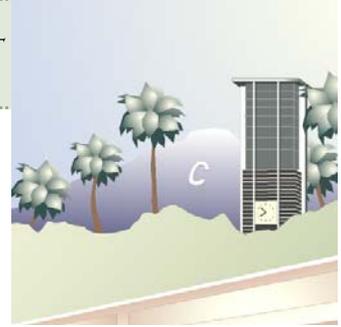


AIR QUALITY ELEMENT



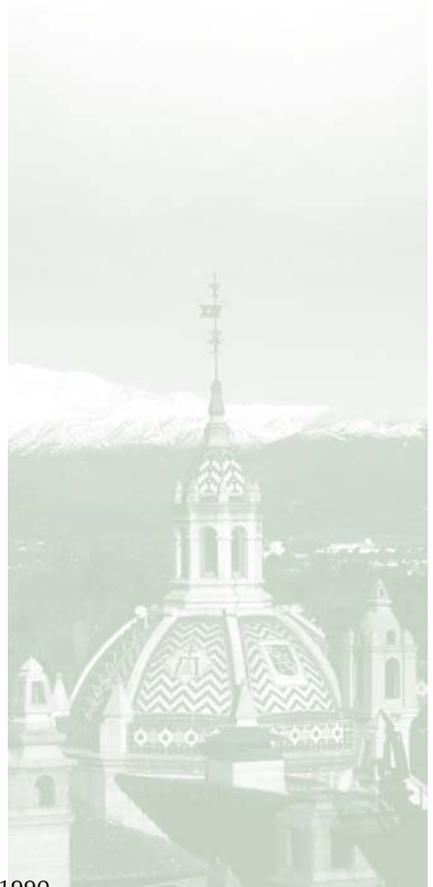
Since passage of the Federal Clean Air Act in 1970,¹ Americans have become increasingly aware of and concerned about the quality of the air we breathe. For many years even prior to the Clean Air Act, Riversiders noted the brownish haze that obscured views of the distant mountains and on particularly hot summer days, could cause breathing difficulties. Although air quality has improved dramatically in Riverside over the past 35 years, air quality is often identified as a major issue that impacts the quality of our lives. Riversiders continue to be exposed to air pollution transported by prevailing wind patterns from Los Angeles and Orange counties. Residents also continue to experience the negative effects of vehicle emissions associated with the commuter traffic that passes through the City.

See the Introduction under "Related Plan, Programs and Legislation" and this Element under "Context - Regulatory Framework" for more information on the Federal Clean Air Act.

As we work toward improving local and regional air quality, we recognize that air quality is a community-wide and regional issue that does not respect neighborhood or jurisdictional boundaries. Each resident and every community throughout the region must accept a portion of the responsibility for addressing air quality problems.

OUR PROACTIVE APPROACH TO IMPROVING AIR QUALITY

The Air Quality Element is a planning tool the City of Riverside will use to protect the public's health and welfare. The State of California does not require general plans to include Air Quality Elements. However, Riverside recognizes the importance of air quality not only to public health and safety, but also to the City's economic well being and its image in the region. In fact, the City was selected as a winner of a 2004 Clean Air Awards in the category of Model Community Achievement from the South Coast Air Quality Management District and has taken the necessary action steps to become a Model Clean Air City. In response, the City has integrated air quality concerns throughout this General Plan, not just in this Air Quality Element. As such, this Element identifies the role the City can play in helping the South Coast Air Basin attain the goal of meeting Federal and State air quality standards, as well as the function the City has in protecting its own residents and businesses from the impacts of harmful air contaminants. To achieve these goals, the Element sets forth a number



¹ The Federal Clean Air Act was passed in 1970 and amended in 1977 and 1990.



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of provisions and programs to reduce current pollution emissions, to require new development to include measures to comply with air quality standards and to address new air quality requirements. In addition, the Element identifies strategies the City will utilize to ensure that its residents and businesses are not unnecessarily exposed to toxic air contaminants.

AUTHORITY FOR THIS ELEMENT

The Air Quality Element follows guidelines in the State Government Code Sections 65302(d) and 65303. It identifies and establishes the City of Riverside policies governing the achievement and maintenance of acceptable air quality within the region.

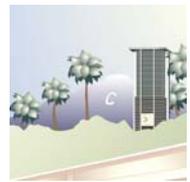
CONTEXT

Riverside lies within the eastern portion of the South Coast Air Basin (Basin), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties. The Basin is topographically bounded by the Pacific Ocean to the west, with the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east.

The topography and climate of the region combine to create an area of high air pollution potential in the Basin. Due to the low average wind speeds in the summer and a persistent daytime temperature inversion, emissions of hydrocarbons and oxides of nitrogen – the major by-products of vehicle engine combustion – have an opportunity to combine with sunlight in a complex series of reactions. These reactions produce a photochemical oxidant commonly known as "smog." Since the greater Los Angeles metropolitan region and the Inland Empire experience more days of sunlight than any other major urban area in the United States, except Phoenix, the smog potential in the region is higher than in most other major metropolitan areas in the country.

WHAT IS AIR POLLUTION?

Air pollution results from naturally occurring conditions and predominantly, from the activities of humans. Natural sources include dust from barren ground surfaces and forest fires. Sources contributed by our activities include industrial processes, chemical emissions from paints and similar materials and of course cars. Mobile air pollution sources and consumer products such as automobiles, trucks, gas-powered lawn mowers, leaf blowers and household cleaners



contribute approximately 80 percent of the pollutants entering the air basin daily. The other 20 percent of our air pollution originates from stationary sources such as factories, businesses and livestock operations.

Why do we care about air pollution? Many people experience some kind of air pollution-related symptoms such as watery eyes, coughing or wheezing. Even for healthy people, polluted air can cause respiratory irritation or breathing difficulties during exercise or outdoor activities. Riversiders are exposed to a number of pollutants in typical outdoor air. However, the health risks depend on an individual's current health status, the pollutant type and concentration and the length of exposure to the polluted air.

Air pollution is linked to increases in respiratory illness, decreased lung function, a decreased tolerance for exercise, longer hospital stays and a slight increase in mortality.

AIR POLLUTION

Air pollution consists of several different components from numerous sources.

OZONE

Ozone is a gas composed of three atoms of oxygen. Ozone occurs both in the Earth's upper atmosphere and at ground level. Ozone can be good or bad, depending on where it is found.²

Good Ozone

Ozone occurs naturally in the Earth's upper atmosphere — six to thirty miles above the Earth's surface — where it forms a protective layer that shields us from the sun's harmful ultraviolet rays. This beneficial ozone is gradually being destroyed by man-made chemicals. An area where the protective "ozone layer" has been significantly depleted — for example, over the North or South Pole — is sometimes called "the ozone hole."



Clear Skies Over Riverside



²EPA. Air Quality Index-A Guide to Air Quality and Your Health. 2003.



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Bad Ozone

In the Earth's lower atmosphere, near ground level, ozone is formed when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, household and other domestic chemicals, and other sources react chemically in the presence of sunlight. Ozone at ground level is a harmful air pollutant.

Health Risks

Ozone is a highly reactive compound and a strong oxidizing agent. When ozone comes into contact with the respiratory tract, it can react with tissues and cause damage in the airways. Since it is a gas, it can penetrate into the gas exchange region of the deep lung. Individuals exercising outdoors, including children and people with preexisting respiratory disease(s) such as asthma, are considered the most susceptible to ozone effects.

PARTICULATE MATTER

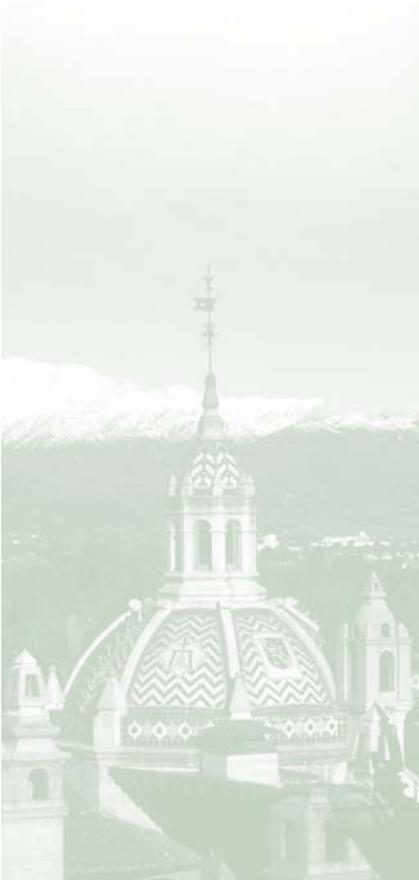
Airborne particulates are a complex group of pollutants that vary in source, size and composition, depending on location and time. The components include nitrates, sulfates, elemental carbon, organic carbon compounds, acid aerosols, trace metals and material from the Earth's crust. Substances of biological origin, such as pollen and spores, may also be present. There are also differences in the composition and sources of particles in the different size ranges that may have implications for health.

Fine Particles (PM 2.5)

Particles less than 2.5 micrometers in diameter are called "fine" particles. These particles are so small they can be detected only with an electron microscope. Sources of fine particles include all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning and some industrial processes.

Coarse Dust Particles (PM 10)

Particles between 2.5 and 10 micrometers in diameter are referred to as "coarse." Sources of coarse particles include crushing or grinding operations and dust stirred up by vehicles traveling on roads.





Health Risks

The health effects of particulates tend to be most severe with particulates sized 10 micrometers in diameter and smaller, since these can be inhaled more readily and deposited in the lower airways and deep areas of the lung. High levels of inhaled fine particulate matter can lead to an increased level of lung disease, respiratory infections and more frequent and severe asthma attacks.

CARBON MONOXIDE

Carbon monoxide (CO) is an odorless, colorless gas. It forms when the carbon in fuels does not completely burn. Vehicle exhaust contributes roughly sixty percent of all carbon monoxide emissions nationwide and up to ninety percent in cities. Other sources include fuel combustion in industrial processes and natural sources such as wildfires. Carbon monoxide levels typically are highest during cold weather because cold temperatures make combustion less complete and cause inversions that trap pollutants close to the ground.³

Health Risks

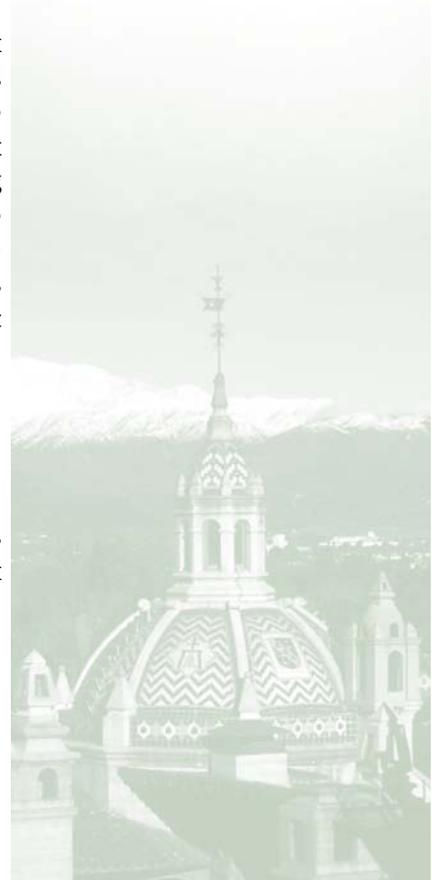
Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise and the reduction of oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but reduces the amount of oxygen reaching the body's organs and tissues by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses and patients with chronic hypoxemia (oxygen deficiency), as seen in high altitudes.⁴

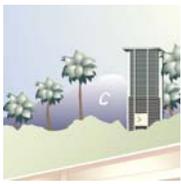
SULPHUR DIOXIDE

Sulfur dioxide (SO₂), a colorless, reactive gas, is produced when sulfur-containing fuels such as coal and oil are burned. Major sources include power plants and industrial boilers. Generally, the highest levels of sulfur dioxide are near large industrial complexes.

³EPA. Six Common Air Pollutants. 2003.

⁴EPA. Ibid. 2003.





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Health Risks

Sulfur dioxide is an irritant gas that is removed by the nasal passages. People with asthma who are physically active outdoors are most likely to experience the health effects of sulfur dioxide. The main effect, even with brief exposure, is a narrowing of the airways that may cause wheezing, chest tightness and shortness of breath. At very high levels, sulfur dioxide may cause wheezing, chest tightness and shortness of breath even in healthy people who do not have asthma.

LEAD

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Due to the phase-out of leaded gasoline beginning in 1978, metal processing is the major source of lead emissions to the air today. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities and lead-acid battery manufacturers.

Health Risks

Infants, fetuses and children are the most sensitive to the adverse effects of lead exposure. Lead can be stored in the bone from early-age environmental exposure and elevated blood levels can occur due to the breakdown of bone tissue such as during pregnancy and osteoporosis. Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous incidences of lead exposure of their mothers.

NITROGEN OXIDES

Nitrogen oxide (NO_x) is a general term pertaining to compounds of nitric acid, nitrogen dioxide (NO_2) and other oxides of nitrogen. Major sources of NO_x include power plants, large industrial facilities and motor vehicles. Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation and acid deposition.

Health Risks

Nitrogen oxides are emitted from combustion processes and irritate the nose and throat. NO_x increase susceptibility to respiratory infections, especially in people with asthma. The principal concern regarding NO_x is that it is a precursor to the formation of ozone.



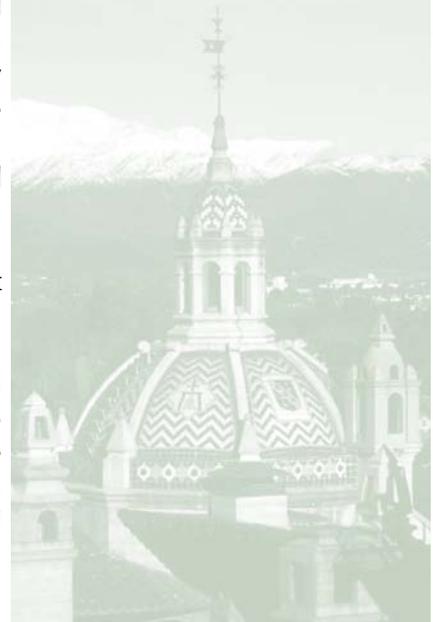
GREENHOUSE GASES AND THE GLOBAL WARMING EFFECT

“Stratospheric ozone depletion” refers to the slow destruction of naturally occurring ozone, which lies in the upper atmosphere (called the stratosphere) and which protects Earth from the damaging effects of solar ultraviolet radiation. Certain compounds, including chlorofluorocarbons (CFCs,) halons, carbon tetrachloride, methyl chloroform, and other halogenated compounds, accumulate in the lower atmosphere and then gradually migrate into the stratosphere. In the stratosphere, these compounds participate in complex chemical reactions to destroy the upper ozone layer. Destruction of the ozone layer increases the penetration of ultraviolet radiation to the Earth’s surface, a known risk factor that can increase the incidence of skin cancers and cataracts, contribute to crop and fish damage, and further degrade air quality (SCAQMD 2005).

Some gases in the atmosphere affect the Earth’s heat balance by absorbing infrared radiation. This layer of gases in the atmosphere functions much the same as glass in a greenhouse (i.e., both prevent the escape of heat). This is why global warming is also known as the “greenhouse effect.” Gases responsible for global warming and their relative contribution to the overall warming effect are carbon dioxide (55 percent), CFCs (24 percent), methane (15 percent), and nitrous oxide (6 percent). It is widely accepted that continued increases in greenhouse gases (GHG) will contribute to global warming although there is uncertainty concerning the magnitude and timing of the warming trend (SCAQMD 2005). Human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors attribute to these GHG (CEC 2006a). Transportation is responsible for 41% of the State’s GHG emissions, followed by electricity generation (CEC 2006a). Emissions of CO₂ and NO_x are byproducts of fossil fuel combustion. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills.

Global warming gases and ozone-depleting gases include, but are not limited to, the following:

Carbon dioxide – Carbon dioxide results from fossil fuel combustion in stationary and mobile sources. It contributes to the greenhouse effect, but not to stratospheric ozone depletion. In the SCAB, approximately 48 percent of carbon dioxide emissions come from transportation, residential and utility sources which contribute approximately 13 percent each,





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20 percent come from industry, and the remainder comes from a variety of other sources.

Chlorofluorocarbons – Chlorofluorocarbons (CFCs) are emitted from blowing agents used in producing foam insulation. They are also used in air conditioners and refrigerators and as solvents to clean electronic microcircuits. CFCs are primary contributors to stratospheric ozone depletion and to global warming. Sixty-three percent of CFC emissions in the SCAB come from the industrial sector. Federal regulations require service practices that maximize recycling of ozone-depleting compounds (both CFCs, hydro-chlorofluorocarbons and their blends) during the servicing and disposal of air-conditioning and refrigeration equipment. SCAQMD Rule 1415 – Reduction of Refrigerant Emissions from Stationary Refrigeration and Air Conditioning Systems requires CFC refrigerants to be reclaimed or recycled from stationary refrigeration and air conditioning systems. SCAQMD Rule 1405 – Control of Ethylene Oxide and Chlorofluorocarbon Emissions From Sterilization or Fumigant Processes requires recovery of reclamation of CFCs at certain commercial facilities and eliminates the use of some CFCs in the sterilization processes. Some CFCs are classified as TACs and regulated by SCAQMD Rule 1401 – New Source Review of Toxic Air Contaminants and SCAQMD Rule 1402 Control of Toxic Air Contaminants from Existing Sources.

Halons – These compounds are used in fire extinguishers and behave as both ozone-depleting and greenhouse gases. Halon production ended in the United States in 1993. SCAQMD Rule 1418 – Halon Emissions from Fire Extinguishing Equipment requires the recovery and recycling of halons used in fire extinguishing systems and prohibits the sale of halon in small fire extinguishers.

Hydro-chlorofluorocarbons – HCFCs are solvents, similar in use and chemical composition to CFCs. The hydrogen component makes HCFCs more chemically reactive than CFCs, allowing them to break down more quickly in the atmosphere. These compounds deplete the stratospheric ozone layer, but to a much lesser extent than CFCs. HCFCs are regulated under the same SCAQMD rules as CFCs.

Methane – Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, and leaks in natural gas pipelines. It is a greenhouse gas and traps heat 40-70 times more effectively than carbon dioxide. In the SCAB,

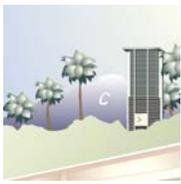


more than 50 percent of human-induced methane emissions come from natural gas pipelines, while landfills contribute 24 percent. Methane emissions from landfills are reduced by SCAQMD Rule 1150.1 – Control of Gaseous Emissions from Active Landfills. Methane emissions from petroleum sources are reduced by a number of rules in SCAQMD Regulation XI that control fugitive emissions from petroleum production, refining, and distribution.

1,1,1-Trichloroethane (TCA) – TCA (methyl chloroform) is a solvent and cleaning agent commonly used by manufacturers. It is less destructive on the environment than CFCs or HCFCs, but its continued use will contribute to global warming and ozone depletion. 1,1,1-trichloroethane (TCA) is a synthetic chemical that does not occur naturally in the environment. No TCA is supposed to be manufactured for domestic use in the United States after January 1, 2002 because it affects the ozone layer. TCA had many industrial and household uses, including use as a solvent to dissolve other substances, such as glues and paints; to remove oil or grease from manufactured metal parts; and as an ingredient of household products such as spot cleaners, glues, and aerosol sprays. SCAQMD regulates this compound as a toxic air contaminant under Rules 1401 and 1402.

Other resource areas could be affected as a result of GHGs, including from incremental increases of new GHGs emissions. For example, increased global average temperature increases ocean temperatures and the Pacific Ocean strongly influences the climate within California. If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. According to a California Energy Commission report, the snowpack portion of the supply could potentially decline by 70%–90% by the end of the 21st century (CEC 2006b). This phenomenon could lead to significant challenges securing an adequate water supply for a growing population. Further, the increased ocean temperature could result in increased moisture into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential for flood events, placing more pressure on California’s levee/flood control system. Sea level has risen approximately 7 inches during the last century and, according to the CEC report, it is predicted to rise an additional 22–35 inches by 2100, depending on the future GHG emissions levels (CEC 2006b). Another cause of shrinking beaches is increased erosion from winter storms. Currently, many beaches are





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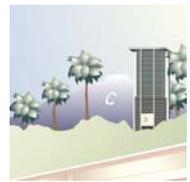
protected from erosion through sand replacement programs which bring in sand from outside sources to replace the diminishing natural sand. Southern California beaches that participate in these nourishment programs include Santa Monica, Venice, and Newport Beach. As global warming continues, the cost of these beach nourishment programs will rise above their current millions of dollars a year, making them no longer economically feasible (CEC 2006b). As the existing climate throughout California changes over time, mass migration of species, or worse, failure of species to migrate in time to adapt to the changes in climate, could also result. Additionally, climate change could potentially increase fire hazards caused by decreased precipitation.

The Montreal Protocol on Substances That Deplete the Ozone Layer controls the phase-out of ozone depleting compounds (ODCs). Under this international agreement, several organizations report on the science of ozone depletion, implement projects to help move away from ODCs, and provide a forum for policy discussions. The SCAQMD supports State, Federal and international policies to reduce levels of ozone depleting gases through its Global Warming Policy and rules. Further, SCAQMD has developed ODC Replacement Guidelines to facilitate transition from ODCs to substances that are the most environmentally benign (SCAQMD 2005).

Unlike criteria air pollutants and TACs, which are pollutants of regional and local concern, global warming is a global problem and GHGs are global pollutants. Worldwide, California is the 12th to 16th largest emitter of CO₂, and is responsible for approximately 2% of the world's CO₂ emissions (CEC 2006a). In 2004, California produced 492 million gross metric tons of carbon dioxide-equivalent (CEC 2006a).

In order to reduce GHGs in California, Governor Arnold Schwarzenegger signed Executive Order S-3-05 in June of 2005. This Order requires the State of California to achieve the following GHG emission reductions: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emission levels to 1990 levels; by 2050, reduce GHG emission levels to 80 percent below 1990 levels.

In September 2006, California Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 establishes targets for regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on Statewide GHG emissions. AB 32 applies to sources or categories of sources which are defined as any source of GHG emissions whose emissions are at a level of significance as determined by the ARB.



At the time of writing no air districts within California, including SCAQMD, have any recommended quantitative emissions thresholds for determining significance associated with GHG from development projects.

KEY STUDIES

The combination of topography and climate, population growth and high levels of pollutants produced in the region have resulted in high air pollution potential despite stringent air quality rules and regulations. As a result, the Basin has been designated as a nonattainment area for ozone and particulate matter (PM). The South Coast Air Quality Management District expects to meet Federal PM10 standards by 2006; however, it does not project attainment of ozone standards until after 2010.

Air Pollution and Health Effects Near High-Traffic Areas

Since the 1950s, Riverside has been negatively affected by the amount of air pollutants in the air, primarily transported by wind patterns from Los Angeles and Orange Counties. Air quality is frequently identified as one of the City's major problems, impacting health and quality of life. To fully understand air quality's effects on health, many studies have been performed, as listed below, to show how air pollution can impact the community, especially near high traffic areas.

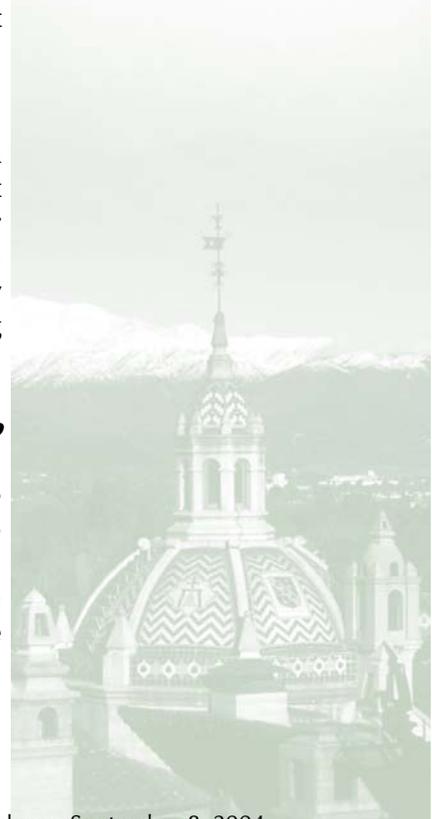
Smog May Cause Life-long Lung Deficits

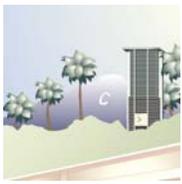
Researchers at the University of Southern California undertook a comprehensive eight-year study (1993-2001) to track major pollutant loads in 12 Southern California areas and simultaneously monitor pulmonary health of almost 1,800 children as they moved from fourth to twelfth grade. The study found that "teenagers in smoggy communities are nearly five times as likely to have clinically low lung function compared to teens living in low pollution communities."⁵

Pregnant Women Who Live Near High Traffic Areas More Likely to Have Premature and Low Birth Weight Babies

Researchers observed an approximately ten to twenty percent increase in the risk of premature birth and low birth weight for infants born to women living near high-traffic areas in Los Angeles County. In particular, the researchers found that for each one part per million increase in annual average carbon monoxide concentrations where the

⁵University of Southern California. USC Public Relations. Website News Release, September 8, 2004.





women lived, there was a nineteen percent and eleven percent increase in risk for low birth weight and premature births, respectively.⁶

Traffic-Related Air Pollution Associated with Respiratory Symptoms in Two Year Old Children

This cohort study found that two-year-old children who are exposed to higher levels of traffic-related air pollution are more likely to have self-reported respiratory illnesses, including wheezing, ear/nose/throat infections and reporting of physician-diagnosed asthma, flu or serious cold.⁷

People Who Live Near Freeways Exposed to 25 Times More Particle Pollution

Studies conducted in the vicinity of Interstates 405 and 710 in Southern California found that the number of ultrafine particles in the air was approximately twenty-five times more concentrated near the freeways and that pollution levels gradually decrease to near normal (background) levels around three hundred meters, downwind from the freeway. The researchers note that motor vehicles are the most significant source of ultrafine particles, which have been linked to increases in mortality and morbidity. Recent research concludes that ultrafine particles are more toxic than larger particles with the same chemical composition. Moreover, the researchers found considerably higher concentrations of carbon monoxide pollution near the freeways.⁸

Children Living Near Busy Roads More Likely to Develop Cancer

A 2000 Denver study showed that children living within two hundred fifty yards of streets or highways with twenty thousand vehicles per day are six times more likely to develop all types of cancer and eight times more likely to get leukemia. The study looked at associations between traffic density, power lines and all childhood cancers with measurements obtained in 1979 and 1990. It found a weak association from power lines but a strong association with highways. It suggested that benzene pollution might be the cancer promoter causing the problem. Distance-weighted traffic density in proximity to a home is a risk factor for leukemia and other childhood cancers.⁹

⁶Wilhelm, Ritz. (2002). Residential Proximity to Traffic and Adverse Birth Outcomes in Los Angeles County.

⁷Brauer et al. (2002). Air Pollution from Traffic and the Development of Respiratory Infections and Asthmatic and Allergic Symptoms in Children. Am J Respiratory and Critical Care Medicine. Vol. 166 pp 1092-1098.

⁸Zhu, Hinds, Kim, Sioutas. "Concentration and size distribution of ultrafine particles near a major highway." Journal of the Air and Waste Management Association. September 2002.

⁹Pearson et al. (2000). Journal of Air and Waste Management Association. 50:175-180.



Emissions from Motor Vehicles Dominate Cancer Risk

The most comprehensive study of urban toxic air pollution ever undertaken shows that motor vehicles and other mobile sources of air pollution are the predominant source of cancer-causing air pollutants in Southern California. Overall, the study showed that motor vehicles and other mobile sources accounted for about ninety percent of the cancer risk from toxic air pollution, most of which is from diesel soot (seventy percent of the cancer risk). Industries and other stationary sources accounted for the remaining ten percent. The study showed that the highest risk is in urban areas where there is heavy traffic and high concentrations of population and industry.¹⁰

REGULATORY FRAMEWORK

Several Federal and State agencies, working under the directives of comprehensive legislation and adopted rules, share responsibility for working to improve air quality and the health of Americans.

The Federal Clean Air Act

The Federal Clean Air Act (CAA) sets national ambient air quality standards (NAAQS) for six pollutants: carbon monoxide, ozone, particulate s, nitrogen oxides, sulfur dioxide and lead. In 1997, the U.S. EPA revised the NAAQS for ozone and total inhalable particulate matter (PM 10) and adopted new standards for fine particulate matter (PM 2.5) The CAA requires designated agencies in any region of the nation not meeting NAAQS to prepare a plan demonstrating the steps that would bring the area into compliance with all national standards. The CAA was amended in 1977 and 1990 to extend deadlines for compliance and the preparation of revised State Implementation Plans (SIP). In response, the Governor of California designated agencies to develop these plans. For the South Coast Air Basin, the designated agency is the South Coast Air Quality Management District, or SCAQMD.

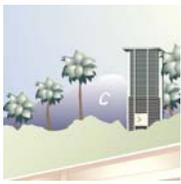
See the Introduction under “Related Plan, Programs and Legislation” for more information on the Federal Clean Air Act.

California Clean Air Act

In 1988, the California Legislature enacted the California Clean Air Act (CCAA). The CCAA established a legal mandate to achieve health-based State air quality standards, which are more health protective than national standards, at the earliest practical date. The CCAA requires regional emissions to be reduced by five percent or more per year (or fifteen percent or more in a three-year period) until attainment is demonstrated. Each region that did not meet a National or State air

See the Introduction under “Related Plan, Programs and Legislation” for more information on the California Clean Air Act.

¹⁰South Coast Air Quality Management District. *Multiple Air Toxics Exposure Study-II*. March 2000.



quality standard was required to prepare a plan that demonstrated how the five-percent reduction was to be achieved.

South Coast Air Quality Management District

As noted above, the SCAQMD is the lead agency in charge of developing the regional air quality plan, with input from the Southern California Association of Governments (SCAG). The SCAQMD is responsible for the overall development and implementation of the air quality management plan (AQMP), which covers the South Coast Air Basin and other areas within SCAQMD's jurisdiction.

To facilitate monitoring of air pollution levels and to work toward achieving standards, the SCAQMD has divided the Basin into thirty-two monitoring areas. Riverside is located within the Metropolitan Riverside County #1 monitoring area, with the monitoring station located directly in Riverside. According to SCAQMD data, State standards are rarely exceeded for CO and NO_x, yet frequently exceeded for O₃.

Local Agencies Primarily Responsible for Development of Air Quality Plans

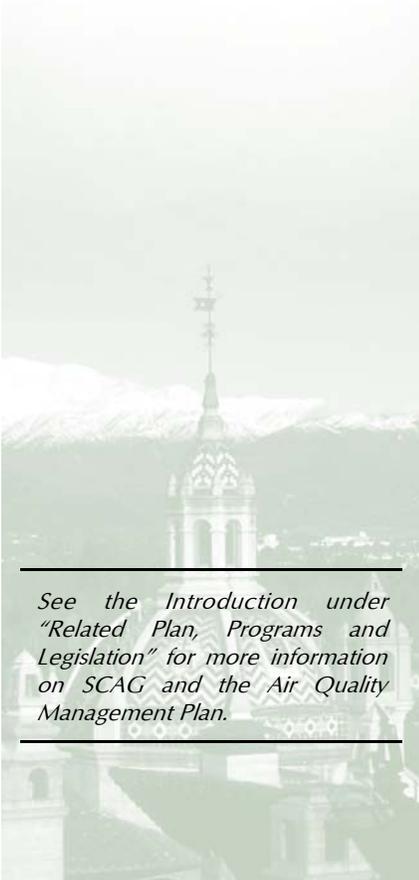
For the Basin, the SCAQMD is the lead agency in charge of, with input from SCAG, developing the regional air quality plan. The SCAQMD is responsible for the overall development and implementation of the air quality management plan (AQMP), which covers the South Coast Air Basin and other areas within the SCAQMD's jurisdiction. The AQMP is a comprehensive plan that includes control strategies for stationary and area sources, as well as for on-road and off-road mobile sources. The SCAQMD has authority to reduce emissions from stationary sources, some area sources and certain indirect sources.

SCAG has the primary responsibility for providing future growth projections and the development of transportation control measures. The first AQMP was adopted in 1979. In addition, the California Air Resources Board, a State agency, is responsible for control of pollution from motor vehicles.

Air Quality Management Plan

The Air Quality Management Plan, or AQMP, is a comprehensive plan that includes control strategies to bring a county or region designated as a "non-attainment area" into compliance with the requirements of the Federal and/or California Ambient Air Quality Standards.

The 1994, 1997 and 2003 AQMPs for the South Coast Air Basin incorporate a number of measures to reduce air pollution in the Basin



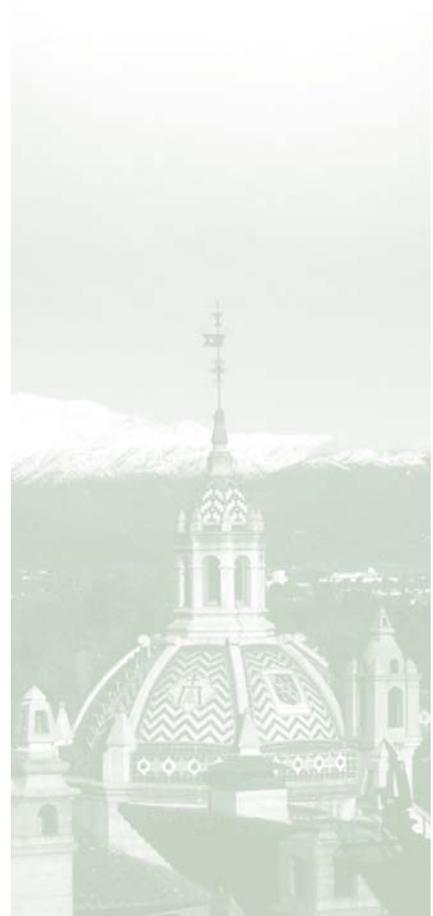
See the Introduction under "Related Plan, Programs and Legislation" for more information on SCAG and the Air Quality Management Plan.

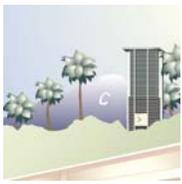


toward the goal of meeting Federal and State requirements. These measures include strategies to meet Federal and State standards for CO, PM10, NO_x and ozone; control of toxic air contaminants and acutely hazardous emissions; and control of global warming and ozone-depleting gases. These measures are updated periodically.

Health Standards

Health-based air quality standards have been established by California and the Federal government for the following criteria pollutants: ozone, CO, nitrogen dioxide (NO₂), PM10, sulfur dioxide (SO₂) and lead. These standards were established to protect individuals from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the Federal standards and in the case of PM10 and SO₂, far more stringent. The State and National ambient air quality standards for each of these pollutants and their effects on health are summarized in Table AQ-1 (Air Pollution Sources, Effects and Standards).





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TABLE AQ-1
AIR POLLUTION SOURCES, EFFECTS AND STANDARDS

Air Pollutant	State Standard	Federal Primary Standard	Sources	Primary Effects
Ozone (O ₃)	0.09 ppm, 1-hour average	0.12 ppm, 1-hour average; 0.08 ppm, 8-hour average	Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	Aggravation of respiratory and cardiovascular diseases; irritation of eyes; impairment of cardiopulmonary function; plant leaf injury.
Carbon Monoxide (CO)	9.0 ppm, 8-hour average; 20 ppm, 1-hour average	9.0 ppm, 8-hour average; 35 ppm, 1-hour average	Incomplete combustion of fuels and other carbon-containing substances such as motor vehicle exhaust; natural events, such as decomposition of organic matter.	Reduced tolerance for exercise; impairment of mental function; impairment of fetal development; death at high levels of exposure; aggravation of some heart diseases (angina); reduced visibility.
Nitrogen Dioxide (NO ₂)	0.25 ppm, 1-hour average	0.053 ppm, annual average	Motor vehicle exhaust; high-temperature stationary combustion; atmospheric reactions.	Aggravation of respiratory illness; reduced visibility; reduced plant growth; formation of acid rain.
Sulfur Dioxide (SO ₂)	0.25 ppm, 1-hour average; 0.05 ppm, 24-hour average with ozone >= 0.10 ppm, 1 hour average or TSP = 100 µg/m ³ , 24-hour average	0.03 ppm, annual average; 0.14 ppm, 24-hour average	Combustion of sulfur-containing fossil fuels; smelting of sulfur-bearing metal ores; industrial processes.	Aggravation of respiratory diseases (asthma, emphysema); reduced lung function; irritation of eyes; reduced visibility; plant injury; deterioration of metals, textiles, leather, finishes, coatings, etc.
Fine Particulate Matter (PM 10)	30 µg/m ³ , annual geometric mean; >50 µg/m ³ , 24-hour average	50 µg/m ³ , annual arithmetic mean; 150 µg/m ³ , 24-hour average	Stationary combustion of solid fuels; construction activities; industrial processes; industrial chemical reactions.	Reduced lung function; aggravation of the effects of gaseous pollutants; aggravation of respiratory and cardio-respiratory diseases; increased coughing and chest discomfort; soiling; reduced visibility.
Lead	1.5 µg/m ³ , 30-day average	1.5 µg/m ³ , calendar quarter	Contaminated soil.	Increased body burden; impairment of blood formation and nerve conduction; behavioral and hearing problems in children.
Visibility Reducing Particles	Sufficient to reduce visual range to less than 10 miles at relative humidity less than 70%, 8-hour average (9am - 5pm)			Visibility impairment on days when relative humidity is less than seventy percent.

µg/m³ = micrograms per cubic meter of air; ppm = parts per million parts of air, by volume.

Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 2001 (Version 3) update.



DOING OUR PART TO IMPROVE AIR QUALITY

Riverside is committed to improving the public health, safety and welfare, including air quality. While some sources of air pollution are outside of the City's control, Riverside has become a recognized leader as a model clean air city. To this end, Riverside works to improve air quality through various strategies, including: encouraging use of alternative fuels, promoting increased use of public transit, minimizing commuting times and vehicle idling times, implementing measures to reduce ambient particulate matter, improving the urban forest, and diversifying energy resources.

Other elements, including Land Use and Urban Design, Circulation and Community Mobility, Open Space and Conservation and Public Safety all tie into this Element's commitment of improving residents' quality of life and well-being.

Since the 1980s, Riverside and its community partners have actively and aggressively adopted programs focused on improving air quality.

LOCAL PROGRAMS

Tree Power – Residential Shade Tree Program

Tree Power is a public benefit program that offers electric customers a rebate for planting selected shade trees in certain locations around their home to help save on summer cooling costs. As of 2003, more than twenty thousand free shade trees were planted by Riverside Public Utilities' electric customers.

Studies show that well-placed trees around a structure can reduce air conditioning or cooling costs by as much as twenty percent. In addition to their energy-saving benefits, trees serve a variety of worthwhile functions that enhance air quality, including cleaning the air and preventing soil erosion, a major source of PM 2.5 and PM 10 pollutants.



Riverside provides a number of air quality improvement programs.

City of Riverside Urban Forest Tree Policy

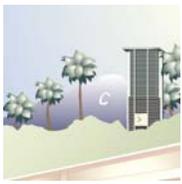
The City of Riverside is known as a “City of Trees.” The City’s Urban Forest Tree Policy Manual provides guidelines for the preservation and protection of the City of Riverside’s tree heritage.

Riverside Infill Development Incentive

The City's Riverside Infill Development Incentive (RIDI) Program provides incentives for single-family residential infill developments of

See the Land Use and Urban Design Element under “The Built Environment – Growing Smarter” and this Air Quality Element for additional information on the topic of infill development.

In particular, review Objectives LU-8, LU-9 and LU-10 and Policies AQ-1.5 and AQ-1.7.



AIR QUALITY ELEMENT

five parcels or fewer in designated low-income areas. One key program objective is to provide housing in close proximity to existing business and employment areas, reducing the need for extensive vehicle trips. Developers and owner/builders can be reimbursed up to \$5,000 per lot for actual expenses incurred for grading and soft costs. This program is available in the Arlanza, Casa Blanca, Downtown, Eastside and La Sierra neighborhoods.

UCR IntelliShare Program

UCR IntelliShare is a shared electric vehicle demonstration project at work on the UCR campus and beyond. This experimental program allows participants to rent and test electric cars for local trips. This project has been funded from the Federal Congestion Mitigation and Air Quality Improvement Program, the Riverside County Transportation Commission and CalTrans.

As of 2003, over three hundred UCR employees shared twenty-five electric vehicles to make local trips. Plans are in place to expand the program to include thirty-five vehicles at five stations.

UCR IntelliShare is a step toward transportation options that can help reduce congestion, improve air quality and optimize land use in major congested areas such as business centers, university campuses and tourist destinations.

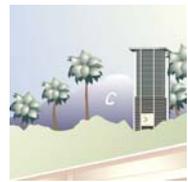
Electric Vehicle Purchase Incentive

This program provides rebates to the City of Riverside Public Utilities electric customers who purchase or lease an electric vehicle that is used as a primary or alternate means of transportation. The vehicles must be recognized by the Department of Motor Vehicles as street legal and must comply with all State laws. Rebates are available on new electric vehicles that the City of Riverside Public Utilities deems eligible. Customers receive rebates of five percent of the vehicle's total cash price up to \$5,000.

Riverside Green Builder Program

The City of Riverside has implemented the Riverside Green Builder (RGB) is a voluntary program primarily for production home builders. The RGB is based on the California Green Builder Program that is recognized by the California Public Utilities Commission, the California Energy Commission and the California League of Cities, and is the largest residential green builder program in California. The RGB is a resource effective and cost effective green building program. A RGB certified home must meet five criteria: energy efficiency, water

See June 12, 2007 City Council Report on Riverside Green Builder Program for additional information.



conservation, waste reduction, wood conservation and indoor air quality.

Community Energy Efficient Program (CEEP)

This is a voluntary program deigned by local governments, homebuilders utilities and the California Energy Commission. The primary goal of the program is to encourage residential building practices that conserve energy and resources while improving government services and the economy. Each CEEP home is built to standards 15% above Title 24 energy efficient requirements. The City of Riverside’s Utilities Department will offer financial incentives of up to \$500 per home for the first 100 homes. As well, projects that participate in this program are allowed to postpone the payment of the Transportation Uniform Mitigation Fee (TUMF).

Smart Home Infrastructure Program (SHIP)

This is another voluntary program that is intended to create an incentive for homebuilders to pre-wire homes to accommodate future technologies which utilize coaxial cable, data cable and/or phone lines. Projects incorporating these pre-wired features will receive expedited plan review status.

See Public Facilities Element for additional information on SHIP.

Grease for Gas

The City of Riverside is turning restaurant grease into inexpensive electricity at its wholly owned wastewater treatment plant. The plant, a publicly owned treatment works (POTW), is designed to handle 40 million gallons per day (MGD). Currently it treats an average of 33 MGD using a fully tertiary treatment process utilizing anaerobic digestion. Starting in April 2005, the City began adding collected grease wastewater to the existing anaerobic digesters to generate methane gas. The methane gas is then fed into an on-site cogeneration facility that produces electricity for the plant. The “grease-to-gas” program has been a resounding success, creating more than enough cost savings to pay for itself in the first year of operation and provide additional revenue for the City.

See Public Facilities Element for additional information on Grease for Gas Program.

Business and Commercial Programs

The following are examples of programs offered by the City of Riverside to increase energy efficiency: air conditioning rebates, energy efficiency incentives for lighting, and construction, and Energy Star® rebates for appliances. For more information on these and other programs, please visit <http://www.riversideca.gov/utilities/business.asp>.





Clean Air Challenge Program

In 2006, the South Coast Air Quality Management District funded a successful pilot program in the City of Riverside designed for science students in grades 7 through 12. The program was patterned from the *Clean Air Challenge* curriculum product of the publisher *Enterprise for Education* in Santa Monica, California. This program is designed as a “hands-on, theme-based project that helps science teachers meet California science standards while enabling students to conduct scientific research on an environmental problem that impacts their health. The curriculum covers the affect of air pollution on people, the principles associated with the formation of air pollution, the measurement of air pollution, alternative fuels to reduce air pollution and conclusions that can be drawn from the research. The city of Riverside has expanded the initial program by conducting training workshops for teachers.

City Pass Program

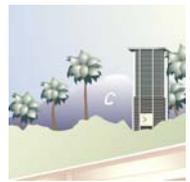
The City of Riverside and the Riverside Transit Agency (RTA) signed into an agreement the City Pass which became effective July 1, 2007. The City Pass provides all City employees free rides on any RTA bus by simply showing their City employee identification card. The City has approximately 2,800 employees that can take advantage of this program.

Clean Car/Clean Air Rebate Program

The City of Riverside offers an incentive program to employees designed to encourage the purchase of hybrid or alternative fuel vehicles, and to increase awareness of the advantages in driving clean and green vehicles. The program provides a rebate to employees who purchase a qualified vehicle. To be eligible, an employee must be full-time and fully benefitted and successfully completed 12 consecutive months of full-time employment with the City and that they agree to use the vehicle as a primary means of commuting to and from work.

Light Synchronization Program

A Traffic Management Center has been established to facilitate safe and efficient movement of persons and goods within the City through the use of traffic and transportation engineering technology and methods. One of the priorities of the Center is the synchronization of lights on primary arterials to reduce the amount of time vehicles idle at intersections thereby reducing factors that contribute to air quality impacts and to improve traffic flow.



Local Public Access Alternative Fuel Facility

The City of Riverside operates an alternative fuel facility at the City's Corporate Yard located at 8095 Lincoln Avenue. This facility has Compressed Natural Gas (CNG), hydrogen, and Liquefied Petroleum Gas (LPG). It is one of only 23 facilities across the state that make up the hydrogen highway. The alternative fuel facility serves 50 percent of the City's non-emergency fleet and is open to the general public.

Residential Programs

The City of Riverside also offers similar energy efficiency programs for its residential customers including: rebates for high-efficiency air conditioners, free recycling of older refrigerators and freezers, rebates on Energy Star® appliances, and rebates for improving insulation. For more information on these and other programs, please visit <http://www.riversideca.gov/utilities/residents.asp>.

Cybraries

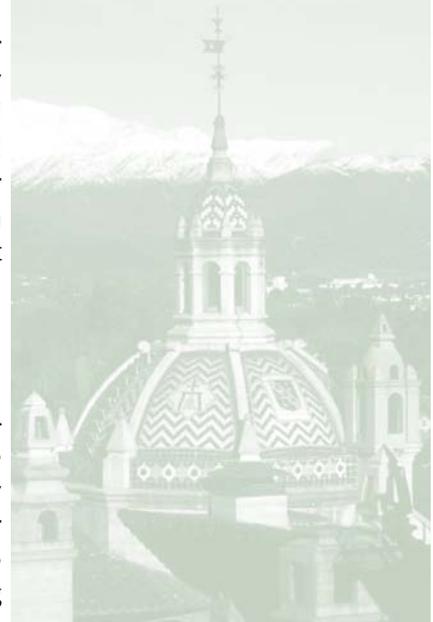
While rapid development of the Internet has expanded access to communication, education, information and consumer opportunities for many people, the Internet has also produced a "digital divide"—a gap between those who have easy access to an Internet connection at home and those who do not. In 1998, the City of Riverside began an innovation program to create several "cybraries" in areas of the community where access to libraries and the Internet is inadequate.

City-wide Wireless

In October of 2006, the City awarded a five year contract to AT&T for construction of a City wide wireless network. Speed for the community is free at 512Kbps down and 256Kbps up. The free portion is branded by MetroFi and is supported by on-line advertisements. AT&T will resell higher speed services as well as two City specific networks RIVGOV for 1Mbps or 85Kbps services at \$27.95/month and \$3/month respectively. A first responder network RIVPS, is also available at 1Mbps at \$49.95/month.

Smart Riverside

Smart Riverside (formerly Riverside Community Online) is a local non-profit that aims to improve the quality of life for the City of Riverside residents and businesses. Riverside is a high technology community with a technology park, many high technology companies, and higher education community with four college campuses. SmartRiverside provides a Digital Inclusion program that recycles PCs by utilizing





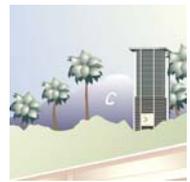
AIR QUALITY ELEMENT

reformed gang members (Project Bridge), and families from the community may attend an 8-10 hour class at one of 10 community centers and upon graduation is given a refurbished PC and free access to the Internet. SmartRiverside also offer programs for tenant improvements for technology companies relocating to Riverside. In addition, discount home loans and employee relocation incentives are offered.

Recycling, Waste Reduction and Community Clean-Up Programs

The City has a number of recycling, waste reduction and community clean up programs. These programs are only available to residents within the City. Programs include:

- **Green Waste Collection:** Green wastes collected include plants, grass, weeds, leaves, tree limbs, and wood waste. These items are converted into mulch and used for composting. The city also provides composting workshops to residents (Backyard Composting Workshops).
- **Curbside Recycling:** A weekly collection of glass, plastics, and metals.
- **Newspaper Drop-Off:** There is 8 drop off sites for newspaper recycling. The City and the Press Enterprise both sponsor this program.
- **Household Hazardous Waste:** A mobile collection will periodically accept a variety of household hazardous waste products. The City also offers a curbside oil collection program, where motor oil and filters are picked up at homes.
- **Refrigerated Appliance Collection Programs:** A partnership between, RPU, the public works department and the Appliance Recyclers of America, this program collects all non-working appliances. This reduces illegal dumping and maximizes the use of energy efficient appliances.
- **C.U.R.E- Clean Up Riverside's Environment:** Offers two programs; the Incredible Bulk, which allows residents to drop off unwanted items, and F.O.O.T (Focusing On Offensive Trash), which involves residents to join together to help clean up trash from public locations.
- **Keep Riverside Clean and Beautiful:** Programs include citywide and neighborhood clean ups, tree planting, adopt a street, anti-



- graffiti, litter prevention, and clean campus for public and private schools.
- **Recycling Market Development Zone:** This program is for businesses. Businesses can either divert recyclable materials from the waste stream or utilize recycled material in their manufacturing process. This program offers incentives such as low interest loans, equipment, buildings, as well as working capital.
- **Outreach and Education:** This program works with several institutions to educate and involve participants on the three R's: Reduce, Reuse, And Recycle.

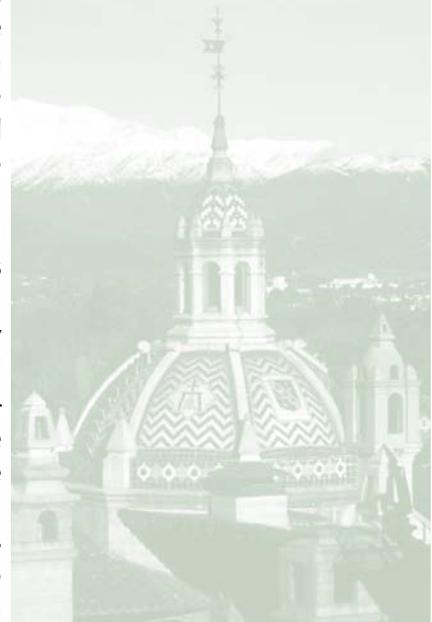
REGIONAL PROGRAMS

Regional Transportation Plan

The *Regional Transportation Plan* (RTP) prepared by the Southern California Association of Governments (SCAG) to address regional issues, goals, objectives, and policies for the Southern California region. The current plan, entitled; Destination 2030 focuses on improving the balance between land use and the current as well as the future transportation systems. It is a multi-modal Plan representing SCAG's vision for a better transportation system, integrated with the best possible growth pattern for the Region over the Plan horizon of 2030. The Plan provided the basic policy and program framework for long term investment in our vast regional transportation system in a coordinated, cooperative and continuous manner. Transportation investments in the SCAG Region that receive State or Federal transportation funds must be consistent with the RTP and must be included in the Regional Transportation Improvement Program (RTIP) when ready for funding. The RTP, has been developed with active participation from local agencies throughout the region, elected officials, the business community, community groups, private institutions and private citizens.

Community and Environmental Transportation Acceptability Process

The Community and Environmental Transportation Acceptability Process (CETAP), a component of the Riverside County Integrated Project that identifies alternative routes for possible major new multi-modal transportation facilities to serve the current and future transportation needs of Western Riverside County, led to the identification of potential transportation corridor routes in western Riverside County that will benefit commuters and serve the County's growing economy. The Mid County Parkway (formerly known as the Ramona Expressway/Cajalco Road Corridor) that traverses the southern





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portion of the City’s Planning Area is a CETAP alternative that is projected to relieve congestion on State Route (SR) -91 heading through Riverside and offer an alternative to the 60/215/91 interchange for regional commuters.

County of Riverside Congestion Management Plan

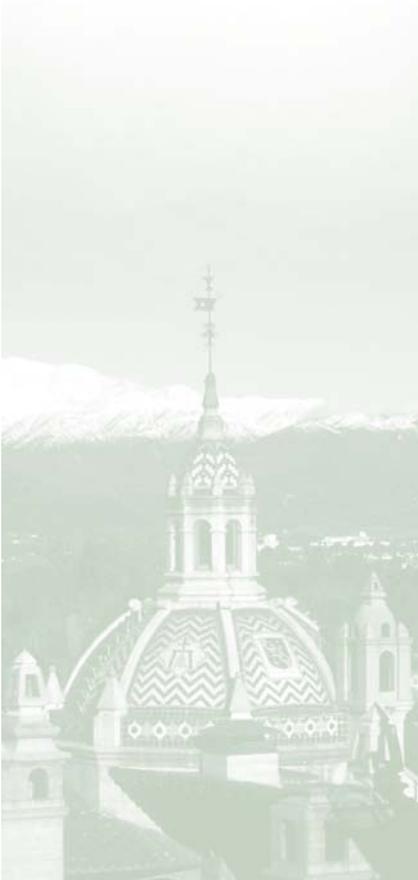
Urbanized areas such as Riverside County are required by State law to adopt a Congestion Management Plan (CMP). The goals of the CMP are to reduce traffic congestion and to provide a mechanism for coordinating land use development and transportation improvement decisions. Local agencies are required to establish minimum LOS thresholds in the general plans and conduct traffic impact assessments on individual development projects. Deficiency plans must be prepared when a development project would cause LOS “F” on non-exempt CMP roadway segments. The deficiency plans outline specific mitigation measures and a schedule for mitigating the deficiency.

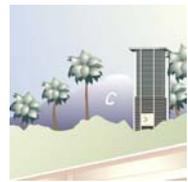
PROGRAMS TO PURSUE

Many innovative options are available to reduce harmful emissions and improve the air we breathe. One major step toward improving air quality is reducing vehicle emissions. Riverside is moving toward making the City's fleet diesel free and eventually emissions free. Within the private market, the community is interested in developing incentives for persons who purchase alternative fuel vehicles, such as providing available or free parking in designated areas, encouraging auto dealers to promote the sale of low emission vehicles and providing convenient alternative fuel locations.

The physical characteristics and patterns of land development in a region can also affect air quality by influencing the travel mode choices residents have available to them. Certain types of development patterns necessitate the use of personal cars and trucks for travel. When jobs and housing are far away from each other and mass transit is not readily available, people depend on cars for daily travel. Extensive vehicle use contributes significantly to pollutant emissions. Making land use and transportation decisions that encourage mixed-use and transit-oriented development and providing reliable public transportation linkages are important community goals.

These land use decisions are reflected in the Air Quality Element but are also contained within the Land Use and Circulation Elements of the General Plan.





PARTNERSHIPS FOR OUR CITY

Providing effective means to improve air quality will be dependent upon the creation of effective partnerships with other jurisdictions; local, County, State and Federal agencies; and educational and community organizations. UCR's IntelliShare Program is a prime example of an innovative, locally developed program that offers viable possibilities for expansion into the community. The City will continue to support the concept and explore opportunities for customizing this type of car-sharing system for use at the municipal level.

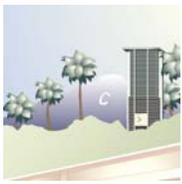
The Western Riverside County Clean Cities Coalition is a partnership between the City and neighboring municipalities working to educate the public in making clean air choices, promoting the use of sustainable fuels, and making the Inland Empire a place where people can breathe clean, healthy air. Creating an effective local governing board such as a Clean Air Advisory Committee is another partnering opportunity for community members and civic leaders to direct air quality resources into programs that must benefit the City.

PLANNING FOR THE FUTURE

As identified above, this Element explains the role the City plays in helping the Basin attain the goal of meeting Federal and State air quality standards, as well as the function the City has in protecting its own residents and businesses from the impacts of harmful air contaminants. This Element includes goals and objectives that, through adoption and implementation, will assist in the attainment of State and Federal air quality standards, as well as in the achievement of improved land use decisions as they relate to air quality.

This Element demonstrates Riverside's commitment to improving the public health, safety and welfare of residents and businesses living and working in the City. Many of the following objectives and policies will be coordinated with the activities of the City's new Environmental Relations Manager. While this Element is meant to serve as a keystone of future City actions regarding air quality, it is important to remember that the objectives and policies of other elements, especially the Land Use and Urban Design Element and Circulation and Community Mobility Element, have also been crafted with an eye to improving air quality locally and regionally. For example, the Land Use Element encourages infill development as a means of reducing urban sprawl and its negative air quality impacts. Further, the Land Use Element seeks to improve the City's job base as one method of many to reduce the need for long-haul automotive commuting to Los Angeles and Orange counties.

See Land Use & Urban Design Element for additional information on Smart Growth and infill development.



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The following air quality objectives and policies provide direction to and are consistent with objectives and policies in the Land Use and Urban Design, Circulation and Community Mobility and other General Plan elements.

LAND USE STRATEGIES

Objective AQ-1: Adopt land use policies that site polluting facilities away from sensitive receptors and vice versa; improve job-housing balance; reduce vehicle miles traveled and length of work trips; and improve the flow of traffic.

ENVIRONMENTAL JUSTICE

Policy AQ-1.1: Ensure that all land use decisions, including enforcement actions, are made in an equitable fashion to protect residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status or geographic location, from the health effects of air pollution.

Policy AQ-1.2: Consider potential environmental justice issues in reviewing impacts (including cumulative impacts for each project proposed).

SENSITIVE RECEPTORS

Policy AQ-1.3: Separate, buffer and protect sensitive receptors from significant sources of pollution to the greatest extent possible.

Policy AQ-1.4: Facilitate communication between residents and businesses on nuisance issues related to air quality.

HOUSING STRATEGIES

Policy AQ-1.5: Encourage infill development projects within urbanized areas , which include job centers and transportation nodes.

See the Land Use and Urban Design Element under "The Built Environment - Growing Smarter" for more information on infill development.

In particular, review Objectives LU-8, LU-9 and LU-10.



Policy AQ-1.6: Provide a mechanism to create opportunities for mixed-use development that allows the integration of retail, office, institutional and residential uses for the purpose of reducing costs of infrastructure construction and maximizing the use of land. *See policy AQ-1.12.*

Policy AQ-1.7: Support appropriate planned residential developments and infill housing, which reduce vehicle trips.

Policy AQ-1.8: Promote “Job/Housing Opportunity Zones” and incentives to support housing in job-rich areas and jobs in housing-rich areas, where the jobs are located at non-polluting or extremely low-polluting entities.

Policy AQ-1.9: Adhere to the adopted Master Plan for open spaces, trails and bikeways.

BUSINESS NEAR TRANSIT

Policy AQ-1.10: Encourage job creation in job-poor areas as a means of reducing vehicle miles traveled.

Policy AQ-1.11: Locate public facilities and services so that they further enhance job creation opportunities.

Policy AQ-1.12: Support mixed-use land use patterns, but avoid placing residential and other sensitive receptors in close proximity to businesses that emit toxic air contaminants to the greatest extent possible. Encourage community centers that promote community self-sufficiency and containment and discourage automobile dependency. *See policy AQ-1.6.*

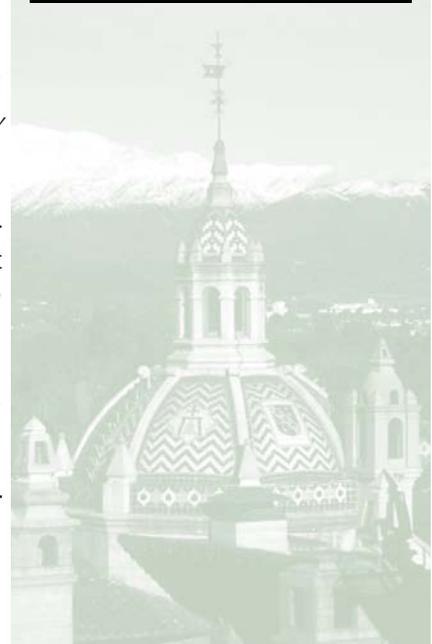
Policy AQ-1.13: Encourage employment centers that are non-polluting or extremely low-polluting and do not draw large numbers of vehicles in proximity to residential uses.

Policy AQ-1.14: Encourage community work centers, telecommuting and home-based businesses.

Policy AQ-1.15: Establish land use patterns that reduce the number and length of motor vehicle trips and promote alternative modes of travel.

See the Open Space and Conservation Element under “Overarching Objectives,” the Parks and Recreation Element under “Diverse Recreation Opportunities – Trails” and the Circulation and Community Mobility Element under “Alternative Modes of Transportation – Walking and Biking” for more information on the Master Plan for open spaces, trails and bikeways.

In particular, review Objectives PR-1 and CCM-10.





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Policy AQ-1.16: Design safe and efficient vehicular access to commercial land uses from arterial streets to ensure efficient vehicular ingress and egress.

Policy AQ-1.17: Avoid locating multiple-family developments close to commercial areas that emit harmful air contaminants.

Policy AQ-1.18: New residential subdivisions shall be designed to encourage “walkable” neighborhoods with pedestrian walkways and bicycle paths to facilitate pedestrian travel.

Policy AQ-1.19: Require future commercial areas to foster pedestrian circulation through the land use entitlement process and/or business regulation.

Policy AQ-1.20: Create the maximum possible opportunities for bicycles as an alternative work transportation mode.

Policy AQ-1.21: Cooperate and participate in regional air quality management plans, programs and enforcement measures.

Policy AQ-1.22: Implement the required components of the Congestion Management Plan (CMP) and continue to work with Riverside County Transportation Commission on annual updates to the CMP.

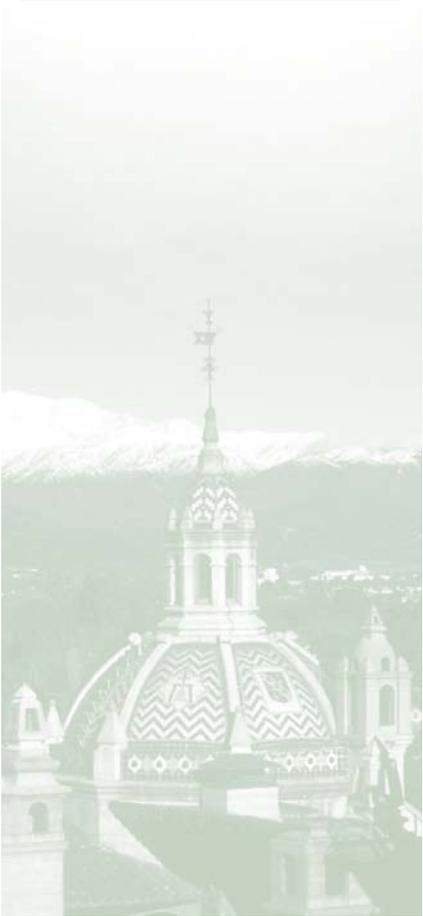
See the Land Use and Urban Design Element under “The Built Environment - Growing Smarter” and the Circulation and Community Mobility Element under “Alternative Modes of Transportation - Walking and Biking” for more information on walkable neighborhoods.

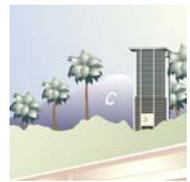
In particular, review Objectives LU-8, LU-9, LU-10, PR-2 and CCM-10.

LAND DENSITIES

Policy AQ-1.23: Increase residential and commercial densities around rail and bus transit stations.

Policy AQ-1.24: Support programs to provide “station cars” for short trips to and from transit nodes (e.g., Neighborhood Electric Vehicles).





Policy AQ-1.25: Serve as an advocate for the City’s residents regarding location/expansion of facilities/uses (e.g., freeways, busy roadways), which are not within the City’s authority to regulate, to ensure that the health impacts of such projects are thoroughly investigated and mitigated.

Policy AQ-1.26: Require neighborhood parks and community centers near concentrations of residential areas to include pedestrian walkways and bicycle paths to encourage non-motorized travel.

See the Land Use and Urban Design Element under “The Built Environment – Community Facilities,” the Public facilities Element under “Recreational Centers” and the Parks and Recreation Element under “Diverse Recreation Opportunities – Recreational Centers” for more information on community centers.

In particular, review Objectives LU-26, and PF-10.

TRANSPORTATION

Objective AQ-2: Reduce air pollution by reducing emissions from mobile sources.

REDUCING VEHICLE MILES TRAVELED

Policy AQ-2.1: Support Transportation Management Associations between large employers and commercial/ industrial complexes.

Policy AQ-2.2: Support programs and educate employers about employee rideshare and transit incentives for employers with more than 250 employees at a single location. The City will provide incentives and programs to encourage alternative methods of transit.

Policy AQ-2.3: Cooperate with local, regional, State and Federal jurisdictions to reduce vehicle miles traveled (VMT) and motor vehicle emissions through job creation in job-poor areas.

Policy AQ-2.4: Monitor and strive to achieve performance goals and/or VMT reduction which are consistent with SCAG’s goals.

Policy AQ-2.5: Consult with the California Air Resources Board to identify ways that it may assist the City (e.g., providing funding, sponsoring programs) with its goal to reduce air pollution by reducing emissions from mobile sources.

The goals set forth by SCAG can be accessed on SCAG’s website at <http://www.scag.ca.gov>.



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See the Circulation and Community Mobility Element under "Trip Reduction," "Alternative Modes of Transportation," and "Walking and Biking" for more information on trip reduction.

In particular review Objectives and Policies CCM-6, CCM-9 and CCM-

Policy AQ-2.6: Develop trip reduction plans that promote alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking.

Policy AQ-2.7: Use incentives, regulations and Transportation Demand Management in cooperation with surrounding jurisdictions to eliminate vehicle trips that would otherwise be made.

Policy AQ-2.8: Work with Riverside Transit Authority (RTA) to establish mass transit mechanisms for the reduction of work-related and non-work-related vehicle trips.

Policy AQ-2.9: Encourage local transit agencies to promote ridership through careful planning of routes, headways, origins and destinations, types of vehicles.

Policy AQ-2.10: Identify and develop non-motorized transportation corridors.

Policy AQ-2.11: Develop ways to incorporate the "Good Neighbor Guidelines for Siting New and/or Modified Warehouse/Distribution Facilities" into the Development Review process and Citywide air quality education programs.

REDUCING TRAFFIC AT SPECIAL EVENT CENTERS

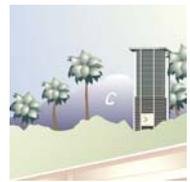
Policy AQ-2.12: Promote the use of peripheral parking by increasing on-site parking rates and offering reduced rates to peripheral parking.

Policy AQ-2.13: Encourage special event center operators to advertise and offer discounted transit passes with event tickets.

Policy AQ-2.14: Encourage special event center operators to advertise and offer discount parking incentives to carpooling patrons, with four or more persons per vehicle for on-site parking.

UTILIZING TRANSPORTATION SYSTEM MANAGEMENT

Policy AQ-2.15: Manage traffic flow through signal synchronization, while coordinating with and permitting the free



flow of mass transit vehicles, as a way to achieve mobility.

Policy AQ-2.16: Minimize traffic hazards and delays through highway maintenance, rapid emergency response, debris removal and elimination of at-grade railroad crossings.

Policy AQ-2.17: Encourage, and to the extent possible, require through the land use entitlement or business regulation process, business owners to schedule deliveries at off-peak traffic periods.

TRANSPORTATION SYSTEM MANAGEMENT IMPROVEMENTS

Policy AQ-2.18: Manage the City's transportation fleet fueling standards to achieve the best alternate fuel fleet mix possible.

Policy AQ-2.19: Cooperate with local, regional, State and Federal jurisdictions to better manage transportation facilities and fleets.

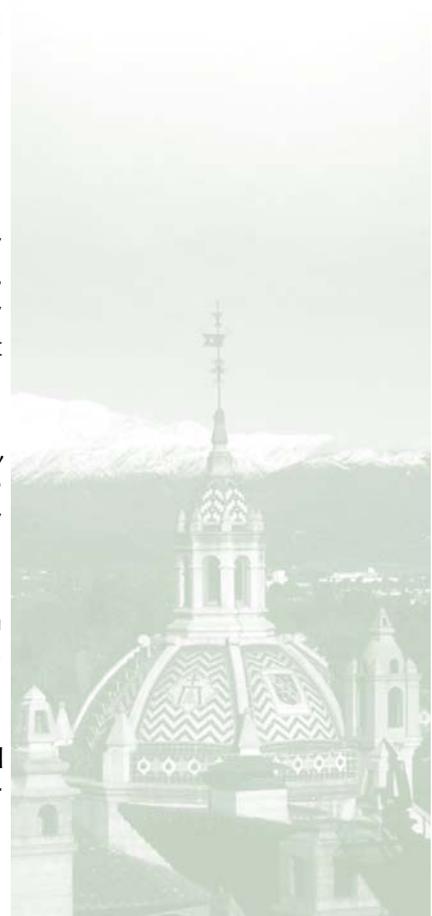
TRANSPORTATION FACILITY DEVELOPMENT

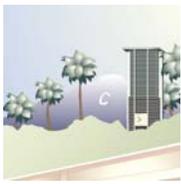
Policy AQ-2.20: Encourage the construction of high-occupancy vehicle (HOV) lanes or similar mechanisms whenever necessary to relieve congestion, safety hazards and air pollution, as described in the most recently approved Air Quality Management Plan.

Policy AQ-2.21: 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.

Policy AQ-2.22: Monitor traffic and congestion to determine when and where the City needs new transportation facilities to achieve increased mobility efficiency.

Policy AQ-2.23: Preserve transportation corridors with the potential of high demand or of regional significance for future expansion to meet project demand.





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ENCOURAGING THE USE OF ALTERNATIVE FUELS

- Policy AQ-2.24: Support full compliance with the SCAQMD's Clean Fleet Rules.
- Policy AQ-2.25: Support the development of alternative fuel infrastructure that is publicly accessible.
- Policy AQ-2.26: Allow or encourage programs for priority parking or free parking in City parking lots for alternative fuel vehicles, especially zero and super ultra low emission vehicles (ZEVs and SULEVs).

FUNDING

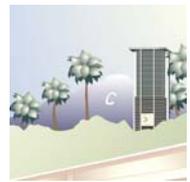
- Policy AQ-2.27: Develop and coordinate a plan for effective use of AB 2766 (Motor Vehicle Fee Program) funds so that such funds are used for projects and programs identified in the most recently approved Air Quality Management Plan.

ADVOCACY

- Policy AQ-2.28: Advocate to the State and Federal governments the need for increased regulation of diesel vehicles (e.g. trucks, trains and ships), an expedited schedule for fuel improvement and exhaust filtering and other emissions standards.
- Policy AQ-2.29: Advocate to the State for the use of smog checks for diesel vehicles similar to those required of gas powered vehicles.
- Policy AQ-2.30: Continue our membership in the Western Riverside County Clean Cities Coalition.

STATIONARY POLLUTION SOURCES

Objective AQ-3: Prevent and reduce pollution from stationary sources, including point sources (such as power plants and refinery boilers) and area sources (including small emission sources such as residential water heaters and architectural coatings).



Policy AQ-3.1: Continue the City’s program to offer audits to show how to reduce energy including programable thermostats, etc.

Policy AQ-3.2: Deleted.

Policy AQ-3.3: Support SCAQMD’s efforts to require stationary air pollution sources, such as gasoline stations, restaurants with charbroilers and deep fat fryers, to comply with or exceed applicable SCAQMD rules and control measures.

Policy AQ-3.4: Require projects to mitigate, to the extent feasible, anticipated emissions which exceed AQMP Guidelines.

Policy AQ-3.5: Consider ordinances and/or voluntary incentive programs that encourage residential builders to go above and beyond State codes to conserve energy and reduce air pollution.

Policy AQ-3.6: Support “green” building codes that require air conditioning/filtration installation, upgrades or improvements for all buildings, but particularly for those associated with sensitive receptors.

Policy AQ-3.7: Require use of pollution control measures for stationary and area sources through the use of best available control activities, fuel/material substitution, cleaner fuel alternatives, product reformulation, change in work practices and of control measures identified in the latest AQMP.

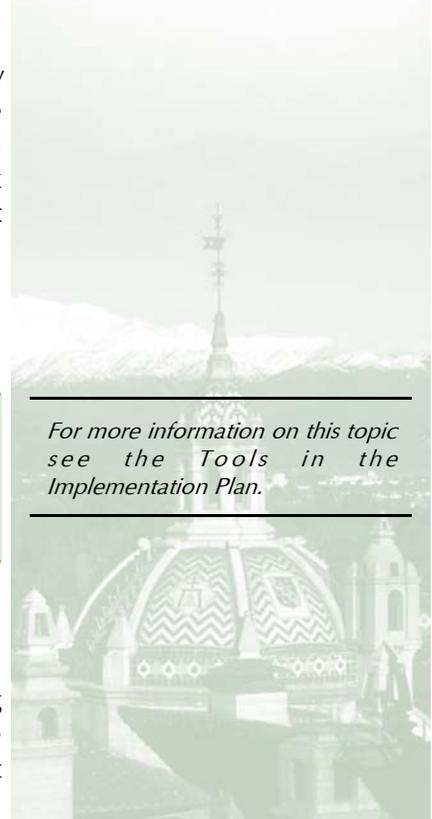
REDUCTION OF PARTICULATE MATTER

Objective AQ-4: Reduce particulate matter, as defined by the Environmental Protection Agency (EPA), as either airborne photochemical precipitates or windborne dust.

For more information on this topic see the Tools in the Implementation Plan.

MONITORING FOR PARTICULATE MATTER

Policy AQ-4.1: Identify and monitor sources, enforce existing regulations and promote stronger controls to reduce particulate matter (e.g., require clean fuels for street





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sweepers and trash trucks, exceed the AQMD requirements for fleet rules).

CONTROL MEASURES

Policy AQ-4.2: Reduce particulate matter from agriculture (e.g., require use of clean non-diesel equipment and particulate traps), construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way and off-road vehicles to the extent possible, as provided in SCAQMD Rule 403.

Policy AQ-4.3: Support the reduction of all particulates potential sources.

Policy AQ-4.4: Support programs that reduce emissions from building materials and methods that generate excessive pollutants through incentives and/or regulations.

Policy AQ-4.5: Require the suspension of all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.

COOPERATION AMONG AGENCIES

Policy AQ-4.6: Cooperate with local, regional, State and Federal jurisdictions to better control particulate matter.

Policy AQ-4.7: Support legislation or other negotiations which would prevent the idling of trains within the City's boundaries (e.g. institute nuisance actions).

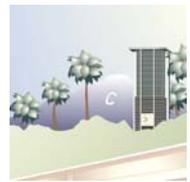
ENERGY CONSERVATION

Objective AQ-5: Increase energy efficiency and conservation in an effort to reduce air pollution.

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

Policy AQ-5.2: Develop incentives and/or regulations regarding energy conservation requirements for private and public developments.

For more information see Public Facilities Element under the heading of Water Recycling.



Policy AQ-5.3: Continue and expand use of renewable energy resources such as wind, solar, water, landfill gas, and geothermal sources.

Policy AQ-5.4: Continue and expand the creation of locally-based solar photovoltaic power stations in Riverside.

Policy AQ-5.5: Continue and expand Riverside Public Utilities' programs to promote energy efficiency.

Policy AQ-5.6: Support the use of automated equipment for conditioned facilities to control heating and air conditioning.

Policy AQ-5.7: Require residential building construction to meet or exceed energy use guidelines in Title 24 of the California Administrative Code.

PUBLIC EDUCATION

Objective AQ-6: Develop a public education program committed to educating the general public on the issues of air pollution and mitigation measures that can be undertaken by businesses and residents to improve air quality.

For more information on this topic see the City Council Report of February 6, 2007, on the Sustainable Riverside Policy Statement.

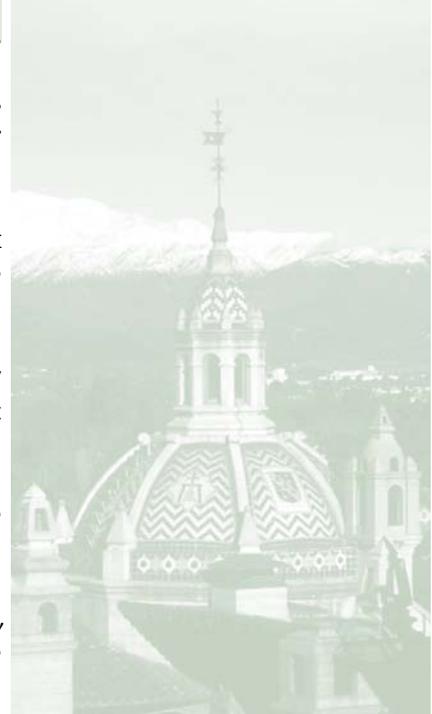
Policy AQ-6.1: Provide air quality information through the City's website, including links to AQMD, CARB and other environmental-based sites.

Policy AQ-6.2: Organize a City-sponsored event on a topic that improves air quality, including alternative fuel vehicle forums and clean household product events.

Policy AQ-6.3: Work with school districts to develop air quality curriculum for students, and continue Riverside Public Utilities' Energy Education Program.

Policy AQ-6.4: Encourage, publicly recognize and reward innovative approaches that improve air quality.

Policy AQ-6.5: Involve environmental groups, the business community, special interests and the general public in the





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formulation and implementation of programs that effectively reduce airborne pollutants.

Policy AQ-6.6: Provide public education to encourage use of low- or zero-emission vehicles.

Policy AQ-6.7: Provide public education to encourage ecologic responsibility in consumers when purchasing products for home improvement, household and personal care.

Policy AQ-6.8: Continue Riverside Public Utilities' Energy Innovation Grant (EIG) program to fund research, development and demonstration projects aimed at advancing science and accelerating new technology.

Policy AQ-6.9: Continue Riverside Public Utilities' Green Power public information program to increase awareness of renewable energy resources.

See the Land Use and Urban Design Element under "Hillsides," and under "Our Neighborhoods – Sphere of Influence" and the Open Space Element under "Overarching Objectives" for more information on City/County cooperation.

In particular, review Policy LU-4.2, Objectives LU-87 & LU-88 and Policy OS-1.7.

For more information on this topic see SCAG's Compass 2% Strategy.

MULTI-JURISDICTIONAL COOPERATION

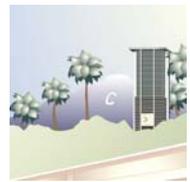
Objective AQ-7: Support a regional approach to improving air quality through multi-jurisdictional cooperation.

Policy AQ-7.1: Promote and participate with regional and local agencies, both public and private, to protect and improve air quality.

Policy AQ-7.2: Support SCAG's *Regional Growth Management Plan* by developing intergovernmental agreements with appropriate governmental entities such as the Western Riverside Council of Governments, sanitation districts, water districts and those subregional entities identified in the *Regional Growth Management Plan*.

Policy AQ-7.3: 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.

Policy AQ-7.4: Coordinate with the SCAQMD to ensure that the City's air quality plans regarding reduction of air pollutant emissions are being enforced.



- Policy AQ-7.5: Establish and implement air quality, land use and circulation measures that improve not only the City’s environment but that of the entire region.

- Policy AQ-7.6: Establish a level playing field by working with local jurisdictions to simultaneously adopt policies similar to those in this Air Quality Element.

- Policy AQ-7.7: Support legislation that promotes cleaner industry, clean fuel vehicles and more efficient burning engines and fuels.

- Policy AQ-7.8: Support the introduction of Federal, State or regional enabling legislation to promote inventive air quality programs which otherwise could not be implemented.

- Policy AQ-7.9: Adhere with Federal, State and regional air quality laws, specifically with Government Code Section 65850.2, which requires that each owner or authorized agent of a project indicate, on the development or building permit for the project, whether he/she will need to comply with the requirements for a permit for construction or modification from the SCAQMD.

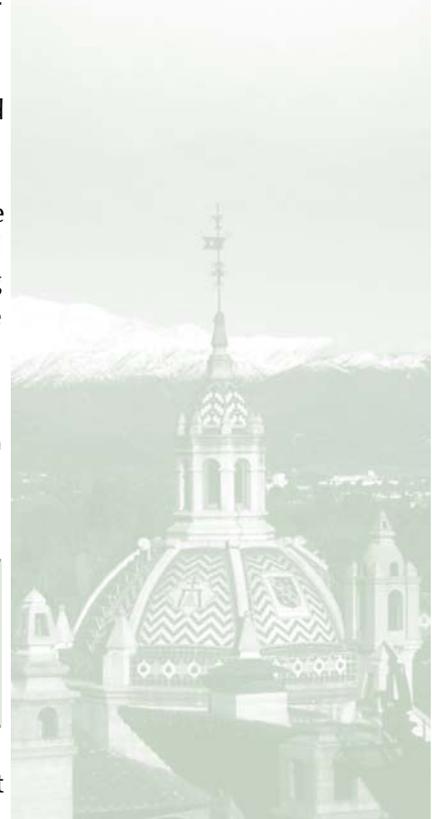
- Policy AQ-7.10: Incorporate, to the extent applicable and permitted by law, current and proposed AQMP measures.

- Policy AQ-7.11: Seek opportunities to pool AB 2766 (Motor Vehicle Fee Program) funds with neighboring cities to fund programs (e.g., traffic synchronization, fueling station infrastructure, etc.) that will mitigate mobile source emissions.

SUSTAINABLE RIVERSIDE AND GLOBAL WARMING

Objective AQ-8: Make sustainability and global warming education a priority for the City’s effort to protect public health and achieve state and federal clean air standards.

- Policy AQ-8.1: Support the Sustainable Riverside Policy Statement by developing a Green Plan of action.





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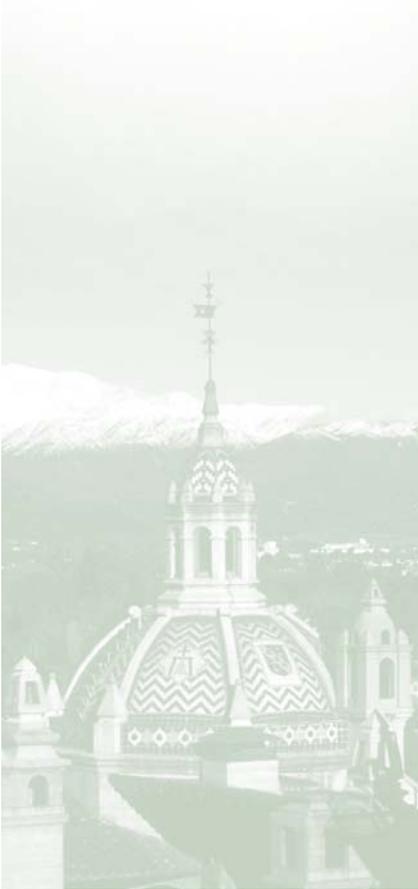
- Policy AQ-8.2: Support appropriate initiatives, legislation, and actions for reducing and responding to climate change.
- Policy AQ-8.3: Encourage community involvement and public-private partnerships to reduce and respond to global warming.
- Policy AQ-8.4: Develop a Climate Action Plan that sets a schedule to complete an inventory of municipal and private greenhouse gas (GHG) emissions, sets targets for reductions and methodologies to reach targets.

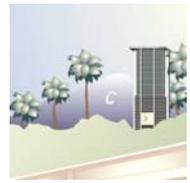
ENERGY

- Policy AQ-8.5: Adopt and implement a policy to increase the use of renewable energy to meet 33% of the City's electric load by 2020.
- Policy AQ-8.6: Promote Riverside as a Solar City through the implementation of programs for residential and commercial customers that will increase solar generation in the City to 1 MW by 2015 (enough for 1,000 homes), and 3 MW by 2020.
- Policy AQ-8.7: Generate at least 10 MW (enough for 10,000 homes) of electric load from regional zero emissions sources by 2025.
- Policy AQ-8.8: Reduce the City's per capita base load energy consumption by 10% through energy efficiency and conservation programs by 2016.
- Policy AQ-8.9: Implement programs to encourage load shifting to off peak hours and explore demand response solutions by the end of 2008.

GREENHOUSE GAS EMISSIONS

- Policy AQ-8.10: Establish the 1990 GHG emission baseline for the City government on a per capita basis by the end of 2008.
- Policy AQ-8.11: Implement a climate action plan that will reduce GHG emissions by 7% of the 1990 municipal baseline by 2012.





- Policy AQ-8.12: Develop a calculation for and establish the 1990 GHG emissions baseline on a per capital basis for the City of Riverside as a geographic locale by the end of 2009.

- Policy AQ-8.13: Utilizing the City boundaries as defined in 2008, implement a climate action plan to reduce GHG emissions by 7% of the 1990 City baseline by 2012.

- Policy AQ-8.14: Establish programs that comply with the South Coast Air Quality Management District (AQMD) and the City's General Plan 2025 to increase the quality of air in Riverside.

- Policy AQ-8.15: Aggressively support programs at the AQMD that reduce GHG and particulate matter generation in the Los Angeles and Orange County regions to improve air quality and reduce pollution in Riverside.

WASTE REDUCTION

- Policy AQ-8.16: Implement programs to encourage and increase participation of diverted waste from landfills by 2% before the end of 2008.

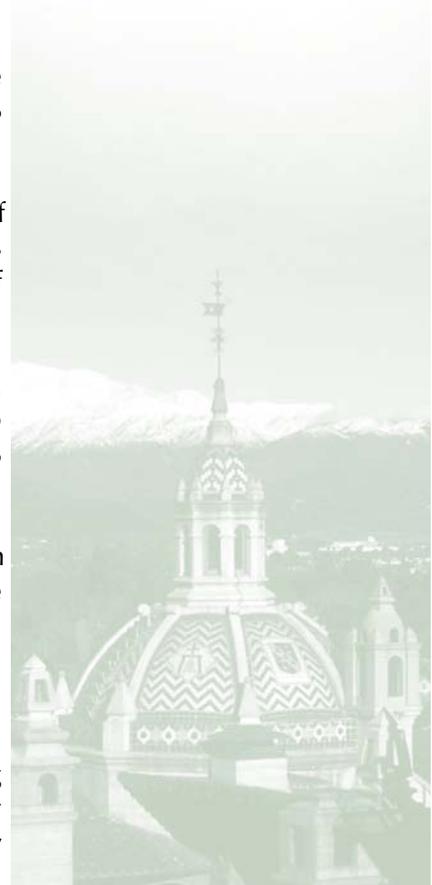
- Policy AQ-8.17: Develop measures to encourage that a minimum of 40% of the waste from all construction sites throughout Riverside be recycled by the end of 2008.

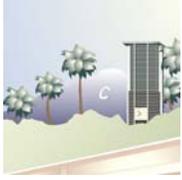
- Policy AQ-8.18: Encourage the reduction of any disposable, toxic, or non-renewable products (example: no pharmaceuticals or paint down the drain) by 5% through program creation by 2009.

- Policy AQ-8.19: Implement educational programs to promote green purchasing throughout the community before 2009.

URBAN DESIGN

- Policy AQ-8.20: Establish a policy that mandates a green building rating system standard that applies to all new municipal buildings over 5,000 square feet by January 1, 2008.





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Policy AQ-8.21: Implement programs to encourage green buildings in the private sector by January 1, 2008.

Policy AQ-8.22: Encourage programs to establish green operations and maintenance for public and private sector businesses before 2009.

Policy AQ-8.23: Apply urban planning principles that encourage higher density, mixed use, walkable/bikeable neighborhoods, and coordinate land use and transportation with open space systems in 2008.

Policy AQ-8.24: Meet the environmentally sensitive goals of the General Plan 2025 specified in the Mitigation Monitoring Program of the Program Environmental Impact Report, and the Implementation Plan following the timelines set forth in each.

Policy AQ-8.25: Evaluate programs that address indoor air quality issues by the end of 2008.

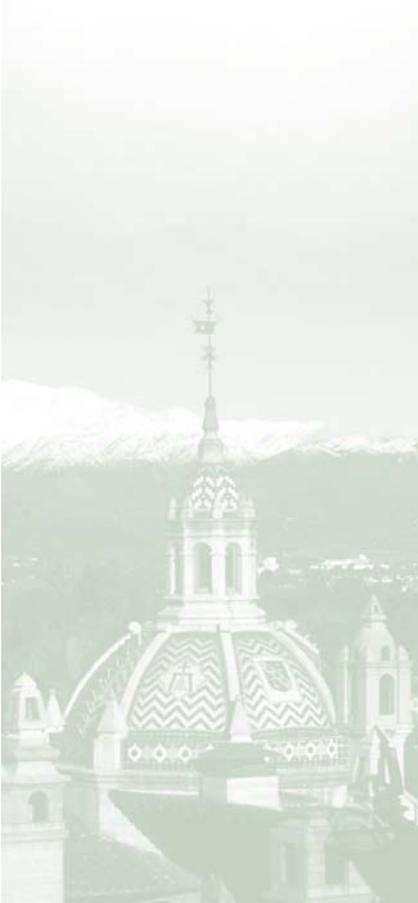
URBAN NATURE

Policy AQ-8.26: Strengthen the City's existing trail inventory while providing a 75% increase of passive recreational and multi-use trails by 2015.

Policy AQ-8.27: Ensure that there is an accessible park, recreational, or public open space within a ½ mile of 90% of City residents by 2015.

Policy AQ-8.28: Plant at least 1,000 trees in City parks and right-of-ways and encourage the planting of at least 3,000 shade trees on private property annually.

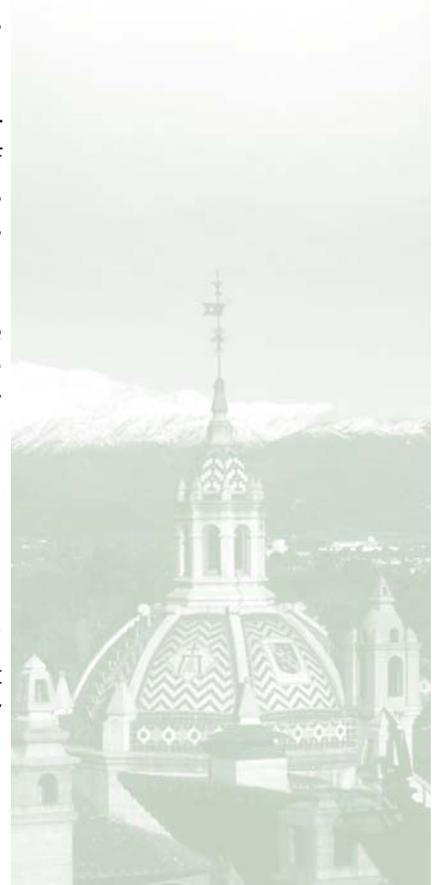
Policy AQ-8.29: While actively protecting critical habitat corridors, coordinate with the Western Riverside Multi-Species Habitat Conservation Plan (MSHCP), develop and implement a plan to protect natural habitat and wildlife movement by establishing and increasing the amount of preserve and reserve areas in the City by 150 acres by 2009.





TRANSPORTATION

- Policy AQ-8.30: Synchronize traffic signals along primary City arterials by the end of 2008.
- Policy AQ-8.31: Implement a program to design, construct, or close at least one of the 26 railroad grade separations each year.
- Policy AQ-8.32: Reconstruct at least two freeway/street interchanges by 2012.
- Policy AQ-8.33: Increase the number of clean vehicles in the non-emergency City fleet to at least 60% by 2010.
- Policy AQ-8.34: Encourage the use of bicycles as an alternative form of transportation, not just recreation, by increasing the number of bike trails by 15 miles and bike lanes by 111 miles throughout the City before 2025.
- Policy AQ-8.35: Develop programs to reduce mobile sources of air pollution, such as encouraging the purchase of alternative fuel vehicles or lower emission hybrids and plug-ins, for the residential and business community before 2009.
- Policy AQ-8.36: Promote and encourage the use of alternative methods of transportation throughout the community by providing programs to City employees that can be duplicated in local businesses.
- Policy AQ-8.37: Implement a regional transit program between educational facilities by 2010.
- Policy AQ-8.38: Coordinate a plan with local agencies to expand affordable convenient public transit that will assist in reducing the per capita vehicle trips with the City limits by 2009.





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WATER

- Policy AQ-8.39: Develop and implement a public education outreach program that addresses the discharge of preventable contaminants into the sanitary sewer system by Riverside residents and businesses by 2009.
- Policy AQ-8.40: Develop recycling methods and expand existing uses for recycled wastewater by 2015.
- Policy AQ-8.41: Increase the use of recycled water from the wastewater treatment plant to recover 15,000 acre feet or 30% on plant effluent by 2020.
- Policy AQ-8.42: Implement water efficiency, conservation, and education programs to reduce the City's per capita potable water usage by 15% by 2025.

