vehicles. • Serves disabled persons over 18 years old.
Madera County Action Agency-Escort Service	• Countywide volunteer driver program using private vehicles. • Weekdays from 6 a.m. to 6 p.m. • Serves Eastern Madera County residents
Madera County Action Agency-Head Start	• Fixed-route transportation to schools from 6 a.m. to 6 p.m. using 18 vehicles. • Serves Head Start students.
Madera County Action Agency-Senior Program	• Demand-response service using one vehicle. • Serves Eastern Madera County seniors and disabled residents.
Madera County Department of Public Works-Child Protective Services	• Demand-response service weekdays from 8 a.m. to 5 p.m. using one van and private automobiles. • Services persons receiving SSI/SSP benefits.
Madera Counseling Center	• Service as needed using 3 vehicles to and from the Madera Counseling Center. • Counseling Center clients.
American Cancer Society	• Volunteer driver program using private vehicles. • Serves ambulatory cancer patients.

5. Private Providers

Several private carriers provide inter-city services, including Greyhound and Amtrak. Greyhound operates seven days a week from the City of Madera's Downtown Intermodal Center on North E Street.

6. Passenger Rail Service

Madera County is served by the Burlington Northern Santa Fe (BNSF) and the Union Pacific (UP) Railroads. Amtrak operated seven days a week with twelve daily stops in Madera along the BNSF Railroad alignment. The station is located on Avenue 15 ½ and Road 29. The nearest stop north is in Merced and Fresno to the south. The City of Madera opened its Intermodal Station in November 1994. This facility provides space for the Dial-A-Ride operation, the Madera fixed route system, and Greyhound intercity services.

7. Aviation

The City of Madera owns and operates the Madera County Municipal Airport, which provides aviation services to approximately 120 fixed-base operators. The City of Chowchilla operates the Chowchilla Municipal Airport with 34 fixed-base operators.

III. AIR QUALITY POLICIES

The Air Quality Element establishes a central place for goals, objectives and policies to guide and address the wide range of air quality issues facing Madera County. These goals, objectives and policies are consistent with other General Plan Elements, the eight Community Plans described therein, and the Madera County Transportation Commission (MCTC) Regional Transportation Plan.

A. Regional Coordination

AQ GOAL A1 **Achieve effective communication, cooperation, coordination and education in developing and implementing countywide and regional programs to improve air quality and reduce potential climate change impacts.**

AQ OBJECTIVE A1.1
Proactively coordinate County air quality improvement activities with regional programs and those of neighboring jurisdictions.

Governmental coordination and cooperation is considered to be embraced by all, but it takes proactive and sustained effort to achieve effective coordination and cooperation in on-going government programs. The differing responsibilities and constituencies of cities, and counties, along with those of State, federal and regional agencies, will require a commitment by all to reduce land use based sources of air pollution that affect our public health and quality of life. Working together for a common interest can multiply the resources available to accomplish air quality goals. Agriculture is Madera County's most important industry and it has implemented many initiatives that have already reduced air pollution and energy consumption. Madera County can provide support for these initiatives and help spread their success and implementation throughout the County and the San Joaquin Valley.

AQ Policy A1.1.1 **Designate an Air Quality and Climate Change Coordinator to coordinate County efforts and work with neighboring jurisdictions and affected agencies to minimize cross-jurisdictional and regional transportation and air quality issues.**

AQ Policy A1.1.2 **Consult with the SJVAPCD and MCTC during CEQA review of discretionary projects having the potential for causing adverse air quality, transportation, and climate change impacts. Participate in the SJVAPCD Climate Change Action Plan implementation.**

AQ Policy A1.1.3 **Actively work with and support agriculture to develop,**

implement and find funding sources for programs and initiatives that improve air quality reduce greenhouse gases and particulate matter.

AQ OBJECTIVE A1.2

Educate the public on the impact that individual choices and decisions regarding land use, transportation, lifestyle, and energy use have on our air quality and climate.

Without the understanding and support of the general public, local air quality and climate change prevention programs cannot be expected to achieve the desired results. Programs to educate the public on air quality issues are a vital component of a successful air quality program.

AQ Policy A1.2.1 **Facilitate efforts that increase the public's understanding of the linkage between land use, transportation, water and energy use and air pollution. Efforts should include informing the public of measures that can be taken and resources that are available to improve air quality and reduce potential climate change impacts.**

AQ Policy A1.2.2 **Support the efforts of local public and private groups that provide air quality, public health and climate change education and outreach programs.**

AQ Policy A1.2.3 **Work with the Madera County Office of Education and local school districts to provide information to students on air pollution, public health effects and climate change, and our collective responsibility for improving our quality of life.**

B. Planning Integration

AQ GOAL B1 **Improve Air Quality, Land Use and Transportation Planning integration and reduce impacts through appropriate project location, design and application of best available technologies.**

AQ OBJECTIVE B1.1

Integrate the County's land use, transportation, and air quality planning efforts to make the most efficient and effective use of public resources and create a healthier and more livable environment.

In the past, transportation planning has typically emphasized the construction of new roadway capacity to reduce congestion and to meet the needs of planned development. Air quality legislation now mandates all transportation plans to consider their affect on air quality. This new emphasis requires that land use and transportation plans establish patterns of development and transportation infrastructure that minimize the need for new roadway capacity and improve air quality.

AQ Policy B1.1.1 **Minimize air quality and potential climate change impacts through project review, evaluation, and conditions of approval when planning the location and design of land uses and transportation systems needed to accommodate expectedCounty population growth. Integrate decisions on land use and development locations with the SJV Blueprint.**

AQ Policy B1.1.2 **Submit transportation improvement projects to be included in regional transportation plans (RTP, RTIP, CMP, etc.) that are found to be consistent with the air quality and climate change goals and policies of the General Plan.**

AQ Policy B1.1.3 **Consult with MCTC and transit providers during the planning stages of land use and transportation projects to assess project impacts on long range transit plans and ensure that potential impacts are avoided.**

AQ Policy A1.1.4 **During project review, approval, and implementation, work with Caltrans, ARB, SJVAPCD, and MCTC to minimize the air quality, mobility, and social impacts of large scale transportation projects on existing communities and planned sensitive land uses.**

C. Air Quality Management

AQ GOAL C1 **Use Air Quality Assessment and Mitigation programs and resources of the SJVAPCD and other agencies to minimize air pollution, related public health effects, and potential climate change impacts within the County.**

AQ OBJECTIVE C1.1

Accurately assess and mitigate potentially significant local and regional air quality and climate change impacts from proposed projects within the County.

The environmental assessment process required under the California Environmental Quality Act (CEQA) is by far the most important tool for local government to communicate with other agencies and the public on the air quality impacts of new development within a community. Strong and consistent application of CEQA requirements can make a significant difference in preventing or minimizing project level air quality impacts. In addition, the County can also offer its assistance to existing land uses to reduce their air pollution and greenhouse gas emissions.

AQ Policy C1.1.1: **Assess and mitigate project air quality impacts using analysis methods and significance thresholds recommended by the SJVAPCD and require that projects do not exceed established SJVAPCD thresholds.**

AQ Policy C1.1.2: **Assess and mitigate project greenhouse gas/climate change impacts using analysis methods and significance thresholds as defined or recommended by the SJVAPCD, MCTC or California Air Resources Board (ARB) depending on the type of project involved.**

AQ Policy C1.1.3: **Ensure that air quality and climate change impacts identified during CEQA review are minimized and consistently and fairly mitigated at a minimum, to levels as required by CEQA.**

AQ Policy C1.1.4 **Identify and maintain an on-going inventory of the cumulative transportation, air quality, and climate change impacts of all general plan amendments approved during each year.**

AQ Policy C1.1.5 **Assess and reduce the air quality and potential climate change impacts of new development projects that may be insignificant by themselves but, taken together, may be cumulatively significant for the County as a whole.**

AQ Policy C1.1.6 **Encourage and support the development of innovative and effective mitigation measures and programs to reduce air quality and climate change impacts through proactive coordination with the SJVAPCD, project applicants, and other knowledgeable and interested parties.**

AQ Policy C1.1.7 **Initiate through the Resource Management Agency discussions with the SJVAPCD to develop a program and identify mitigation projects that would permit the expenditure of SJVAPCD Rule 9510 – Indirect Source Review air quality mitigation fees generated in Madera County on air quality projects in Madera County to maximize local benefits to air quality and the economy.**

AQ Policy C1.1.8 **Actively work with project sponsors to maximize their participation in Voluntary Emission Reduction Agreements (VERA) with the SJVAPCD that fulfill the requirements of CEQA and Rule 9510 and provide emission reductions at least as large as those required by Rule 9510. The VERA process provides an opportunity for the County to identify local air emission reduction projects and expand the County's active participation in the project selection process.**

D. Transportation Enhancement

AQ GOAL D1 **Invest in more efficient and effective transportation infrastructure, fleet management and support for trip reduction programs to reduce traffic congestion, vehicle trips and the need for costly new or expanded roadways.**

AQ OBJECTIVE D1.1

Public facilities, operations and programs will serve as a model for the private sector in implementing air quality requirements.

Government is often the largest employer in a jurisdiction, and typically operates large vehicle fleets. The County can take a leadership role in implementing employer based trip reduction and fleet operator programs to reduce its own emissions and provide a model for the private sector.

AQ Policy D1.1.1 **County departments should take the lead in implementing feasible and affordable innovative and flexible employer based trip reduction programs for their employees, including consideration of telecommuting programs and flexible work schedules so long as customer service is not affected.**

AQ Policy D1.1.2 **Support the development and use of teleconferencing facilities by County agencies in lieu of employee travel to conferences and meetings.**

AQ Policy D1.1.3 **County fleet vehicle operators should develop and maintain a fiscally sound inventory and priority schedule to replace or convert existing conventional fuel vehicles lower emitting and fuel efficient vehicles as new vehicles are purchased and existing vehicles are retired from service.**

AQ OBJECTIVE D2.1

Through the project review and approval process ensure that new development projects within the County are designed to provide facilities and programs that improve the effectiveness of transportation control measures and congestion management programs.

State and federal legislation requires local governments to include strategies to increase the efficiency of transportation infrastructure and to reduce vehicle trips in their transportation plans. Transportation control measures (TCMs) are most effective when infrastructure is in place that supports alternative transportation modes. This would

include community wide transportation improvements and on site improvements at individual worksites and businesses. The County can support these strategies by requiring new development to include infrastructure and TCMs in the project design that reduces congestion or trips.

AQ Policy D2.1.1 **Request project sponsors to demonstrate that all feasible TCMs and other measures have been incorporated into project designs which increase the effective capacity of the existing road network prior to seeking approval to construct additional roadway capacity, such as additional lanes or new highways.**

AQ Policy D2.1.2 **County staff shall proactively work with MCTC, employers and developers to provide appropriate land use designations in urban communities which will allow affordable transportation alternatives and neighborhood work centers for telecommuting to serve both new and existing land uses designated by the General Plan.**

AQ Policy D2.1.3 **Encourage and support private sector employer based trip reduction programs such as alternative work schedules, rideshare matching, and transit subsidies.**

AQ Policy D2.1.4 **Distribute CMAQ funds to county projects that maximize emission reductions to support the ozone and particulate matter SIPs.**

E. Energy Efficiency and Conservation

AQ GOAL E1 **Minimize air emissions and potential climate change impacts related to energy consumption in the County.**

AQ OBJECTIVE E1.1

Increase the use of energy conservation features, renewable sources of energy and low-emission equipment in new and existing development projects within the County.

Natural gas burning appliances used for space heating, water heating, and cooking are a sizable source of NOx and CO_2 emissions. Consumption of electricity also causes pollutant emissions from the operation of power plants fueled by fossil fuels. Reduction in local energy demand will also reduce overall energy demand, which decreases the expediency for new energy production plant construction. Local efforts to reduce energy consumption can save consumers money and improve air quality. Simple and cost effective designs, technologies, and methods are available to achieve energy savings and reduce air pollutant emissions.

AQ Policy E1.1.1 **Initiate and sustain ongoing efforts with local water and energy utilities and developers to establish and implement voluntary incentive based programs to encourage the use of energy efficient designs and equipment in new and existing development projects within the County.**

AQ Policy E1.1.2 **Initiate and sustain ongoing efforts with agriculture, the building industry, water and energy utilities and the SJVAPCD to promote enhanced energy conservation and sustainable building standards for new construction.**

AQ Policy E1.1.3 **Work with local water and energy utilities and the building industry to develop or revise County design standards relating to solar orientation of building occupancies, water use, landscaping, reduction in impervious surfaces, parking lot shading and such other measures oriented towards reducing energy demand.**

AQ Policy E1.1.4 **Actively promote the more efficient location of industries within the County which are labor intensive, utilize cogeneration or renewable sources of energy, support and enhance agricultural activities, and are consistent with other policies of the General Plan.**

AQ Policy E1.1.5 **County staff will proactively work with the Cooperative Agricultural Extension office, California Energy Commission, local water and energy utilities, the agricultural industry, and other potential partners to seek funding sources and implement programs which reduce water and energy use, reduce air emissions and reduce the creation of greenhouse gases.**

F. Hazardous Emissions and Public Health

AQ GOAL F1 **Minimize exposure of the public to hazardous air pollutant emissions, particulates and noxious odors from freeways, major arterial roadways, industrial, manufacturing, and processing facilities.**

AQ OBJECTIVE F1.1

Locate adequate sites for industrial development and roadway projects away from existing and planned sensitive land uses which minimize or avoid potential health risks to people that might result from hazardous air pollutant emissions.

Decisions for locating industrial and residential development has the potential to create land use conflicts due to exposure to hazardous emissions. In addition, planning sensitive land uses in proximity to major transportation routes and facilities can also

result in public health concerns. Providing appropriate locations and separation for incompatible land uses for all types of development can minimize conflicts and promote economic growth.

AQ Policy F1.1.1 **Locate residential development projects and projects categorized as sensitive receptors an adequate distance from existing and potential sources of hazardous emissions such as major transportation corridors, industrial sites, and hazardous material locations in accordance with the provisions of ARB's Air Quality and Land Use Handbook.**

AQ Policy F1.1.2 **Locate new air pollution point sources such as, but not limited to industrial, manufacturing, and processing facilities an adequate distance from residential areas and other sensitive receptors in accordance with the provisions of ARB's Air Quality Land Use Handbook.**

AQ OBJECTIVE F2.1

Reduce emissions of PM10, PM2.5 and other particulates from sources with local control potential or under the jurisdiction of the County.

Levels of PM10 (particulate matter less than 10 microns in diameter) no longer exceed federal health based standards. However, maintenance of the federal standard and achieving the state standard while accommodating growth will require continued effort. The San Joaquin Valley was recently reclassified as a maintenance area for PM10 under the federal criteria. Because of this classification, the SJVAPCD is required to take actions to ensure continued maintenance of the standard in the future. This is accomplished by the continued implementation of Best Available Control Measures (BACM) on all significant sources of emissions. Control efforts for sources under the jurisdiction of the County can significantly reduce these emissions. The SJVAB also exceeds the annual PM2.5 (particulate matter less than 2.5 microns in diameter) standards. Some actions to reduce PM10 and ozone precursors will also reduce PM2.5.

AQ Policy F2.1.1 **Coordinate with the SJVAPCD to ensure that construction, grading, excavation and demolition activities within County's jurisdiction are regulated and controlled to reduce particulate emissions to the maximum extent feasible.**

AQ Policy F2.1.2 **Require all access roads, driveways, and parking areas serving new commercial and industrial development are constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.**

AQ Policy F2.1.3 **Develop a program to reduce PM10 emissions from County maintained roads to the maximum extent feasible.**

G. Climate Change

AQ GOAL G1 **Reduce Madera County's proportionate contribution of greenhouse gas emissions and the potential impact that may result on climate change from internal governmental operations and land use activities within its authority.**

AQ OBJECTIVE G1.1
Identify and achieve greenhouse gas emission reduction targets consistent with the County's proportionate fair share as may be allocated by ARB and MCTC.

Global climate change is an emerging issue that requires all levels of government to take action to reduce emissions under their jurisdiction and influence.

AQ Policy G1.1.1 **As recommended in ARB's Climate Change Adopted Scoping Plan (December 2008), the County establishes an initial goal of reducing greenhouse gas emissions from its internal governmental operations and land use activities within its authority to be consistent with ARB's adopted reduction targets for the year 2020. The County will also work with MCTC to ensure that it achieves its proportionate fair share reduction in greenhouse gas emissions as may be identified under the provisions of SB 375 (2008 Chapter 728) for any projects or activities requiring approval from MCTC.**

AQ Policy G1.1.2 **Progress in meeting the goals specified in AQ Policy G1.1.1 will be monitored and reported to the Board of Supervisors in the Annual Progress Report required by Government Code Section 65400(a)(2). Should the Board determine that sufficient progress is not being made to achieve the identified goals, or that proposed measures are ineffective or insufficient in meeting the goals, additional measures will be adopted as necessary.**

AQ Policy G1.1.3 **County staff should explore opportunities to utilize the net emission reductions identified through the confined animal feeding operation approval process to offset greenhouse gas emissions on a regional basis.**

IV. IMPLEMENTATION

The main purposes for this Implementation Program for the Air Quality Element include:

• Focus resources where they can most advance the General Plan.

• Rapidly satisfy legal requirements as specified in the Government Code section 65302 et all.

• Provide robust support for private sector and public sector commitments to the Plan.

• Provide leverage for other dependent actions.

• Respond to the most critical issues in as timely a manner as possible.

• Support the San Joaquin Valley Blueprint.

These purposes are served largely through two types of implementation initiatives. The first is the processing of private development projects and public facility projects. Most, but not all, of the General Plan policies are carried out through the project review process.

The second initiative type is a dedicated action that must be designed and taken. It may involve creating a new ordinance, making an organizational change, obtaining new funding, updating current processing procedures or technical standards, or seeking desired legislative changes. These and other initiatives are simply aimed at strengthening the County's capabilities to implement the General Plan.

Implementation Programs with Air Quality Benefits

Land Use Program:

Continue to apply the "Agricultural, Rural, Exclusive" (ARE) zone to areas so designated on the General Plan Land Use Map, with minimum parcel size as indicated (e.g., ARE-20 and ARE-40). Permit, or permit subject to administrative action, all agricultural uses in the ARE zone. Require Conditional Use permits of all agricultural service industries, agricultural airports, and other commercial operations which are now permitted, or are permitted subject to administrative approval, in agricultural zone districts. New and expanding dairies, and dairy replacement stock facilities activities, shall be reviewed and processed as conditional use permits consistent with the policies found in the Dairy Element.

New Land Use/LAFCO Program:

Request the Local Agency Formation Commission of Madera County (LAFCO) to adopt agricultural preservation policies as defined in the Resource Conservation Element to efficiently manage conversion of prime agricultural lands within the County. Prime

agricultural land and agricultural operations are recognized as maintaining agricultural open space areas that make up most of the County's landscape and has vegetative cover that is deemed beneficial air quality emissions.

Resource Conservation Program:

Improve local air quality through reduced use motor vehicles. Implement mandatory Transportation Control Measures as part of project mitigation measures. Implement ridesharing and other mandatory air quality improvement measures. Implementation of these measures is coordinated through the San Joaquin Valley Unified Air Pollution Control District and Madera County Transportation Commission.

Air Quality Element Program 1:

As part of the annual report to the Board of Supervisors on progress in implementing the General Plan, staff will report on benchmarks achieved that implement goals, objectives, and policies having air quality benefits. The County will use its Geographic Information System (GIS) to provide up to date land use and development data and tracking for other metrics. Appropriate benchmarks and the means to track them will be developed within 12 months of adoption of the Air Quality Element and will be adjusted over time to respond to changing conditions and lessons learned. The following benchmarks are proposed:

Land Use Benchmarks:

1. Summary of building permits for new construction issued during the previous year.
2. The amount of residential development approved in new subdivisions and parcel maps in Madera County.
3. The average density of new development approved during the previous year.
4. Progress in improving the jobs/housing balance in Madera County, Cities within Madera County, and neighboring counties.
5. Acres of farmland classified as prime, or of statewide importance approved for development in Madera County.
6. Inventory of vacant land in Madera County cities and Rural Communities by designation including change from previous year.

Resource Conservation Benchmarks:

1. Status report on achieving landfill recycling and diversion targets.
2. Progress achieved on landfill methane capture projects.
3. Progress achieved on water conservation programs and projects.
4. Progress achieved on water reuse projects.
5. Progress achieved on wastewater treatment plant methane capture projects.
6. Progress achieved on dairy digester methane projects.

Transportation and Circulation Benchmarks:

1. San Joaquin Valley Blueprint implementation status report.
2. Transit ridership statistics.
3. Transit route expansions and changes to service frequency.

4. New lane miles of roads built by functional classification.
5. Paving, treating, or abandoning of County unpaved roads.
6. Progress in implementing congestion relief projects.
7. Status report on Madera County rail projects.
8. Report on traffic calming projects completed.

Air Quality Benchmarks:

1. Compile a report from information provided by the SJVAPCD and ARB on air quality in Madera County during the previous year and upcoming regulations and initiatives impacting the County.
2. Inventory of County fleet vehicles replaced with conventionally fueled vehicles compared to those fueled by alternative fuels.
3. Public education program status report (number of County events, sponsorships, outreach materials developed and distributed).
4. SJVAPCD Rule 8061 – Paved and Unpaved Roads Compliance Report documenting County actions to reduce fugitive dust from County roads.
5. SJVAPCD Rule 9510 – Indirect Source Review - list of projects in Madera County that complied with the rule. Include mitigation fees paid and emission reductions reported by the SJVAPCD for the projects.
6. Solar roofs statistics for Madera County (number of installations of solar panels, and cumulative generation capacity using information from building permits).
7. List of projects that exceed Title 24 energy efficiency standards and those that achieved certification through programs such as those offered by the LEED program. Include estimated energy savings by project and cumulatively.
8. Identify private sector initiatives in construction, agriculture and industry that reduce energy consumption, promote alternative energy use, or voluntarily reduce air pollutant emissions.
9. Greenhouse Gas Reduction Progress Report that quantifies the benefits from all County initiatives toward meeting reduction targets.
10. Report on TCM implementation on annual basis to the SJVAPCD, as well as those TCM commitments not met during the year.

Air Quality Element Program 2:

As part of its CEQA consultation procedures, Madera County lead agencies refer projects to the SJVAPCD for review and comment on air quality impacts. Staff will continue to provide CEQA documents and supporting technical reports to the SJVAPCD for review. The County will continue to utilize the SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) as a basis for air quality analysis requirements and for determining the significance of air quality impacts of development projects subject to CEQA.

Air Quality Element Program 3:

On December 17, 2009, the San Joaquin Valley Air Pollution Control Districts Governing Board adopted guidance to assist Lead Agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific greenhouse gas emissions on global climate change. The County shall utilize this resource in analyzing new project impacts of global climate change.

Air Quality Element Program 4:

Develop a Madera County Transportation Demand Management (TDM) Program for County employees that provides incentives and services that reduce trips and encourage the use of alternative modes of transportation. Examples of measures that will be considered include:

- Alternative work schedules (3/36, 4/40, and 9/80) where feasible.
- Alternative transportation/rideshare incentives.
- Assign a TDM Coordinator to provide rideshare matching and outreach to employees.
- Provide secure bicycle parking, showers and lockers in County buildings to encourage walking and bicycling for commute trips.

Air Quality Element Program 5:

Develop a Madera County Urban Forestry Program that achieves the following:

- Identifies tree species that are suitable for Madera County's climate.
- Ranks trees by their ozone precursor emission potential.
- Provides guidance for planting locations and spacing to promote tree health and optimal shading.
- Balances water conservation with air quality benefits derived from providing shade.

Air Quality Element Program 6:

The County shall utilize CEQA during the permit application review process to identify sources of hazardous pollutant emissions in their communities. The County shall monitor major industrial sources of hazardous pollutant emissions and mobile sources of hazardous emissions using information available from the SJVAPCD and ARB.

Air Quality Element Program 7:

Madera County, as a member of the Madera County Transportation Commission, participates in the Regional Transportation Planning process that identifies and prioritizes transportation projects and funding. During the development of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Programs, Madera County will ensure that projects are consistent with the air quality goals, objectives, and policies related to the development of transportation infrastructure and comply with federal Transportation Conformity requirements. This includes the Reasonable Available Control Measure (RACM) policy adopted by the SJV Transportation Planning Agencies Directors for the 8-hour SJV Ozone SIP.

Air Quality Element Program 8:

Major development projects provide an opportunity to design the transportation infrastructure serving the project to encourage walking, bicycling, and transit use. During project review of development projects located in areas designated for increased density and mixed use, Planning staff will ensure that proposed streetscapes are pedestrian and bicycle friendly and will require mitigation measures and redesign for projects that fail to meet this criteria.

V. GLOSSARY

Glossary of Terms:

Air Basin - an area of the state designated by ARB pursuant to Subdivision (a) of Section 39606 of the CH&SC.

Air Pollutants - substances which are foreign to the atmosphere or are present in the natural atmosphere to the extent that they may result in adverse effects on humans, animals, vegetation, and/or materials.

Alternative Fuels - fuels such as methanol, ethanol, natural gas, and liquid petroleum gas that are cleaner burning and contribute to the attainment of ARB's emission standards.

Ambient Air - air occurring at a particular time and place outside of structures. Often used interchangeably with outdoor air.

APCD (Air Pollution Control District) - a county agency with authority to regulate stationary sources of air pollution (such as refineries, manufacturing facilities, and power plants) within a given county, and governed by a District Air Pollution Control Board composed of the elected county supervisors. (Compare AQMD and Unified District)

AQAP (Air Quality Attainment Plan) - a plan prepared by a APCD/AQMD designated as a nonattainment area, to comply with the California Clean Air Act for purpose of meeting the requirements of the California Ambient Air Quality Standards.

Areawide Sources - also known as "area" sources, these include multiple stationary emission sources such as water heaters, gas furnaces, fireplaces, and woodstoves. The CCAA requires districts to include these area sources in the AQMPs.

Attainment - achieving and maintaining the air quality standards (both state and federal) for a given standard.

Atmosphere - the gaseous mass or envelope surrounding the earth.

Attainment Area - an area which is in compliance with the National and/or California Ambient Air Quality Standards.

BACT (Best Available Control Technology) - the most stringent emission limit or control technique that has been achieved in practice (any where in the world). BACT is a requirement of NSR (New Source Review).

BARCT (Best Available Retrofit Control Technology) - an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source.

CAAQS (California Ambient Air Quality Standards) - specified concentrations and durations of air pollutants, recommended by the California Department of Health Services and adopted into regulation by the Air Resources Board, which relate the intensity and composition of air pollution to undesirable effects. CAAQS are the standard which must be met per the requirements of the California Clean Air Act.

CARB (California Air Resources Board) - the State's lead air quality agency consisting of a nine member Governor appointed board fully responsible for motor vehicle pollution control, and having oversight authority over California's air pollution management program.

CCAA (California Clean Air Act) - a California law passed in 1988 which provides the basis for air quality planning and regulation independent of Federal regulations, and which establishes new authority for attaining and maintaining California's air quality standards by the earliest practicable date. A major element of the Act is the requirement that local APCDs/AQMDs in violation of the CAAQS must prepare attainment plans which identify air quality problems, causes, trends, and actions to be taken for attainment.

CEQA (California Environmental Quality Act) - a state law intended to protect the environment of California. It is codified in Sections 21000 through 21177 of the Public Resources Code. CEQA establishes mandatory ways by which governmental (public agency) decision makers are informed about the potential significant environmental effects of proposed projects. CEQA also mandates the identification of ways to avoid or significantly reduce damage to the environment. After preliminary review or the completion of an Initial Study, the lead agency may decide to prepare an Environmental Impact Report (EIR) for a project. An EIR is an informational document used to inform public agency decision-makers and the public of the significant effects of a project. The EIR also identifies possible ways to eliminate or minimize the significant effects and describes reasonable alternatives to the project. A court decision has determined that both alternatives and mitigation measures must be discussed in the EIR.

CMAQ (Congestion Mitigation and Air Quality) - a special funding program for State and local government under the 2005 enacted SAFETEA-LU, the latest Federal transportation legislation. The CMAQ program funds transportation projects or programs that will contribute to attainment or maintenance of the national ambient air quality standards. While all CMAQ funding must go to transportation-related projects that demonstrate an air quality benefit, MPOs and local governments are to give priority in distributing CMAQ funds to diesel engine retrofits, and other cost-effective emission reduction and congestion mitigation activities that provide air quality benefits.

CO (Carbon Monoxide) - a colorless, odorless gas resulting from the incomplete combustion of fossil fuels. Over 80% of the CO emitted in urban areas is contributed by motor vehicles. CO interferes with the blood's ability to carry oxygen to the body's tissues and results in numerous adverse health effects. CO is a criteria air pollutant.

CO2 (Carbon Dioxide) - a colorless, odorless, gas that occurs naturally in the earth's atmosphere. Significant quantities are also emitted into the air by fossil fuel combustion. Emissions of CO2 have been implicated with increasing the greenhouse effect.

Concentration - the amount of an air pollutant present in a unit sample, usually measured in parts per million (ppm) or micrograms per cubic meter (ug/m3).

Criteria Air Pollutant - an air pollutant for which acceptable levels of exposure can be determined and for which a Federal or State Ambient Air Quality Standard has been set. Examples include: Ozone, Carbon Monoxide, Nitrogen Dioxide, Sulfur Dioxide, and PM10 (see individual pollutant definitions).

Emission Offset - (also known as emission-trade-off) actual enforceable emission reductions from existing sources sufficient to offset anticipated emission increases associated with new or modified stationary sources. A rule-making concept whereby approval of a new stationary source of air pollution or reduction of emissions from an existing source of air pollution is conditional on the reduction of emissions from other existing stationary sources of air pollution. This concept is utilized in addition to reduction in emissions by employing BACT.

Emission Forecasting - utilizing information and growth and control estimates to approximate future emissions.

Emissions Inventory - an estimate of the quantity of pollutants emitted into the atmosphere over a specific period such as a day or a year. Considerations that go into the inventory include type and location of sources, the processes involved, and the level of activity.

Emission Standard - the maximum amount of a pollutant that is permitted to be discharged from a polluting source such as an automobile or smoke stack.

EPA (U.S. Environmental Protection Agency) - the Federal agency charged with setting policy and guidelines, and carrying out legal mandates for the protection of national interests in environmental resources.

Goal - A general ultimate purpose toward which effort is directed.

Greenhouse Effect - the warming effect of the earth's atmosphere on the earth. Light energy from the sun which passes through the earth's atmosphere is absorbed by the earth's surface and reradiated into the atmosphere as energy. The heat is then trapped by the air, creating a situation similar to that which occurs in a greenhouse.

CAA (Federal Clean Air Act) – a Federal law, first enacted in 1970, that forms the basis for the national air pollution control effort. Last amended in 1990, the CAA establishes ambient air quality (health) standards and prescribes the requirements and dates to meet these standards (SIP).

Hydrocarbon (HC) - any of a large number of compounds containing various combinations of hydrogen and carbon atoms. They may be emitted into the air as a result of fossil fuel combustion and fuel volatilization, and are a major contributor to smog.

Implementation - The enactment of policies, usually through the use of zoning and land division ordinances.

ISR (Indirect Source Review) - a rule or regulation that governs entities such as stationary facilities, buildings, structures, properties, and/or roads which, through their construction to operation, indirectly contributes to air pollution. This includes projects and facilities that attract or generate mobile sources activity (autos and trucks) such as shopping centers, employment sites, schools, and housing developments, that results in the emissions of any regulated pollutant.

Mobile Sources - sources of air pollution such as automobiles, motorcycles, trucks, off-road vehicles, boats, and airplanes. (Contrast with stationary sources)

Monitoring - the periodic or continuous sampling and analysis of air pollutants in ambient air or from individual pollutant sources.

NAAQS (National Ambient Air Quality Standards) - are standards set by the Federal EPA for the maximum levels of air pollutants which can exist in the ambient air without unacceptable effects on human health or the public welfare.

Nonattainment Area - an area identified by the EPA and/or ARB as not meeting either NAAQS or CAAQS standards for a given pollutant.

Objective - The object of a course of action, midway in specificity between a goal, or general purpose, and a policy, or specific action statement.

Ozone (O3) - a pungent, pale, blue, reactive toxic gas consisting of three oxygen atoms. It is a product of the photochemical process involving the sun's energy. Ozone exists in the ozone layer as well as at the earth's surface. Ozone at the earth's surface causes numerous adverse health effects and is a criteria air pollutant. It is a major component of smog.

Ozone Precursors - compounds such as hydrocarbons and oxides of nitrogen, occurring either naturally or as a result of human activities, which contribute to the formation of ozone, the principal component of smog.

Pedestrian Oriented Development (POD) - any of a number of design strategies that emphasize pedestrian access over automobile access. They typically provide pedestrian amenities such as sidewalks, street trees, commercial at street frontage, safe street crossings, etc.

PM-10 (Particulate Matter) - a major air pollutant consisting of solid or liquid matter such as soot, dust, aerosols, fumes and mists less than 10 microns in size (one micron = 1/1,000,000 meter =0.00003937 inch). PM-10 causes visibility reduction and adverse health effects, and is a criteria air pollutant.

Policy - A specific action statement intended to guide future decision-making.

ROG (Reactive Organic Gas) - hydrocarbon compounds which are reactive and may contribute to the formation of smog. Also sometimes referred to as Volatile Organic Compounds (VOCs) and Non- Methane Organic Compounds (NMOCs).

SIP (State Implementation Plan) - a document prepared by each state describing existing air quality conditions and measures which will be taken to attain and maintain National Ambient Air Quality Standards. In California, districts prepare nonattainment area plans to be included in the State's SIP.

Smog - a combination of smoke, ozone, hydrocarbons, nitrogen oxides, and other chemically reactive compounds, which, under various conditions of weather and sunlight, may result in a murky brown haze that causes adverse health effects. A primary source of smog is automobiles.

Smoke - the gaseous projects of incomplete burning carbonaceous materials made visible by the presence of small particles of carbon.

Stationary Sources - non-mobile sources such as refineries, power plants, and manufacturing facilities which emit air pollutants. (Contrast with mobile sources)

Sulfur Dioxide (SO2) - a pungent, colorless gas that is formed by the combustion of fossil fuels. Power plants, which may use coal or oil high in sulfur content, have traditionally been major sources of SO2. SO2 is a criteria pollutant.

Sulfur Oxides - acrid, corrosive, poisonous gases produced chiefly when fuel containing sulfur is burned. The principal sources of sulfur oxides are electric generating plants and industrial plants.

Transit Oriented Development (TOD) - mixed use neighborhoods, up to 160 acres in size, which are developed around a transit stop and core commercial area. The entire TOD must be within an average of 2,000 foot walking distance of a transit stop. Secondary areas of lower density housing , schools, parks, and commercial and employment uses surround TODs for up to one mile.

Unified District - two or more contiguous counties may merge their county districts into one unified district. A unified district is formed by action of the member counties. The San Joaquin Valley Unified Air Pollution Control District is a Unified District. (See APCD and AQMD)

VMT (Vehicle Miles Traveled) – a term that reflects the number of miles traveled by all types of vehicles on a particular roadway or in a specific area such as a city, county, or region.

Volatile Organic Compounds (VOCs) - any organic compound containing at least one carbon atom except for specific exempt compounds found to be non-photochemically reactive.

APPENDIX A

GENERAL PLAN POLICIES AND ZONING ORDINANCE DESIGNATIONS RELATED TO AIR QUALITY

This appendix is a compilation of policies and implementation programs located in various sections of the *General Plan Policy Document* that address air quality and the air quality implications of transportation and development.

SECTION 1. LAND USE

A. GENERAL LAND USE

Policy 1.A.3. New development should be centered in existing communities and designated new growth areas.

Policy 1.A.4. The County shall encourage infill development and development contiguous to existing cities and unincorporated communities to minimize premature conversion of agricultural land and other open space lands.

B. NEW GROWTH AREAS

Policy 1.B.2. The County shall require that the planning and design of new growth areas carries out the following objectives:

a. Concentrate higher-density residential uses and appropriate support services along segments of the transportation system with good road and possible transit connections to the remainder of the region;
b. Support concentrations of medium and high-density residential uses and higher intensities of non-residential uses near existing or future transit stops along trunk lines of major transportation systems;
c. Support the development of integrated mixed-use areas by mixing residential, retail, office, open space, and public uses while making it possible to travel by transit, bicycle, or foot, as well as by automobile; and
d. Provide buffers between residential and incompatible non-residential land uses.

C. RESIDENTIAL LAND USE

Policy 1.C.2. The County shall promote the development of higher-density residential development along major transportation corridors and transit routes.

Policy 1.C.8. The County shall require residential subdivisions to be designed to provide well-connected internal and external street, bikeway, and pedestrian systems.

D. COMMERCIAL LAND

Policy 1.D.3. The County shall promote new commercial development that is designed to encourage and facilitate pedestrian circulation within and between commercial sites and nearby residential areas rather than being designed only to serve vehicular circulation.

E. INDUSTRIAL LAND USE AND ECONOMIC DEVELOPMENT

Policy 1.E.1. The County shall promote new industrial development that has the following characteristics:

a. Adequate infrastructure and services;
b. Convenient connections to the regional transportation network, including connections to existing transit and other non-automobile transportation;
c. Sufficient buffering from residential areas to avoid impacts associated with noise, odors, and the potential release of hazardous materials;
d. Mitigable environmental impacts; and
e. Minimal adverse effects on scenic routes, recreation areas, and public vistas.

Policy 1.E.7. The County shall support the development of primary wage-earner job opportunities in Madera County to provide residents an alternative to commuting to Fresno.

F. JOBS-HOUSING BALANCE

Policy 1.F.1. The County shall concentrate most new growth within existing communities and designated new growth areas and shall emphasize infill development, intensified use of existing development, and expanded services so individual communities become more complete, diverse, and balanced.

Policy 1.F.2. The County shall designate and encourage the development of employment-generating uses in appropriate areas near existing and designated residential development.

J. INTERJURISDICTIONAL COORDINATION

Policy 1.J.1. The County will coordinate land use, infrastructure, and public facility planning with cities in the county, regional planning agencies, neighboring jurisdictions, and state and federal agencies, and shall comment on land use and transportation plans concerning Madera County.

SECTION 2: TRANSPORTATION AND CIRCULATION

A. STREETS AND HIGHWAYS

Policy 2.A.9. To identify the potential impacts of new development on traffic service levels, the County shall require the preparation of traffic impact analyses for developments determined to be large enough to have potentially significant traffic impacts. The County may allow exceptions to the level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable. In allowing any exception to the standards, the County shall consider the following factors:

a. The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
b. The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.
c. The right-of-way needs and the physical impacts on surrounding properties.
d. The visual aesthetics of the required improvement and its impact on community identity and character.
e. Environmental impacts including air quality and noise impacts.
f. Construction and right-of-way acquisition costs.
g. The impacts on general safety.
h. The impacts of the required construction phasing and traffic maintenance.
I. The impacts on quality of life as perceived by residents.

Policy 2.A.10. The County shall strive to meet the level of service standards through a balanced transportation system that provides alternatives to the automobile.

Policy 2.A.12.2 Highway 41 north to its intersection Highway 65 shall be designed as a multi-modal road network allowing for carpool lanes, buses, and light rail.

B. TRANSIT

Policy 2.B.1. The County shall work with transit providers to plan and implement additional transit services within and to the county that are timely, cost-effective, and responsive to growth patterns and existing and future transit demand.

Policy 2.B.2. The County shall consider the need for future transit right-of-way in reviewing and approving plans for development and roads and highways. Planning for new growth areas should incorporate features to encourage transit and should reserve rights-of-way for future transit access. Rights-of-way may either be exclusive or shared with other vehicles.

Policy 2.B.3. The County shall pursue all available sources of funding for capital and operating costs of transit services.

Policy 2.B.4. The County shall undertake, as funding permits, and participate in studies of inter-regional recreational transit services to Yosemite.

Policy 2.B.5. The County shall consider the transit needs of senior, disabled, low-income, and transit-dependent persons in making decisions regarding transit services and in compliance with the Americans with Disabilities Act.

Policy 2.B.6. The County shall encourage the development of facilities for convenient transfers between different transportation systems. (e.g., train-to-bus, bus-to-bus)

Policy 2.B.7. The County shall, where appropriate, require new development to provide sheltered public transit stops, with turnouts. The County will also consider development of turnouts in existing developed areas when roadway improvements are made or as deemed necessary for traffic flow and public safety.

Policy 2.B.8. The County shall encourage and promote the use of passenger rail.

Policy 2.B.9. The County shall support additional connecting services and service additions to rail service in the San Joaquin Valley. To this end, the County will encourage Amtrak to provide direct service from Madera County to the Sacramento and Los Angeles metropolitan areas.

Policy 2.B.10. The County shall support the relocation of Amtrak service to the Southern Pacific Railroad lines to more directly serve the cities of Madera and Chowchilla.

Policy 2.B.11. The County shall support the relocation of the Amtrak station to the intermodal station in the city of Madera or other appropriate location.

Program 2.11. The County shall work with the Madera County Transportation Commission in periodically reviewing and updating its short-range transit plan at least as often as required by State law.

Program 2.12. The County shall continue to participate in planning for and implementing improved passenger rail service to Madera County.

Program 2.13. The County shall work with Caltrans and other agencies to determine the need for additional or expanded park-and-ride lots and to identify additional sites for such lots.

Program 2.14. The County shall assist transit planning agencies and transit providers in assessing transit demand and the adequacy of existing services.

Program 2.15. The County shall work with other agencies to identify and pursue funding for transit.

Program 2.16. As appropriate, the County shall adopt resolutions in support of local, state, and federal legislation and funding for rail service.

Program 2.17. The County shall assist and participate in a project study with Caltrans and the Council of Fresno County Governments involving the possibility of using State Highway 41 for public transit purposes (e.g., light rail).

C. TRANSPORTATION CONTROL MEASURES (TCM)

Policy 2.C.1. The County shall promote the use of transportation control measures (TCM) that divert automobile trips to transit, walking, and bicycling, through planning and provision of appropriate facilities and incentives. TCM programs shall include the following:

a. Passenger rail
b. Trip reduction programs
c. Telecommunications
d. Traffic flow improvements
e. Park-and-ride lots
f. Ride-share programs
g. Parking management
h. Bicycling programs
I. Short-range transit
j. Alternative work schedules
k. Fleet operator's alternative fuel program

Policy 2.C.2. The County shall continue to investigate and promote feasible land use and transportation strategies that will result in fewer automobile trips. To this end, the County shall encourage the concentration of urban development to maximize the feasibility of transit.

Policy 2.C.3. The County shall promote the use, by both the public and private sectors, of TCM programs that increase the average occupancy of vehicles.

Policy 2.C.4. The County shall encourage major traffic generators to develop and implement trip reduction measures.

Policy 2.C.5. The County should require major development projects to prepare transportation studies that address potential use of bicycle routes and facilities and the use of public transportation.

Policy 2.C.6. The County shall work with other responsible agencies, including the Madera County Transportation Commission and the San Joaquin Valley Unified Air Pollution Control District, to develop other measures to reduce vehicular travel demand and meet air quality goals.

Program 2.18. The County shall investigate the feasibility of various TCM programs in the county and shall identify possible incentives to promote the use of such measures.

D. NON-MOTORIZED TRANSPORTATION

Policy 2.D.1. The County shall promote the development of a comprehensive and safe system of bicycle routes for short-range commuting and shopping trips and recreational uses. Bikeways should be constructed that will serve the greatest number of users.

Policy 2.D.2. The County shall work with cities and neighboring jurisdictions to coordinate planning and development of the County's bikeways and multi-purpose trails with those of neighboring jurisdictions.

Policy 2.D.3. New bikeways should be linked with other bikeways, bicycle rest stops, and parks to provide safe and continuous routes.

Policy 2.D.4. The County shall encourage the provision for bicycle routes along state highways. Where this occurs, automobile and bicycle facilities should be separated.

Policy 2.D.5. The County shall pursue all available sources of funding for the development and improvement of trails for non-motorized transportation (bikeways, pedestrian, and equestrian).

Policy 2.D.6. The County shall promote non-motorized travel (bikeways, pedestrian, and equestrian) through appropriate facilities, programs, and information, including through the school system and local media.

Policy 2.D.7. The County shall require developers to finance and install pedestrian walkways, equestrian trails, and multi-purpose paths in new development, as appropriate.

Policy 2.D.8. The County shall support the development of parking areas near access to hiking and equestrian trails.

Program 2.19. The County shall prepare a *Bicycle Master Plan* jointly with the City of Madera consistent with the City and County General Plans.

Program 2.20. The County shall require that bikeways recommended in the *Bicycle Master Plan* be developed when roadway projects are constructed and when street frontage improvements are required of new development.

Program 2.21. The County shall develop and adopt standards for bicycle, pedestrian, and equestrian facilities. These standards should vary by types of land use and terrain. Until such standards are adopted, the County shall continue to use state standards as guidelines for construction of bicycle lanes and bicycle trails.

G. NEW GROWTH AREAS

Policy 2.G.1 The County shall require that land use form and transportation systems in designated new growth area*s* be designed to provide residents and

employees with the opportunity to accomplish many of their trips within the new growth area by walking, bicycling, and using transit.

SECTION 3: PUBLIC FACILITIES AND SERVICES

I. SCHOOLS

Policy 3.I.5. The County shall encourage the location of schools in areas with safe pedestrian and bicycle access.

SECTION 5: AGRICULTURAL AND NATURAL RESOURCES

J. AIR QUALITY--GENERAL

Policy 5.J.1 The County shall cooperate with other agencies to develop a consistent and effective approach to air quality planning and management. To this end, the County shall coordinate with other jurisdictions in the San Joaquin Valley to establish parallel air quality programs and implementation measures.

Policy 5.J.2. The County shall support the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) in its development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds, and rules to more adequately address the air quality impacts of new development.

Policy 5.J.3. The County shall solicit and consider comments from local and regional agencies on proposed projects that may affect regional air quality.

Policy 5.J.4. The County shall submit development proposals to the adopted SJVUAPCD for review and comment in compliance with California Environmental Quality Act (CEQA) prior to consideration by the appropriate decision-making body.

Policy 5.J.5. The County shall require new development projects that exceed SJVUAPCD emission thresholds to submit an air quality analysis for review and approval. Based on this analysis, the County shall require appropriate mitigation measures consistent with the SJVUAPCD's 1991 *Air Quality Attainment Plan* (or updated edition).

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

Policy 5.J.7. The County shall encourage development to be located and designed to minimize direct and indirect air pollutants.

Policy 5.J.8. In reviewing project applications, the County shall consider alternatives or amendments that reduce emissions of air pollutants.

Policy 5.J.9. The County shall support and participate in the air quality education programs of the SJVUAPCD.

Policy 5.J.10. The County should publicize the requirements of the San Joaquin Valley Unified Air Pollution Control District's Regulation VIII concerning control of PM-10 emissions.

Policy 5.J.11. The County shall require developers to pave all access roads, driveways, and parking areas serving new commercial and industrial development.

Policy 5.J.12. The County shall reduce PM-10 emissions from County-maintained roads to the maximum extent feasible.

Program 5.10. The County shall coordinate with other local, regional, and state agencies, including the SJVUAPCD and the California Air Resources Board (ARB), in incorporating regional and state clean air plans into county planning and project review procedures. The County shall also cooperate with the SJVUAPCD and ARB in the following efforts:

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

Program 5.11. The County shall encourage the SJVUAPCD to revise its *Air Quality Attainment Plan* (AQAP) as required every three years. For the 1994 AQAP, the County shall ensure that the SJVUAPCD revises its AQAP to reflect the new estimates of population and vehicle travel associated with the updated *General Plan*. The 1994 AQAP should incorporate additional air quality programs that are not currently in the AQAP to compensate for the increased population and emissions associated with anticipated development.

Program 5.12. The County should ensure that the U.S. Environmental Protection Agency (EPA), in the preparation of the Federal Implementation Plan (FIP) for the San Joaquin Valley Air Basin, uses the General Plan population projections associated with the Madera County portion of the San Joaquin Valley Air Basin. The County should also ensure that the SJVUAPCD uses the General Plan population projections associated with the Madera County portion of the San Joaquin Valley Air Basin in the preparation of the State Implementation Plan (SIP).

K. AIR QUALITY--TRANSPORTATION/CIRCULATION

Policy 5.K.1. The County shall require new development to be planned to result in smooth flowing traffic conditions for major roadways. This includes traffic signals and traffic signal coordination, parallel roadways, and intra- and inter-neighborhood connections where significant reductions in overall emissions can be achieved.

Policy 5.K.2. The County shall continue and, where appropriate, expand the use of synchronized traffic signals on roadways susceptible to emissions improvement through approach control.

Policy 5.K.3. The County shall encourage the use of alternative modes of transportation by incorporating public transit, bicycle, and pedestrian modes in County transportation planning and by requiring new development to provide adequate pedestrian and bikeway facilities.

Policy 5.K.4. The County shall endeavor to secure adequate funding for transit services so that transit is a viable transportation alternative. New development shall pay its fair share of the cost of transit equipment and facilities required to serve new projects.

Policy 5.K.5. The County shall require large new developments to dedicate land for and construct appropriate improvements for suitably-located park-and-ride lots, subject to the requirements of *California Government Code* Section 66000 et seq. (AB 1600).

L. AIR QUALITY--WOOD-BURNING SOURCES

Policy 5.L.1. The County shall encourage developers to limit fireplace installations in new developments.

Policy 5.L.2. The County shall encourage the installation of low emitting, EPA-certified fireplace inserts and woodstoves, pellet stoves, or natural gas fireplaces in new developments as an alternative to conventional woodburning fireplaces and appliances.

MIXED-USE ZONING ORDINANCE DESIGNATIONS

Madera County has recently adopted several mixed-use zoning designations to facilitate new urbanist development within the County. Mixed-Use allows for construction of a commercial/industrial space and residential space within the same unit. These zone districts have the potential to drastically reduce Madera County's vehicle miles traveled resulting in improved air quality for all residents of the San Joaquin Valley Air Basin. The following is a list of all of Madera County's mixed-use zone districts:

Chapter 18.27 – MCN – Mixed Use Commercial Neighborhood District
Chapter 18.37 – MCM – Mixed Use Commercial Multiple Family District
Chapter 18.43 – MIN – Mixed Use Industrial Neighborhood District
Chapter 18.69 – VCO – Village Core Overlay