AIR QUALITY ELEMENT

I. INTRODUCTION

The San Joaquin Valley covers approximately 25,000 square miles, with an estimated 2008 population of more than 3.9 million which is growing rapidly. Public opinion surveys of San Joaquin Valley residents consistently find air quality to be one of their top concerns. Air quality in the San Joaquin Valley ranks among the worst in the country for ozone and particulate matter, exposing the residents of Kings County to unacceptable levels of air pollution on too many days each year. As one of the counties within the valley, Kings County is committed to doing its part by taking appropriate actions and within its power to accelerate progress toward achieving clean air.

Global climate change is another emerging issue for which the State of California has determined to be of statewide concern and necessitating local action throughout all of California. With the enactment of new legislation, local governments are tasked with addressing issues that contribute to the further decline of our air quality. The General Plan provides a venue for local government action on greenhouse gas emissions and climate change from new growth and development. This *Air Quality Element* of the General Plan provides the platform for local action in addressing air quality and climate change issues.

A. Purpose

1. Air Quality provisions are required to be included in the County General Plan

Air Quality Elements are optional elements in California except for jurisdictions located within the San Joaquin Valley. Section 65302.1 of the California Government Code requires all 59 cities and 8 counties within the boundaries of the San Joaquin Valley Air Pollution Control District to include Air Quality Elements or air quality goals, policies, and implementation strategies in other elements of their General Plans. Kings County has opted to provide a separate Air Quality Element of the General Plan as a means to highlight the importance of this issue to County residents and to convey the interconnectedness of land use, transportation, and air quality in a single location in the General Plan.

Section 65302.1 has four main requirements which are addressed in this *Air Quality Element*:

- 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 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 in the legislation.
- A set of feasible implementation measures designed to carry out those goals, policies, and objectives.

2. Reducing Criteria Pollutant and Hazardous Emissions

The *Air Quality Element* fulfills a number of objectives that are very important to Kings County, but the most important is to ensure that growth occurs in ways that protect and enhance the health of our

residents. A second objective is to comply with state regulations requiring air quality elements. A third objective is to ensure that our air quality strategy promotes a land use pattern and transportation system that promotes a healthy living environment and provides increased opportunities for residents to engage in lifestyle changes that are beneficial to our air quality. Finally, the *Air Quality Element* demonstrates Kings County's commitment to clean air.

3. Greenhouse Gases/Climate Change

The State of California is leading the country in efforts to reduce greenhouse gases and the impacts on the global climate. The California legislature has passed and the Governor has signed greenhouse gas and climate change legislation including Assembly Bill 32 (AB 32) commonly known as the "California Global Warming Solutions Act of 2006" found in the California Health and Safety Code commencing with section 38500. This bill will have substantial impacts on Kings County. In addition, the California Attorney General has initiated legal action against local governments for not addressing greenhouse gas and climate change issues in California Environmental Quality Act (CEQA) documents prepared for General Plan updates and development projects. The *Air Quality Element* provides a focal point for Kings County's General Plan efforts to reduce greenhouse gases and climate change impacts.

Under the current AB 32 "business as usual" scenario developed by the California Air Resources Board (ARB), statewide emissions are increasing at a rate of approximately 1% per year as noted below. The following estimates represent the average Statewide reductions needed from all emission sources (including all existing sources) to reduce greenhouse gas emissions back to 1990 levels.

- 1990: 427 Million Metric Tons of Carbon Dioxide Equivalent (MMTCO2e)
- 2008: 495 MMTCO2e (an average 14% statewide reduction needed to achieve 1990 base)
- 2020: 600 MMTCO2e "Business As Usual" (an average 29% reduction needed to achieve 1990 base)

Senate Bill 375, ammending several sections of the Government Code and Public Resources Code, was signed in September 2008 and establishes a process to develop regional targets for reducing projected year 2020 greenhouse gas emissions from passenger vehicles and light duty trucks back to 1990 levels. For Kings County, a preliminary estimate of the subject emission reductions is as follows:

- 1990: 621 Metric Tons of Carbon Dioxide Equivalent (MTCO2e) per day
- 2008: 1,158 MTCO2e per day
- 2020: 1,496 MTCO2e per day

4. San Joaquin Valley Blueprint Process

Kings County is a partner in the San Joaquin Valley Blueprint (Blueprint) process, and was one of the first local governments to actively participate and lend guidance in the Kings County Blueprint Growth Scenario efforts lead by the Kings County Association of Governments (KCAG). The Blueprint process is a regional multi-year effort to develop a preferred growth scenario and planning principles to guide development through the year 2050. KCAG held a series of public workshops with elected and

appointed officials as well as numerous public participation venues. The KCAG transportation planners in conjunction with the Cities and County Professional Planners Group prepared two items. The first is the Blueprint Planning Principles and the second is the 2050 Kings County Preferred Growth Scenario. The Planning Principles are meant to be general policy guiding statements that establish direction to the Cities and County on preferences for guiding growth to 2050. The second process is the Preferred Growth Scenario where planners took the top five growth scenarios of 1. Current Trends, 2. Agriculture & Critical Resource Protection, 3. Compact Development (Low), 4. Compact Development (High), and 5. Economic Development. Through the refinement of these efforts, KCAG and the Planners Group defined "Blueprint Urban Growth Boundaries" for each city and unincorporated community within the county. The boundaries have been outlined to tailor growth according to existing and potential outward growth needs of the County's four Cities (Avenal, Corcoran, Hanford, and Lemoore) and four unincorporated communities (Armona, Home Garden, Kettleman City, and Stratford). Environmental constraints were a critical component in determining future urban growth areas beyond existing land use plans and sphere of influence boundaries. The Blueprint Urban Growth Boundaries allow future growth to be concentrated around existing urban areas, and an analysis of urban land uses within the County illustrate that Kings County has enough land designated to accommodate the growth expected by 2050. The Preferred Growth Scenario was approved by the KCAG Commission in July 2008. The goals, objectives, and policies of the General Plan are consistent with the Preferred Growth Scenario and with the goals, objectives and policies of the *Air Quality Element*.

A major public workshop on January 26, 2009 elicited 600 participants and a draft recommendation for the final plan. The majority of the participants favored more dense settlement patterns. The next step will be approval by each county before final adoption. The Blueprint should be completed in 2009.

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, Circulation, and Resource Conservation Elements. An analysis of relationship of the goals, objectives, and policies of these elements is included in Appendix F. The Community Plans for Armona, Home Garden, Kettleman City, and Stratford are also analyzed in Appendix "A". The *Housing Element* is consistent since it demonstrates that sufficient housing is planned to accommodate Kings 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 construing 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 4 illustrate these concepts.

Figure AQ-1 Pedestrian Oriented Development

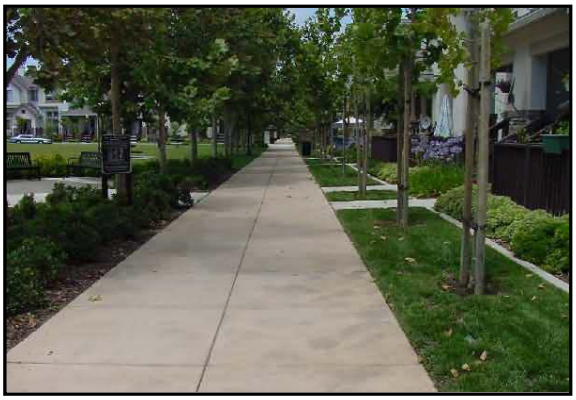


Figure AQ - 2 Narrow Streets

The policies can be categorized as follows:

Compact Development

- Higher development densities
- Farmland and Open Space preservation
- Incremental development

Figure AQ - 3 Vertical Mixed Use

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 near 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.

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.

Figure AQ - 4 Traffic Calming

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. A detailed Air Quality Report is incorporated by reference as an accompanying document to the *Air Quality Element* and included as Appendix E of the General Plan. The Air Quality Report provides air quality attainment status, ambient air quality data, emission inventories for Kings County and the San Joaquin Valley for all pollutants of concern and other information of importance for understanding the problems facing Kings County and the rest of the air basin. 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. A list of goals, objectives, and policies of the other General Plan elements and Community Plans that have air quality benefits along with a brief explanation of the source of the air quality benefit is provided as Appendix F.

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, Energy Efficiency and Conservation, Hazardous Emissions and Public Health, and Climate Change.

IV. **Implementation** – Implementation Programs.

V. **Glossary** – Glossary of Terms.

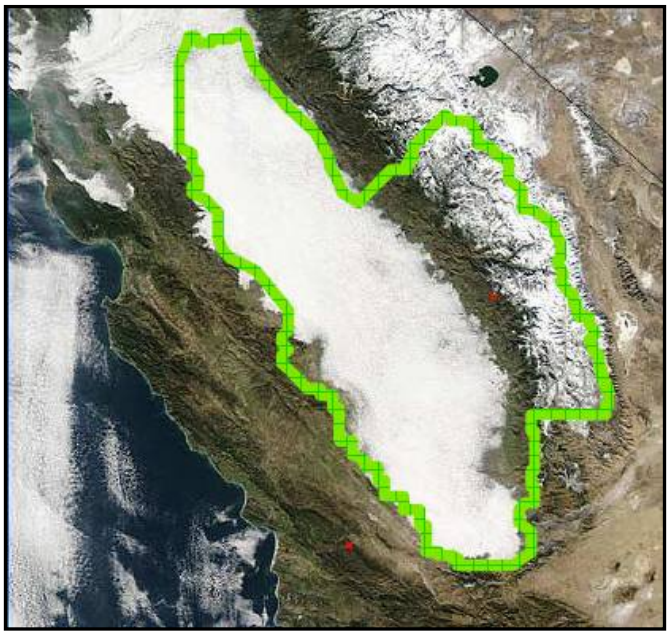
II. ENVIRONMENTAL AND REGULATORY SETTING

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 Kings County, and presents some public/private partnership programs and initiatives related to air quality.

A. Air Quality Environmental Setting

Kings County is located within the San Joaquin Valley Air Basin (SJVAB), which is under the oversight of the San Joaquin Valley Air Pollution Control District (SJVAPCD). Regional and local air quality is impacted by topography, dominant airflows, atmospheric inversions, location and season. The combination of topography and inversion layers generally prevents dispersion of air pollutants. A satellite view of the SJVAB during the winter as shown in Figure AQ – 5 illustrates these factors.

Figure AQ – 5 San Joaquin Valley Air Basin



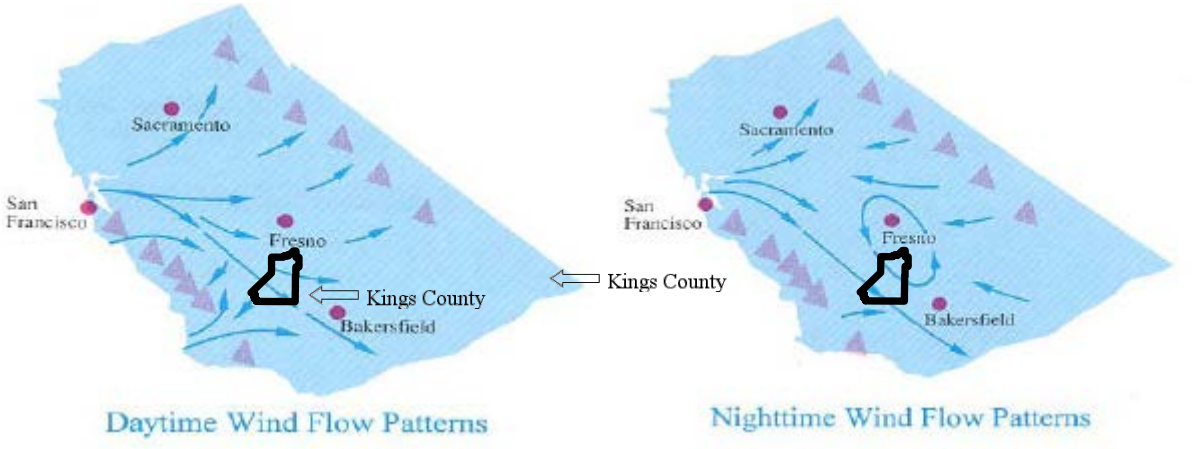
Source: San Joaquin Valley Air Pollution Control District Presentation, 2007

Air quality impacts are regional problems in the case of ozone and secondary fine particulate matter that are formed in chemical and photochemical reactions in the atmosphere. These pollutants are often formed in locations distant from where the pollutant precursors are emitted. Air quality impacts can also be localized in the case of directly emitted particulate matter, carbon monoxide, hazardous air

contaminants and odors. Localized pollutants disperse and decrease in concentration with distance from the source.

Kings County generates its own pollutant emissions but is also impacted by transport of pollutants from areas of the Valley and the Bay Area that are upwind of Kings County, and pollutants recirculated around the Valley during periods of stagnation. Figure AQ - 6 displays the generalized air flows during the summer and winter in the San Joaquin Valley. Although the Bay Area is classified as an area that transports pollutants to the SJVAB, air quality research studies indicate that pollution generated in the Bay Area is a minor component of our local problem and SJVAB generates sufficient pollution to exceed air quality standards.

Figure AQ - 6 Generalized Wind Flows in the San Joaquin Valley



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

Although air quality has improved, Kings County and other San Joaquin Valley counties still experience unhealthful ozone concentrations on many days each year. The state 8 hour ozone standard was exceeded 20 days in 2007 at the Hanford air monitoring station. The SJVAPCD cannot predict attainment of the federal standard prior to 2023 even with the implementation of all controls now envisioned for all sources of ozone precursor emissions.

The EPA recently announced that it had finalized approval of the SJVAPCD's request for re-designation 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 Kings County and other SJVAB locations 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.

Kings County and other 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 Kings County air monitoring stations in Hanford and Corcoran are provided in Tables AQ - 1 through 4 for ozone, PM10, and PM2.5. The tables provide the number of days exceeding state and national standards and the average and maximum concentrations measured during 2005 through 2007. The Federal and State ambient air standards are contained in Table AQ – 9 on page AQ – 14.

Table AQ - 1 Ozone Trends Summary - Hanford Monitoring Station

	Days > Standard				1-Hr Observations (PPM)	8-Hr Averages[1]	
	State		National			State (PPM)	National (PPM)
Year	1-Hr	8-Hr	8-Hr (1997 Standard)	8-Hr (2008 Standard)	Max.	Max	Max
2007	2	20	2	8	0.102	0.091	0.091
2006	7	57	4	37	0.127	0.102	0.010
2005	6	38	4	24	0.120	0.098	0.098

Source: California Air Resources Board, 2008 (Hanford – South Irvine St.Monitoring Station)
Note 1: State and national statistics may differ for the following reasons:

- State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods.
- State and national statistics may therefore be based on different samplers.
- State statistics for 1998 and later are based on local conditions
- National statistics are based on standard conditions.
- State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Table AQ - 2 PM10 Trends Summary - Hanford Monitoring Station

	Measured Days > 24-Hr Standard		Estimated Days > 24-Hr Standard[1]		Annual Average (micrograms/cubic meter ($\mu g/m^3$))[2]		High 24-Hr Average ($\mu g/m^3$)[2]	
Year	Nat'l	State	Nat'l	State	Nat'l	State	Nat'l	State
2007	0	18	0	145	43.9	44.4	100.9	106.0
2006	0	20	0	124	46.3	46.8	142.0	150.0
2005	0	23	0	110	41.0	41.0	117.0	118.0

Source: California Air Resources Board, 2008 (Hanford – South Irvine St. Monitoring Station)

Notes: 1. Measurements are collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

2. State and national statistics may differ for the following reasons:

- State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods.
- State and national statistics may therefore be based on different samplers.
- State statistics for 1998 and later are based on local conditions
- National statistics are based on standard conditions.
- State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Table AQ - 3 PM10 Trends Summary - Corcoran Monitoring Station

	Measured Days > 24-Hr Standard		Estimated Days > 24-Hr Standard[1]		Annual Average (micrograms/cubic meter ($\mu g/m^3$))[2]		High 24-Hr Average ($\mu g/m^3$)[2]	
Year	Nat'l	State	Nat'l	State	Nat'l	State	Nat'l	State
2007	0	20	0	126	46.6	45.7	123	125
2006	2	20	0	122	51.4	42.8	254	255
2005	0	24	0	134	38.7	42.6	131	137

Source: California Air Resources Board, 2008 (Corcoran – Patterson Avenue Monitoring Station)

Notes: 1. Measurements are collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

2. State and national statistics may differ for the following reasons:

- State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods.
- State and national statistics may therefore be based on different samplers.
- State statistics for 1998 and later are based on local conditions
- National statistics are based on standard conditions.
- State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Table AQ - 4 PM2.5 Trends Summary - Corcoran Monitoring Station

	Estimated Days > 24-Hr Standard[1]		Annual Average (micrograms/cubic meter ($\mu g/m^3$))[2]		High 24-Hr Average ($\mu g/m^3$)[2]	
Year	Nat'l (1997 Standard)	Nat'l (2006 Standard)	Nat'l	State	Nat'l	State
2007	4	55	18.3	21.1	75.0	143.2
2006	3	30	16.8	N/A	74.2	74.2
2005	9	33	17.4	17.4	92.5	92.5

Source: California Air Resources Board, 2008 (Corcoran – Patterson Avenue Monitoring Station)

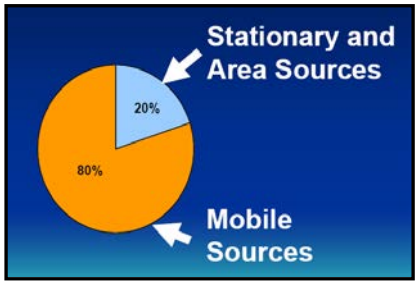
Notes: 1. The "Estimated Days Over the National 24-Hour PM2.5 Standard" is the estimated number of days in the year that the national 2006 24-hour PM2.5 standard would have been exceeded had sampling occurred every day of the year. Sampling can occur everyday, once every 3 days, once every 6 days, or any combination of these frequencies.

2. State and national statistics may differ for the following reasons:
   - State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods.
   - State and national statistics may therefore be based on different samplers.
   - State statistics for 1998 and later are based on local conditions
   - National statistics are based on standard conditions.

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 – 7). 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 – 7 San Joaquin Valley Emissions



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

The emissions inventory summary for Kings County is provided below in Table AQ – 5. For a more detailed inventory see the Air Quality Report that is incorporated by reference and included as Appendix E of the General Plan.

Table AQ-5: 2006 Kings County Nonattainment Pollutant Emissions Inventory

Emission Category	Tons per Day			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Stationary Sources	2.8	4.7	1.4	0.8
Area-wide Sources	7.9	0.4	19.1	3.9
Mobile Sources	8.9	29.1	2.5	2.3
Natural Sources	4.2	0.0	0.1	0.1
Total Kings County	23.8	34.2	23.0	7.1

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 to 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

Kings County is predicted to experience significant population growth in the coming years (53 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) (52.8 percent between 2008 and 2030). Table 1 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 198 miles or 2.8 percent by 2030. This indicates that roadways in Kings County can be expected to become much more crowded than is currently experienced.

Table AQ - 6 Kings County Population and Travel - 2008 to 2030			
Horizon Year	**Total Population Including Cities (thousands)**	**Average Weekday VMT (millions)**	**Total Lane Miles**
2008	154	3.69	6,699
2010	157	3.84	6,783
2013	166	4.09	N/A
2020	193	4.69	6,878
2030	231	5.64	6,889
Total Increase	80	1.95	198
Percent Increase	53.0	52.8	2.8
Source: 2007 Kings County Regional Transportation Plan			

2. Travel Distribution

Kings County is traversed by several major highways that serve as regional transportation corridors between Northern and Southern California, the San Joaquin Valley, and the Central Coast. A large percentage of vehicle miles traveled and associated pollution comes from vehicles traveling through Kings County. A look at where people are traveling in Kings County is instructive for identifying issues and opportunities. The cities are the largest source of vehicle miles traveled (VMT) as would be expected since most of the County's residents live there. The large projected increase in VMT associated with Naval Air Station Lemoore shows the continued importance of this facility to Kings County and the opportunity for cooperative programs expanding transportation alternatives for the base. The following data shown in Table AQ - 7 from the Kings County Association of Governments Regional Traffic Model illustrates the travel within the County and to other counties. Traffic traveling through the County is included in the category identified as "Gateway."

Table AQ - 7 VMT in Kings County 2005 and 2035		
Location	**2005 VMT**	**2035 VMT**
Hanford	1,015,768	1,972,343
Lemoore	510,749	1,097,476
Corcoran	235,990	340,625
Avenal	323,455	530,241
Armona	48,691	65,572
Kettleman City	43,033	51,558
Naval Air Station	109,542	415,732
Rural	707,531	1,123,295
Gateways	5,592,000	8,781,801
Totals	8,586,759	14,378,643

Source: Kings County Association of Governments, 2008

Table AQ - 8 illustrates the importance of pass through travel in Kings County. Approximately 64 percent of the travel in 2005 was caused by vehicles traveling through the County primarily on I-5 and

State Routes 41 and 198. The percentage is predicted to decrease to 60 percent by 2035 reflecting the rapid growth expected for the San Joaquin Valley over the next 30 years.

Table AQ - 8 VMT Growth 2005 to 2035

Year	Pass Through VMT	Internal VMT	Total VMT	Percent External
2005	5,592,000	2,994,759	8,586,759	63.7
2035	8,781,801	5,596,842	14,378,643	60.0

Source: Kings County Association of Governments, 2008

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 - 9. 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 - 9 Ambient Air Quality Standards				
Air Pollutant	**Averaging Time**	**California Standard**	**National Standard**	**Most Relevant Effects**
Ozone	1-hour	0.09 ppm	—	(a) Decrease of pulmonary function and localized lung edema in humans and animals; (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) increased mortality risk; (d) risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) vegetation damage; (f) property damage.
	8-hour	0.070 ppm	0.075 ppm	
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm	(a) Aggravation of angina pectoris (chest pain or discomfort) and other aspects of coronary heart disease; (b) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) impairment of central nervous system functions; (d) possible increased risk to fetuses.
	8-hour	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm*	—	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) contribution to atmospheric discoloration.
	Mean	0.030 ppm*	0.053 ppm	
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm	—	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
	24-hour	0.04 ppm	0.14 ppm	
	Mean	—	0.030 ppm	
Particulate Matter (PM_{10})	24 hour	50 µg/m^3	150 µg/m^3	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) declines in pulmonary function growth in children; (c) increased risk of premature death from heart or lung diseases in the elderly.
	Mean	20 µg/m^3	—	
Particulate Matter ($PM_{2.5}$)	24-hour	—	35 µg/m^3	
	Mean	12 µg/m^3	15 µg/m^3	
Sulfates	24-hour	25 µg/m^3	—	(a) Decrease in ventilatory function; (b)

Table AQ - 9 Ambient Air Quality Standards				
Air Pollutant	**Averaging Time**	**California Standard**	**National Standard**	**Most Relevant Effects**
				aggravation of asthmatic symptoms; (c) aggravation of cardio-pulmonary disease; (d) vegetation damage; (e) Degradation of visibility; (f) property damage.
Lead	30-day	1.5 µg/m^3	—	(a) Learning disabilities; (b) impairment of blood formation and nerve conduction.
	Quarter	—	0.15 µg/m^3	

Notes: 1)ppm = parts per million (concentration) 2)µg/m3 = micrograms per cubic meter
3)Mean = Annual Arithmetic Mean 4)30-day = 30-day average 5)Quarter = Calendar quarter
* The nitrogen dioxide ambient air quality standard was amended on February 22, 2007. These changes become effective on March 20, 2008.
Source: ARB http://www.arb.ca.gov/research/aaqs/no2-rs/no2-rs.htm.

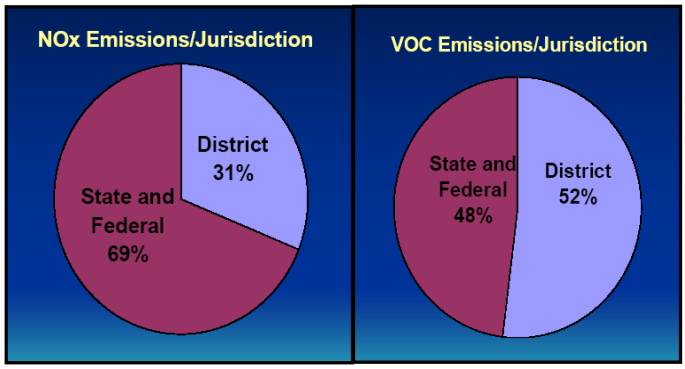
Although California air quality standards are often more stringent than federal standards, most of the regulatory focus is placed on achieving the federal standards. The primary reason for the focus on federal standards is that the CAA contains plan submittal and attainment deadlines that, if not met, 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 – 8). 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 - 8 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 Kings County Association of Governments (KCAG) is the transportation planning agency for Kings County. KCAG works closely with the County and the cities to develop TCMs and to ensure timely implementation of TCM commitments.

Kings 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, Kings County has significant responsibilities for mitigating impacts from its own activities.

1. Regulations Impacting Kings County

Air Quality Elements are optional elements in California except for jurisdictions located in the San Joaquin Valley. Assembly Bill 170 – Reyes, signed into law on September 22, 2003, requires all 59 cities and 8 counties within the boundaries of the San Joaquin Valley Air Pollution Control District to include Air Quality Elements or air quality goals, policies, and implementation strategies in other elements of their General Plans. Assembly Bill 170 added Section 65302.1 to the California Government Code. Kings County has opted to provide a separate Air Quality Element of the General Plan as a means to highlight the importance of this issue to County residents and to convey the interconnectedness of land use, transportation, and air quality in a single Element within the General Plan.

Assembly Bill (AB) 170

This bill established four main requirements:

- 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 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 following strategies listed in the legislation:

    (A) Determine and mitigate project level and cumulative air quality impacts under CEQA
    (B) Integrate land use plans, transportation plans, and air quality plans;
    (C) Plan land uses in ways that support a multimodal transportation system;
    (D) Local action to support programs that reduce congestion and vehicle trips;
    (E) Plan land uses to minimize exposure to hazardous air pollutant emissions from industrial and other sources;
    (F) Reduce particulate matter emissions from sources under local jurisdiction; and
    (G) Support SJVAPCD and public utility programs to reduce emissions from energy consumption and area sources.

- A set of feasible implementation measures designed to carry out those goals, policies, and objectives.
-

Assembly Bill (AB) 32

Figure AQ - 9 Earth

The California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006, which charged the California Air Resources Board (ARB) to develop regulations on how the state would address global climate change. AB 32 focuses on reducing greenhouse gas emissions in California. Greenhouse gases, as defined under AB 32, include carbon dioxide, methane, nitrous oxide, hydroflourocarbons (HFCs), perfluorocarbons (PFCs), and sulfurhexaflouride (SF6). AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. ARB is the state agency charged with monitoring and regulating sources of emissions of greenhouse gases that cause global warming in order to reduce emissions of greenhouse gases. By January 1, 2008, ARB was required to determine what the statewide greenhouse gas emissions level was in 1990, and approve a statewide greenhouse gas emissions limit to apply to the 2020 benchmark. ARB adopted the 1990 greenhouse gas emission inventory/2020 emissions limit of 427 million metric tons of carbon dioxide equivalent (MMTCO2e) on December 6, 2007. ARB then developed a document referred to as the "Scoping Plan" that assigns reduction targets to sectors responsible for the emissions. Local governments must achieve reductions through land use measures that will be substantially dependent on the General Plan for success. Statewide, ARB expects to target local governments with reducing GHGs by 5 million metric tons of CO2 equivalent by 2020.

Senate Bill (SB) 375

Senate Bill 375 –Steinberg was signed by the Governor on September 30, 2008. The legislation addresses implementation of the 2006 Global Warming Act. The bill assures that the decisions about how to achieve greenhouse gas emissions from cars and light trucks will remain in the hands of locally elected officials. SB 375 aligns what have been three separate planning processes - one for transportation, one for housing, and one for reducing greenhouse gas emissions - into a single process. This will provide more certainty for General Plans and assures better coordination between state agencies.

SB 375 provides relief from the California Environmental Quality Act (CEQA) for residential projects that are consistent with the regional plan to achieve greenhouse gas reductions. The bill also amends the housing element law, extending the amount of time that the state must approve most local housing elements from five-to-eight years. It lays a solid foundation for a comprehensive approach to reducing greenhouse gas emissions from the land use and transportation sector. SB 375 harnesses funding and regulatory incentives, without mandates, to align transportation, housing and land use planning.

Especially important for local government are the Sustainable Communities Strategy (SCS) and the Alternative Planning Strategy (APS) requirements of the legislation. ARB must certify that the SCS will achieve the region's GHG emission reduction targets. Projects outside the approved SCS would not qualify for federal transportation funding. If ARB determines that a region's SCS will not achieve the GHG emission reduction targets, the Metropolitan Planning Organization (MPO) must prepare an APS separate from the Regional Transportation Plan (RTP), identifying further measures needed to achieve the targets. Although these measures directly impact RTPs prepared by KCAG, the success of the SCS and APS, if needed, hinge on the land use decisions by Kings County and the four cities.

SB 375 enhances the CARB's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035. CARB recently appointed a Regional Targets Advisory Committee (RTAC) under SB 375 that will play a major role in implementing the Scoping Plan by recommending factors and methodologies to CARB to adopt regional GHG emission allocations. The SJV has two representatives on the RTAC. CARB will also work with California's 18 MPOs/RTPAs to align their regional transportation, housing and land-use plans and prepare a "sustainable communities strategy" to reduce the amount of vehicle miles traveled in their respective regions and demonstrate the region's ability to attain its greenhouse gas reduction targets. Spending less time on the road is the single-most powerful way for California to reduce its carbon footprint.

2. 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 Kings 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.

3. Implications of Reduction in Williamson Act Land Conservation Act Program

Kings County has, for almost forty years, been a willing partner in the Statewide effort to implement and support the Land Conservation Act of 1965 (a.k.a. Williamson Act) for the preservation of agricultural land within the County. Established in Kings County in 1969, Williamson Act contracted land have placed willing land owner farms under 10 year self renewing contracts with the County in exchange for an alternate method jof determining the property tax obligation. In 1998, Kings County was also the first County in the State to implement the new Farmland Security Zone Program which established 20 year self renewing contracts with further 35% reduction in property tax obligation. Intended to prevent agricultural land conversion to other uses, these programs have served to effectively limit and phase urban growth and thereby reduce the potential for unrestrained urban sprawl. With the County only having land use authority in the unincorporated areas of the County, these programs have served to help limit the uncontrolled outward growth and expansion of the county's four Cities.

State budget deficits in 2008 have reached record high levels, and the State continues a trend of seriously considering the complete removal of "Subvention" funding to Counties. Subvention funds are State reimbursement money to Counties for the replacement of property tax benefits provided to property owners with land under either Williamson Act or a Farmland Security Zone Contract. Without State subvention funds, Kings County along with other agricultural Counties will be hard pressed to justify continuance of the Williamson Act or Farmland Security Zone Programs.

Historically, much of the urban growth that has occurred over the past decade within all of Kings County has been centered around the City of Hanford. Of the approximately 3,416 acres annexed by

Cities between 1998 to 2008, more than sixty percent (2,129 acres) of the converted acreage was attributed to Hanford annexations. The majority of Hanford annexations occurred on Williamson Act "Protested" contract land that held valid City protests which terminated the contracts upon annexation. Hanford annexations of "Protested" contract land made up more than sixty percent of the Hanford annexed territory. Other City annexations included Avenal with 161 acres, Corcoran with 1,089 acres, and Lemoore with 37 acres. Corcoran's annexation total was due largely to the City's annexation of pre-existing built up County fringe areas that included the one unincorporated island and almost all substantially surrounded fringe territories. With all Cities and Communities in Kings County primarily surrounded by Williamson Act Contracted land, development interests have tended to seek the cheapest agricultural land with the least costly restraints.

The County's 2035 General Plan strategy emphasizes preservation of economically valued and productive agricultural land that currently generates a gross value of $1,761,852,000 (2007 Kings County Crop Report). Agricultural resources throughout the County are held in high value, and regional land use cooperation between the County and four Cities has historically led toward more efficient and conservative conversion of agricultural land to urban uses. Williamson Act and Farmland Security Zone Contracts are enacted on approximately 84.21% of all eligible agricultural land and Natural Resource Conservation Land, and establish a commitment from local farming to continue devoting their land to the production of agricultural products. Contracts also serve as a hindrance to development pressure for conversion as the time to remove contracts takes up to 9 or 19 years under a Non-Renewal filing. This limitation has served to slow the process of land conversion. However, given the State's continual recommendation to remove Subvention Funding that supports these contacts, the County is frequently faced with the very real possibility of having to phase out the Williamson Act and Farmland Security Zone Program. If this occurs, the County will lose a critical program that sustains agriculture and maintains long term commitment of local farmers to devote their land for agricultural uses. As the County has no land use authority over Cities, the potential for disorderly annexation and untimely conversion of agricultural land could occur and undermine the County's reliance upon agriculture as a valued resource in reducing greenhouse gas emissions.

C. Public/Private Partnership Air Quality Programs and Initiatives

1. Agriculture

Figure AQ - 10 Orchard

Agriculture is Kings 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, and as identified in the Kings County Blueprint Preferred Growth Scenario. 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. Agricultural Industries Transportation Services (AITS)

Figure AQ-7 AITS Vanpool

The AITS program operated by Kings Area Rapid Transit (KART) provides a valuable service to agricultural workers and farmers while also providing significant air quality benefits by reducing vehicle trips. The program is designed to provide qualified agricultural workers in Kings, Kern, Tulare, Fresno and Madera Counties with safe, reliable, and affordable vans they can use and drive themselves and others to work. The AITS program exists where the demand for farm labor transportation is high and is not limited to Kings County. Each 15 passenger van is operated by volunteer farm workers that must obtain a Class C drivers license, pass a physical and provide a DMV printout of their driving record. Additional benefits derived from the program include increased worker attendance and performance, insured transportation, licensed drivers, and eliminates the potential for abuse of farm worker who depend upon transport.

3. Kings Area Rapid Transit (KART) Vanpool

Figure AQ-8 KART Vanpool

The KART Vanpool program provides vanpool services in a public/private partnership supporting the needs of employers and employees. This successful program reduces vehicle trips and increases average vehicle ridership to provide significant air quality benefits. The program uses eight and 15 passenger vans for groups that wish to carpool to and from work. The cost is based upon the number of passengers and the distance traveled each month. The driver qualifications are similar to the AITS drivers. Ridership and participation has progressively increased as travel expenses rise and commuters seek more affordable means of dependable and direct modes of transport to and from work. Currently, KART Vanpool program provides vans for employees of 10 correctional facilities and as an incentive to State employees they receive a rebate of up to $65/month.

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 Kings County. These goals, objectives and policies are consistent with other General Plan Elements, the four Community Plans described therein, and the Kings County Association of Governments (KCAG) 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 Kings County's most important industry and it has implemented many initiatives that have already reduced air pollution and energy consumption. Kings 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 KCAG 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 Kings 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 expected**

County 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 KCAG 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 KCAG 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.**

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, KCAG 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 Community Development 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 Kings County on air quality projects in Kings 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 KCAG, 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 co-generation 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 Kings 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 KCAG.

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 KCAG 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 KCAG.

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.**

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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 "General Agriculture" (AG) zone to areas so designated on the General Plan Land Use Map (Figure LU – 11), with minimum parcel size as indicated (e.g., AG-20 and AG-40). Permit, or permit subject to administrative action, all agricultural uses in the AG zone. New and expanding dairies, and dairy replacement stock facilities activities, shall be reviewed and processed as site plan reviews consistent with the policies found in the Dairy Element.

New Land Use/LAFCO Program:

Request the Local Agency Formation Commission of Kings 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 Kings County Association of Governments.

Air Quality Element Program 1:

Figure AQ-9 Solar Panels

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 General Plan 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 Rural Interface areas and Community Districts.
3. The average density of new development approved during the previous year.
4. Progress in improving the jobs/housing balance in Community Districts and Cities within Kings County, and neighboring counties.
5. Acres of farmland classified as prime, or of statewide importance approved for development in Kings County.
6. Inventory of vacant land in Kings 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 Kings 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 Kings 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 Kings 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 Kings 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, Kings 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:

There is currently no adopted SJVAPCD or ARB threshold for greenhouse gas/climate change impacts. The County will develop its own threshold of significance for greenhouse gas/climate change impacts based on the information currently available from the SJVAPCD, Association of Environmental Professionals (AEP), American Planning Association (APA), California Air Pollution Control Officers Association (CAPCOA) and the State of California Office of Planning and Research. As an interim measure, the County will require any project that is potentially significant for criteria pollutant impacts to also provide a quantitative assessment of greenhouse gas emissions and analysis of climate change impacts. Projects will be required to identify design features included in the project and/or mitigation measures that reduce energy consumption or emissions of greenhouse gases.

Air Quality Element Program 4:

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

- Identifies tree species that are suitable for Kings 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:

Kings County, as a member of the Kings County Association of Governments, 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, Kings 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.

ARB (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 re-radiated 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.