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Chapter 9: Air Quality Element

Introduction

WHY IS AIR QUALITY IMPORTANT?

> *"Air quality attainment goals established by the South Coast Air Quality Management District have been more than met despite the substantial growth in the region in the last 20 years. Most of this is a result of significantly improved engine technology and the replacement of more polluting vehicles. However, local initiatives that expanded transit options, concentrated development more efficiently, and increased local employment opportunities have also contributed to air quality improvement."*
>
> *– RCIP Vision*

The quality of the air we breathe directly affects our health, environment, economy and our quality of life. Because the inside of our bodies are in constant contact with the outside world through the oxygen we inhale, air pollutants make their way to our lungs and into our blood stream. An overabundance of pollutants in the air can cause mild to severe health effects, including increased hospitalization and emergency room visits, respiratory illnesses, increased risk of developing cancer, decreased breathing capacity, lung inflammation, difficulty in exercising and even a reduction in life-span.

Just as we are affected by air pollution, so too are plants and animals. Animals must breathe the same air and are subject to the same types of negative health effects. Certain plants and trees may absorb air pollutants which can stunt their development or cause premature death. There are also numerous impacts to our economy including lost work days due to illness, a desire on the part of business to locate in areas with a healthy environment, and increased expenses from medical costs. Pollutants may also lower visibility and cause damage to property Certain air pollutants are responsible for discoloring painted surfaces, eating away at stones used in buildings, dissolving the mortar that holds bricks together, and cracking tires and other items made from rubber.

WHAT CAN WE DO ABOUT AIR QUALITY?

Air quality is a regional issue, effecting and affected by every city and county. Although Riverside County generates the lowest emissions of any county in the South Coast Air Basin, air quality in the County is among the Basin's worst due to onshore winds transporting vast amounts of pollutants from Los Angeles and Orange Counties into the Inland Empire.

While the County and the region have made great strides in reducing air pollution, it is committed to meeting state and federal air quality guidelines. Policies and programs addressed in this element will focus on the two main sources of air pollutant emissions: mobile sources and stationary sources. Mobile sources include automobiles, motorcycles, trucks and airplanes. Motor vehicles constitute the largest generator of air pollutant emissions in Riverside County. Stationary sources produce significant amounts of pollutants and include electrical power-generating facilities, manufacturing, fabrication, miscellaneous industrial processes and combustion of natural gas.

Ambient Air - Outside air, any portion of the atmosphere not contained by walls and a roof.

It is an intent of this Air Quality Element to provide background information on the physical and regulatory environment affecting air quality in the County. This element also identifies goals, policies and programs that are meant to balance the County's actions regarding land use, circulation and other issues with their potential effects on air quality. This element in conjunction with local and regional air quality planning efforts addresses ambient air quality standards set forth by the Federal Environmental Protection Agency and the California Air Resources Board (CARB).

WHAT CAN WE DO ABOUT CLIMATE CHANGE AND GREENHOUSE GASES?

Much has been said about "global warming" in recent years. Through media exposure and education, for example, most people know that improving energy efficiency in their homes and reducing the waste they generate through recycling are "good for the planet" because they help reduce the emission of "greenhouse gases." While each of these individual efforts certainly help, the world's governments are increasingly becoming involved in attempting more systematic efforts on a much greater scale. Because of the magnitude and global nature of the problem, such governmental efforts will likely prove necessary in the long run for achieving the reductions in greenhouse gas emissions that scientists are predicting as necessary.

"Local government decisions on how land is used will have large impacts on the greenhouse gas emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity and natural gas sectors."

– California Air Resources Board, Scoping Plan, 2008

As the County's "constitution for future development," the *General Plan* endeavors to provide a comprehensive, long-term plan to guide the future of our County. This is particularly true as it relates to the built environment - such as, the communities we live in, the roads we travel and the services we use; and our natural resources - such as the forests we camp in, the wetlands we protect for endangered wildlife, the water we drink and others. Thus, it is critical that it also include the policies needed for the County to systematically address climate change and greenhouse gas emissions reductions. The policies and programs set forth in this element are intended to protect the health and welfare of our residents by improving air quality, protect our natural resources through enhanced conservation efforts, and ensuring expected growth of our County does not occur at the cost of the global climate.

The Setting

Riverside County is located within three air basins, as can be seen on Figure AQ-1, Riverside County Air Quality Basins They are the South Coast Air Basin (SOCAB), Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin (MDAB). Air quality within each basin is not only affected by various emissions sources (mobile, industry, etc.), but also by atmospheric conditions such as wind speed, wind direction, temperature and rainfall. The following provides a description of each air basin and its relevant climate and meteorological conditions affecting air pollution.

SOUTH COAST AIR BASIN

Western Riverside County (west of the San Gorgonio Pass) is located within the South Coast Air Basin (SOCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties. Air quality conditions in the SOCAB are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

Santa Ana Winds - Santa Ana winds are generally defined as warm, dry winds that blow from the east or northeast (offshore) occurring predominantly between the months of December and February. The winds develop when a region of high pressure builds over the Great Basin (the high plateau east of the Sierra Mountains and west of the Rocky Mountains including most of Nevada and Utah) and move locally across the Mojave Desert and then over and through passes in the San Gabriel, San Bernardino and San Jacinto Mountains.

According to the Air Quality Management Plan (AQMP), the worst air quality problem in the nation occurs in the South Coast Air Basin. With very light average wind speeds, the basin atmosphere has a limited capability to disperse air contaminants horizontally. The dominant daily wind pattern is a daytime sea breeze (onshore breeze) and a nighttime land breeze (offshore breeze), broken only occasionally by winter storms and infrequent strong Santa Ana winds from the Great Basin, Mojave, and deserts to the north.

On virtually all spring and early summer days, most of the pollution produced during an individual day is moved out of the basin through mountain passes, or is lifted by the warm, vertical currents produced by the heating of mountain slopes. In those seasons, the basin can be "flushed" of pollutants by a transport of ocean air during the afternoon. From late summer through the winter months, the flushing is less pronounced because of lower wind speeds and the earlier appearance of offshore winds. With extremely stagnant wind flows, the drainage winds may begin near the mountains by late afternoon. Remaining pollutants are trapped and begin to accumulate during the night and the following morning. A low average morning wind speed in pollution source areas is an important indicator of air stagnation potential.

Inversion layer - A layer of warm air that traps the cooler air and any pollutants it carries below.

The vertical dispersion of air pollutants in the South Coast Air Basin is hampered by the presence of a temperature inversion in the layers of the atmosphere near the surface of the Earth. In a normal situation, as temperatures decrease with altitude, air continues to rise as it remains warmer than the surrounding air. With an inversion layer, air cannot continue to expand upwards, as it is trapped by the warmer air above.

However, as the day progresses and the sun warms the ground, the surface layer of air approaches a temperature equal to that of the inversion layer. When these temperatures become equal, the inversion layer begins to erode at its lower edge. If enough warming takes place, the inversion layer becomes weaker and weaker and finally "breaks." The surface air layers can then mix upward without limit.

This phenomenon is frequently observed in the middle of late afternoon on hot summer days when the smog appears to clear up suddenly. Winter inversions frequently break by mid-morning, thereby preventing contaminant build-up.

The combination of low wind speeds and low level inversions produces the greatest concentration of pollutants. On high wind days other air pollutants including particulate matter such as dust and soil are swept and carried in the air. On days of no inversion or on days of winds averaging over 15 miles per hour, there will be no important smog effects, during either summer or winter.

In the winter, the greatest pollution problems are carbon monoxide and oxides of nitrogen because of extremely low level inversions and air stagnation during the night and early morning hours. Smog levels are much lower during this season due to the lack of strong inversion during the daylight hours and the lack of intense sunlight which is needed to produce photochemical reactions.

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

In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form more smog. Carbon monoxide is not as great a problem in summer because inversions are not as low and intense in the surface boundary layer (within 100 feet of the ground) as in winter and because horizontal ventilation is better in summer.

The basin-wide average occurrence of inversion at the ground surface is 11 days per month; the averages vary from two days in June to 22 days in December and January. The potential for high concentration varies seasonally for many contaminants. During late spring, summer and early fall, light winds, low mixing heights and brilliant sunshine combine to produce conditions favorable for the maximum production of photochemical oxidants, mainly ozone. During the spring and summer, when fairly deep marine layers are frequently found in the Basin, sulfate concentrations are at their peak.

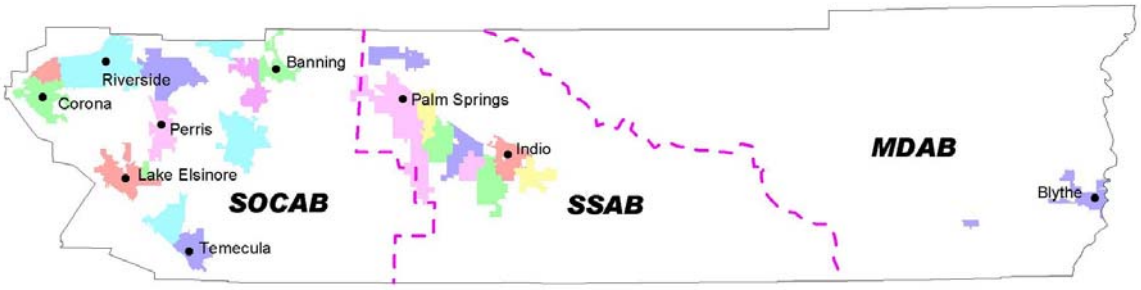
SALTON SEA AIR BASIN

The middle part of Riverside County (between San Gorgonio Pass and Joshua Tree National Monument), belongs in the Salton Sea Air Basin (SSAB), along with Imperial County. Air quality conditions in this portion of the County, although in the SSAB, are also administered by the SCAQMD. The SCAQMD is responsible for the development of the regional Air Quality Management Plan and efforts to regulate pollutant emissions from a variety of sources.

Subtropical High Cell - An area of atmospheric high pressure located at approximately 30 degrees north and south latitude. Air tends to sink near high-pressure centers, which inhibits precipitation and cloud formation. This is why high-pressure systems tend to bring bright, sunny days with calm weather.

The SSAB portion of Riverside County is separated from the SOCAB region by the San Jacinto Mountains and from the Mojave Desert Air Basin to the east by the Little San Bernardino Mountains. During the summer, the SSAB is generally influenced by a Pacific Subtropical High Cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The SSAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. The SSAB averages between three and seven inches of precipitation per year.

Figure AQ- 1 Riverside County Air Quality Basins



Air Basin Boundary

SOCAB - South Coast Air Basin
SSAB - Salton Sea Air Basin
MDAB - Mojave Desert Air Basin

Source Information: SCAQMD.
The oldest data shown on this map is 1990.

The County of Riverside or the RCIP consultants have no reason or indication to believe that this map contains any inaccuracies, defects or misinformation. The County of Riverside and the RCIP consultants assume no warranties or legal responsibility, however, as to the absolute accuracy of any data or information contained within this map, regardless the location, subject and size. Data and information represented on this map is subject to update and modification without prior notification. The geographic information system and other sources should be queried for the most current information. This map or any information represented on it, shall not be reproduced or transmitted in any form or by any means, electronic or mechanical, including photo copying and recording, except as expressly permitted in writing by the County of Riverside.

0 20 Miles

RIVERSIDE COUNTY
AIR QUALITY BASINS

Figure AQ-1

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MOJAVE DESERT AIR BASIN

The Mojave Desert Air Basin (MDAB), comprised of 21,000 square miles, encompasses the eastern portion of Riverside County consisting of the Palo Verde Valley along with portions of Los Angeles, Kern and San Bernardino Counties. Air quality conditions in the Riverside County MDAB are partly under the jurisdiction of the SCAQMD and partly under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD).

The MDAB consists of an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the presence of the Sierra Nevada mountains, which pose as a natural barrier to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains whose passes form the main channels for these air masses.

During the summer months, the MDAB is generally influenced by a Pacific Subtropical High Cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, with desert moisture arriving from infrequent warm, moist and unstable air masses from the south. The MDAB averages between three and seven inches of precipitation per year.

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Regulatory Restrictions

The combination of geographical features and high levels of pollutants produced in the region have resulted in the Environmental Protection Agency (EPA) designating the air basins in Riverside County as non-attainment areas (Table AQ-2). This means that due to the high level of pollutants in the region, the area is not expected to meet National Ambient Air Quality Standards in the near future.

The Federal Clean Air Act (1977 Amendments) requires that designated agencies in any region of the nation not meeting national clean air standards must prepare a plan demonstrating the steps that would bring the area into compliance with all national standards by December 31, 1987. In response, the Governor of California designated agencies to develop these plans.

AIR POLLUTION REGULATIONS

For the South Coast Air Basin and the Salton Sea Air Basin, the agencies designated to develop regional air quality plans are the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG). The two agencies first adopted an Air Quality Management Plan (AQMP) in 1979 and have revised it several times subsequently, as earlier attainment forecasts were shown to be overly optimistic. Equivalent regional air quality plans were created for the Mojave Desert Air Basin by the Mojave Desert Air Quality Management Basin (MDAQMD) in conjunction with SCAG.

In 1998, the California Legislature enacted the California Clean Air Act (CCAA). The CCAA requires regional emissions to be reduced by 5% per year, averaged over a 3-year period, until attainment can be demonstrated. Each region that did not meet a national or state air quality standard was required to prepare a plan which demonstrated how the 5% reductions were to be achieved. In response, the SCAQMD and MDAQMD revised their air quality plans to meet CCAA requirements.

The latest AQMP, approved in 1997, was designed to meet both federal and state air quality planning guidelines. Strategies for controlling air pollutant emissions in the AQMP are grouped into three "tiers," based on their anticipated timing for implementation. Tier 1 consists of the implementation of best available current technology and management practices that can be adopted within five years. Tier II is based on anticipated advancement in current technology and vigorous regulatory action, while Tier III controls consist of implementation measures which first require the development of new technologies.

Indirect Source – A facility, building, structure, installation, property, road, or highway which attracts, or may attract, mobile sources of pollution such as cars and trucks.

The MDAQMD adopted its Air Quality Attainment Plan in 1995 to meet state ozone standards and the Attainment Demonstration Plan in 1996 to meet federal ozone standards. While the Mojave Desert Air Basin is classified by the state as a non-attainment area for PM_{10} (coarse particles larger than 2.5 but smaller than 10 micrometers), state law does not require an air quality plan to meet this standard, and as such, no plan has been adopted.

To achieve the goals and objectives of the air quality plans at the local level, all cities and counties must adopt air quality elements or other elements/plans that fully

address air quality as well as implement these plans to achieve compliance with state and federal standards. Local responsibilities for achieving compliance primarily focus on measures that control "Indirect Sources" such as facilities, buildings, structures, installations, real property, roads or highways that attract mobile sources of pollution.

GREENHOUSE GAS REGULATIONS

Global climate change and greenhouse gases have received greater attention from governments around the world in recent years. The "greenhouse gas effect" is the phenomena by which human activities, primarily the use of carbon-based (fossil) fuels to produce energy, increase the concentration of "greenhouse gases" that trap heat in the earth's atmosphere. It is believed that this gradual increase in the earth's overall temperature will result in significant observable differences in historic storm patterns, precipitation and temperature - thus changing the overall climate around the globe. Additional details on the science behind this are provided later in this section.

In California, specifically, it is believed that global warming will cause higher overall temperatures, reduced snow-pack and other impacts to historic precipitation, storm and temperature patterns. In June of 2005, Governor Schwarzenegger signed Executive Order S-3-05 which requires California to reduce GHG emissions to 2000 levels by the year 2010, to 1990 levels by the year 2020 and to 80% below 1990 levels by 2050. The following year, the *Global Warming Solutions Act of 2006* (Assembly Bill 32) was enacted. This Act (AB 32) codified the goals set by the Governor's prior Order and also imposed for the State certain milestones for reducing GHG emissions. For example, AB 32 requires that the California Air Resources Board (CARB) promulgate regulations which will, by 2020, reduce GHG emissions to those emission levels that existed in 1990.

Assembly Bill (AB) 32 – The Global Warming Solutions Act of 2006 (Nunez and Pavley). This law was enacted to direct the State to control greenhouse gas emissions, in particular, reduce emissions to 1990 levels by 2020 and to 80% below 1990 levels by 2050.

AB 32 Timeline:

By Jan. 1, 2009 -
CARB adopts Scoping Plan
By Jan. 1, 2010 -
CARB "early action" measures take effect
By Jan. 1, 2011 -
CARB completes GHG rulemaking
By Jan. 1, 2012 -
GHG rules take effect and are legally enforceable
By Dec. 31, 2020 -
Deadline for achieving 2020 GHG emissions cap

More recently, the California Legislature enacted Senate Bill 375 (SB 375) in 2008 to establish a mechanism for accounting for GHG emissions on a regional basis and provide a framework for collaboration among local land use jurisdictions in achieving regional GHG reductions. SB 375 connects land use, transportation and AB 32 implementation to address emissions related to vehicle travel. The law directs "sustainable communities strategies" and other plans to be prepared at the regional level. As part of this process, Riverside County will be allocated a future GHG emissions target that must be considered in future development plans.

Towards these ends, the County of Riverside has joined forces with other local jurisdictions to assist with the implementation of SB 375 and to achieve the GHG emissions reduction targets needed to assure the success of AB 32 for our State. These efforts will to reduce greenhouse gas emissions will not only benefit the global climate, but improve the quality of life for our community as well. The programs will result locally in cleaner air, reduced waste and excess consumption, support more sustainable use of limited resources, result in more efficiently planned communities and achieve healthier environments for our residents.

Issues and Policies

AIR QUALITY STANDARDS

> *Air quality is viewed as such an important factor in the quality of life that its measurements are used as a major factor in evaluating the Plan's performance.*
>
> *– RCIP Vision*

Six criteria air pollutants have been established for every air basin within the State of California. These are pollutants for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set. As shown in Table AQ-1, Ambient Air Quality Standards, federal and state standards have been developed for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead and particulates ~~PM_{10}~~. Federal primary standards for air pollutants have been established to protect the public health, while secondary standards ~~protect the public welfare by preventing impairment of visibility and damage to vegetation and property.~~ establish the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Table AQ-1: Ambient Air Quality Standards

Pollutant	Averaging Time	State	Federal	
			Primary	Secondary
Ozone	1 Hour	0.09 ppm	~~0.12 ppm~~ --	Same as Primary Standard
	8 Hour	~~0.08~~ 0.07 ppm	~~0.08~~ 0.075 ppm	
Nitrogen Dioxide	Annual ~~Average~~ Arithmetic Mean	~~0.053~~ 0.030 ppm	0.053 ppm	Same as Primary Standard
	1 Hour	~~0.25~~ 0.18 ppm	–	
Carbon Monoxide	8 Hour	9.0 ppm	9.0 ppm	–
	1 Hour	20.0 ppm	35.0 ppm	–
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m^3	--	
~~Suspended~~ Fine Particulate Matter (~~PM_{10}~~ ~~&~~ $PM_{2.5}$)	~~Annual Geometric Mean~~	~~30 µg/m^3~~	~~65 µg/m^3 ($PM_{2.5}$)~~	–
	24 Hour	No separate State standard	35 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m^3	15.0 µg/m^3	
Sulfur Dioxide	Annual ~~Average~~ Arithmetic Mean	--	0.03 ppm	~~Same as Primary Standard~~ ---
	24 Hour	0.04 ppm	0.14 ppm	---
	3 Hour	--	--	0.5 ppm
	1 Hour	0.25 ppm	–	–

Table AQ-1 continued on next page ….

Pollutant	Averaging Time	State	Federal	
			Primary	Secondary
Lead	30 Day Average	1.5 µg/m^3	--	--
	Calendar Quarter	--	1.5 µg/m^3	Same as Primary Standard
	Rolling 3-Month Average	--	0.15 µg/m^3	
Sulfates	24 Hour	25 µg/m^3	--	--
Hydrogen Sulfide	1 Hour	0.03 ppm	--	--
Vinyl Chloride	24 Hour	0.01 ppm	--	--

Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter of air
Additionally, see ARB Rulemaking for specific standards for "Visibility Reducing Particles"
Source: California Air Resources Board, ~~Fact Sheet 39, 1998~~ November, 17, 2008.

Riverside County has made great strides in achieving state and federal air quality standards. The following provides a description of the six criteria air pollutants and their attainment status in each of the three Riverside County air basins. The following table summarizes the attainment status for these six pollutants within each of the three air quality basins covering Riverside County.

Table AQ-2: Attainment of State and Federal Criteria Air Pollutant Standards
[Note: TO BE UPDATED from EIR data]

Air Basin	Ozone	Carbon Monoxide	Nitrogen Oxides	Sulfur Dioxide	Lead	Particulate Matter
SCAQMD	Non-attainment (State and Federal)	Non-attainment (Federal) Has not exceeded State standards in 5 years	Maintenance Area[1]	Attainment (State and Federal)	Attainment (State and Federal)	Non-attainment (State and Federal)
SSAB	Non-attainment (State and Federal)	Attainment (State and Federal)	Attainment (State and Federal)	Attainment (State and Federal)	Attainment (State and Federal)	Non-attainment (State and Federal)
MDAQMD	Non-attainment (State and Federal)	Attainment (State and Federal)	Attainment (State and Federal)	Attainment (State and Federal)	Attainment (State and Federal)	Non-attainment (Federal) Attainment Unclassified[2] (State)

Notes:
1. An area once classified as non-attainment but has recently shown achievement of air quality standards.
2. After meeting attainment standards, the MDAQMD discontinued monitoring efforts; consequently it cannot be given full attainment status.
Source: Southern California Air Quality Management District and the Mojave Desert Air Quality Management Basin

[TO BE UPDATED from EIR, as per Table AQ-2 data]:

Ozone

Ozone (O_3) is a pungent, colorless gas typical of southern California smog. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. Ozone levels peak during the summer and early fall months.

The SOCAB is designated as a non-attainment area for both federal and state ozone standards, meaning that air quality standards are being exceeded. The Environmental Protection Agency (EPA) has classified the entire Southern California Association of Governments region as an "extreme" non-attainment area, and has mandated that the South Coast Air Quality Basin achieve attainment by 2010. The SSAB and MDAB are both designated as non-attainment areas for federal and state ozone standards.

Carbon Monoxide

Carbon monoxide (CO) is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue and impairments to central nervous system functions. The SOCAB is designated as a non-attainment area for federal CO standards. However, the Riverside County area of SOCAB has not exceeded either federal or state CO standards in the past five years. The SSAB and MDAB have both been designated as attainment areas for federal and state Carbon Monoxide standards.

Nitrogen Oxides

Nitrogen dioxide (NO_2), a reddish brown gas, and nitric oxide (NO), a colorless odorless gas, are jointly referred to as nitrogen oxides or NO_x. NO_x is a primary component of smog and also contributes to other pollution problems such as high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 decreases lung function and may reduce resistance to infection.

The SOCAB has not exceeded either federal or state standards for nitrogen dioxides in the past five years. It is designated as a maintenance area (an area that was once classified as non-attainment but has recently shown achievement of air quality standards) under federal standards and as an attainment area under state standards. The SSAB and MDAB are designated as attainment areas for both federal and state NO_2 standards.

Sulfur Dioxide

Sulfur dioxide (SO_2) is a colorless irritating gas created mainly by industrial facilities. SO_2 irritates the respiratory tract, injures lung tissue when combined with fine particulate matter and reduces visibility and the level of sunlight. The SOCAB, SSAB and MDAB are all designated as attainment areas for both federal and state sulfur dioxide standards.

Lead

Lead (Pb) is a gray-white metal that is soft, malleable, and resistant to corrosion. Sources of lead resulting in concentrations in the air include industrial sources and weathering of soils, followed by fugitive dust emissions. Health effects from exposure to lead include brain and kidney damage, learning disabilities, seizures

and death. Fetuses, infants and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands and a lower intelligence quotient. The SOCAB, SSAB and MDAB are all designated as attainment areas for both federal and State lead standards.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse but "respirable" particles (larger than 2.5 but smaller than 10 micrometers, or PM_{10}) come from a variety of sources, including windblown dust and grinding operations. Fine particles (less than 2.5 micrometers, or $PM_{2.5}$) often come from fuel combustion, power plants and diesel buses and trucks. Fine particles can also be formed in the atmosphere through chemical reactions. PM_{10} and its health affects are discussed in greater detail later in the Particulate Matter section of this Element.

Fugitive Dust - Dust particles that are introduced into the air through certain activities such as soil cultivation, off-road vehicles, or any vehicles operating on open fields or dirt roadways.

The SOCAB and SSAB are designated as non-attainment areas for both state and federal PM_{10}. The MDAB is designated as a non-attainment area for state PM_{10} standards, but as an attainment unclassified area for Federal standards (after meeting attainment standards, the MDAQMD discontinued monitoring efforts; consequently it cannot be given full attainment status).

Sulfates and Hydrogen Sulfide and Vinyl Chloride

[New para. will be inserted here to describe these new State criteria pollutants and summarize their attainment status].

Vinyl Chloride

[New para. will be inserted here to describe this new State criteria pollutant and summarize its attainment status].

Visibility Reducing Particles

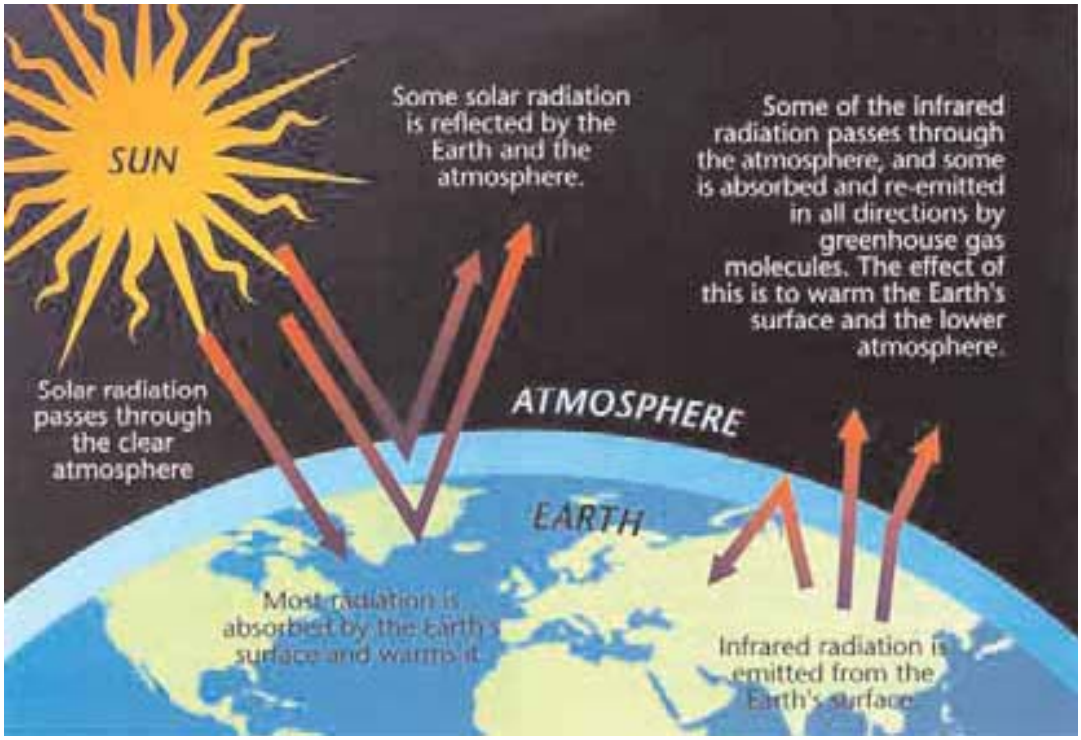
[New para. will be inserted here to describe this new State criteria pollutant and summarize its attainment status].

ABOUT GREENHOUSE GASES

The Greenhouse Gas Phenomenon

As explained by the U.S. Environmental Protection Agency, the Earth's atmosphere is naturally composed of a number of gases that act like the glass panes of a greenhouse, retaining heat to keep the temperature of the Earth stable and hospitable for life at an average temperature of 60ºF. Carbon dioxide is the most prolific of these gases. Other contributing gases include methane, nitrous oxide, ozone and fluorinated gases (halocarbons). Without the natural warming effect of these gases the average surface temperature of the Earth would be around 14ºF.

Figure AQ-2 How Greenhouse Gases Affect Global Atmosphere



Source: US Environmental Protection Agency

Recently, however, elevated concentrations of these gases in the atmosphere have had a de-stabilizing effect on the global climate, fueling the phenomenon commonly referred to as global warming. The global average surface temperature increased during the 20th century by about 1°F. According to NASA scientists, the 1990s were the warmest decade of the century, and the first decade of the 21st century is well on track to be another record-breaker. The years 2002, 2003, 2004 and 2005, along with 1998, were the warmest five years since the 1890s, with 2005 being the warmest year in over a century.

Greenhouse Gas Components

California has established programs aimed at reducing the emissions of greenhouse gases (GHGs). Unlike the criteria air pollutants discussed above, GHGs are not regulated because of their direct adverse effects on health, but rather for their role in global climate change. Some greenhouse gases, such as carbon dioxide occur naturally and are emitted to the atmosphere through both natural processes and human activities. Other GHGs, such as the fluorinated gases, are created and emitted solely through human activities. Under AB 32, Section 38505 of the California Health and Safety Code defines "greenhouse gases" as the four basic constituents following:

Additional information on climate change science is available from numerous sources online. Two excellent resources include: The Intergovernmental Panel on Climate Change (IPCC), *which assesses and summarizes the latest scientific research, at www.ipcc.ch. And, the* California Climate Change Portal *hosted by the State, which provides numerous relevant links at: www.climatechange.ca.gov.*

Carbon Dioxide: Carbon dioxide (CO_2) enters the atmosphere through the burning of fossil fuels, such as oil, coal and natural gas, solid waste decomposition, trees and wood products, and also through certain industrial processes, such as cement manufacturing. Carbon dioxide is the most important anthropogenic (human caused) GHG because it comprises the majority of total GHG emissions per year (approximately 77%) and is very long-lived in the atmosphere. Annual emissions of CO_2 have increased approximately 80% between 1970 and 2004.

Methane: Methane (CH_4) is the second largest component of human-emitted GHGs, accounting for approximately 14% of total emissions. Methane, however, is 21 times more potent than CO_2 in the atmosphere. In relative terms, these means that one ton of methane has roughly the same environmental effect as 21 tons of CO_2. It is for this reason that the term "carbon dioxide equivalents" (CO_2e) is typically used when discussing GHG totals. Methane is emitted during the production and transportation of coal, oil and natural gas. It is also emitted by livestock and other agricultural practices, as well as decay of organic waste in landfills.

Nitrous Oxide: Nitrous oxide (N_2O), also commonly known as "laughing gas," is the third principal GHG component, comprising approximately 8% of emissions. It is commonly emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste decay. In terms of carbon equivalency, one molecule of N_2O has roughly the same environmental effect as 310 molecules of CO_2.

Carbon Dioxide Equivalents: *By converting all GHG emissions to carbon dioxide equivalent units (CO_2e), values can be standardized despite the GHGs' differing degrees of "Global Warming Potential," that is, relative environmental potency. GHG potency varies based on their chemistry and their duration in the atmosphere. For example, methane is 21 times more powerful than carbon dioxide in its capacity to trap heat, so in terms of carbon dioxide equivalents, one ton of methane equals 21 tons CO_2e.*

Fluorinated Gases: In addition to the three principal components above, fluorinated gases also contribute to approximately 1% of total GHG emissions. These gases include: Hydrofluorocarbons (HFCs), perfluorocarbons (CFCs) and sulfur hexafluoride (SF_6). These compounds are powerful synthetic (man-made) GHGs that are emitted from a variety of industrial processes. They are used in refrigeration and semiconductor manufacturing, provide insulation for high-voltage industrial equipment, and also form as by-products of some metal refining processes, such as aluminum smelting. Since they are extremely potent and some may remain in the earth's atmosphere for very long periods (e.g., 50,000 years), they are extremely important, despite their small percentage. They are also said to have "high global warming potential," and as such are subject to increasingly stringent federal and State regulation.

SCAG - Southern California Association of Governments - A regional council of government for planning and policy efforts coordinating its 6 member counties: Riverside, San Bernardino, Orange, Imperial, Los Angeles and Ventura Counties. Subregional Planning Agencies that coordinate with SCAG:

WRCOG - Western Riverside Council of Governments - Coordinates regional policy and planning among 16 cities in Western Riverside County, as well as utility providers and others.

CVAG - Coachella Valley Association of Government - Coordinates regional planning and policy issues among 10 member cities, plus two Indian Tribes and various County agencies.

The General Plan policy and implementation item reference system:

Identifies which element contains the Policy, in this case the Land Use Element, and the sequential number.

LU 1.3

Neighborhood
Commercial uses should be located near residential uses.

(AI 1 and AI 4)

Reference to the relevant Action Items contained in the implementation Program

POLLUTION CONTROL POLICIES

Multi-jurisdictional Cooperation

Air pollutants are not limited to jurisdictional boundaries. Local land use patterns, emission sources, and airflow patterns throughout southern California contribute to the air quality of Riverside County. While the County can enact policies that limit emissions within its boundaries, it is necessary to support efforts to decrease region-wide pollution emissions as surrounding jurisdictions significantly impact Riverside County's air quality. The following policies are designed to establish a regional basis for improving air quality.

Policies:

AQ 1.1 Promote and participate with regional and local agencies, both public and private, to protect and improve air quality. (AI 111)

AQ 1.2 Support Southern California Association of Government's (SCAG) *Regional Growth Management Plan* by developing intergovernmental agreements with appropriate governmental entities such as the Western Riverside Council of Governments (WRCOG), the Coachella Valley Association of Governments (CVAG), sanitation districts, water districts, and those subregional entities identified in the Regional Growth Management Plan. (AI 111)

AQ 1.3 Participate in the development and update of those regional air quality management plans required under federal and state law, and meet all standards established for clean air in these plans. (AI 110)

AQ 1.4 Coordinate with the SCAQMD and MDAQMD to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced. (AI 111)

AQ 1.5 Establish and implement air quality, land use and circulation measures that improve not only the County's environment but the entire region's. (AI 111)

AQ 1.6 Establish a level playing field by working with local jurisdictions to simultaneously adopt policies similar to those in this Air Quality Element

AQ 1.7 Support legislation which promotes cleaner industry, clean fuel vehicles and more efficient burning engines and fuels. (AI 113)

AQ 1.8 Support the introduction of federal, state or regional enabling legislation to permit the County to promote inventive air quality programs, which otherwise could not be implemented. (AI 113)

AQ 1.9 Encourage, publicly recognize and reward innovative approaches that improve air quality. (AI 113)

AQ 1.10 Work with regional and local agencies to evaluate the feasibility of implementing a system of charges (e.g., pollution charges, user fees, congestion pricing and toll roads) that requires individuals who undertake polluting activities to bear the economic cost of their actions where possible. (AI 111)

AQ 1.11 Involve environmental groups, the business community, special interests, and the general public in the formulation and implementation of programs that effectively reduce airborne pollutants.

Sensitive Receptors

Children may suffer from asthma or other chronic diseases as a result of exposure to polluted air.

Sensitive receptors refer to those segments of the population most susceptible to poor air quality (i.e. children, elderly and the sick) and to certain at-risk sensitive land uses such as schools, hospitals, parks, or residential communities. The intent of the following policies is to reduce the negative impacts of poor air quality on the County's sensitive receptors.

Policies:

AQ 2.1 The County land use planning efforts shall assure that sensitive receptors are separated and protected from polluting point sources to the greatest extent possible. (AI 114)

AQ 2.2 Require site plan designs to protect people and land uses sensitive to air pollution through the use of barriers and/or distance from emissions sources when possible. (AI 114)

AQ 2.3 Encourage the use of pollution control measures such as landscaping, vegetation and other materials, which trap particulate matter or control pollution. (AI 114)

AQ 2.4 Consider creating a program to plant urban trees on an Area Plan basis that removes pollutants from the air, provides shade and decreases the negative impacts of heat on the air. (AI 114)

~~*Transportation Management Associations - Non-profit organizations formed so that employers, developers, building owners, local government representatives, and others can work together and collectively establish policies, programs, and services to address local transportation problems.*~~

Vehicle Miles Traveled (VMT): Denote the distances traveled each day. VMT is also a prime indicator of the efficiency of the County's transportation network. And, since most motor vehicles directly emit greenhouse gases in operation, VMT also reflects air quality. Measures to reduce VMT usually improve air quality and lower greenhouse gas emissions too.

Mobile Pollution Sources

Mobile sources are subdivided into two categories: on-road (generally motorized vehicles like automobiles, motorcycles and trucks) and non-road sources (trains, boats, jet skis and all-terrain vehicles). The County's land use distribution, proximity to Orange and Los Angeles Counties, and subsequent auto-generated traffic have had a tremendously detrimental impact on air quality. Vehicle miles traveled (VMT) have doubled over the past 20 years, with mobile pollution sources constituting approximately 60% of air pollution in the region.

Policies:

AQ 3.1 Allow the market place, as much as possible, to determine the most economical approach to relieve congestion and cut emissions.

AQ 3.2 Seek new cooperative relationships between employers and employees to reduce vehicle miles traveled.

AQ 3.3 Encourage large employers and commercial/industrial complexes to create Transportation Management Associations. (AI 115)

AQ 3.4 Encourage employee rideshare and transit incentives for employers with more than 25 employees at a single location.

Stationary Pollution Sources

Stationary pollution sources are generally divided into two subcategories for analysis: point sources (such as power plants and refinery boilers) and area sources (including small emission sources such as residential water heaters and architectural coatings). Agricultural and industrial land uses are generally the main stationary pollution sources in Riverside County, though most urbanized land areas and their associated activities also contribute to poor air quality in the region. While industrial sources are addressed here, agricultural source impacts, due to their primary emissions of PM_{10}, are addressed in the Particulate Matter section of this element.

Policies: ***[Note: Additional policies TBD per GHG analysis / EIR results.]***

AQ 4.1 Encourage the use of building materials/methods which reduce emissions.

AQ 4.2 Encourage the use of efficient heating equipment and other appliances, such as water heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces and boiler units.

AQ 4.3 Encourage centrally heated facilities to utilize automated time clocks or occupant sensors to control heating.

AQ 4.4 Require residential building construction to comply with energy use guidelines detailed in Title 24 of the California Administrative Code.

AQ 4.5 Require stationary pollution sources to minimize the release of toxic pollutants through:

- Design features;
- Operating procedures;
- Preventive maintenance;
- Operator training; and
- Emergency response planning

Please see the County Ordinance No. 742, Fugitive Dust Control in Urban Areas of the Coachella Valley, for additional information.

AQ 4.6 Require stationary air pollution sources to comply with applicable air district rules and control measures.

AQ 4.7 To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, MDAQMD, SOCAB, the Environmental Protection Agency and the California Air Resources Board.

AQ 4.8 Expand, as appropriate, measures contained in the County's Fugitive Dust Reduction Program for the Coachella Valley to the entire County.

AQ 4.9 Require compliance with SCAQMD Rules 403 and 403.1, and support appropriate future measures to reduce fugitive dust emanating from construction sites.

AQ 4.10 Coordinate with the SCAQMD and MDAQMD to create a communications plan to alert those conducting grading operations in the County of first, second, and third stage smog alerts, and when wind speeds exceed 25 miles per hour. During these instances all grading operations should be suspended. (AI 111)

Energy Efficiency and Conservation

Recycling and conservation efforts established and encouraged by the County can reduce the amount of pollutants emitted within the County. Efforts to recycle wastes can reduce the amount of pollutants emitted from the production of new materials while preserving raw materials. Conservation measures minimize the impacts of not only the consumption of, but also the production of energy sources.

Policies ***[Note: Additional policies TBD per GHG analysis / EIR results.]***

AQ 5.1 Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

AQ 5.2 Adopt incentives and/or regulations to enact energy conservation requirements for private and public developments. (AI 62)

AQ 5.3 Update, when necessary, the County's Policy Manual for Energy Conservation to reflect revisions to the County Energy Conservation Program.

AQ 5.4 Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.

JOBS AND HOUSING

Imagine commuting in the morning and driving only a few short miles to work. There would be no commutes over an hour, no crowded freeways that resemble parking lots and no fighting traffic. This is the life of people who live near work. And as more residents are able to live and work within the County, this will be the commuting pattern of most residents. This will save fuel, ease congestion, speed traffic, cut emissions and improve air quality. However, if nothing is done, the risks are great. SCAG predicts that by the year 2010 commutes between Riverside County and Los Angeles County may increase by 600% over 2000 levels.

Part of the solution to the region's air quality problems is a better jobs-to-housing ratio. The objective of the jobs to housing ratio concept is to reduce Vehicle Miles Traveled (VMT) by locating jobs and housing closer together. In the ideal situation, the appropriate number of housing units in various income categories are provided to house the County's workforce. While this does not ensure that residents will live and work within Riverside County, the likelihood of it occurring does increase.

As stated in the *General Plan Housing Element*, traffic patterns on the major east-west transportation routes indicate that Riverside County serves as a bedroom community that supplies approximately 18% of the labor pool for the Los Angeles-

A "household" consists of all the

Orange County metropolitan area (Table AQ-3, Home County by Work County). Statistics for 1990 to 2000 show that Riverside County's jobs-household ratio is slowly improving, however, from 0.80 jobs per household in 1990 to 0.90 in 1997 and 0.94 in 2000. The unincorporated area shows a severe shortage of jobs, however, with only 0.48 jobs per household in the western County and 0.26 jobs per household in the eastern County in 1997. This is the reverse of the jobs to housing ratio experienced in Los Angeles and Orange Counties where there were approximately 1.46 and 1.52 jobs per household respectively in the year 2000.

Whenever possible, the County should offer incentives to businesses and individuals to control emissions and implement the AQMP. In job-poor areas, the County should stress job creation and reductions in vehicle miles traveled to improve air quality over other less efficient methods. Among the positive approaches available to the County to encourage job creation in job-poor areas are: education; job training and placement services; technical assistance to incoming businesses; reducing regulation and paperwork on businesses; fast-tracking and fee waivers; and low interest loans.

Table AQ-3: Home County by Work County

	Home County					
Work County	**Los Angeles**	**Orange**	**Riverside**	**San Bernardino**	**Ventura**	**Imperial**
Los Angeles	90%	17%	8%	16%	18%	0%
Orange	6	79	10	7	0	0
Riverside	**0**	**0**	**68**	**9**	**0**	**1**
San Bernardino	2	2	8	68	0	0
Ventura	2	0	1	0	80	1
San Diego	0	1	4	0	1	1
Imperial	0	0	1	0	0	97

Source: 1999 SCAG State of the Commute Report

Education and Job Training

To stay competitive, the business community requires an educated and trained work force. While County residents are among the most talented and skilled in southern California, job training and education programs should be provided as an incentive for businesses to locate within the County. This will help ensure residents are trained and qualified to meet the specific needs of the business community.

Policies: ***[Note: Additional policies TBD per GHG analysis / EIR results.]***

AQ 6.1 Assist small businesses by developing education and job training programs, especially in job-poor areas. (AI 124)

AQ 6.2 Collaborate with local colleges and universities to develop appropriate educational programs to assist residents in obtaining job skills to meet market demands.

Business Development

To the extent possible, the Air Quality Element will be an economic development program designed to enhance employment opportunities in Riverside County. Attempts to improve air quality should not prevent business development, especially within job-poor areas. In fact, business development should be identified as a critical factor in increasing air quality. Increasing employment opportunities within the County will allow residents to obtain jobs locally and decrease commute times. Decreased commute times mean less time spent in air polluting vehicles.

Policies: ***[Note: Additional policies TBD per GHG analysis / EIR results.]***

AQ 7.1 Provide incentives to encourage new firms to locate within the County and existing firms to expand operations. (AI 18)

AQ 7.2 Work with SCAQMD and MDAQMD to develop a means to encourage the location of new commercial and industrial development in those localities where jobs are most needed. (AI 18)

AQ 7.3 Create a loan program to encourage small businesses to locate within the County. (AI 18)

AQ 7.4 Offer incentives to businesses to control emissions and implement the AQMP. (AI 18)

AQ 7.5 Reduce regulations on small businesses wherever possible and thereby encourage small business development and job creation. The County shall set performance standards as well as design standards, thus giving small business owners as many options as possible to comply with County regulations. (AI 18)

AQ 7.6 Adopt policies freeing small businesses from unnecessary and duplicative paperwork. (AI 18)

AQ 7.7 Assemble information collected from County agencies and departments concerning the business community to develop programs that better serve their needs. (AI 18)

Jobs-to-Housing Ratio

One of the challenges facing the County is to provide the appropriate quantity of residential and employment-generating uses within close proximity to each other in order to reduce the amount of vehicle miles traveled and minimize impacts on air quality. In addition to providing incentives for businesses to locate within Riverside County, it is important to consider the jobs-to-housing ratio when approving the construction of new developments, including the use of mixed-use land patterns and the placement of new public facilities.

Policies: ***[Note: Additional policies TBD per GHG analysis / EIR results.]***

Please see the General Plan Land Use Element Land Use Designation Policies section and Appendix J, Community Center Guidelines for additional information.

AQ 8.1 Locate new public facilities in job-poor areas of the County. (AI 18)

AQ 8.2 Emphasize job creation and reductions in vehicle miles traveled in job-poor areas to improve air quality over other less efficient methods. (AI 18)

AQ 8.3 Time and locate public facilities and services so that they further enhance job creation opportunities. (AI 18)

AQ 8.4 Support new mixed-use land use patterns and community centers which encourage community self-sufficiency and containment, and discourage automobile dependency. (AI 14)

AQ 8.5 Develop community centers in conformance with policies contained in the Land Use Element. (AI 14)

AQ 8.6 Encourage employment centers in close proximity to residential uses. (AI 14)

AQ 8.7 Implement zoning code provisions which encourage community centers, telecommuting and home-based businesses. (AI 1)

AQ 8.8 Promote land use patterns which reduce the number and length of motor vehicle trips. (AI 26)

Please see the General Plan Circulation Element Planned Circulation Systems section for further policies regarding alternative modes of travel.

AQ 8.9 Promote land use patterns that promote alternative modes of travel. (AI 26)

Multi-jurisdictional Coordination

The County of Riverside recognizes the regional context of the policies it creates. Because air pollutants do not recognize political boundaries, often the policies of one community may adversely impact residents of another. This is particularly true with respect to pollutants emitted by motor vehicles, which underscores the importance of regional and subregional cooperation.

Policies: ***[Note: Additional policies TBD per GHG analysis / EIR results.]***

AQ 9.1 Cooperate with local, regional, state and federal jurisdictions to reduce vehicle miles traveled and motor vehicle emissions through job creation. (AI 18)

AQ 9.2 Attain performance goals and/or VMT reductions which are consistent with SCAG's Growth Management Plan. (AI 26)

TRANSPORTATION DEMAND MANAGEMENT

Please see the General Plan Circulation Element Transportation Demand Management section for additional information.

Vehicles are an essential part of life in California. People use them to go to work, run errands and transport goods all across the state and nation. However, while they serve a valuable function, many streets and freeways are increasingly overburdened with traffic. Everyday, cars and trucks jam onto the freeway at the beginning and end of each workday. Inching along the average twenty-two mile commute for Riverside County residents, automobiles spew pollutants into the air, while long sunny days change these pollutants into other noxious compounds. Most cars carry a single occupant, adding to the congestion and smog. When traffic does move, accidents often involving large trucks bring traffic to a grinding halt.

The good news is that our commute times and distance traveled to and from work have been stable over the last decade. The bad news is that Riverside County residents drive the furthest distance and have some of the longest commute times in all of southern California (Tables AQ-4, AQ-5 and AQ-6).

Transportation Demand Management (TDM) can help unclog freeways and reduce commute times, thereby improving air quality. However, it means planning driving patterns to reduce the number of cars and trucks using the roads at any one time. This in the essence of TDM.

Transportation Demand Management (TDM) - Low-cost ways to reduce demand by automobiles on transportation systems, such as programs to promote telecommuting, flextime and ridesharing.

As stated in the Circulation Element, TDM strategies help reduce work-related trips by encouraging individuals who now drive alone to form carpools and vanpools, and to take the bus or light rail. Alternatively, workers may work longer hours and so eliminate a trip to the office once or twice a week. Two other TDM strategies that eliminate work trips are telecommuting and work-at-home programs. When individuals must drive, TDM calls for changes in their work schedules to avoid peak traffic periods. A similar TDM strategy encourages large trucks to operate at night. Because traffic at night is lighter, accidents are less likely, and when they do occur, they may not tie up the freeway for hours as they would during the day.

TDM strategies for reducing trips that are not work related are also important. Among these are merchant transportation incentives, such as discounts to customers who use public transit and free bus passes. Some measures reduce both work and non-work related trips. For example, by pricing parking spaces and providing convenient parking for people who rideshare, parking management encourages the use of carpools, vanpools and public transit. It also eliminates on-street parking which adds to congestion.

Table AQ-4: Commute Distance by Home County
[DATA to updated as appropriate per EIR Traffic Study]

Home County	1992	1993	1994	1996	1998	1999
Los Angeles	15.8 miles	13.3 miles	15.3 miles	14.6 miles	15.3 miles	14.9 miles
Orange	14.9	14	15.8	15.7	14.2	16.1
Riverside	**20.9**	**22.8**	**22.2**	**24.1**	**21**	**21.6**
San Bernardino	20.4	20	21.3	25	22.4	21.3
Ventura	17.7	15.4	16.2	17.8	15.9	16.3
Imperial*	NA	NA	NA	11.8	12.1	14.5

* Imperial County was included for the first time in the 1996 study.
Source: 1999 SCAG State of the Commute Report

Table AQ-5: Commuting Time for Trip to Work by Home County
[DATA to updated as appropriate per EIR Traffic Study]

Home County	1992	1993	1994	1996	1998	1999
Los Angeles	37 minutes	33 minutes	30 minutes	33 minutes	31 minutes	34 minutes
Orange	32	29	30	30	31	33
Riverside	**38**	**37**	**36**	**38**	**36**	**37**
San Bernardino	35	36	36	38	37	35
Ventura	28	26	28	28	26	27
Imperial	NA	NA	NA	20	23	24

* Imperial County was included for the first time in the 1996 study.
Source: 1999 SCAG State of the Commute Report

Table AQ-6: Commuting Time for Return Trip Home by Home County
[DATA to updated as appropriate per EIR Traffic Study]

Home County	1992	1993	1994	1996	1998	1999
Los Angeles	42 minutes	36 minutes	34 minutes	36 minutes	38 minutes	41 minutes
Orange	35	34	38	37	34	41
Riverside	**41**	**43**	**43**	**46**	**40**	**38**
San Bernardino	42	39	42	47	39	41
Ventura	32	30	31	32	30	33
Imperial	NA	NA	NA	21	24	23

* Imperial County was included for the first time in the 1996 study.
Source: 1999 SCAG State of the Commute Report

TDM alone, however, is not the answer. Transit improvements and facility development must accompany these changes. Efforts to encouraging a shift to transit will fail unless transit operators make convenient, safe and reliable transit service available. Similarly, a lack of work centers now blocks the development of telecommuting. The County can take steps to foster the development of such work centers. Changing transportation demand will also require facility development, such as park-n-ride lots, bus turnouts, off-site parking, and facilities for bicycles and pedestrians.

The County's Transportation Demand Management Ordinance for new developments, designed to meet the requirements of the Riverside County Congestion Management Program and the Air Quality Management Plan, promotes the development of TDM strategies early in the development review process. The ordinance sets goals for reducing vehicle trips generated by new developments, a minimum road level-of-service for all new development projects and a reduction in overall vehicle trips emanating from the County. This ordinance also establishes potential TDM measures to be used where appropriate including off-site telecommunications facilities, carpooling, alternative work schedules, transit ridership incentives, and an enhanced pedestrian and bikeway circulation system.

Trip Reduction

As the automobile is the major source of air pollution in the region, the County recognizes the importance of reducing the number of vehicle trips and miles traveled. Policies in this section are not intended to create additional regulation, but to create incentives to reduce vehicle trips, encourage alternative schedules and conform to policies created by regional governments.

Policies: ***[Note: Additional policies TBD per GHG analysis / EIR results.]***

AQ 10.1 Encourage trip reduction plans to promote alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking. (AI 47)

AQ 10.2 Use incentives, regulations and Transportation Demand Management in cooperation with surrounding jurisdictions when possible to eliminate vehicle trips which would otherwise be made. (AI 47)

AQ 10.3 Assist merchants in encouraging their customers to shift from single occupancy vehicles to transit, carpools, bicycles, or foot. (AI 48)

AQ 10.4 Continue to enforce the County's Transportation Demand Management Ordinance and update as necessary.

Please see the General Plan Circulation Element Transportation Demand Management section for additional information.

Special Events

Temporary special events provide recreational and retail opportunities for residents. However, these events may also result in traffic congestion on roadways adjacent to the event. The following policies are designed to alleviate traffic congestion and the accompanying pollution caused by excess vehicle travel times.

Policies:

AQ 11.1 Establish requirements for special event centers to provide off-site parking and park-n-ride facilities at remote locations. Remote parking should be as close to practicable to the event site and the operator should supply shuttle services. (AI 116)

AQ 11.2 Promote the use of peripheral parking by increasing on-site parking rates and offering reduced rates to peripheral parking with tickets sold for non-ridesharing patrons. (AI 116)

AQ 11.3 Encourage special event center operators to advertise and offer discounted transit passes with event tickets (AI 116)

AQ 11.4 Encourage special event center operators to advertise and offer discount parking incentives to carpooling patrons, with two or more persons per vehicle, for on-site parking facilities. (AI 116)

TRANSPORTATION SYSTEMS MANAGEMENT

Transportation systems management improves traffic flow through modification in the operation of existing transit facilities and fleets. This increases mobility and thereby improves air quality. Commerce, industry and public welfare require adequate mobility. Poor transportation systems management, on the other hand, creates congested highways, perpetuates poorly maintained and polluting fleets, weakens the County's economy and diminishes its citizens' health and well-being.

An at-grade railroad crossing is one where the street and the rail line form an intersection, and physically cross one-another.

The County's rapidly growing population combined with unsynchronized traffic signals, delays at grade-level rail crossings, non-uniform street widths, inadequate roadway maintenance and poor emergency response, has resulted in increased congestion. Increased congestion means stop-and-go traffic and longer travel and idling time for cars, buses and trucks. Congestion increases transportation costs and vehicle emissions, and frays nerves. Moreover, a lack of fleets using alternative fuels adds to poor air quality.

Because transportation systems management provides an important weapon for relieving congestion, improving mobility, and enhancing air quality, the County should use it extensively in its fight for cleaner air.

Traffic Flow

It is a goal of the County to manage its transportation systems in a manner in which mobility and efficiency are enhanced. Improving the flow of traffic promotes mobility on our streets, resulting in decreased impacts on air quality.

Policies:

AQ 12.1 Manage traffic flow through signal synchronization, while coordinating with and permitting the free flow of mass transit vehicles, when possible. (AI 117)

AQ 12.2 Synchronize signals throughout the County with those of its cities, adjoining counties and the California Department of Transportation. (AI 117)

AQ 12.3 Construct and improve traffic signals with channelization and Automated Traffic Surveillance and Control systems at appropriate intersections (AI 117)

AQ 12.4 Eliminate traffic hazards and delays through highway maintenance, rapid emergency response, debris removal, and elimination of at-grade railroad crossings, when possible. (AI 119)

AQ 12.5 Encourage business owners to schedule deliveries at off-peak traffic periods.

Channelization - Involves the separation or regulation of conflicting traffic movements into definite paths of travel by traffic islands or pavement markings, to facilitate the safe and orderly movement of vehicles and pedestrians.

Transportation System Management Improvements

Proper management and oversight of the County-owned fleet can provide a highly effective tool for reducing direct and indirect impacts on air quality. It is therefore a goal of the County to continually improve its own transportation system and cooperate with officials in all levels of government to enhance regional efforts to improve transportation systems management.

High Occupancy Vehicles (HOV) Lanes -Carpools, vanpools, buses and motorcycles are the only vehicles allowed to use HOV lanes. Generally, HOV lanes require two-person car-pools, though there are some road-ways that require a minimum of three (with the exception of super-ultra low-emission vehicles, which may use HOV lanes with a single occupant).

Policies:

AQ 13.1 Manage the County of Riverside transportation fleet fueling standards to achieve an appropriate alternate fuel fleet mix. (AI 118)

AQ 13.2 Cooperate with local, regional, state, and federal jurisdictions to better manage transportation facilities and fleets.

AQ 13.3 Encourage the construction of high-occupancy-vehicle (HOV) lanes whenever possible to relieve congestion, safety hazards and air pollution as described in the AQMP.

TRANSPORTATION FACILITY DEVELOPMENT

Regionally, transportation facility development means increasing capacity through the expansion of highway and transit systems to meet population and land use demand. Though major construction projects often require massive capital investment, mobility and capacity are increased. These projects include: major highways in high growth regions, construction of high occupancy vehicle (HOV) lanes where severe traffic problems occur, and the construction of rapid transit corridors and facilities. Unfortunately, this strategy responds slowly to changing demands on the transportation system and may burden the region with debt.

Estimates for the development of additional facilities and systems over the next twenty years call for billions of dollars in investment. While federal government spending will account for a large portion of the funding required, additional revenues will have to be raised through a variety of means, including the gas tax, sales tax, user fees, tolls and bonds.

The costs of regional transportation projects also include growth in population, housing and services, and their impact on the transportation system. This raises traffic volume to or above the system's designed capacity while decaying air quality. When major transit corridors become congested, for example, daily commuters take alternate routes to avoid traffic delays. Once a new route becomes operational, commuters abandon these alternative routes for the new or improved systems until they too become congested. However, trying to build out of this situation does not solve the problem because it fuels an unbridled cycle of more growth, traffic, transportation facility development and smog. Continued transportation facility development results in increased growth, higher taxes, and minimal net gains in mobility for each dollar spent. All of this only lessens the chances for good air quality.

Just as there is a need regionally, capital improvements are also required locally to keep traffic moving and reduce emissions. It is the intent of the County to continue such improvements. However, the County recognizes that large construction projects are not always the best option for meeting transportation demands and that other, less expensive alternatives, are sometimes available. These alternatives include demand management, transportation systems management, and strategies to improve the job/housing ratio. While the County cannot meet all of its mobility and air pollution challenges using these alternatives, they may supplement needed capital improvements to help meet the County's transportation demands.

The transportation facility development required must improve mobility by encouraging multiple-occupancy vehicle use and alternative travel modes for both short and long trips. Therefore, the County must emphasize construction projects such as single purpose, high occupancy vehicle lanes, park-n-ride lots, light rail and bus routes. It should also give priority to bicycle paths and trails, pedestrian overpasses, and bus turnouts. These projects improve mobility and air quality by encouraging efficient transportation use.

Policies: ***[Note: Additional policies TBD per GHG analysis / EIR results.]***

Please see the General Plan Circulation Element, Planned Circulation Systems section for additional information and policies.

AQ 14.1 Emphasize the use of high occupancy vehicle lanes, light rail and bus routes, and pedestrian and bicycle facilities when using transportation facility development to improve mobility and air quality.

AQ 14.2 When developing new capital facility improvement plans, also consider measures such as Transportation Demand Management, Transportation Systems Management, or job/housing balance strategies.

AQ 14.3 Monitor traffic and congestion to determine when and where the County needs new transportation facilities to achieve increased mobility efficiency.

AQ 14.4 Preserve transportation corridors with high demand potential or regional significance for future expansion to meet project demand. (AI 53)

PARTICULATE MATTER

The Environmental Protection Agency (EPA) defines particulate matter (PM) as either airborne photochemical precipitates or windborne dust. Consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols, common sources of PM are manufacturing and power plants, agriculture, diesel trucks and other vehicles, construction sites, fire and windblown dust. Generally PM settles from atmospheric suspension as either particulate or acid rain and fog that has the potential to damage health, crops, and property. Particulate of 2.5 microns or smaller (2.5 microns is approximately equal to .000098 inches) may stay suspended in the air for longer periods of time and when inhaled can penetrate deep into the lungs. Among the health effects related to $PM_{2.5}$ are premature death, decreased lung function and exacerbation of asthma and other respiratory tract illnesses.

Particulate sized between 2.5 and 10 microns (10 microns is approximately equal to 0.0004 inches), known as PM_{10} also pose a great risk to human health. PM_{10} can easily enter the air sacs in the lungs where they may be deposited, resulting in an increased risk of developing cancer, potentially changing lung function and structure, and possibly exacerbating preexisting respiratory and cardiovascular diseases. It can also irritate the eyes, damage sensitive tissues, sometimes carry disease, and may even cause premature death. $PM_{2.5}$ and PM_{10} are especially hazardous to the old, young and infirm.

Although it produces less than 10% of the South Coast Air Basin's particulate matter, western Riverside County, which is part of the SOCAB, exceeds federal standards more than any other urban area in the nation, and has the highest particulate concentration in the SOCAB. These high levels of particulate matter are largely imported from the urbanized portions of Los Angeles and Orange Counties. This imported particulate is generally composed of photochemical precipitates rather than dust, smoke or soot. Riverside County is also responsible for generating large amounts of particulate matter from sources such as agriculture, warehousing operations, and truck traffic.

Sunset over Anza-Borrego Desert
Air particulates contribute to Southern California's renown sunset colors

While Riverside County is dedicated to implementing policies to control particulate matter produced within its own boundaries, it has no control over particulate imported from beyond its boundaries. The solution to the problem of imported particulate matter in western Riverside County is the adoption of adequate control measures by those responsible jurisdictions in Los Angeles and Orange Counties. By adhering to the control measures contained in the AQMP, these jurisdictions can have a positive impact on particulate matter pollution in the SOCAB portion of Riverside County.

The air quality concerns in the Salton Sea Air Basin (SSAB) portions of the County differ somewhat from those in western Riverside County. Unlike the SOCAB region, particulates in SSAB are primarily dust, smoke and soot. While in 1993 and 1994, PM_{10} concentrations were under the federal standard, concentrations in 1995 were slightly above federal limits. The maximum annual average PM_{10} concentration in 1995 was recorded at 4% above the federal standard; however, the measurement included one day with high winds without which the SSAB would have been under the federal standard. The far more stringent state standards were exceeded on 44% of the days in 1995.

The Mojave Desert Air Basin (MDAB), like the SOCAB and SSAB, is designated as a non-attainment area for PM_{10}. Particulates in the MDAB are primarily fugitive caused by high winds or vehicle travel on unpaved roads. Particulates in the area are generally not caused by exhaust stacks or primary emission points.

While sources and severity of particulate pollution differ in subareas of the County, it is the County's objective to control particulate matter throughout all of Riverside County. However, where necessary, the County shall tailor its control measures and implementation procedures to best address the unique situations found in each area. One example of such an area is the Mira Loma community, where particulate pollutant levels are among the worst in the nation. In such an area, strong measures must be taken immediately to protect the health and welfare of residents, especially children, the elderly and those with respiratory illnesses.

Monitoring

Air quality monitoring stations are locating throughout Riverside County (Figure AQ-~~2~~ 3). However, at times it may be necessary to locate additional monitors in those areas of the County suspected of producing excessively high levels of particulates. This more localized data may then assist control and law enforcement efforts in reducing and minimizing particulate matter levels.

Policies:

AQ 15.1 Identify and monitor sources, enforce existing regulations, and promote stronger controls to reduce particulate matter.

Multi-jurisdictional Cooperation

Particulate matter concentrations are a regional issue. In addition to those created in Riverside County, particulates originating in surrounding cities and counties are transported into Riverside County by prevailing winds. Therefore, any meaningful attempt to decrease particulate concentrations in the County will involve cooperation with local and regional governments and a tightening of state and federal standards.

Policies: ***[Note: Additional policies TBD per GHG analysis / EIR results.]***

AQ 16.1 Cooperate with local, regional, state and federal jurisdictions to better control particulate matter.

AQ 16.2 Encourage stricter state and federal legislation on bias belted tires, smoking vehicles, and vehicles that spill debris on streets and highways, to better control particulate matter. (AI 113)

AQ 16.3 Collaborate with the SCAQMD and MDAQMD to require and/or encourage the adoption of regulations or incentives to limit the amount of time trucks may idle. (AI 120)

AQ 16.4 Collaborate with the EPA, SCAQMD, MDAQMD, and warehouse owners and operators to create regulations and programs to reduce the amount of diesel fumes released due to warehousing operations. (AI 121)

Control Measures

Riverside County can implement simple control measures to reduce the amount of particulates produced within its borders. Strict enforcement of these and current

regulations can then lead to a substantial decrease in particulate concentrations in the County and neighboring areas.

Policies:

AQ 17.1 Reduce particulate matter from agriculture, construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way, and off-road vehicles to the extent possible. (AI 123)

AQ 17.2 Enforce regulations against illegal fires.

AQ 17.3 Identify and create a control plan for areas within the County prone to wind erosion of soil.

AQ 17.4 Adopt incentives, regulations and/or procedures to manage paved and unpaved roads and parking lots so they produce the minimum practicable level of particulates (AI 111)

AQ 17.5 Adopt incentives and/or procedures to limit dust from agricultural lands and operations, where applicable. (AI 123)

AQ 17.6 Reduce emissions from building materials and methods that generate excessive pollutants, through incentives and/or regulations.

AQ 17.7 Separate trucks from other vehicles in industrial areas of the County with the creation of truck-only access lanes to promote the free flow of traffic. (AI 43)

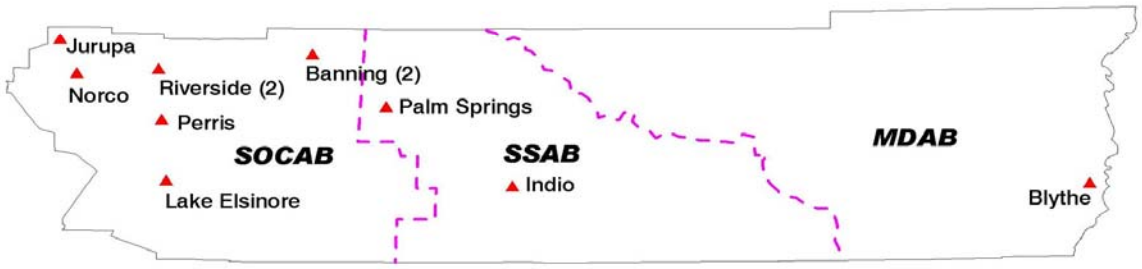
AQ 17.8 Adopt regulations and programs necessary to meet state and federal guidelines for diesel emissions. (AI 121)

AQ 17.9 Encourage the installation and use of electric service units at truck stops and distribution centers for heating and cooling truck cabs, and particularly for powering refrigeration trucks in lieu of idling of engines for power. (AI 120)

AQ 17.10 Promote and encourage the use of natural gas and electric vehicles in distribution centers.

AQ 17.11 Create and implement street-sweeping plans, as appropriate, in areas of the County disproportionately affected by particulate matter pollution.

Figure AQ-~~2~~ 3
South Coast Air Quality Management District and California Air Resources Board Air Monitoring Network in Riverside County



Monitoring Sites
Air Basin Boundary
SOCAB - South Coast Air Basin
SSAB - Salton Sea Air Basin
MDAB - Mojave Desert Air Basin

Source Information: SCAQMD.
The oldest data shown on this map is 1990.

The County of Riverside or the RCIP consultants have no reason or indication to believe that this map contains any inaccuracies, defects or misinformation. The County of Riverside and the RCIP consultants assume no warranties or legal responsibility, however, as to the absolute accuracy of any data or information contained within this map, regardless the location, subject and size. Data and information represented on this map is subject to update and modification without prior notification. The geographic information system and other sources should be queried for the most current information. This map or any information represented on it, shall not be reproduced or transmitted in any form or by any means, electronic or mechanical, including photo copying and recording, except as expressly permitted in writing by the County of Riverside.

0 20 Miles

RIVERSIDE COUNTY
AIR MONITORING NETWORK

Figure AQ-2

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ACHIEVING GREENHOUSE GAS EMISSION REDUCTIONS

Need for Action

> The general planning process presents a powerful opportunity to carefully consider and shape future land use patterns and ensure that development is consistent with AB 32. As the Air Resources Board noted in its recent AB 32 Scoping Plan, 'local governments are essential partners in achieving California's goals to reduce greenhouse gas emissions.'
>
> *– California Attorney General, Edmund G. Brown*

While renewable energy sources, cleaner fuels and green technology will help reduce GHG emissions, significant changes are also needed in how we design, construct and operate our built environment to meet our climate protection goals. Because activities promulgated by the County of Riverside today have the potential for affecting the built environment for 20, 50 or even 100 years, it is crucial that the County be at the forefront in enacting change. Towards this end, the County has already implemented programs to reduce GHG emissions, limit water consumption, reduce waste, manage growth in a way that accommodates growing populations without allowing urban sprawl and reduce emissions from motorized vehicles.

To progress further, then, it is necessary to codify these actions and develop a systematic program for addressing climate change and GHG reductions across the entirety of the actions and authorities held by the County. Specifically, the County has three main avenues in which to address greenhouse gas emissions.

County Operations: GHGs are emitted by County operations, buildings, fleet, equipment and other activities conducted in the functioning of County government. Since the County has direct authority over these actions, they represent an area where proactive GHG reduction policies and programs may be most readily achieved. A full discussion of the County's GHG reduction objectives are provided in the subsequent section.

County Discretionary Approvals: The County approves private land use projects (such as residential, commercial and industrial development), issues construction, mining and other permits, It also requires the provision of various supporting infrastructure, such as including roads, recreational areas, water and sewer services, storm drains, etc. All of these activities in turn result in GHG emissions, either directly (e.g., from construction equipment emissions and vehicle trips to the development) or indirectly (e.g., use of electricity for heating and cooling, water transport and treatment, etc.). The means for achieving GHG reductions in discretionary projects are described more fully in sections below and in *General Plan Appendix N.*

CAPCOA - The California Air Pollution Control Officers Association

According to CAPCOA, improved planning and design can indirectly reduce GHG emissions associated with land use and transportation by significant amounts. Although these areas result in "relatively modest" reductions by 2020 (i.e., 4% from the "business-as-usual" scenario), the benefits continue to accrue incrementally over time. As new planning policies are implemented, and transportation patterns and habits change in response, the reductions beyond 2020 will be even greater. By 2030, reductions are projected to double and by 2050, could be as much as 18%.

Emissions From Community Sources: This category addresses emissions arising from private activities occurring within the geographic bounds of Riverside County. Although a range of private activities occurring within the community are beyond the realm of County authority, voluntary reductions are still obtainable. The County can further such voluntary reductions through a variety of non-mandatory

efforts, such as public education classes, homeowner and business owner outreach or even the provision of financial incentives and rebates. Additionally, interagency coordination is another key element to long-range efforts. This can include developing plans and programs in coordination with local water agencies, constituent cities, regional planning agencies, such as WRCOG and CVAG, as well as SCAG and State agencies. The objectives for achieving voluntary GHG reductions are described more fully in the following section.

Programs are needed in order to ensure the growth expected within the County of Riverside over time, as planned and outlined within this *General Plan*, does not result significant GHG emissions. To accomplish this, a series of GHG emission reduction targets are needed. The targets are also necessary to ensure that any individual projects or discretionary approvals by the County likewise do not contribute incrementally to significant GHG emissions within the County. They will also aid the County with its role in achieving the goals set forth by the State in AB 32.

The policies below establish the County's GHG reduction targets in for implementation in the interim until a "Climate Action Plan" (CAP) is developed. (See below for full details on the CAP). These targets are also broken down into specific policy objectives. These targets and objectives shall be achieved through implementation of the measures presented in *General Plan Appendix N*.

Greenhouse Gas Reduction Targets

The following interim targets are those deemed necessary to ensure that County activities and approvals occurring prior to the formalization of the CAP are not counter to the County's and State's ultimate GHG reduction goals. Once the CAP is formalized and complete numerical values are available, the targets, objectives and Implementation Measures of the CAP shall be implemented in place of, or in addition to, the following targets. The following policies establish the County's qualitative interim targets and the means for their implementation.

Policies:

AQ 18.1 **County Operations -** Until replaced by a formalized target pursuant to the Climate Action Plan, the County shall enact policies and procedures to achieve a ***X%*** reduction in GHG emissions for all County operations by 2020. ***[% TBD based on EIR GHG analysis]***

AQ 18.2 **County Discretionary Actions -** Until replaced by a formalized target pursuant to the Climate Action Plan, the County shall require new development projects subject to County discretionary approval to incorporate measures to achieve a ***X%*** reduction in operational emissions associated with the developed use. ***[% TBD based on EIR GHG analysis; definitions below also expected to be refined per analysis]***

a. This reduction shall be measured in comparison to the "business as usual" (BAU) scenario for the development's operational life. The BAU scenario shall be consistent with the General Plan buildout assumptions detailed in *Appendix E-1* of the *General Plan*.

b. For the purposes of this policy, the "operational life" of a new development shall be defined as a 30-year span with construction emissions amortized over the 30 years.

c. For the purposes of this policy, "new development" refers to private development occurring pursuant to a discretionary land use approval issued by the County of Riverside and subject to binding Conditions of Approval. This definition generally corresponds to projects found non-exempt pursuant to the California Environmental Quality Act (CEQA), but is nevertheless subject to the sole discretion of the County of Riverside as lead agency.

d. Other methods for calculating BAU and showing GHG emissions reductions may be used provided such methods are both scientifically defensible and show actual emission reduction measures incorporated into project design, mitigation or alternative selection. That is, reductions must not be illusory "paper" reductions achieved merely through baseline manipulation.

e. Nothing in this policy shall be construed as excepting any proposed discretionary project from any legally applicable CEQA requirements or explicitly limiting the scope any analyses required to show CEQA compliance.

AQ 18.3 **New Development Implementation Measures -** Until replaced by formalized implementation policies, programs and measures, pursuant to the Climate Action Plan, the County shall incorporate appropriate Implementing Measures from *General Plan Appendix N* into the Conditions of Approval, as found warranted, to ensure individual discretionary projects are consistent with the County's programmatic GHG reduction efforts.

AQ 18.4 **Discretionary Measures -** Because of the varied nature of the private development proposals reviewed by the County, in some cases, the Implementing Measures of *General Plan Appendix N* may not provide the most appropriate means for achieving the required Interim GHG reductions. In such cases, the following alternate measures may be utilized, at the County's discretion:

a. For large-scale developments, such as specific plans, business parks, industrial centers, and those triggering a full Environmental Impact Report, a custom GHG analyses may be warranted to both assure compliance with the applicable targets herein and to provide a customized array of appropriate reduction measures.

b. In such cases, the resultant GHG analysis may be used to develop customized GHG reduction measures in place of *Appendix N,* provided they achieve the stated targets or implement all feasible mitigation short of achieving the applicable targets.

c. Project-specific analysis may be particularly valuable when assessing large-scale mixed use developments. In such developments, significant energy efficiencies and VMT reductions can result from smart growth design features, such as provision of housing, jobs, services and recreation within a 5 to 10-minute walking radius. Project-specific analysis in these cases may result in the need for fewer add-on *Appendix N*-type measures and potentially yield substantial savings on construction costs.

AQ 18.5 **Climate Action Plan -** A complete Climate Action Plan (CAP) shall be developed and formalized to incorporate, expand upon or, where appropriate, update or replace the interim GHG reduction targets, objectives and Implementation Measures established herein.

GREENHOUSE GAS REDUCTION OBJECTIVES

For regulatory purposes, the human activities that contribute to greenhouse gas emissions can be divided up into eight categories: transportation, land use, energy use, energy use, water and biota use, waste generation, municipal (i.e., County) operations and existing uses not otherwise covered. It is helpful to look at GHG emissions based on these categories for two reasons. First, measures appropriate for one area may vary markedly from those of another area. Secondly, this allows reduction measures to be appropriately focused. For example, 100% of available resources would not be best spent if it only achieved reductions in an area responsible for 2% of the overall GHG emissions of the County.

Thus, for the eight focus areas below, policy Objectives are established to provide focus on key areas for achieving GHG reductions. A matrix summarizing related General Plan policies and other County initiatives contributing to Objective attainment is also provided for each area. Lastly, specific ***Implementation Measures*** to achieve the County's interim GHG reduction targets and Objectives, as applicable to new development, are provided in *General Plan Appendix N*.

[NOTE: Additions or revisions to policies in other GP Elements may be needed. TBD. The Appendix N Implementation Measures will be developed in conjunction with EIR 521 in order to a) Ensure all feasible mitigation is developed and b) provide "substantial evidence" to support findings for future tiered projects.]

At both the community-scale and within municipal (County) operations, as well as for new development permits, the County of Riverside is already undertaking a number of programs, policies and projects that result in reduced greenhouse gas emissions. While the goals of many of the existing actions listed below may not necessarily be focused on reducing greenhouse gas emissions, the policies do contribute to these aims. The policies applicable to each reduction area are summarized below. Ultimately, the goal of these General Plan policies is to build on existing planning and implementation efforts, and integrate them into the broader task of reducing the community's impact on climate.

Transportation-Related Greenhouse Gas Emission Reduction Objectives

The transportation sector is typically the largest single area of emissions in a given area. Within California, carbon emissions resulting from gasoline-powered vehicles produce roughly 38% of the state's total GHGs. The fossil fuels combusted to operate motor vehicles - automobiles, trucks, freight and construction equipment, directly release carbon dioxide, nitrous oxide and methane into the atmosphere. Thus, there is a direct correlation between the number of miles travelled (VMT) and the amount of GHG released.

Broadly, there are three main ways to reduce GHG emissions from the transportation sector. One way is to implement policies that reduce dependence on personal motor vehicles and encourage alternative modes of transportation, such as public transit, cycling and walking. Another way is to utilize vehicles that release fewer greenhouse gases, such as hybrids, more fuel efficient vehicles and vehicles that run on alternative fuels. Lastly, reducing vehicle miles traveled is largely a function of how communities are planned and developed. As such, this aspect of VMT reduction is addressed in the Land Use section that follows.

Reducing vehicle miles traveled, a substantial indicator of GHG production from transportation, is the basis for the following policy Objectives and the related new development Implementation Measures presented in *Appendix N*.

Policies:

AQ 19.1 ***The County shall implement programs and requirements to achieve the following Objectives related to reducing greenhouse gas emissions associated with transportation:***

a. Reduce vehicle miles traveled by providing or requiring expanded multi-modal facilities and services that provide transportation alternatives, such as transit, bicycle and pedestrian modes.

b. Reduce vehicle miles traveled by facilitating an increase in transit options. In particular, coordinate with adjacent municipalities, transit providers and regional transportation planning agencies to develop mutual policies and funding mechanisms to increase the use of alternative transportation.

c. Improve connectivity by requiring pedestrian linkages between developments and transportation facilities, as well as between residential and commercial, recreational and other adjacent land uses.

d. Reduce air pollution and greenhouse gas emissions by improving circulation network efficiency.

e. Reduce traffic through programs that increase carpooling and public transit use, decrease trips and commute times, and increase use of alternative-fuel vehicles.

f. Preserve transportation corridors for renewable energy transmission lines and for new transit lines, where appropriate.

AQ 19.2 For discretionary actions, transportation-related GHG reduction

Objectives associated with new development approvals shall be achieved through development and implementation of the applicable Implementation Measures of *General Plan Appendix N*. County programs shall also be developed and implemented to address transportation-related reductions for County operations and voluntary community efforts.

The County also addresses these Objectives through the General Plan policies and other initiatives as follows.

Table AQ-7: Policies Associated With Transportation-Related Greenhouse Gas Reductions

Policy	General Plan Policy Text - *Transportation*
AQ 3.4	Encourage employee rideshare and transit incentives for employers with more than 25 employees at a single location.
AQ 10.4	Continue to enforce the County's Transportation Demand Management Ordinance [No. 726] and update as necessary.
AQ 12.1	Manage traffic flow through signal synchronization, while coordinating with and permitting the free flow of mass transit vehicles, when possible. (AI 117)
AQ 12.2	Synchronize signals throughout the County with those of its cities, adjoining counties and the California Department of Transportation. (AI 117)
AQ 12.3	Construct and improve traffic signals with channelization and Automated Traffic Surveillance and Control systems at appropriate intersections (AI 117)
AQ 12.4	Eliminate traffic hazards and delays through highway maintenance, rapid emergency response, debris removal and elimination of at-grade railroad crossings, when possible. (AI 119)
AQ 14.1	Emphasize the use of high occupancy vehicle lanes, light rail and bus routes, and pedestrian and bicycle facilities when using transportation facility development to improve mobility and air quality.
AQ 14.3	Monitor traffic and congestion to determine when and where the County needs new transportation facilities to achieve increased mobility efficiency.
C 1.3	Support the development of transit connections that link the community centers located throughout the County and as identified in the Land Use Element and in the individual area plans. (AI 26)
C 4.1	Provide facilities for the safe movement of pedestrians within developments, as specified in the County Ordinances Regulating the Division of Land of the County of Riverside.
C 4.2	Maximize visibility and access for pedestrians and encourage the removal of barriers (walls, easements, and fences) for safe and convenient movement of pedestrians. Special emphasis should be placed on the needs of disabled persons considering Americans with Disabilities Act (ADA) regulations.
[Proposed NEW]	County Transporting Improvement Plans shall identify and prioritize infrastructure improvements needed to support increased use of alternatives to private vehicle travel, including transit, bicycle and pedestrian modes.
[Proposed NEW]	The County shall establish higher priorities for transit funding relative to street and road construction and maintenance.
[Prop'd NEW]	The County shall identify appropriate locations for intermodal transportation stations.
C 4.3	Assure pedestrian access from developments to existing and future transit routes and terminal facilities through project design. (AI 26, 45)
C 4.4	Plan for pedestrian access that is consistent with road design standards while designing street and road projects. Provisions for pedestrian paths or sidewalks and timing of traffic signals to allow safe pedestrian street crossing shall be included.
C 4.7	Encourage safe pedestrian walkways that comply with the Americans with Disabilities Act (ADA) requirements within commercial, office, industrial, mixed use, residential and recreational developments.
C 4.8	Encourage, where feasible, the construction of overpasses or undercrossings where trails intersect arterials, urban arterials, expressways or freeways.
C 4.9	Coordinate with all transit operators to ensure that pedestrian facilities are provided along and/or near all transit routes, whenever feasible. New land developments may be required to provide pedestrian facilities due to existing or future planned transit routes even if demand for pedestrian facility is not otherwise warranted. (AI 45)
C 4.10	Review all existing roadways without pedestrian facilities when considering improvements (whether maintenance or upgrade) to determine if new pedestrian facilities are warranted. New roadways should also be

Policy	General Plan Policy Text - *Transportation*
	assessed for pedestrian facilities. (AI 49)
C 9.1	Support all operator efforts to maximize revenue sources for short and long range transit needs that utilize all funding mechanisms available including federal grants, state enabling legislation and farebox revenue. This can be accomplished through the Riverside County Transportation Commission (RCTC) and development of the Short and Long Range Transit Plans.
C 10.1	Support programs developed by transit agencies/operators to provide paratransit service. (AI 50)
C 11.1	Reserve right-of-way to accommodate for designated transit service. (AI 3, 52)
C 11.3	Design the physical layout of arterial and collector highways to facilitate bus operations. Locations of bus turn outs and other design features should be considered.
C 11.7	Promote development of transit centers and park-n-rides for use by all transit operators, including development of multi-modal facilities.
C 12.2	Support the development of high-speed transit linkages, or express routes, between community centers and other major nodes of activity. (AI 26)
C 12.3	Establish a system of transit priority treatments or dedicated travel lanes to facilitate movement by the Transit Oasis vehicles within community centers and other major nodes of activity, where feasible.
C 13.1	Support continued development and implementation of the Riverside County Transportation Commission Rail Program including new rail lines and stations, the proposed California High Speed Rail System with at least two stations in Riverside County, the Coachella Valley Commuter Rail Service and the proposed Intercity Rail Corridor between Calexico and Los Angeles.
C 13.2	Support continued improvements to AMTRAK and MetroLink rail passenger service within Riverside County and throughout the southern California region.
C 13.3	Support implementation of the San Jacinto Branch Line to serve planned industrial development.
C 13.4	Construct new grade separations or reconstruct existing grade separations as necessary for the smooth flow of traffic within the County consistent with plans developed by WRCOG and CVAG.
C 13.7	Dedicate right-of-way and land for future transit centers in community centers and/or major activity areas (high concentrations of employment and residential uses) and in areas that minimize noise impacts on surrounding residential and sensitive land uses.
C 13.8	Work to reduce conflicts between rail and other modes of transportation, particularly the highway system.
C 15.1	Implement and later expand an effective non-motorized transportation system.
C 15.2	Seek financing to implement an effective non-motorized transportation system. This funding can include such things as state and federal grants. (AI 36)
C 15.3	Develop a trail system which connects County parks and recreation areas while providing links to open space areas, equestrian communities, local municipalities, and regional recreational facilities (including other regional trail systems).
C 15.5	Compliance with the Americans with Disabilities Act (ADA) standards will be assured to make the entire trails system user-friendly.
C 16.1	Implement the County trail system as depicted in the Bikeways and Trails Plan, Figure C-7.
C 16.2	Develop a multi-purpose recreational trail network with support facilities which provide a linkage with regional facilities. (AI 35)
C 16.3	Require that trail alignments either provide access to or link scenic corridors, schools, parks and other natural areas. a. Require that all development proposals located along a planned trail or trails provide access to the trails system. b. Ensure that existing and new gated communities do not preclude trails from traversing through their boundaries. c. Require that existing and proposed trails within Riverside County connect with those in other neighboring jurisdictions.
C 17.1	Develop Class I Bike Paths, Class II Bike Lanes and Class I Bike Paths/Regional Trails (Combo Trails), as shown in the Trails Plan (Figure C-7), to the design standards as outlined in the California Department of Transportation's "Highway Design Manual" and other County Guidelines.
C 17.2	Require bicycle access between proposed developments and other parts of the County trail system through dedication of easements and construction of bicycle access ways.
C 17.3	Ensure that the bikeway system incorporates the following : a. Interconnection of cities and unincorporated communities;

Policy	General Plan Policy Text - *Transportation*
	b. Provision of lanes to specific destinations such as state or county parks; c. Provision for bicycle touring; and d. Encouragement of bicycle commuting.
C 17.4	Ensure that alternative modes of motorized transportation, such as buses, trains, etc., plan and provide for transportation of recreational and commuting bicyclists and bicycles on public transportation systems.
C 18.1	ACQUISITION a. Promote public/private partnerships for trail acquisition. b. Determine which public and/or private agencies have easements or existing, unused rights-of-way, which potentially could be incorporated as trail linkages throughout Riverside County. Such agencies may include the Riverside County Flood Control District, various utility companies/districts and railroad companies. c. Evaluate the potential use of private-landowner tax credits for acquiring necessary trail easements and/or rights-of-way. A system such as this would allow a landowner to dedicate an easement for trail purposes in exchange for having that portion of the property assessed as open-space instead of a higher land-use category.
C 20.12	Encourage the use of alternative non-motorized transportation and the use of non-polluting vehicles. (AI 118)
Prop'd HC 2.1	*Encourage a built environment that promotes physical activity and access to healthy foods while reducing driving and pollution. To do this the County should consider: (AI 136, 137)* *a. Continuing to identify and educate the public about the links between public health outcomes and the built environment.* *b. Evaluating the impacts of development on public health outcomes. Such programs might include a Development Application Health Checklist, Health Impact Assessments or other tools the County deems effective.* *c. Incorporating health as an important criterion for approving new development applications and other County policies.*
Prop'd HC 6.1	Provide a balanced transportation system that provides for the safety and mobility of all users through. (AI 138, 140) *a. Roadway design improvements for safety.* *b. Evaluation of the transportation system to identify traffic safety issues and locations with a high degree of traffic incidents.* *c. Prioritizing funding and completion of Transportation Improvement Program projects that reduce the risk of pedestrian/vehicle and bicycle/vehicle collisions, particularly in areas that have a high incidence of traffic accidents, particularly pedestrian/motor vehicle and bicycle/motor vehicle crashes.*
Prop'd HC 7.1	*Improve access to multi-modal transportation options throughout the County, including public transit.*
Prop'd HC 7.3	*Provide public transportation facilities that are located a convenient distance from residential areas.*
Prop'd HC 7.4	*Incorporate pedestrian and bicycle components in to all Area Plans and new specific plans. (AI 141)*
Prop'd HC 7.5	*Develop policies that reduce residents' reliance on cars while encouraging the use of transit, bicycles and walking as alternatives to driving and as a means of increasing levels of physical activity. (AI 34, 47, 48)*
Prop'd HC 13.2	*Ensure the safety of children travelling to school by foot or bicycle by: (AI 155, 156, 157, 158)* *a. Implementing "Safe Routes to School" programs whenever applicable.* *b. Implementing traffic calming in areas immediately around schools.* *c. Identifying areas around schools with a high incidence of traffic crashes, particularly those with pedestrians and cyclists.*
LU 10.4	Provide options to the automobile in communities, such as transit, bicycle and pedestrian trails, to help improve air quality.
LU 12.3	Locate transit stations in community centers and at places of public, employment, entertainment, recreation and residential concentrations.
LU 12.4	Incorporate safe and direct multi-modal linkages in the design and development of projects, as appropriate. (AI 24, 26, 41)
LU 12.7	Review projects for consistency with the County's Transportation Demand Ordinance. (AI 3)
New # LU ~~*22.5*~~ *24.5*	Integrate a continuous network of parks, plazas, public squares, bicycle trails, transit systems and pedestrian paths to provide both connections within each community and linkages with surrounding features and communities.
C 1.2	Support development of a variety of transportation options for major employment and activity centers including

Policy	General Plan Policy Text - *Transportation*
	direct access to transit routes, primary arterial highways, bikeways, park-n-ride facilities and pedestrian facilities.
C 1.7	Encourage and support the development of projects that facilitate and enhance the use of alternative modes of transportation, including pedestrian-oriented retail and activity centers, dedicated bicycle lanes and paths, and mixed-use community centers.
C 4.5	Collaborate with local communities to ensure that school children have adequate transportation routes available, such as a local pedestrian or bike path, or local bus service.
C 4.6	Consult the County Transportation Department as part of the development review process regarding any development proposals where pedestrian facilities may be warranted. The County may require both the dedication and improvement of the pedestrian facilities as a condition of development approval. (AI 3)
C 11.2	Incorporate the potential for public transit service in the design of developments that are identified as major trip attractions (i.e., community centers, tourist and employment centers), as indicated in ordinances regulating the division of land in the County of Riverside.
C 12.1	Support the development and implementation of the Transit Oasis concept in conjunction with RCTC, local transit operators and cities. (AI 50)
C 12.4	Comply with, to the extent possible, performance standards and guidelines for the development of Transit Oasis established by the Riverside Transit Agency and the Riverside County Transportation Commission. These guidelines should be crafted to integrate each Transit Oasis with the quality, character and scale of the community centers and/or surrounding development.
C 12.5	Support the development of Transit Oasis by the Riverside County Transportation Commission utilizing the following guidelines: a. Locate Transit Oasis in community centers, areas of concentrated development and areas of high activity. b. Integrate the Transit Oasis with the quality, design, and character of surrounding development. c. Provide transit stops within a 5-minute walk (approximately 0.2 miles) of major activity areas. d. Provide convenient and safe pedestrian access to and from transit stops. e. Provide adequate off-street parking in appropriate locations. f. Link each Transit Oasis with the available regional transportation system g. Design local Transit Oasis so that access to the regional transportation system is provided at approximately 10-minute intervals.
OS 16.3	Implement public transportation systems that utilize alternative fuels when possible, as well as associated urban design measures that support alternatives to private automobile use.
OS 16.8	Promote coordination of new public facilities with mass transit service and other alternative transportation services, including bicycles, and design structures to enhance mass transit, bicycle and pedestrian use.
Ord. No. 706	*Mobile Source Air Pollution Reduction Programs (Funding)*
Ord. No. 726	*Transportation Demand Management for New Development*
Ord. No. 748	*Mitigation of Traffic Congestion Through Signalization*
Ord. No. 782	*Golf Cart Transportation Plan*
Ord. No. 824	*Western Riverside County Traffic Uniform Mitigation Fee (TUMF) Program (see also Ord. 673)*

Land Use-Related Greenhouse Gas Emission Reduction Objectives

Land use patterns play a significant role in affecting the number of vehicle miles travelled within a community. Thus, in addition to the transportation-related measures discussed above, it is important to encourage 'smart growth' through policies that promote efficient land use development. Smart growth concepts in land use planning can be used to reduce the need to travel long distances, facilitate transit and other non-automotive travel, increase the availability of affordable housing, emphasize use of existing infrastructure capacity, help protect natural assets by preventing sprawl, and maintain and reinforce existing communities. Since the efficient use of land can serve to reduce the amount of vehicle travel that results from commuting to jobs, shopping, entertainment and other destinations, reducing vehicle miles traveled through planning and more efficient land use can greatly contribute to reducing GHG emissions in our County.

Reducing vehicle miles traveled through improved land use coordination and other planning efforts is the basis for the following policy Objectives and the related Implementation Measures presented in *Appendix N*.

Policies:

AQ 20.1 ***The County shall implement programs and requirements to achieve the following Objectives related to reducing greenhouse gas emissions associated with land use patterns:***

a. Reduce vehicle miles travelled (VMT) through increased densities in urban centers and emphasis on mixed use to provide localized residential, commercial and employment opportunities in closer proximity to each other.

b. Prevent urban sprawl in order to minimize energy costs associated with infrastructure construction and transmission to distant locations, and to maximize protection of open space, particularly forests, which provide carbon sequestration potential.

c. Conserve energy by increasing the efficiency of delivery of services through the adoption and implementation of smart growth principles and policies.

d. Reduce vehicle miles travelled by commuters through implementation of planning measures that provide appropriate jobs-housing balances within communities.

e. Reduce vehicle miles travelled by increasing options for non-vehicular access through urban design principles that promote higher residential densities in attractive forms with easily accessible parks and recreation opportunities nearby.

f. Improve energy efficiency through implementation of standards for new residential and commercial buildings that achieve energy efficiencies beyond that required under Title 24 of the California Code of Regulations.

g. Reduce vehicle miles travelled by identifying sites for affordable housing for workers close to employment centers and encouraging development of such sites.

AQ 20.2 For discretionary actions, land use-related greenhouse gas reduction Objectives shall be achieved through development and implementation of the appropriate Implementation Measures of *General Plan Appendix N* for individual future projects. County programs shall also be developed and implemented to address land use-related reductions for County operations and voluntary community efforts.

The County also addresses these Objectives through the General Plan policies and other initiatives as follows.

Table AQ-8: Policies Associated With Land Use-Related Greenhouse Gas Reductions

Policy	General Plan Policy Text - *Land Use*
AQ 8.1	Locate new public facilities in job-poor areas of the County. (AI 18)
AQ 8.2	Emphasize job creation and reductions in vehicle miles traveled in job-poor areas to improve air quality over other less efficient methods. (AI 18)
AQ 8.3	Time and locate public facilities and services so that they further enhance job creation opportunities. (AI 18)
AQ 8.4	Support new mixed-use land use patterns and community centers which encourage community self-sufficiency and containment, and discourage automobile dependency. (AI 14)
AQ 8.5	Develop community centers in conformance with policies contained in the Land Use Element. (AI 14)
AQ 8.6	Encourage employment centers in close proximity to residential uses. (AI 14)
AQ 8.7	Implement zoning code provisions which encourage community centers, telecommuting and home-based businesses. (AI 1)
AQ 8.8	Promote land use patterns which reduce the number and length of motor vehicle trips. (AI 26)
AQ 8.9	Promote land use patterns that promote alternative modes of travel. (AI 26)
LU 2.1	Accommodate land use development in accordance with the patterns and distribution of use and density depicted on the General Plan Land Use Map (Figure LU-1) and Area Plan Land Use Maps, in accordance with the following: (AI 1, 3, 5, 9, 10, 27, 29, 30, 41, 60, 91): a. Provide a land use mix at the countywide and area plan levels based on projected need and supported by evaluation of impacts to the environment, economy, infrastructure and services. b. Accommodate a range of community types and character, from agricultural and rural enclaves to urban and suburban communities. c. Provide for a broad range of land uses, intensities and densities, including a range of residential, commercial, business, industry, open space, recreation and public facilities uses. d. Concentrate growth near community centers that provide a mixture of commercial, employment, entertainment, recreation, civic and cultural uses to the greatest extent possible. e. Concentrate growth near or within existing urban and suburban areas to maintain the rural and open space character of Riverside County to the greatest extent possible. f. Site development to capitalize upon multi-modal transportation opportunities and promote compatible land use arrangements that reduce reliance on the automobile. g. Prevent inappropriate development in areas that are environmentally sensitive or subject to severe natural hazards.
LU 3.1	Accommodate land use development in accordance with the patterns and distribution of use and density depicted on the General Plan Land Use Maps (Figure LU-1) and Area Plan Land Use Maps in accordance with the following concepts: (AI 1, 3, 9, 10) d. Accommodate communities that provide a balanced mix of land uses, including employment, recreation, shopping and housing. e. Assist in and promote the development of infill and underutilized parcels which are located in Community Development areas, as identified on the General Plan Land Use Map. f. Promote parcel consolidation or coordinated planning of adjacent parcels through incentive programs and

Policy	General Plan Policy Text - *Land Use*
	planning assistance. g. Create street and trail networks that directly connect local destinations, and that are friendly to pedestrians, equestrians, bicyclists and others using non-motorized forms of transportation. h. Re-plan existing urban cores and specific plans for higher-density compact development, as appropriate to achieve the RCIP Vision. i. In new towns accommodate compact, transit-adaptive infrastructure (based on modified standards that take into account transit system facilities or street network). j. Provide the opportunity to link communities through access to multi-modal transportation systems.
LU 3.4	Allow techniques, such as incentives or transfer of development credit programs or other mechanisms, to achieve more efficient use of land. (AI 9, 30)
LU 4.1	Require that new developments be located and designed to visually enhance, not degrade the character of the surrounding area through consideration of the following concepts: (AI 1, 3, 6, 14, 23, 24, 41, 62) a. Comply with the design standards of the appropriate area plan land use category. b. Require that structures be constructed in accordance with the requirements of the County's zoning, building and other pertinent codes and regulations. c. Require that an appropriate landscape plan be submitted and implemented for development projects subject to discretionary review. d. Require that new development utilize drought tolerant landscaping and incorporate adequate drought-conscious irrigation systems. e. Pursue energy efficiency through street configuration, building orientation and landscaping to capitalize on shading and facilitate solar energy, as provided for in Title 24 of the California Administrative Code. f. Incorporate water conservation techniques, such as groundwater recharge basins, use of porous pavement, drought tolerant landscaping and water recycling, as appropriate. g. Encourage innovative and creative design concepts. h. Encourage the provision of public art. i. Include consistent and well-designed signage that is integrated with building's architectural character. j. Provide safe and convenient vehicular access and reciprocal access between adjacent commercial uses. k. Locate site entries and storage bays to minimize conflicts with adjacent residential neighborhoods. l. Mitigate noise, odor, lighting and other impacts on surrounding properties. m. Provide and maintain landscaping in open spaces and parking lots. n. Include extensive landscaping. o. Preserve natural features, such as unique natural terrain, drainage ways and native vegetation, wherever possible, particularly where they provide continuity with more extensive regional systems. p. Require that new development be designed to provide adequate space for pedestrian connectivity and access, recreational trails, vehicular access and parking, supporting functions, open space and other pertinent elements. q. Design parking lots and structures to be functionally and visually integrated and connected. r. Site buildings access points along sidewalks, pedestrian areas and bicycle routes, and include amenities that encourage pedestrian activity. s. Establish safe and frequent pedestrian crossings. t. Create a human-scale ground floor environment that includes public open areas that separate pedestrian space from auto traffic or where mixed, it does so with special regard to pedestrian safety. u. ***[Proposed Arroyo Revisions]*** *Open space, including hillsides, arroyos, riparian areas, and other natural features are amenities that add community identity, beauty, recreational opportunities, and monetary value to adjacent developed areas. Also, managing wild land fire hazards is an important consideration in the design of development proposals located adjacent to natural open space. Wherever feasible, proposed developments shall be designed so that where open space areas adjoin them, the developments front toward the open space, with access taken from single-loaded edge streets. Common area landscaping, trails, parks, and other cleared and/or landscaped features – in addition to the fronting streets themselves, should be placed along the streets located between the developments and nearby open space. This design concept will enhance project amenities, and result in productive uses in fire hazard buffer areas.*
LU 7.1	Accommodate the development of a balance of land uses that maintain and enhance the County's fiscal viability, economic diversity and environmental integrity. (AI 18)
LU 7.4	Allow the flexibility to reevaluate the appropriateness of employment and business land use designations that are non-viable and inefficient. (AI 17, 19)

Policy	General Plan Policy Text - *Land Use*
LU 7.8	Stimulate industrial/business-type clusters that facilitate competitive advantage in the marketplace, provide attractive and well-landscaped work environments and fit with the character of our varied communities. (AI 18)
LU 7.9	Allow home enterprise and home occupation activities consistent with preserving the quality of the residential environment in which they are located.
LU 7.10	Locate job centers so they have convenient access to the County's multi-modal transportation facilities.
LU 7.12	Improve the relationship and ratio between jobs and housing so that residents have an opportunity to live and work within the County.
LU 8.3	Incorporate open space, community greenbelt separators and recreational amenities into Community Development areas in order to enhance recreational opportunities and community aesthetics, and improve the quality of life.
LU 10.1	Provide sufficient commercial and industrial development opportunities in order to increase local employment levels and thereby minimize long-distance commuting. (AI 18)
LU 10.3	Accommodate the development of community centers and concentrations of development to reduce reliance on the automobile and help improve air quality.
LU 12.1	Provide land use arrangements that reduce reliance on the automobile and improve opportunities for pedestrian, bicycle and transit use in order to minimize congestion and air pollution.
LU 12.2	Locate employment and service uses in areas that are easily accessible to existing or planned transportation facilities.
New # LU ~~*16.2*~~ *17.2*	Protect agricultural uses, including those with industrial characteristics (dairies, poultry, hog farms, etc.) by discouraging inappropriate land division in the immediate proximity and allowing only uses and intensities that are compatible with agricultural uses. (AI 3)
New # LU ~~*17.2*~~ *19.2*	Require that adequate and available circulation facilities, water resources, sewer facilities and/or septic capacity exist to meet the demands of the proposed land use. (AI 3)
New # LU ~~*17.4*~~ *19.4*	Encourage clustered development where appropriate on lots smaller than the underlying land use designation would allow. While lot sizes may vary, the overall project density must not exceed that of the underlying land use designation unless associated with an incentive program.
New # LU ~~*17.6*~~ *19.6*	Provide programs and incentives that allow rural areas to maintain and enhance their existing and desired character. (AI 9, 30)
Prop'd LU19.7	*[Proposed LU policy] Rural incidental commercial uses ~~in the outlying rural areas of the county~~ that meets the special needs of rural communities along rural highway corridors ~~for the convenience of residents and travelers~~ are allowed. The development standards for these commercial uses should reflect areas where urban services and facilities are generally unavailable and are not likely to be provided in the near future. The type of uses allowed and the development standards shall be in accordance to the Rural Commercial (C-R) Zone as it is in effect today (AI 1).* *a. The portion of the lot proposed for small-scale commercial development shall be between 0.5 and 2.5 acres.* *b. The design and scale of the commercial development ~~are encouraged to~~ shall be compatible with the surrounding uses, protect view sheds and blend in with the rural nature of the area.* *c. The portion of the lot used for small-scale commercial development ~~is encouraged to~~ shall be located adjacent to an arterial, mountainous arterial or major roadway. However, it is discouraged to be located within 300 feet of a freeway.* *d. Rural incidental commercial uses may not be located within 2 miles of a Commercial land use designation of the Community Development foundation component.*
New # LU ~~*22.2*~~ *24.2*	Accommodate higher density residential development near community centers, transportation centers, employment and services areas.
New # LU ~~*26.1*~~ *28.1*	Accommodate the development of structures and sites that integrate a mix of housing, retail, commercial office, business park, public/quasi-public, and recreational open space uses in areas designated for "Community Centers" on the area plan land use maps.
New # LU ~~*26.9*~~ *28.9*	Integrate pedestrian, equestrian and bicycle-friendly street and trail networks connecting community centers with surrounding land uses. (AI 3)
OS 1.1 *c*	Balance consideration of water supply requirements between urban, agricultural and environmental needs so that sufficient supply is available to meet each of these different demands. (AI 3)
C 12.6	Support development of transit centers in community centers, including the dedication of land, where possible.
Prop'd HC	*Promote increased physical activity, reduced driving and increased walking, cycling and transit use. Such*

Policy	General Plan Policy Text - *Land Use*
2.2	*policies include those which: (AI 14, 21, 26)* *a. Target new growth to existing, urbanized areas while reducing new growth in undeveloped areas of the County.* *b. Minimize the conversion of county agricultural lands to urban uses. (AI 9) Support the development of compact, transit-adaptive, and pedestrian- and bicycle-friendly development patterns. (AI 3)* *c. Reduce driving and increase opportunities for active transportation (walking and biking) and transit use.* *d. Increase access to nutritious foods. Reduce air and water pollution.* *e. Require the incorporation of pedestrian and bicycle facilities in new development and on all new and renovated transportation facilities built and/or managed by the County.* *f. Evaluate development based on its impacts to the environment, economy, infrastructure, and services.*
Prop'd HC 3.1	*Recognize and actively promote policies that achieve positive health outcomes in the Community Development areas. These include policies that: (AI 27, 28, 136)* *a. Promote and support high-density, mixed use development near existing and proposed high-frequency transit service.* *b. Promote the creation of communities with a balanced mix of uses and regional transportation facilities within walking distance where residents will be able to walk to meet their daily needs.* *c. Encourage pedestrian oriented design and the use of bicycles and walking as alternatives to driving and as a means of increasing levels of physical activity.* *d. Provide for a range of housing options to accommodate a range of income levels and household types.* *e. Foster a robust, sustainable economy that provides an adequate balance of jobs and housing, and a decent living wage for all residents. (AI 17, 18, 19)*
Prop'd HC 4.2	*Consider services that reduce the need for residents to drive to meet their daily needs. Such services might include: shopping shuttles to nearby retail districts, retail near residential, and mobile or virtual health clinics. (AI 136)*
Prop'd HC 5.1	*Encourage the development of complete neighborhoods that provide for the basic needs of daily life and for the health, safety, and mental well-being of residents.(AI 3, 136)*
Prop'd HC 5.2	*Ensure that new development will provide the infrastructure, public facilities and services required by the projected population.*
Prop'd HC 5.3	*Build neighborhoods with safe and attractive places for recreational opportunities*
Prop'd HC 5.6	*Allow neighborhood retail, service and public facilities within walking distance of residential areas, whenever appropriate.*
Prop'd HC 9.1	*Promote social capital through development patterns and policies that: (AI 18)* *a. Reduce commute times.* *b. Provide community services, employment training, rental assistance, and other supportive services to enable households to be self-sufficient.* *c. Implement clean streets and graffiti abatement programs.* *d. Improve empty properties and reinvest in neighborhoods.* *e. Build diverse public spaces that provide places for people to congregate and interact socially.* *f. Provide safe and attractive environments.* *g. Encourage civic participation.*
Prop'd HC 9.3	*Implement the policies of the Housing Element that promote a range of housing types and affordable housing units integrated into mixed-income neighborhoods throughout the County.*
Prop'd HC 9.4	*Support cohesive neighborhoods, especially with lifecycle housing opportunities.*
Prop'd HC 11.3	*Encourage the production and distribution of locally grown food. (AI 152, 154)*
Proposed HC14.2	*Reduce air pollution and the incidence of respiratory illness through the land use planning process.* *a. Strive to avoid siting homes, schools and other sensitive receptors near known or expected new stationary sources of air pollution.* *b. Evaluate and consider alternative siting of new municipal facilities that may produce harmful air pollution near existing populations.* *c. Promote the construction of new buildings that provide for healthier indoor air quality.*
Ordinance	*Development Impact Fee (DIF) Program for Residential Development*

Energy Efficiency and Energy Conservation Objectives

Next to transportation, energy used in homes and business, such as for heating, cooling and lighting, is one of the largest sources of a communities' GHG emissions. Most of the GHG emissions from energy use come from the combustion of fossil fuels, such as coal, oil and natural gas, for electricity generation. Thus, increasing energy efficiency throughout the community has immense potential to both reduce greenhouse gas emissions and save people money.

For example, energy conservation enacted voluntarily by residents achieves very small GHG reductions individually. However, when multiplied by the nearly 750,000 existing homes in our County, these small, incremental changes make a huge cumulative difference. For this reason, the Objectives of this section must be complemented and coordinated with the education and community outreach Objectives described later in this section.

Reducing greenhouse gas emissions through improved energy efficiency and energy conservation, which lessens the amount of fossil fuels burned to produce electricity, is the basis for the following policy Objectives and the related Implementation Measures presented in *Appendix N*.

Policies:

Title 24, Part 6, of the California Code of Regulations encompass the "Energy Efficiency Standards for Residential and Nonresidential Buildings." These regulations were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

AQ 21.1 ***The County shall implement programs and requirements to achieve the following Objectives related to reducing greenhouse gas emissions achieved through improving energy efficiency and increasing energy conservation:***

a. Require new development (residential, commercial and industrial) to reduce energy consumption through efficient site design that takes into consideration solar orientation and shading, as well as passive solar design. Passive solar design addressed the innate heating and cooling effects achieved through building design, such as selective use of deep eaves for shading, operable windows for cross-ventilation, reflective surfaces for heat reduction, and expanses of brick for thermal mass (passive radiant heating).

b. Require new development (residential, commercial and industrial) to design energy efficiency into the project through efficient use of utilities (water, electricity, natural gas) and infrastructure design.

c. Require new development (residential, commercial and industrial) to reduce energy consumption through use of energy efficient mechanical systems and equipment.

d. Establish or support programs to assist in the energy-efficient retrofitting of older affordable housing units.

e. Actively seek out existing or develop new programs to achieve energy efficiency for existing structures, particularly residential units built prior to 1978 when Title 24 energy efficiency requirements went into effect.

f. Balance additional upfront costs for energy efficiency and affordable housing economic considerations by providing or supporting programs to finance energy-efficient housing.

AQ 21.2 For discretionary actions, energy efficiency and conservation objectives shall be achieved through development and implementation of the appropriate Implementation Measures of *General Plan Appendix N* for all new development approvals. County programs shall also be developed and implemented to address energy efficiency and conservation efforts for County operations and the community.

The County also addresses these Objectives through the General Plan policies and other initiatives as follows.

Table AQ-9: Policies Associated With Energy Efficiency and Energy Conservation

Policy	General Plan Policy Text
AQ 4.2	Encourage the use of efficient heating equipment and other appliances, such as water heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces and boiler units.
AQ 5.3	Update, when necessary, the County's Policy Manual for Energy Conservation to reflect revisions to the County Energy Conservation Program.
AQ 5.4	Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.
OS 11.1	Enforce the state Solar Shade Control Act, which promotes all feasible means of energy conservation and all feasible uses of alternative energy supply sources. (AI 62, 65, 66, 70)
Prop'd OS 11.4	*Encourage energy efficient site-planning and building design with adequate landscaping in future development applications. (AI XX)*
OS 16.1	Continue to implement Title 24 of the State Building Code. Establish mechanisms and incentives to encourage architects and builders to exceed the energy efficiency standards of Title 24. (AI 62)
OS 16.2	Specify energy efficient materials and systems, including shade design technologies, for County buildings.
OS 16.5	Utilize federal, state, and utility company programs that encourage energy conservation. (AI 63, 64)
OS 16.6	Assist public buildings and institutions in converting asphalt to green space to address the heat island effect.
OS 16.7	Promote purchasing of energy-efficient equipment based on a fair return on investment and use energy-savings as one basis for purchasing decisions for major energy-using devices. (AI 68, 69)
H 2.1	Continue to pursue all available federal, state and local funds to assist housing rehabilitation.
H 5.1	Encourage the use of energy conservation features in residential construction and remodeling.
Ord. No 655	*Regulating Light Pollution*

Water Conservation and Biota Conservation Objectives

Roughly 40% of a typical electric energy budget is used to transport (pump), treat and deliver potable water to serve communities. Substantial amounts of energy are also used for the treatment of wastewater, as well as for electricity generation itself (such as steam or cooling). Thus, water conservation thus forms an essential element in both energy conservation and, ultimately, GHG emission reductions.

Conserving vegetative lands, particularly forest lands, facilitates biological carbon sequestration. Biological carbon sequestration is the process whereby plants absorb carbon dioxide from the atmosphere and turn it into organic mass as they grow.

When it comes to agricultural lands, their value in providing carbon sequestration must be weighed against the carbon releasing activities also associated with agricultural uses, such as livestock (which produce methane in their digestive systems), manure management (particularly for intensive uses like dairies), operation of agricultural equipment, fertilizer application and soil tillage (which release nitrous oxide), as well as emissions associated with the harvesting, processing and distribution of crops.

The need to reduce energy use through water conservation and the carbon sequestration benefits of biota preservation form the basis for the following policy Objectives and the related Implementation Measures presented in *Appendix N*.

Policies:

A bioswale is a landscape element designed to remove silt and pollution from runoff water. Above is a typical one with wetland plants, such as cattails and reeds, grown within a man-made drainage course to filter runoff water as it flows through the feature.

AQ 22.1 ***The County shall implement programs and requirements to achieve the following Objectives related to reducing greenhouse gas emissions through water conservation:***

a. Reduce water use in both new and existing housing, commercial and industrial uses.

b. Reduce wastewater generation in both new and existing housing, commercial and industrial uses.

c. Reduce the amount of water used for landscaping irrigation through implementation of County Ordinance 859.

d. Increase use of non-potable water where appropriate, such as for landscaping and agricultural uses.

e. Encourage increased efficiency of water use for agricultural activities.

f. Decrease energy costs associated with treatment of urban runoff water through greater use of bioswales and other biological systems.

AQ 22.2 ***The County shall implement programs and requirements to achieve the following Objectives related to reducing greenhouse gas emissions through biota conservation:***

a. Conserve biota that provides carbon sequestration through implementation of the Multiple Species Habitat Conservation Plans for western and eastern Riverside County.

b. Preserve forest lands and other suitable natural vegetation areas to maintain the carbon sequestration capacity of such areas within the County.

c. Promote establishment of vegetated recreational uses, such as local and regional parks, that provide carbon sequestration potential in addition to opportunities for healthy recreation.

d. Promote urban forestry and reforestation, as feasible, to provide additional carbon sequestration potential.

e. Promote the voluntary preservation of farmlands for carbon sequestration purposes. In particular, protect important farmlands and open space from conversion and encroachment by urban uses. Also, seek to retain large parcels of agricultural lands to enhance the viability of local agriculture and prevent the encroachment of sprawl into rural areas.

f. Promote the voluntary preservation of areas of native vegetation that may contribute to biological carbon sequestration functions.

g. Protect vegetation from increased fire risks associated with drought conditions to ensure biological carbon remains sequestered in vegetation and not released to the atmosphere through wildfires. In particular, prevent unnecessary intrusion of people, vehicles and development into natural open space areas to lessen risk of wildfire from human activities.

AQ 22.3 For discretionary actions, greenhouse gas reduction objectives related to water and biota conservation shall be achieved through development and implementation of the applicable Implementation Measures of *General Plan Appendix N*. County programs shall also be developed and implemented to address conservation issues related to County operations and voluntary community efforts.

The County also addresses these Objectives through the General Plan policies and other initiatives as follows.

Table AQ-10: Policies Associated With GHG Reductions From Water Conservation

Policy	General Plan Policy Text - *Water Conservation*
Prop'd LU 16.1	*Ensure compliance with the County's water-efficient landscape policies.* *Ensure that entitlement projects or projects seeking County approval develop and implement landscaping plans (conceptual or final working drawings) prepared in accordance with the County's Water-Efficient Landscape Ordinance (Ordinance No. 859), the County of Riverside Guide to California Friendly Landscaping and Riverside County's California Friendly Plant List. Ensure that irrigation plans for all new development incorporate weather based controllers and utilize state-of-the-art water-efficient irrigation components.*
Prop'd LU 16.2	*Minimize use of turf.* *Minimize the use of natural turf in landscape medians, front-yard typical designs, parkways, other common areas, etc. and use drought tolerant planting options, mulch, or a combination thereof as a substitute. Limit the use of natural turf to those areas that serve a functional recreational element. Incorporate other aesthetic design elements such as boulders, stamped concrete, pavers, flagstone, decomposed granite, manufactured rock products to enhance visual interest and impact.*
Prop'd LU 16.3	*Design and field check irrigation plans to reduce run-off.* *Emphasize the use of subsurface irrigation techniques for landscape areas adjoining non-permeable hardscape. Utilize subsurface irrigation or other low volume irrigation technology in association with long, narrow, or irregularly shaped turf areas. Minimize use of irregularly shaped turf areas.*
Prop'd LU 16.5	*Emphasize and expand the use of recycled water in conjunction with local water agencies.* *Recycled water determined to be available pursuant to Section 13550 of the California State Water Code shall be used for appropriate non-potable uses whenever it: a) provides a beneficial use to the customer, b) is economically and technically feasible, c) is consistent with applicable regulatory requirements, and d) is in the best interests of public health, safety, and welfare. With the exception of non-common areas of single-family home residential developments, all other irrigation systems must be designed and installed to accommodate the current or future use of recycled water for irrigation. If no recycled water facilities are imminent in the surrounding vicinity of a project (as determined by prevailing water agency), all subsurface piping shall be installed as recycled water ready to reduce future retrofit costs. Such irrigation plans shall be developed in accordance with standards and policies of the applicable recycled water purveyor. Recycled water systems shall be designed to meet regulatory requirements of the California Department of Public Health and the local recycled water purveyor*
Prop'd LU 21.6	*Restrict the placement of new golf courses to locations outside the boundaries of arroyos, watercourses, and wetlands, and their protective buffers. Provide for buffers wide enough to adequately separate golfers, golf play, potential irrigation leaks, and invasive turf-grasses from sensitive riparian and wetland habitats.*
Prop'd LU ~~29.1~~ *31.1*	Require that proposed projects on properties containing the Watercourse Overlay be reviewed for compliance with habitat, endangered species, flood control, and applicable area plan-specific design standards *that relate to both watercourses and any floodplains, arroyos or canyons, and watersheds that contain them. (AI 25, 60)*
Prop'd LU 31.2	*The Watercourse Overlay shall be applied to all watercourses and their buffering setbacks.*
Prop'd OS 1.4	*Promote the use of recycled water in landscape irrigation. (AI 3, 4, 57, 57B, 57C)*
Prop'd OS 2.1	*Implement a water-efficient landscape ordinance and corresponding policies that promote the use of water-efficient plants and irrigation technologies, minimize use of turf and reduce water-waste without sacrificing landscape quality.*
OS ~~2.1~~ *2.2*	Encourage the installation of water-conserving systems such as dry wells and gray-water systems, where feasible, especially in new developments. The installation of cisterns or infiltrators shall also be encouraged to capture rainwater from roofs for irrigation in the dry season and flood control during heavy storms. (AI 57, 62)
Prop'd OS ~~2.2~~ *2.3*	Where feasible, decrease stormwater runoff by reducing pavement in development areas and by *incorporating "Low Impact Development" and other Best Management practice* design ~~practices~~ *measures* such as permeable parking bays and porous parking lots with bermed storage areas for rainwater detention*; use of less pavement, and multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems such as a curb and swale system, concave street medians that capture water, and cul-de-sac circles that provide a concave, landscaped circle to capture water*. (AI 57, 62)
OS ~~2.5~~ *2.6*	Encourage continued agricultural water conservation and recommend the following practices where appropriate and feasible: lining canals, recovering tail water at the end of irrigated fields and appropriate scheduling of water deliveries. (AI 57)
Prop'd	Minimize pollutant discharge into storm drainage systems and natural drainages and aquifers *through site-*

Policy	General Plan Policy Text - *Water Conservation*
OS 3.3	*appropriate "low Impact Development and other Best Management Practice design measures that protect and enhance permeability, reduce storm water flows, eliminate dry weather urban runoff, and provide bio-filtration*.
Prop'd OS 3.5	*Encourage multiple purpose design for water quality protection and permeability that integrates water runoff management within planned infrastructure and facilities such as parks, street medians and public landscaped areas, parking lots, streets, etc.*
Prop'd OS 3.6	*Encourage sensitive design and placement of necessary storm water detention basins, recharge basins, water quality basins, or similar larger scale water capture devices that consider the context. Facilities should capture and/or treat water before entering a watercourse, and should never be placed in a water course.*
OS 4.3	Ensure that adequate aquifer water recharge areas are preserved and protected. (AI 3, 56, 57)
Prop'd OS 4.5	*Encourage multi-purpose project designs that protect water resources and enhance neighborhood resources and aesthetics. Street alignments placed between the house and the watercourse, with a park strip and a walking trail between the street and the watercourse, provide scenic areas for the public and a firebreak between homes and native vegetation that protects permeability, water quality and the health of the watercourse and adjacent upland habitat.*
Prop'd OS ~~4.5~~ *4.6*	Retain storm water at or near the site of generation for percolation into the groundwater to conserve it for future uses and to mitigate adjacent flooding, *through site-appropriate "Low Impact Development" or other Best Management Practice measure that creates opportunities for enhancing permeability, reducing storm water runoff, eliminating dry-weather urban runoff, and treating urban runoff pollutants*. (AI 57)
Prop'd OS 4.7	*Encourage storm water management and urban runoff reduction as an enhanced aesthetic and experience design element. Many design practices exist to accomplish this depending on site conditions, planned use, cost-benefit, and development interest including:* *a. Incorporation of permeable paving for parking surfaces, driveways, sidewalks and other surfaces requiring hard materials;* *b. Narrower streets and less pavement;* *c. Street parkways with vegetated bioswales;* *d. Multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems such as a curb and swale system, concave street medians that capture water, and cul-de-sac circles that provide a concave, landscaped circle to capture water; and* *e. Home lots and public area design that incorporates water capture, biofiltration and other measures.*
OS ~~4.7~~ *4.9*	Offer incentives to landowners whose property is prohibited from development due to its retention as a natural groundwater recharge area. These incentives shall be provided to encourage the preservation of natural water courses without creating undue hardship on the owner of properties and might include density transfer mechanisms.
Prop'd OS 4.13	*Prohibit increases in zoning that allow more intense modifications of development sites for watercourses and areas within 100 feet of the outside boundary of the riparian vegetation, the top of the bank, or the 100 year floodplain, whichever is greater.*
OS ~~2.3~~ *2.4*	*Seek opportunities to coordinate water-efficiency policies and programs with water service providers. (AI 4, 57C, 58)* ~~*Encourage native, drought resistant landscape planting. (AI 3, 57, 62)*~~
C 5.2	Encourage the use of drought-tolerant native plants and the use of recycled water for roadway landscaping.
Prop'd LU 16.4	*Coordinate County water-efficiency efforts with those of local water agencies.* *Support local water agencies' water conservation efforts*
Prop'd LU 16.6	*Achieve water conservation by changing the public perception paradigm.* *More outreach is needed to change the public perception of water-efficient landscaping and the design/care of such landscapes as they are a departure from the "green" paradigm with which many County residents are familiar. To achieve this objective the County will:* *a. Develop tools designed to assist landowners with converting to attractive, drought-tolerant landscapes.* *b. Participate in outreach efforts designed to educate the developers, landscape personnel, nurseries, retail establishments, and the public on water-efficient landscaping and wise water-use programs.* *c. Promote the use of drought tolerant plants and irrigation components.*
Ord. 754	*Stormwater / Urban Runoff Management and Discharge Control*
Ord. 859	*Establishing Water-Efficient Landscaping Standards*

Table AQ-11: Policies Associated With GHG Reductions From Biota Conservation

Policy	General Plan Policy Text - *Biota Conservation*
Prop'd LU 6.8	*Provide functional buffers between development and watercourses, including their associated habitat.*
Prop'd revision LU 8.4	Allow development clustering and/or density transfers in order to preserve open space, natural resources and/or biologically sensitive resources. *Wherever possible, development on parcels containing 100-year floodplains and blue line streams and other higher-order watercourses and areas of steep slopes adjacent to them shall be clustered so as to keep development out of the watercourse and adjacent steep slope areas, and to be compatible with other nearby land uses.*(AI 1, 9)
Prop'd LU 8.1	Provide for permanent preservation of open space lands that contain important natural resources, hazards, water features, watercourses, *including arroyos and canyons* and scenic and recreational values. (AI 10).
LU ~~16.4~~ *17.4*	Encourage conservation of productive agricultural lands. Preserve prime agricultural lands for high-value crop production.
LU ~~16.5~~ *17.5*	Continue to participate in the California Land Conservation Act (the Williamson Act) of 1965.
LU ~~16.6~~ *17.6*	Require consideration of State agricultural land classification specifications when a 2 ½-year Agriculture Foundation amendment to the General Plan is reviewed that would result in a shift from an agricultural to a non-agricultural use. (AI 8)
LU ~~16.7~~ *17.7*	Adhere to Riverside County's Right-to-Farm Ordinance.
LU ~~16.9~~ *17.9*	Weigh the economic benefits of surface mining with the preservation/conservation of agriculture when considering mineral excavation proposals on land classified for agricultural uses.
Prop'd OS 5.5	New development *and redevelopment* shall preserve and enhance existing native riparian habitat and prevent obstruction of natural watercourses. *Prohibit fencing across watercourses and their banks and styles of fences that constrict flows.* Incentives shall be utilized to the maximum extent possible. (AI 25, 60)
OS 5.6	Identify and, to the maximum extent possible, conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation or nesting of wildlife species associated with these wetland and riparian areas. (AI 60, 61)
OS 6.2	Preserve buffer zones around wetlands where feasible and biologically appropriate. (AI 61)
OS 7.3	Encourage conservation of productive agricultural lands and preservation of prime agricultural lands. (AI 3, 78)
OS 7.5	Encourage the combination of agriculture with other compatible open space uses in order to provide an economic advantage to agriculture. Allow by right, in areas designated Agriculture, activities related to the production of food and fiber, and support uses incidental and secondary to the on-site agricultural operation. (AI 1)
OS 8.1	Cooperate with federal and state agencies to achieve the sustainable conservation of forest land as a means of providing open space and protecting natural resources and habitat lands included within the MSHCPs. (AI 3)
OS 8.2	Support conservation programs to reforest privately held forest lands.
OS 9.3	Maintain and conserve superior examples of native trees, natural vegetation, stands of established trees and other features for ecosystem, aesthetic and water conservation purposes. (AI 3, 79)
OS 9.4	Conserve the oak tree resources in the County. (AI 3, 78)
Revised OS 18.1	Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCP's~~, if adopted.~~ (AI 10)

Policy	General Plan Policy Text - *Biota Conservation*
Prop'd OS 18.4	*Develop standards for the management of private conservation easements and conservation lots in fee title. For areas with watercourses, apply special standards a – f (below) for their protection, and apply standards g-j (below) generally:* *a. For conservation lands with watercourses, conform easement boundaries to setback conditions that will preserve natural flows and changes in the natural boundaries of a watercourse and its protective riparian habitat.* *b. Use only "open" fencing that permits the movement of wildlife, and limit fencing to locations outside of setbacks to watercourses (no fencing is permitted to cross the banks or channel of a watercourse, unless no other option is available).* *c. Allow fuel modification only to the outside of buffering vegetation (riparian vegetation and vegetation on slopes that buffer the watercourse from erosion and storm water pollution).* *d. No planting of non-native invasive species is permitted.* *e. No lighting of watercourse area is permitted.* *f. Prohibit the use of pesticides and herbicides known to harm aquatic species and sensitive amphibians.* *g. Ensure that lands under control of Homeowner's Associations employ an experienced non-profit conservation group or agency to manage/maintain the land.* *h. Prohibit use of recreational off-road vehicles.* *i. Prohibit grazing and alterations of vegetation except for fuel and weed management under close supervision of qualified natural lands manager.* *j. For private conservation lands, especially those within criteria cells of MSHCP areas, ensure that easement and fee title agreements provide funding methods sufficient to manage the land in perpetuity.*
LU ~~16.1~~ *17.1*	Encourage retaining agriculturally designated lands where agricultural activity can be sustained at an operational scale, where it accommodates lifestyle choice and in locations where impacts to and from potentially incompatible uses, such as residential uses, are minimized through incentives such as tax credits.
Revised OS 20.1	Preserve and maintain open space that protects County environmental *and nonrenewable* resources, and maximizes public health and safety in areas where significant environmental hazards and resources exist.
OS 20.2	Prevent unnecessary extension of public facilities, services, and utilities for urban uses into Open Space-Conservation designated areas. (AI 74)
C 20.1	Ensure preservation of trees identified as superior examples of native vegetation within road rights-of-way through development proposals review process.
C ~~20.8~~ *20.10*	Avoid, where practicable, disturbance of existing communities and biotic resource areas when identifying alignments for new roadways or for improvements to existing roadways and other transportation system improvements.
LU ~~18.2~~ *20.2*	Cooperate with the California Department of Fish and Game (CDFG), United States Fish and Wildlife Service (USFWS), and any other appropriate agencies in establishing programs for the voluntary protection, and where feasible, voluntary restoration of significant environmental habitats. (AI 10)
Prop'd HC 4.1	*Implement the policies that encourage healthy land use patterns in the open space, rural and agricultural areas of the County. These policies include: (AI 29, 30, 31)* *a. Preserving rural, agricultural and open space areas, where possible.* *b. Preserving land for local agriculture and scenic resources.* *c. Preventing inappropriate development in areas environmentally sensitive or subject to severe natural hazards.* *d. Creating incentives, such as transfer of development rights, clustered development, development easements, and other mechanisms, to preserve the economic value of agricultural and open space lands.*
S 4.22	Take an active role in acquiring property in high-risk flood zones and designating the land as open space for public use or wildlife habitat. (AI 59)
AQ 2.4	Consider creating a program to plant urban trees on an Area Plan basis that removes pollutants from the air, provides shade and decreases the negative impacts of heat on the air. (AI 114)
Ord. 559	*Regulating the Removal of Trees*
Ord. 625	*Agricultural Activities, Nuisance Defense ("Right to Farm Ordinance")*
Ord. 663	*Riverside County Stephens' Kangaroo Rat Habitat Conservation Plan and Mitigation Fees*
Ord. 695	*Requiring the Abatement of Hazardous Vegetation*
Ord. 810	*Establishing an Interim Open Space Mitigation Fee*
Ord. 875	*Establishing Mitigation Fees for Coachella Valley Multi-Species Habitat Conservation Plan*

Alternative Energy Objectives

Currently available sources of renewable energy amenable to development within Riverside County include solar, wind, biomass and geothermal. Renewable energy sources offer the potential for a clean, decentralized energy source that can significantly impact the County's greenhouse gas emissions. The County of Riverside will also work to build on current efforts to integrate alternative energy into the community's power scheme.

Increasing the use of alternative energy sources to reduce the amount of greenhouse gases emitted from fossil-fuel burning energy generation is the basis for the following policy Objectives and the related Implementation Measures presented in *Appendix N*.

Policies:

AQ 23.1 ***The County shall implement programs and requirements to achieve the following Objectives related to reducing greenhouse gas emissions derived from energy generation:***

a. Encourage the installation of solar panels and other energy-efficient improvements.

b. Facilitate residential and commercial renewable energy facilities (solar array installations, individual wind energy generators, etc.).

c. Facilitate development of renewable energy facilities and transmission lines in appropriate locations.

d. Facilitate renewable energy facilities and transmission line siting.

e. Provide incentives for development of local green technology businesses and locally-produced green products.

f. Provide incentives for investment in residential and commercial energy efficiency improvements.

g. Identify lands suitable for wind power generation or geothermal production and encourage development of these alternative energy sources.

AQ 23.2 For discretionary actions, the objectives for greenhouse gas reduction through increased use of alternative energy sources shall be achieved through development and implementation of the applicable Implementation Measures of *General Plan Appendix N*. County programs shall also be developed and implemented to address use of alternative energy for County operations and within the community.

The County also addresses these Objectives through the General Plan policies and other initiatives as follows.

Table AQ-12: Policies Related to Increasing Use of Alternative Energy Sources

Policy	General Plan Policy Text
LU 15.1	Prohibit commercial wind turbines within the Rural Community Foundation Component areas and within the Rural Residential land use designation. Prohibit commercial wind turbines within the Community Development Foundation Category, except within the areas designated Public Facilities (Edom Hill and the area around Devers Substation) within the mapped Policy Area providing for wind energy development in the Western Coachella Valley Area Plan.
OS 11.1	Enforce the state Solar Shade Control Act, which promotes all feasible means of energy conservation and all feasible uses of alternative energy supply sources. (AI 62, 65, 66, 70)
OS 11.2	Support and encourage voluntary efforts to provide active and passive solar access opportunities in new developments. (AI 63, 64)
OS 11.3	Permit and encourage the use of passive solar devices and other state-of-the-art energy resources. (AI 62. 63. 64)
OS 12.1	Allow for the development of non-electrical, direct-heat uses of geothermal heat and fluids for space, agricultural and industrial heating in situations and localities where naturally-occurring hydrothermal features will not be degraded.
OS 12.4	Permit geothermal heat utilization for space heating in buildings.
OS 13.1	Encourage economic biomass conversion under sensible environmental controls. (AI 71)
OS 15.2	Development of renewable resources should be encouraged.
OS 16.9	Encourage increased use of passive, solar design and day-lighting in existing and new structures. (AI 62, 63, 64, 70)
OS 16.10	Encourage installation and use of cogenerating systems where they are cost-effective and appropriate. (AI 62, 70)
Prop'd HC 14.4	*Improve air quality and respiratory health through County programs and operations that reduce overall energy use and increase the use of clean and renewable energy sources through programs such as:* *a. Encourage energy conservation such as maximizing the use of nature lighting and motion sensing lighting* *b. Providing on-site clean energy generation such as solar panels.* *c. Promote research and pilot projects on renewable energy production, such as solar and wind energy, on closed landfill sites that are environmentally sound and safe;* *d. Require County franchise haulers to use alternative fuel vehicles for waste collection and hauling operations, were feasible.*

Waste Reduction Objectives

Although responsible for a relatively small portion of total community GHG emissions, solid waste management programs are important for GHG reduction in several key ways. First, programs to increasing the amount of solid waste that is "reduced, recycled or reused" decrease the number of truck trips necessary to dispose of such waste. Secondly, reducing the amount of solid waste entering a landfill expands the life of the facility. This results in less GHG emissions from the construction equipment used to build landfill sites. And, lastly, recycling and waste prevention programs make a significant contribution to reducing the energy and transportation needed to manufacture and ship virgin products and packaging.

Reducing the amount of waste generated, which indirectly reduces the over-consumption of a variety of natural resources, is the basis for the following policy Objectives and the related Implementation Measures presented in *Appendix N*.

Policies:

AQ 24.1 ***The County shall implement programs and requirements to achieve the following Objectives related to reducing greenhouse gas emissions associated with wastes:***

a. Reduce the amount of solid waste generated.

b. Increase the amount of solid waste recycled by maximizing waste diversion, composting and recycling for residential and commercial generators.

c. Promote reductions in material consumption.

d. Decrease wastewater generation.

e. Reduce methane emissions at County landfills.

AQ 24.2 Greenhouse gas reduction through the above waste reduction Objectives shall be achieved through development and implementation of the applicable Implementation Measures of *General Plan Appendix N* for new development. County programs shall also be developed and implemented to address waste reductions for County operations and voluntary community efforts.

The County also addresses these Objectives through the General Plan policies and other initiatives as follows.

Table AQ-13: Policies Related to Reducing Greenhouse Gas Emissions Through Waste Reduction

Policy	General Plan Policy Text
AQ 5.1	Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.
Ord. 657	*Regulating Collection and Removal of Solid Waste*
Ord. 718	*Medical Waste - Generation, Storage, Transportation*
Ord. 745	*Comprehensive Collection and Disposal of Solid Waste*

Objectives for Education, Coordination and Outreach

Although outside the realm of direct County control, existing uses, such as homes and businesses, represent a large area of ongoing GHG emissions. Unlike new discretionary permits and internal County operations, however, efforts to reduce emissions for these existing uses are mainly voluntary. Thus, education, community outreach and even incentive programs necessarily form an important element of the County overall GHG reduction efforts.

Additionally, coordination with other agencies, particularly regional governments, are also important for achieving long-term reductions in GHGs. ***[To be expanded]***

The following policy Objectives and the related Implementation Measures presented in *Appendix N* are based on efforts to indirectly reduce greenhouse gas emissions through voluntary efforts by the public and through programs developed in coordination with other agencies.

Policies:

AQ 25.1 ***The County shall implement programs and requirements to achieve voluntary greenhouse gas emissions reductions through the following public education and outreach Objectives:***

a. Provide homeowner education programs on the various voluntary ways in which they may reduce their homes' GHG emissions.

b. Develop and implement motorist education programs on reducing vehicle miles travelled (VMT), idling, vehicle maintenance, etc.

c. Develop and implement incentive programs for increasing car-pooling, public transit use and other similar means.

d. Develop and implement incentive programs for residential energy conservation, such as through retrofitting to improve insulation values, adding solar energy capabilities, planting deciduous trees to provide summer shade, etc.

e. Develop and implement programs designed to decrease transportation emissions, such as hybrid vehicle rebates, alternate fuel discounts, carpooling incentives, van pools, etc.

f. Develop and implement education programs about green purchasing and waste reduction measures, e.g., use of sustainable materials, composting and such.

g. Develop and implement programs to improve job-housing balances, such as through small business development, for areas that are housing rich but jobs poor.

h. Develop and implement programs to incentive recycling and other waste reduction programs.

AQ 25.2 ***The County shall implement programs and requirements to achieve greenhouse gas emissions reductions through the following inter-agency coordination Objectives:***

a. Coordinate County regional GHG reduction efforts with those of other regional agencies and plans, i.e.:

- SCAG Regional Blueprint Plan
- SCAG Regional Transportation Plan (which will address SB375)
- SCAQMD Air Quality Management Plans
- SB 375 Coordination and "Sustainable Communities Strategies"

b. Coordinate with constituent cities and sub-regional planning agencies, particularly WRCOG and CVAG, on GHG reduction efforts that jointly affect the County and these cites.

c. Coordinate with utility and service providers serving the County to develop programs to improve energy efficiency, water efficiency and delivery or structural improvements to reduce demand or better co-ordinate infrastructure development, as appropriate.

d. Coordinate with regional agencies responsible for developing utility corridors, particularly for electricity transmission, to ensure alternate energy sources available to the County are used to their fullest extent.

AQ 25.3 Voluntary greenhouse gas reduction Objectives for the community sector shall be achieved through development and implementation of specific implementation measures, as determined appropriate and feasible by the County.

The County also addresses these Objectives through the General Plan policies and other initiatives as follows.

Table AQ-14: Policies Associated With GHG Reductions Through Education, Outreach & Coordination

Policy	General Plan Policy Text
AQ 3.2	Seek new cooperative relationships between employers and employees to reduce vehicle miles traveled.
AQ 3.3	Encourage large employers and commercial/industrial complexes to create Transportation Management Associations. (AI 115)
AQ 7.1	Provide incentives to encourage new firms to locate within the County and existing firms to expand operations. (AI 18)
AQ 7.2	Work with SCAQMD and MDAQMD to develop a means to encourage the location of new commercial and industrial development in those localities where jobs are most needed. (AI 18)
AQ 7.3	Create a loan program to encourage small businesses to locate within the County. (AI 18)
AQ 7.4	Offer incentives to businesses to control emissions and implement the AQMP. (AI 18)
AQ 7.5	Reduce regulations on small businesses wherever possible and thereby encourage small business development and job creation. The County shall set performance standards as well as design standards, thus giving small business owners as many options as possible to comply with County regulations. (AI 18)
AQ 17.6	Reduce emissions from building materials and methods that generate excessive pollutants through incentives and/or regulations.
LU 7.6	Create practical incentives for business development and avoid disincentives. (AI 9, 18)
LU ~~16.11~~ *17.11*	The County shall pursue the creation of new incentive programs, such as tax credits, that encourage the continued viability of agricultural activities. (AI 1)
OS 1.3	Provide active leadership in the regional coordination of water resource management and sustainability efforts affecting Riverside County and continue to monitor and participate in, as appropriate, regional activities addressing water resources, groundwater and water quality, such as a Groundwater Management Plan, to prevent overdraft caused by population growth. (AI 4, 55, 58)
OS ~~2.4~~ *2.5*	Support and engage in educational outreach programs with other agencies*, the public, homebuilders, landscape installers and nurseries* that promote water conservation and wide-spread use of water-*efficient* ~~saving~~ technologies.
Prop'd OS 16.11	*Provide incentives such as transfer of development rights and clustering to private developments that meet LEED Gold or higher rating. (AI XX)*
OS 18.2	Provide incentives to landowners that will encourage the protection of significant resources in the County beyond the preservation and/or conservation required to mitigate project impacts. (AI 9)
C 11.4	Offer incentives to new development to encourage it to locate in a transit-oriented area such as a community center or along a designated transit corridor near a station. (AI 9)
Prop'd HC14.3	*Recognize and actively promote policies in the Land Use, Air Quality, Circulation and Multipurpose Open Space Element that:* *a. Reduce emissions of air pollution and improve air quality and respiratory health.* *b. Recognize and actively promote policies to create a multi-modal transportation system that reduces solo driving.* *c. Protect sensitive uses from encroachment of land uses that would result in impacts from noxious fumes or toxins.* *d. Encourage the reduction of air pollution from stationary sources.* *e. Ensure conservation of and access to clean and adequate drinking and surface water.* *f. Continue to minimize Riverside County residents' and employees' exposure to the harmful effects of hazardous materials and waste.*

Municipal (Internal County) Operational Greenhouse Gas Reduction Objectives

Of all the GHG reduction measures available, reducing emissions from County facilities and operations directly is the one area over which the County has the most control. The buildings, equipment and infrastructure of the County all use energy. Thus, there are many opportunities for the County to directly reduce GHG emissions.

Built environment improvements include designing greater energy efficiency into new County buildings and retrofitting older facilities with upgrades to improve energy efficiency, such as additional insulation, low-emissive glass, cool roofs and programmable thermostats. Development of alternative energy sources powering County facilities can include solar collectors and, at County landfills, methane capture. Infrastructure improvements can include more efficient street and traffic signal lighting, use of low-emission surfacing materials and paints, and more energy efficient pumps and treatment plants. Water-efficient landscaping can be incorporated along roadways and County buildings, and urban runoff can be controlled through site design and the use of bioswales. And, in the transportation sector, the County can directly reduce vehicle GHG emissions by transitioning its fleet to more fuel efficient vehicles, including the use of hybrid or other alternate fuels.

The various ways in which the County can directly control the emission of greenhouse gases resulting from County operations form the basis for the following policy Objectives.

Policies:

AQ 26.1 ***The County shall implement programs and requirements to achieve the following Objectives related to reducing greenhouse gas emissions from County transportation, such as fleet, construction equipment, employee commuting and travel on County business:***

a. Increase the average fuel efficiency of County-owned vehicles powered by gasoline and diesel.

b. Increase use of alternative and lower carbon fuels in the County vehicle fleet.

c. Reduce total vehicle miles traveled by County employees, both commuting to work sites and travel for the conduction of County activities.

AQ 26.2 ***The County shall implement programs and requirements to achieve the following Objectives related to reducing greenhouse gas emissions through improving energy efficiency for County facilities and operations:***

a. Improve the energy efficiency of all existing and new County buildings.

b. Improve the energy efficiency of County infrastructure operation (roads, water, waste disposal and treatment, buildings, etc.)

c. Decrease energy use through incorporating renewable energy facilities (such as, solar array installations, individual wind energy generators, geothermal heat sources) on County facilities where feasible and appropriate.

AQ 26.3 ***The County shall implement programs and requirements to achieve the following Objectives related to reducing greenhouse gas emissions through achieving waste reduction and resource efficiency for County facilities and operations:***

a. Establish purchasing and procurement policies that support the use of green products and services, minimize waste and promote sustainability.

b. Reduce potable water use at both new and existing County facilities and operations.

c. Reduce wastewater generation and urban runoff in both new and existing County facilities and operations.

d. Increase the amount of materials recycled from County facilities and decrease the amount of solid waste generated by County facilities that requires landfill disposal.

AQ 26.4 Greenhouse gas emissions reduction objectives for County operations and facilities shall be achieved through development and implementation of enforceable and binding internal County policies, programs or similar means.

The County also addresses these Objectives through the General Plan policies and other initiatives. In particular, the County has a number of Board of Supervisor Policies, as well as ordinances and other measures that likewise contribute to GHG reductions in this area. These items are summarized below.

Table AQ-15: Policies Related to County Operational Greenhouse Gas Reductions

Policy	General Plan Policy Text
OS 16.4	Undertake proper maintenance of County physical facilities to ensure that optimum energy conservation is achieved.
Prop'd OS 16.12	*Consider energy efficient site design and construction techniques in renovation, construction or procurement of leased spaces. For new and renovated County facilities strive for LEED Silver or higher rating, or comparable programmatic energy efficiencies.*
Prop'd OS 16.13	*Encourage installation and use of new technology at existing facilities or the establishment of new waste/ waste reduction facilities, where cost-effective and appropriate, to ensure that optimum energy conservation is achieved.*
BOS A-64	*Environmental Purchasing*
BOS H-4	*Energy Conservation*
BOS H-25	*Water-Efficient Landscaping*
BOS H-29	*Sustainable Building*

IMPLEMENTING GREENHOUSE GAS REDUCTION PLANS

As indicated above, interim greenhouse gas reduction targets shall be implemented through the General Plan policies herein, and the measures provided in *Appendix N,* until a Climate Action Plan can be developed and formalized. The sections below detail both the scope of the Climate Action Plan and how it relates to the interim items herein.

County Climate Action Plan

Climate Action Plan "CAP" - Provides a programmatic plan by which the County will address the actions necessary to achieve greenhouse gas emissions reductions across the various sectors under County jurisdiction.

County's Climate Action Plan (CAP) will provide overarching policy and implementation directions on how the County will meet its GHG emission reduction targets over time. Once finalized, it will also incorporate and expand upon the interim measures initially proposed herein, as needed. The interim GHG reduction targets may be refined or revised. The Implementation Measures provided for new development in *Appendix N* will be supplanted by those developed in the CAP. Additional policies, programs or implementation measures may also be developed as deemed necessary to achieve long-term targets for County operations and reductions within existing use sectors. The Objectives outlined earlier may also be refined, as appropriate to better reflect the scope of CAP efforts.

To be effective, the CAP shall address the following milestones and achieve the associated results, as outlined in the following policies:

Policies:

AQ 27.1 CAP Milestone 1 - ***Conduct a baseline emissions inventory and forecast.*** The anticipated result of this milestone is the development of data on Riverside County's CO_2e emissions for specific sectors and specific years. According to CAPCOA, the carbon inventory will "greatly aid the process of determining the type, scope and number of GHG reduction policies needed" in order to meet reduction targets. It will also facilitate the "tracking of policy implementation and effectiveness." A carbon inventory typically consists of "two distinct components." One for the County as a whole, as defined by its geographical borders. A second for the emissions resulting from the County's municipal operations. The later inventory is a subset of the former.

AQ 27.2 CAP Milestone 2 - ***Adopt GHG emissions reduction targets.*** The anticipated result of this milestone is the establishment of specific numerical reduction targets for specific sectors to be achieved by specific dates. Once the carbon inventory data is determined, modeling can be used to determine specific numerical values for the amount of CO_2e reductions needed for specific sectors.

AQ 27.3 CAP Milestone 3 - ***Develop a Climate Action Plan for reducing GHG emissions.*** The anticipated result of this milestone is a formalized CAP that provides the measures necessary to achieve County greenhouse gas emissions reduction targets. The CAP will include both the policies to meet stated targets and objectives, and the specific Implementation Measures needed to meet them. These targets, Objectives and

Implementation Measures may refine, supersede or supplant existing policies related to the same, as warranted. Where necessary, the *General Plan* may need to be amended to reflect changes to targets, Objectives or Implementation Measures formalized under the CAP.

AQ 27.4 CAP Milestone 4 - ***Implement policies and measures to achieve reduction targets.*** The anticipated result of this milestone is the implementation of the policies and measures developed pursuant to policy AQ 27.3, and implementation of the CAP by a fixed date.

AQ 27.5 CAP Milestone 5 - ***Monitor and verify results.*** The CAP shall include provisions to monitor and verify results periodically (for example, annually). It must also have "feedback" provisions to ensure that any changes needed to stay "on target" with stated goals are accomplished. The results of this monitoring, review and updating process will also be used to ensure the *General Plan* itself also continues to provide the overarching policies and programs needed to ensure the County's comprehensive approach to tackling climate change.

Interim Implementation Process

The County's interim GHG reduction targets are necessary to ensure County actions prior to formalization of the CAP do not hinder achievement of long-range climate action goals. Towards this end, the Objectives outlined above focus GHG reduction efforts in eight key areas. Additionally, the measures necessary to implement these objectives and achieve the stated targets for new development projects are provided in *General Plan Appendix N*.

The interim Implementation Measures in *Appendix N* were developed through the environmental analysis performed for Environmental Impact Report No. 521 for the General Plan 5-Year Update Project (General Plan Amendment No. 960).

Through these procedures, the interim program outlined in this element will ensure that County activities and approvals occurring prior to the establishment of the CAP achieve these main objectives:

- Ensure individual projects do not emit significant amounts of greenhouse gases.
- Ensure that emissions from individual projects approved pursuant to this General Plan do not contribute incrementally to cumulatively significant GHG emissions.
- Ensure that development of individual projects pursuant to this General Plan do not hinder the attainment of the County's long-range greenhouse gas reduction goals nor hinder the State's long-range goals pursuant to AB 32.