

General Plan

Air Quality Element

BACKGROUND TO THE 1993 GENERAL PLAN AS AMENDED

Portions of the background section text were updated as part of the 2011 amendments to the County General Plan.

County of Sacramento
Community Planning and Development Department

SACRAMENTO COUNTY GENERAL PLAN AIR QUALITY ELEMENT

Background Section

THE ROLE OF THE AIR QUALITY ELEMENT

INTRODUCTION

Air, like water, is a public resource that must be protected. Without the maintenance of appropriate air quality standards, threats to public health and a declining quality of life may result. Sacramento County suffers from air quality degradation caused, in part, by local topographic and meteorological conditions and exacerbated by urbanization. The Air Quality Element, although not mandated by state planning law, has been included in the Sacramento County General Plan to ensure a healthy environment through the management of resources.

It is essential that the County's responsibilities with respect to air quality planning are clearly defined. Many agencies are currently involved in the implementation of federal and state legislative mandates. As a result, the role and authority of the respective agencies are not always clear. It is equally important that the Air Quality Element integrates the goals, objectives, and policies of the General Plan Elements. The measures that must be implemented to improve air quality relate to transportation management, land use, and urban design.

In summary, the Air Quality Element:

1. Provides a definitive statement of the role of the General Plan within the existing regulatory structure and delineates the responsibilities of Sacramento County relative to the other agencies, and
2. Acts as a focus for General Plan policy relating to air quality, integrating the policies of land use, circulation, and community design.

REGULATORY AND ORGANIZATIONAL FRAMEWORK

The Federal Clean Air Act (CAA) of 1977 directed the Environmental Protection Agency (EPA) to establish national ambient air quality standards (NAAQS). Primary standards are requisite to protect public health. Secondary standards are requisite to protect public welfare associated with the presence of contaminants in the ambient air. The primary standard of most concern in the Sacramento region is ozone, a colorless and odorless gas that has significant impact on human health.

The Sacramento region was designated by EPA as a non-attainment area for ozone. Ozone can aggravate respiratory diseases such as asthma or bronchitis and can cause chest pains and wheezing. Ozone can cause damage to crops and natural vegetation as well, by acting as a chemical agent.

Ozone is formed in the atmosphere through complex chemical reactions involving nitrogen oxides (NO_x) and reactive organic gases (ROG) in the presence of sunlight. Because of this, NO_x and ROG are known as ozone “precursors.” To protect the public from unhealthy ozone levels, the EPA instituted an ozone standard of 0.12 parts per million in any 1-hour period. The California 1-hour ozone standard is more stringent at 0.09 parts per million.

The federal Clean Air Act Amendments of 1990 (CCAA) set new deadlines for attaining the ozone standard. The CCAA also set specific planning requirements to ensure that the attainment goal is met. Foremost among these requirements is adoption and implementation of an ozone attainment plan. The Sacramento Area Regional Ozone Attainment Plan was adopted in 1994 and approved by EPA as part of the California State Implementation Plan for Ozone (SIP). The SIP contains a detailed comprehensive strategy for reducing emissions to the level needed for attainment and shows how the region will make progress toward meeting the attainment goal by 2005. All five air districts in the region adopted the plan, including the Sacramento Metropolitan Air Quality Management District, the El Dorado County Air Pollution Control District, the Feather River Air Quality Management District, the Placer County Air Pollution Control District, and the Yolo-Solano Air Quality Management District.

In 1997, EPA promulgated a new 8-hour standard for ozone. This more health protective standard lowers the standard for ozone from 0.12 parts per million of ozone averaged over one hour to 0.08 parts per million of ozone averaged over eight hours. The Sacramento region has been classified as a “serious” nonattainment area with an attainment date of 2013. Attainment of the standards by that date will be very difficult to achieve. The previous 1-hour standard was superseded by the 8-hour standard and is no longer applicable; however, the measures contained in the 1-hour SIP must still be implemented. The Sacramento Metropolitan Air Quality Management District, along with the other air districts in the region, is currently preparing an Attainment Plan for this new standard with adoption scheduled for 2007..

EPA has revised the primary particulate matter (PM) standards by adding a new primary PM_{2.5} standard. The new PM_{2.5} standard is intended to provide increased protection against a wide range of PM-related health effects, including premature mortality and increased hospital admissions and emergency room visits (primarily in the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (in children and individuals with cardiopulmonary disease such as asthma); decreased lung function (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. Sacramento is considered nonattainment for the new PM_{2.5} standard and will be required to develop fine particulate reduction strategies and submit a PM_{2.5} Attainment Plan by April 2013.

In addition to criteria air pollutants, other air pollutants have been found to be highly injurious, even in small quantities. Because they are relatively uncommon, however, these air pollutants have not gone through the lengthy and costly process needed to set National Ambient Air Quality Standards. Instead, these pollutants are controlled through the National Emissions Standards for Hazardous Air Pollutants (NESHAPS), emissions limits that have been

promulgated by EPA for asbestos, beryllium, mercury, vinyl chloride, benzene, radionuclides, and coke oven gas.

Emissions of hazardous air pollutants in California are governed by the 1983 Toxic Air Contaminants law, also known as the Tanner Act. The Toxic Air Contaminant law establishes a two-part scheme; first it provides for the identification of toxic air contaminants, and then it provides for the adoption of controls on emissions of air toxics so identified.

In 1998 the California Air Resources Board (CARB) identified diesel exhaust particulates as Toxic Air Contaminants. Diesel particulate matter (diesel PM) is a carcinogen which contributes to particulate pollution statewide. In 2005, the CARB released the "Air Quality and Land Use Handbook: A Community Health Perspective". The purpose of this document is to highlight the potential health impacts associated with proximity to air pollution sources. This document contains recommendation for siting sensitive land uses (residences, schools, day care centers, and medical facilities) in proximity to major roadways, distribution centers, railyards, gasoline dispensing facilities, dry cleaners and chrome plating operations. The Sacramento Metropolitan Air Quality Management District is currently developing guidelines for implementing CARB's recommendations.

The State implements specific requirements for the potential release of asbestos fibers. California is one state that contains serpentine rock structures, a naturally occurring source of asbestos fibers. Any construction activities that may unearth or disturb serpentine rock must be performed carefully and in accordance with state guidelines. In addition, SMAQMD rules regulate the renovation and demolition of existing structures that may contain materials that have asbestos. It is required that materials suspected of containing asbestos be surveyed prior to a structure's renovation or demolition to identify asbestos fibers and prevent their release into the ambient air.

The Federal Clean Air Act Amendments (CCAA), enacted in November of 1990, provide strict guidelines for the attainment of NAAQS. The most extensive and burdensome provisions by far of Title I of the CCAA relate to areas that have failed to attain ambient standards for ozone. The AQMD will have to implement many new controls on volatile organic compounds and oxides of nitrogen. A new attainment plan will have to be developed for each pollutant in the region whose concentration exceeds the NAAQS (O₃ and PM_{2.5}). A 15 percent reduction in volatile organic compounds (VOC) emissions must be achieved in six years, with additional emissions reductions of 3 percent per year until attainment is reached. Once the attainment is demonstrated, the State will have to submit a "maintenance plan" to EPA, demonstrating how air quality will be attained over the next ten years despite anticipated population growth and development.

GENERAL PLAN POLICY COORDINATION

Several elements of this General Plan include goals, objectives, and policies that are intended to promote the attainment of air quality goals. The role of the Air Quality Element is to identify how the objective of attaining clean air has influenced General Plan policy and to establish the

opportunity for air quality benefits that can be realized through the implementation of these policies.

The use of the single-occupant vehicles as a primary means of transportation is a critical link among the elements of the General Plan. Although automotive technology has continually produced cleaner vehicles over the past several decades, the growth in population and vehicle miles traveled result in personal vehicles remaining a significant source of air pollution. The Circulation Element addresses the efficiency of the automobile transportation network and describes policies to promote the development and use of alternative modes of transportation. The Land Use Element addresses the spatial framework of the community which determines transportation needs. That Element also describes community design standards which refine this spatial framework and incorporate design elements that discourage automobile use and encourage alternative transportation modes.

LAND USE ELEMENT

The Land Use Element specifies an urban design that is compatible with state and federal mandates for the attainment of air quality goals. The Element focuses on strategies for growth that emphasize efficiency in providing urban services and promote a reduction in automobile use. The policies, intended to guide the future growth and development in Sacramento County, describe the composition and intensity of land uses, locational criteria, and the timing of development.

Included in the Land Use Element are policies encouraging mixed use developments or transit-oriented developments. Transit-oriented developments (TOD's) define a land use pattern that includes increased densities and intensities around transit stations. The intent is to offer mass transit as a transportation alternative to a greater number of county residents. The design of a TOD is also conducive to alternative forms of transportation, such as bicycling and walking. This is accomplished through the arrangement of buildings, parking lots, paths, and open space to create an environment that restricts automobile travel and promotes alternatives.

The composition of land uses is an important part of the TOD land use designation. It is described as "mixed use" development, an integration of residential land uses with public, commercial, and office space. The purpose of this configuration is to bring the places where people live, work, and shop closer together, reducing the need for vehicular travel.

The urban form that is described in the Land Use Element provides a model for the assessment of impacts to air quality by land use development. Projects can be evaluated on the basis of their comparative degree of conformity to the urban design features that are described above, those which limit air pollution. The evaluation of a project's impact on air quality will be further enhanced through the permit process.

CIRCULATION ELEMENT

The significant policy of the Circulation Element requires Sacramento County to conduct transportation planning in a manner consistent with the Plan's air quality goals. Consistency is

accomplished through policies that promote the use of mass transit or other transportation alternatives while discouraging single-occupant vehicular use. In this manner, both a major cause of the air quality problem and potential solutions are simultaneously addressed.

Transportation alternatives that reduce air pollution are encouraged by the policies of the Circulation Element. Mass transit increases the efficiency of transportation by increasing the number of people that are transported by a single "vehicle". The result is a reduction in the per capita energy consumption which translates to a reduction in air pollutant emissions. The use of the bicycle and walking as means of transportation reduces emissions to an even greater extent. The Element establishes policies to promote these transportation alternatives as well as mass transit.

Measures to improve the efficiency of vehicular travel are also an important component of the Circulation Element. High occupancy vehicle (HOV) lanes, flexible work hours and schedules, trip reduction and transportation control measures, and parking controls represent measures that are included in this Element and contribute to the improvement of air quality.

The Circulation Element seeks to reduce existing financial subsidies for automobile use. The costs of the use of the automobile to society, in terms of air quality degradation, are high. Government cannot afford to pay for programs that encourage automobile use on one hand, and on the other hand pay for programs that are intended to reduce automobile emissions and their adverse impacts.

A need for public awareness is recognized by the Circulation Element. The popularity of the automobile must be countered with a knowledge of how automobile emissions impact air quality. Without this, there will be no motivation for a shift of emphasis from the auto to mass transit or other alternative transport modes.

TRANSPORTATION PLANNING AND AIR QUALITY CONFORMITY

The Federal Clean Air Act Amendments of 1990 added substance to the transportation conformity analysis procedures. Congress defined conformity in the statute. The definition states that conformity of a transportation activity (i.e. project, program or plan) to a SIP (State Implementation Plan for Air Quality) means:

- (a) conformity to the SIP's purpose of eliminating or reducing the severity and number of violations of the federal standards and expeditiously achieving attainment of the federal standards; and
- (b) the activity will not (i) cause or contribute to any new violation or increase the frequency or severity of any existing violation of any standard in any area, or (ii) delay timely attainment of any standard or any required interim emissions reduction or other milestone in any area. (42 U.S.C. § 7506(c)(1)(A), (B))

The more specific portion of the definition states that transportation plans and programs are deemed to conform to the SIP and, therefore, may be adopted or approved by the MPO (Metropolitan Planning Organization, e.g. SACOG) if:

- (a) the emissions expected from the implementation of the plans and programs are consistent with the estimates of motor vehicles emissions and emission reductions contained in the SIP; and
- (b) the plans and programs provide for timely implementation of the transportation control measures in the SIP, consistent with schedules included in the SIP. (42 U.S.C. § 7506(c)(2))

The definition of conformity recognizes the role of transportation planning in addressing air quality problems. There is now a direct link between the approval of transportation programs and plans and the requirement that a SIP demonstrate that an area will achieve specific emission reductions. One of the tests for conformity is that the plan or program must be "consistent" with the necessary emission reductions contained in the SIP. It would appear that at a minimum the conformity assessment must demonstrate that the plan or program will achieve a level of vehicle uses that does not prevent the area from achieving the emission reductions contained in the SIP.

The conformity assessment requirements are a significant link between transportation planning and air quality. They force transportation planning agencies to consider the air quality impacts of their actions. Such agencies can no longer ignore the realities of the interconnection between transportation planning and air quality. The Sacramento Metropolitan Air Quality Management District continues to work with SACOG on the establishment and implementation of conformity procedures.

AIR QUALITY REVIEW

AQMD has legislative authority to review and mitigate for indirect sources to reduce emissions to the maximum extent feasible. Land use and transportation control measures are a significant component of the local SIP commitment.

Since the County has primary responsibility for the land use decision-making process in the unincorporated areas, the responsibilities of both jurisdictions have been integrated into a single process. The approach incorporates an air quality review procedure into the existing land use project review process. Figure II-1 graphically describes that process.

A project is reviewed for air quality impacts during the routine planning staff and CEQA review process. Thresholds to determine significant impacts have been adopted by AQMD, and evaluation and mitigation measures are developed by AQMD. The actual review occurs at the county level during the normal review process.

Any offsite mitigation fees generated from project emission mitigation are disbursed by AQMD to ensure the the actual emission benefits match the emissions that need to be mitigated. Currently these fees primarily fund the upgrading of on-road and off-road diesel engines.

The AQMD review process is not intended to duplicate the project review mandated by CEQA. Rather, the procedure is intended to supplement the existing environmental review process to ensure that air quality concerns are adequately addressed.

LIST OF ACRONYMS

<u>APCD</u>	Air Pollution Control District
<u>AQMD</u>	Sacramento Metropolitan Air Quality Management District
<u>ARB</u>	California Air Resources Board
<u>AQAP</u>	Air Quality Attainment Plan
<u>AQMA</u>	Air Quality Maintenance Area
<u>BACT</u>	Best Available Control Technology
<u>Caltrans</u>	California Department of Transportation
<u>CCAA</u>	California Clean Air Act
<u>CFC</u>	Chlorofluorocarbon
<u>CO</u>	Carbon Monoxide
<u>EMD</u>	Environmental Management Department
<u>EPA</u>	Environmental Protection Agency
<u>HC</u>	Hydrocarbon
<u>Nox</u>	Oxides of Nitrogen
<u>O₃</u>	Ozone
<u>NAAQS</u>	National Ambient Air Quality Standards
<u>ROG</u>	Reactive Organic Gases
<u>SACOG</u>	Sacramento Area Council of Governments
<u>SIP</u>	State Implementation Plan
<u>TCM</u>	Transportation Control Measure
<u>TOD</u>	Transit-Oriented Development
<u>TSMP</u>	Transportation Systems Management Plan