
Chapter 20. Air Quality

BACKGROUND

Air quality in Davis is dependent on regional air quality and local pollutant sources.

- Regional air quality is a function of basin topography and wind patterns. Davis is in the Sacramento Air Basin. The Yolo-Solano Air Quality Management District (AQMD) manages a portion of this basin, including Davis. Under the provisions of the Federal Clean Air Act, the Yolo-Solano District is in non-attainment for ozone for the Federal standard. The District is in non-attainment for both ozone and PM₁₀ for the State standards.
- Local pollutant sources include both stationary sources, such as factories, and mobile sources, which are automobiles. Mobile sources are the major contributors of local and regional emissions. In Yolo County, motor vehicles account for approximately 31 percent of PM₁₀ (ten micron particulate matter) emissions, including road dust generated by motor vehicles on paved and unpaved roads. Motor vehicles also account for approximately 64 percent of carbon monoxide emissions.
- Ozone, often called “smog,” is created when certain pollutants (primarily reactive hydrocarbons and oxides of nitrogen) emitted by vehicles and other sources react to sunlight in a photochemical process. In northern California, smog can be trapped in a particular area as the result of temperature inversions, in which cool air settles above warm air, combined with coastal day winds and proximity to local mountains which trap the pollutants.

The California Air Resources Board (CARB) monitors ozone, carbon monoxide, and nitrogen dioxide levels near Davis. The AQMD monitors ozone, particulate matter smaller than 20 microns in diameter (PM₁₀) and fine particulate matter (PM_{2.5}) in Woodland. Also, the AQMD monitors PM₁₀ in West Sacramento.

Auto emissions are expected to increase in California through 2010. Emissions will not increase in direct proportion to the increase in vehicle miles traveled, since vehicles are expected to run cleaner as technology improves. Still, the City's greatest opportunities for reducing air pollution are reducing automobile trips (through voluntary trip reduction programs); reducing trip lengths (through land use planning); reducing vehicular emissions (through transit and alternative modes); and improving traffic flow (through roadway improvements).

Under the California Clean Air Act of 1988, the AQMD adopted an Air Quality Attainment Plan (AQAP) in 1992 to bring the District into compliance with the State ambient air quality standards for all pollutants that violate certain standards.

In November 1994, the Yolo-Solano AQMD Board of Directors adopted the District's portion of the Sacramento Area Regional Ozone Attainment Plan along with the four other air districts in the region. The plan is designed to bring the Sacramento area, including Davis, into attainment of the federal ozone standards by 2005. This plan has essentially replaced the District's 1992 Air Quality Attainment plan and is a portion of California's State Implementation Plan (SIP) which contains federal, state, and district stationary and mobile source measures. The SIP was submitted to the U.S. Environmental Protection Agency (EPA) in November 1994, and approved by the EPA in September of 1996. The SIP was adopted to replace the Federal Implementation Plan, which was rescinded by the EPA in April 1996.

EPA proposed revisions to the federal air quality standards for ozone and particulate matter in December 1996. The current federal standard for ozone is 0.12 ppm averaged over one hour. The proposed new ozone standard is 0.08 ppm averaged over 8 hours. New standards for "fine particulate matter," or PM_{2.5}, have also been proposed in conjunction with the new PM₁₀ standards. The new standards are being proposed because EPA and its Clean Air Scientific Advisory Committee have concluded that the current federal air quality standards do not provide adequate protection against acute health effects with the required margin of safety. EPA is expected to establish criteria for designations and air quality standards attainment dates in 1998 and to establish planning and control requirements in 1999.

There are many programs in place in California and the Sacramento region that will continue to reduce ozone and particulate matter emissions, such as those measures contained in the 1994 Sacramento Area Regional Ozone Attainment Plan and current state required PM₁₀ control strategies. The 1994 Sacramento Area Regional Ozone Attainment Plan will continue to provide emission reductions on a regional basis as long term strategies are implemented. The key issue for California and the Sacramento region will be the timing for current federal air quality standard attainment progress and attainment deadlines for new standards, especially the proposed new PM_{2.5} standards. The proposed new ozone standards will primarily involve addressing transport impacts on areas "downwind" of urban centers.

GOALS, POLICIES AND ACTIONS

GOAL AIR 1. Maintain and strive to improve air quality.

Policy AIR 1.1 Take appropriate measures to meet the AQMD's goal for improved air quality.

Actions

- a. Continue to participate in regional planning activities to meet air quality goals.
- b. Identify potential emission sources of airborne toxics from mobile and stationary sources within a two year period following adoption of the General Plan. This may be in coordination with the California Air Resource Board and the Yolo-Solano AQMD, as appropriate. The results of the identification process shall be made public within one month of identification.
- c. Enforce rigid high standards to restrict fumes, smoke, dust, or other environmental pollutants from stationary sources of pollution.
- d. Work with UC Davis, the Air Resources Board, Yolo-Solano AQMD and the Davis Joint Unified School District (DJUSD) to develop educational materials regarding air quality, impact of air quality on people, plants and animals, and what youth can do to improve air quality. The air quality materials shall include specific fugitive dust-control, ROG, and NO_x measures that are required by the YSAQMD to reduce both construction and operations-related emissions of these pollutants. Include such materials in the DJUSD curriculum. Examples of educational materials include guidelines for burning practices which would promote clean air and information on wood stoves which comply with standards of the Environmental Protection Agency.
- e. Implement transit- and pedestrian-oriented land use and design strategies outlined in the Land Use, Design and Mobility chapters of this General Plan.
- f. Explore options, such as the distribution of educational material, with the Yolo-Solano Air Quality Management District to encourage Davis residents and business to use alternatives to gas powered garden tools to reduce air and noise pollution and reduce costs.

GOAL AIR 2. Keep Davis citizens informed about progress in achieving air quality goals.

- Policy AIR 2.1** Develop a program to monitor and publicize air quality parameters.

Actions

- a. Coordinate with the Yolo-Solano Air Quality Management District to track local air quality status on a regular basis.
- b. Coordinate with the Yolo-Solano Air Quality Management District to track potential sources of airborne toxics from identified mobile and stationary sources.
- c. Publicize criteria, air pollutant levels and other monitoring results (both high and low) in the *Davis Enterprise* or through other media.