

3.7.1.6 Sulfur Dioxide

Sulfur dioxide (SO₂) is a colorless irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO₂ levels. SO₂ irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

The entire SCAB is in attainment with both federal and State sulfur dioxide standards.

3.7.1.7 Lead

Lead is found in old paints and coatings, plumbing and a variety of other materials. Once in the blood stream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The entire SCAB is in attainment for the federal and State standards for lead.

3.7.1.8 Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (all particles less than or equal to 10 micrometers in diameter, or PM₁₀) come from a variety of sources, including windblown dust and grinding operations. Fine particles (less than 2.5 micrometers, or PM_{2.5}) often come from fuel combustion, power plants, and diesel buses and trucks. Fine particles can also be formed in the atmosphere through chemical reactions. Coarse particles (PM₁₀) can accumulate in the respiratory system and aggravate health problems such as asthma. EPA's scientific review concluded that fine particles (PM_{2.5}), which penetrate deeply into the lungs, are more likely than coarse particles to contribute to adverse health effects.

The entire SCAB is a nonattainment area for the federal and State PM₁₀ standards. The attainment status of PM_{2.5} in the SCAB has not been established by the EPA or the CARB at the time this analysis was prepared.

3.7.2 Local Air Quality

The SCAQMD maintains ambient air quality monitoring stations throughout the SCAB, as shown in Figure 3.7.1. There are seven air quality monitoring stations in the SCAB area of Riverside County: Norco, Riverside-Rubidoux, Riverside-Magnolia, Banning-Allesandro, Banning Airport, Perris, and Lake Elsinore. These seven air monitoring stations are in western Riverside County.

The ambient air quality levels at these stations show that nitrogen dioxide and carbon monoxide levels are either not monitored or are below the relevant state and federal standards at most of these seven air monitoring stations, except at the Banning Airport station, where the monitored nitrogen dioxide level exceeded the state standard on one day in both 1998 and 1999. The federal standard for nitrogen dioxide was not exceeded at all monitoring stations. Ozone levels exceeded the State and federal standards in almost every year of the past five years at all five monitoring stations (except Norco and

Figure 3.7.1 - Air Quality Monitoring Stations in Riverside County

Riverside-Magnolia, which do not monitor ozone levels) where ozone concentration was monitored. However, the general trend at all five monitoring stations was that the maximum level of ozone was decreasing, as was the number of days the federal and State ozone standards were exceeded.

The PM₁₀ level monitored at these air monitoring stations exceeded the State standard in almost every year of the past five years at all five station monitoring this pollutant (except Lake Elsinore and Riverside-Magnolia stations, which do not monitor PM₁₀). However, the federal standard was exceeded less frequently at each monitoring station in all five years.

3.7.3 Regulatory Setting

3.7.3.1 Federal Regulations/Standards

Pursuant to the federal Clean Air Act (CAA) of 1970, the U.S. Environmental Protection Agency (EPA) established national ambient air quality standards (NAAQS). The NAAQS were established for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

The NAAQS are two tiered: primary, to protect public health; and secondary, to prevent degradation of the environment (e.g., impairment of visibility, damage to vegetation and property, etc.). The six criteria pollutants are ozone (O₃), carbon monoxide (CO), particulates less than ten microns (PM₁₀), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead (Pb). In July, 1997, EPA adopted new standards for eight hour ozone and particulates less than 2.5 microns in diameter (PM_{2.5}).

Data collected at permanent monitoring stations are used by the EPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA.

The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization (MPO) responsible for ensuring compliance with the requirements of the CAA for the SCAB area including Riverside County.

3.7.3.2 State Regulations/Standards

The State of California began to set California ambient air quality standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. The CAAQS are generally more stringent than the NAAQS. In addition to the six criteria pollutants covered by the NAAQS, there are CAAQS standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are also listed in Table 3.7.A.